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Expanding the visibility and accessibility of SAJOT

I am happy to inform our readers that our applications for hosting the SAJOT on the KHULISA platform and for indexing on AJOL (African Journals Online) database have been successful. This will greatly expand our readership, exposure, and citations. My sincere gratitude to the Editorial Team for all their support in his endeavour, and to OTASA for their financial support. The full migration of back issues and user databases to the KHULISA platform is progressing well, and although the site does not yet accept new submissions, readers can access the most recent publications on the site at https://journals.assaf.org.za/index.php/sajot. Our applications to be indexed by SCOPUS and DOAJ are pending and will proceed once the KHULISA site becomes active.

This issue of SAJOT will also be the last using our existing publication model, where three issues are published three times per annum in the first weeks of April, August and December. From August onward, we will be implementing our new 'online first' model, where articles which have been accepted and copy edited will be uploaded onto the system immediately, and then combined and published as an issue every 4 months. This change will greatly reduce our turn-around time from submission to online accessibility and make available articles to readers much sooner.

Featured in this edition:

In this issue, we continue our series of Rapid Reviews commissioned by OTASA. This rapid review[1] provides evidence of emerging technologies and interventions to inform a holistic approach to address the multifaceted needs and goals of stroke survivors. Also featured in this issue is an outline of the environmental facilitators and barriers to community reintegration as experienced by stroke survivors in under-resourced urban areas[2]. From the results obtained, the authors call on therapists in these environments to advocate for more comprehensive discharge plans to facilitate adequate and continued rehabilitation and support for successful community reintegration of stroke survivors.

Valuable insights for both clinical supervisors and educators may be gleaned from an article by De Vries et al.[3] which highlights final year occupational therapy students' perceptions of ethical issues encountered by during fieldwork placements provide some valuable guidelines for dealing with these issues when they arise. Also in the educational context, an article by Hoosen et al.[4] explores how students perceived the practice of online assessment, which all training institutions had to resort to during the COVID-19 pandemic. They put forward valuable and practical recommendations for any future situations where educators might be forced to implement these online measures.

For people with disabilities, transitioning to a new environment may be a threatening and stressful experience. In one article, the authors highlight the difficulties experienced by learners with disabilities when transitioning to the work environment[5] from the therapists' point of view, and in another, the reintegration of rehabilitation and work within the disability claims management process is investigated from a South African Private Insurer's perspective[6]. Both articles provide valuable guidelines to how occupational therapists may play a crucial role facilitating the process in both these contexts.

In the public health sector, therapists are often restricted by governmental policies when providing individualised assistive devices based on the needs of their patients. In an article featured in this issue[7], therapists used the Wheelchair Outcome Measure (WOM) to investigate the participants' satisfaction with the issue of standard wheelchairs whilst performing ADLs and IADLs after discharge. The authors strongly advocate for consideration to be given to the person's activity participation in- and outside their homes that will inform the authorities when prescribing and providing wheelchairs.

Standardising assessment procedures, instruments, and tests for the South African population is crucial in our profession due the diversity (both cultural and environmental) of the clients we serve. One such instrument - developed by occupational therapists from the University of the Free State - is The University of the Free State In-hand Manipulation Assessment, or UFS (HMAI). In the multi-phase process of standardising an instrument for assessment, Visser et al.[8] report their findings on the second and third phases of standardising this instrument, namely the face- and content validity of the HMAI.

Moving to the mental health sector, a quasi-experimental, longitudinal pre-test post-test study was employed by Meyer et al.[9] to test the effect of activity groups on the activity participation of persons with major depressive disorder. Correlations between the independent variables and improvement in APOM scores indicated stronger correlations for the number of groups attended by participants than their length of stay. Their study showed that incorporating stress management techniques, such as mindfulness, relaxation therapy, Tension Release Exercises (TRE) and sensory activities, into the therapeutic regimen can be highly beneficial in the treatment of the acute symptoms of major depressive disorder.

This issue also features two Opinion Pieces, In the first, Plastow et al.[10] outline the opportunities presented by Cognitive Behavioural Therapy to occupational therapists -especially those in Africa - by culturally adapting CBT techniques when working in multi-cultural environments. School-Related Gender-based Violence (SRGBV) is a problem featuring more regularly in the media. In the second Opinion Piece, Swartz-Filies et al.[11] elaborate on the context within which school-based occupational therapists can reframe SRGBV as an occupational injustice and develop life skills interventions that address SRGBV.

On 4 July, at the 2024 OTASA Congress themed *'Occupational Therapy for Changing Contexts: Make it Matter, Make it Happen"*, our esteemed colleague Tania Rauch van der Merwe, delivered the 10th Vona du Toit Memorial Lecture. Her lecture was titled: *"Harnessing Human Praxis: Turning our wisdom into practice and impact."*[12]. This issue of the SAJOT features this lecture in full. Van der Merwe advocates for deconstructing the constituents of human praxis to apply it as a treatment mode. She also concludes that by consciously using human praxis can contribute to the fields of education, research and leadership, which all cultivate human dignity.

Finally, we feature a Book Review by Phumla Motsa[13]. The book, titled "Written out. The silencing of Regina Gelana Twala" authored by Joel Cabrita. The book deals with a woman's resilience and determination amid adversity, and how she overcomes many

obstacles to attain her goals – a reality that so many of our clients face.

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[RESEARCH ARTICLE]

Face– and content validity of the University of the Free State In-Hand Manipulation Assessment Instrument (UFS IHMAI) for children in South Africa

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ABSTRACT

Introduction: No standardised assessment instrument that covers all the components of in-hand manipulation (IHM) with evidence of instrument development and psychometric properties appropriate for South African children is currently available for occupational therapists. The University of the Free State In-Hand Manipulation Assessment Instrument (UFS IHMAI) is in the process of development to gain recognition as a standardised assessment instrument for children in South Africa. This article reports on the first and second stages of the face- and content validation process of the UFS IHMAI.
Method: A quantitative descriptive study design with a convenient sampling method was used. Participants provided their expert judgment by completing an EvaSys© online questionnaire.
Results: Fifty-five occupational therapists with experience in paediatric hand function, and registered with the HPCSA and OTASA participated. The participants agreed (above 80% consensus) that the instrument's content is relevant and representative to assess all components (separately and as a whole) of IHM that it was intended to measure. Participants' comments and practical recommendations will form an important knowledge-base for the instrument developers to use in the third stage of content validity, namely revising and refinement.
Conclusion: The results confirmed the face- and content validity of the UFS IHMAI and supported the further development and psychometric testing of the assessment instrument for children in South Africa.

Implications for practice:
This article builds upon prior studies in which therapists in South Africa have recognised the necessity for an in -hand-manipulation (IHM) assessment. It offers a concise overview of instrument development theory and delineates the iterative process employed in developing the first draft of the University of the Free State In-Hand Manipulation Assessment Instrument (UFS IHMAI). Additionally, this article furnishes background details regarding the proposed instrument's content, administration, and scoring guidelines. It also incorporates therapists' perspectives as end-users, providing informed perceptions and consensus on the content validity of the proposed instrument. The suggestions provided by the participating therapist working within the South African context can be employed by the researchers to inform the revision, reconstruction, and refinement of the instrument. Subsequently, the revised version will undergo another round of content validity testing (with experts in instrument development, and in the field) and other psychometric testing. As instrument development is an iterative and ongoing refinement process, the implication of this research might only become apparent after further studies.

INTRODUCTION

Evaluation of in-hand manipulation is an important role of the occupational therapist working with children[1-4]. A broad overview and critical appraisal of published IHM assessment instruments for children, to determine whether they comply with all the requirements of a sound assessment instrument, was reported in a recent scoping review[5]. This scoping review's findings reflected that from the eleven available instruments that have been reported[6-16], "none had comprehensively completed the instrument development process to the point of standardisation with evaluated psychometric properties"[5:1]. Consequently, further refinement of existing instruments or the development of new instruments was recommended.

This need for an IHM assessment instrument for children was also confirmed by a recent South African study[17] where occupational therapists' current assessment methods and their preferences for suitable instruments were explored. From this study[17], it was evident that paediatric therapists have limited familiarity with published IHM instruments and assess IHM mainly through informal observations. They voiced a critical necessity for a well-developed and scientifically sound IHM instrument[17]. Two other South African studies described the IHM skills of 353 South African children, determined by means of the In-Hand Manipulation (FSU IHM) Checklist[13,18]. The data of these studies provide valuable descriptive developmental indicators for children's IHM for ages 4 to 7 years of age. However, this checklist was designed as a data collection instrument without undergoing a comprehensive instrument development process and could not be regarded as generalisable to the South African population.

These studies justified the development of a new IHM instrument, and a formal process for the development of the UFS In-Hand Manipulation Assessment Instrument (UFS IHMAI) was commenced for children in South Africa. Instrument development is a scientific process that involves several systematic steps there is no simple, predetermined guide to plan, develop and validate an assessment instrument. Developing valid and reliable assessment instruments can be a costly, time-consuming and iterative process[19,20]. In addition, complex statistical analyses are often required to determine and establish the psychometric properties of an assessment instrument[19-22].

When a new instrument is developed, before field testing can begin, an important first step in psychometric testing is to determine if relevant and representative content of the targeted construct has been included in the assessment instrument[23,24]. This article therefore aims to describe the face- and content validity of the UFS IHMAI for children in South Africa.

LITERATURE REVIEW

The UFS In-Hand Manipulation Assessment instrument

For instrument development, different sequential stages are recommended, but there is no one standard process to follow. "Instrument development is an ongoing process that arguably, has no clear endpoint"[25:174], and often, instrument development is not a linear process but an iterative process of refinement. During the planning and development of the UFS IHMAI, a variety of processes suggested by different authors were considered for their contributions on the topic[19,20,22,24-31]. These authors were considered for their relevance in instrument development, providing the researcher with multiple perspectives and a comprehensive understanding of the topic. The instrument development process was also prescribed by the researchers' clinical experience, review of the literature and review of existing instruments.

Identifying the need for the instrument

A study that described the current and preferred IHM assessment methods used by occupational therapists in South Africa identified the need for an IHM instrument. This study emphasised therapists' need for a standardised, norm-referenced, contextually relevant IHM instrument for paediatric practices in South Africa[17]. Additionally, a recently published scoping review[5] on existing IHM instruments, which appraised and compared existing instruments indicated none of the eleven instruments had comprehensively completed the instrument development process to the point of standardisation with evaluated psychometric properties[5]. The conclusion and recommendations from this scoping review therefore also justified the development of a new comprehensive instrument for the South African paediatric population.

Identifying the type, purpose, and approach of the instrument

Assessment instruments can be classified in numerous ways, although terminology is used inconsistently across the literature[27]. However, the type of instrument, the purpose and the approach as guided by the literature, were used during the development of this IHM instrument. The type of instrument that was identified by the researchers and therapists in South Africa[17] as a need was a standardised, norm-referenced instrument. A norm-referenced standardised assessment refers to an assessment instrument designed to measure an individual's abilities within the norm for their age group, and has uniform procedures for administration and scoring. These assessments undergo a process of development to ensure data are collected systematically and accurately and have psychometric rigidity[32,33]. "Norm-referenced instruments are used to discriminate between participants, predict the results of some tests, or evaluate change over time"[34:3]. This norm-referenced instrument is designed to portray differences among children's IHM skills along a continuum of values and indicates, for example, how children of different ages score on IHM skills[27,35]

Depending on the purpose of the evaluation, the literature refers to descriptive, predictive and evaluative instruments. This descriptive instrument will use criteria to describe a child's status (IHM skills) at a particular moment in time, and may involve comparing the results of the children with group norms. While predictive instruments classify individuals and are used to predict a specific outcome, evaluative instruments use criteria/items to measure a change in an individual/group over time[28,31]. All three of these can be considered in assessing IHM in separate or one instrument.

The specific approach to assessing outcomes in an instrument is also an important factor to consider. The naturalistic observation approach "attempts to capture a child's real-life skill performance allowing an objective assessment in common childhood activities"[36:117]. Two other approaches considered were occupation-based and component-based assessments. The occupation-based assessment permits the therapist to focus the evaluation of children's occupational performance on their meaningful occupations in relevant environments. The component-based assessment allows the therapist to focus on the evaluation of a child's performance components (client factors) to identify possible underlying factors that can potentially cause occupational performance difficulty (also referred to as concept clarifications)[37]. But, one can also assess the components within occupations. Hence, in developing this instrument, the researchers considered both approaches, but a predominantly component-based assessment with elements of occupation-based activities was compiled[12]. Although the phrase "let's play" is used in the administration guidelines, the children do not engage in occupation-based play activities per se, as defined within the occupational therapy domain[38]. Children are clearly instructed on what to do in the assessment, and the activities are not "freely chosen, intrinsically motivated, internally controlled"[38:71]. Play activities from an occupational therapy perspective are more multidimensional and complex than what can be allowed for by

this instrument's activities. The UFS IHMAI was developed as a standardised, norm-referenced, descriptive, component-based assessment instrument to evaluate the IHM skills of children in South Africa.

Theoretical foundation and construct identification

The next stage in the development process was to articulate the construct to be measured by the instrument and all fundamental aspects of the construct. For instrument development, the construct refers to the aspect that will be assessed. The developer should identify, define and delineate the relevant construct and subconstructs (domains) to be included in the instrument. A well-defined construct will provide the foundational knowledge and set the boundaries for the subconstructs to be included in the assessment instrument[19,22]. The literature provided conceptual definitions of the constructs and subconstructs of IHM that served as a conceptual framework. The conceptualisation of the term IHM has been developed since 1984 from the foundational work of researchers in the field such as Elliot and Connolly[39], Exner[1-3], and Pont, Wallen and Bundy[4]. The Modified Classification System of In-hand Manipulation was the latest contribution in this particular area[4]. The establishment of this classification system assisted researchers in determining the construct (and subconstructs) - or as in this case, called 'domain component- a priori, as opposed to a posteriori (if none existed)[7]. The UFS IHMAI is based on the six distinct domain components of this classification: (i) finger-to-palm translation to achieve stabilisation; (ii) palm-to-finger translation; (iii) simple shift; (iv) complex shift; (v) simple rotation; and (vi) complex rotation, to ensure that all in-hand manipulation components are included[4].

Item generation

The next stage is to generate appropriate items for each domain component of IHM, which is also called item 'pool generation'[15,19,20],. The item generation started with a literature study and appraisal of previously existing IHM assessment instruments[5,10,13,15,18,40], based on the researchers' clinical experience, and formal expert input from clinicians in South Africa[17] to avoid construct irrelevance[23]. The target population for the assessment instrument was considered by identifying and/or generating contextual, relevant items, familiar objects in everyday tasks, low cost and readily available to the instrument developers and therapist to replace[15]. Specific needs from clinicians in South Africa (from a related study) were also taken into account[17].

A final combination of 14 items was pooled for the UFS IHMAI (Image 1, adjacent). Each of the six different domains (subconstructs) of IHM consists of two to four different items to avoid construct under-representation[23]. Items are structured as a short "game", task or activity, including a pegboard game, unscrewing a container lid, a money game, a piggy bank activity, a marble game, a dressing game, a stringing beads activity, a pencil game, fanning cards, nuts and bolts and a key activity. These test items were constructed to assess IHM with and some without stabilisation. Hence, the two major threats to content validity, namely construct irrelevance and construct under-representation, were adressed[23].

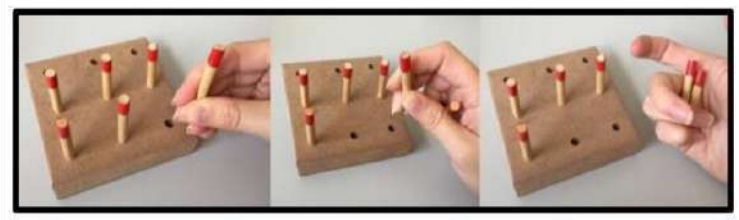
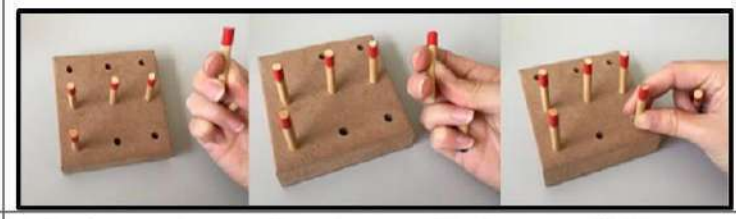
Apart from the above literature, the selection criteria considered in the development of all the items, were similar to the criteria described by Chien et al.[12], namely (i) to be representative of common childhood occupations that require IHM; (ii) to present specific difficulty and mastery (age-appropriate) to children ages 3–12 year; (iii) to be easily instructed and observed while placing minimal demands on language, cognition, and perception; and (iv) to have minimal gender or cultural bias towards children when performing the tasks[12].

Image 1. Test items of the UFS IHMAI.

The administration and scoring system

Generating the administration and scoring system/procedure as a guide to accompany the instrument was part of this stage of its development[20]. The administration guidelines (Table I, below) include a layout of each test item (Image 1, above) concerning the activity, IHM component, equipment/material, the layout of equipment, a picture of the layout, what the assessor says, what the assessor does, practice item, trials, scoring and stop rules (Image 1, above). The scoring guideline consists of a scoring scale, quality of tasks, the speed of performing a task, control of objects and compensation methods used (Figure 1, page 9).

Table I: An example of the administration guideline for Item 3: Pegboard activity

Activity/task	Peg-board-game
IHM component	Finger-to-palm and palm-to-finger translation (with stabilisation)
Equipment/Material	Nine-hole peg-board with nine pegs
Layout of equipment	Arrange six pegs into the nine-hole pegboard on a table in front of the child.
Picture	 
Assessor says	Let's play another peg-board-game. This time I would like you to pick up **two** pegs, just like me and hold it in your palm. Then while holding onto one peg in your hand, put the other one back into the Pegboard. Remember only to use your one hand. Try not to drop a peg. Let's try!
Assessor does	Show the child how to pick up **one** peg with their first, second and third digit, and move it to and store it in their palm with their fourth and fifth digits. Then how to pick up another peg to store in their palm. Then how to move one peg from their palm to the fingertips and place it in the Pegboard while stabilising the other peg with the fourth and fifth digits.
Practice item	Now it is your turn to try to **pick** up **two** pegs and place them in the board.
Trial 1	Now let's practice this again. Pick up **two** pegs, hold them in your palm and put it in the pegboard one at a time. Try not to drop any peg and use only your one hand.

Scoring	1	2	3	Drop	Time	Compensation
Trial 2	Now let's try to pick up **four** pegs and do the same.					
Scoring	1	2	3	Drop	Time	Compensation
Stop rule	Stop if the child cannot perform the practice item and trial 1.					

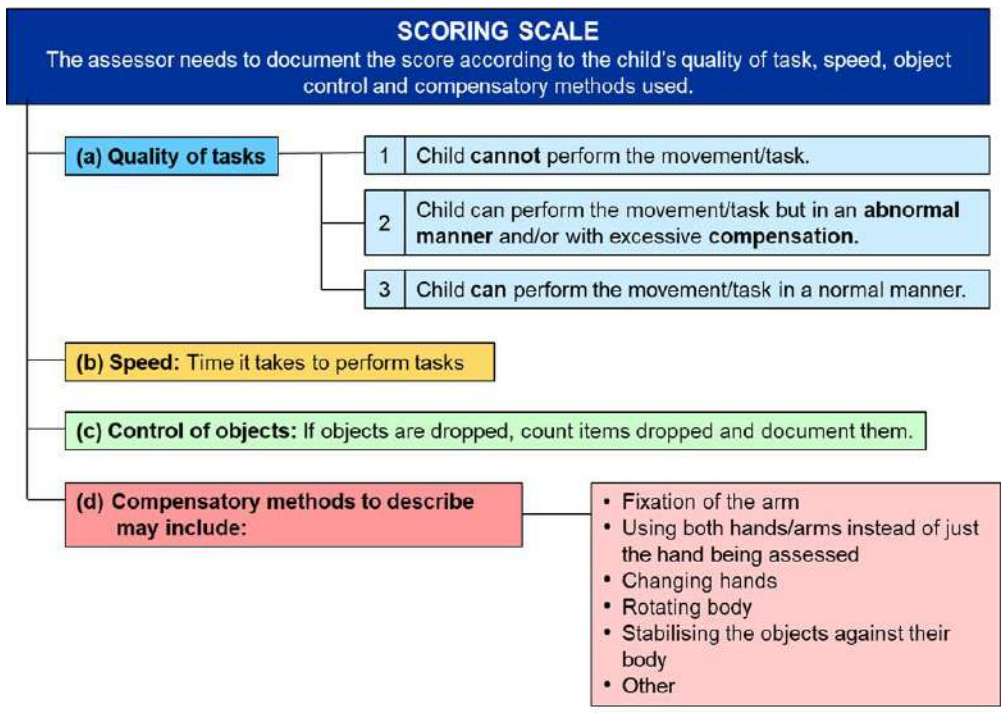


Figure 1: Scoring guideline

To determine the format of the instrument, the process of collecting information and converting it into a score was another important aspect to consider[25]. For this instrument, the therapist conducting a clinical assessment with a child will be the mechanism by which information is collected. During the assessment, the therapist will use the scoring guideline to record the child's scores and afterwards, it will be calculated and translated into numbers. The therapist will follow the prescribed administration and scoring guidelines carefully.

The formulation of a scoring guideline was based on the scale construction of the Assessment of Children's Hand Skills (ACHS)[12], the Functional Repertoire of Hand Model[41], the Children's Hand Skills Framework (CHSF)[42], the content of Early Learning Outcome Measures (ELOM) assessment guide[43], and recommendations from the study by Kruger et al.[17], to create a preliminary research version.

Determining psychometric properties of assessment instruments

Rudman and Hannah[28] stated the importance of why an assessment instrument should be applicable to what the therapist aims to assess. By developing an instrument evaluation framework, Rudman and Hannah[28] implied the following aspects as important for selecting an assessment instrument: clinical utility, standardisation, purpose, psychometric properties and the client's perspective. Psychometric properties consist of item construction, reliability, validity and establishing norms[28]. For item construction, the items of an instrument must be equivalent to the test's purpose, and a rationale must be included based on item selection[28]. After item construction, the assessment instrument's validity and reliability need to be established.

There are four different types of validity, namely face, content, construct and criterion validity. Face validity is defined as how an assessment instrument appears to be valid from a test taker's perspective[44-46]. Although not always quantifiable[44], it "promotes rapport and acceptance of testing and test results on the part of test takers"[20:169]. Content validity refers to the adequacy of an instrument to cover the complete construct of content it sets out to measure, meaning the content of an IHM assessment instrument should be relevant and adequately representative of all IHM domains (relevant content should be included, while irrelevant content should also be excluded). To ensure the content validity of an instrument, the construct and domains being measured need to be conceptually defined. Only then can items be selected and constructed to represent the construct sufficiently[27,44,46]. According to Boateng et al., besides content relevance, representativeness and technical quality are also important[19].

Many authors have proposed methods of content validation referred to as *recommended steps*, or *guidelines*, but mostly demonstrated a similar sequence of content validation. Some literature suggested a three-stage process to evaluate the content validity of an instrument: firstly, a *priori* effort (or developmental stage) where the researchers use their clinical experience, review relevant literature and review existing instruments[19,23,24,46]. This stage has three steps: domain identification, item generation and instrument formation. Secondly, (stage two) a *posteriori* effort (judgment-quantification stage) to evaluate the relevance of the instrument's content (each item and the total scale). In other words, to evaluate to what extent the items developed are representative of the construct and the degree to which the items represent the construct they were developed to assess (their relevance)[19]. Also seeking multiple expert judgment of items constructed, and obtaining perceptions of experts who will have to respond to the assessment instrument (the focus of this article)[20,23,24,45,47]. Thirdly, the revising, reconstructing, and refinement stage is where the instrument developer can employ the expert's comments (retained, modified, omitted, or added to the instrument under development[20,47], as described in recommendations).

For stage two, numerous methods of quantifying experts' degree of agreement regarding the content relevance of an instrument have been proposed. This could be evaluated by obtaining experts' judgment (or consensus) or using statistical measures[23] i.e. the Content Validity Index (CVI). Content validity can also be established by using a predetermined criterion of acceptability (consensus)[20,46,47]. These methods may involve, for instance, focus groups, Nominal Group Techniques, and online surveys. In both the IHM assessment instrument developed for adults[40] and the Assessment of Children's Hand Skills[12], expert groups were used to establish content validity. For this study, a larger group of clinical experts[47] (in this study, occupational therapist as the end-user) reachable via an online content validity survey with a predetermined criterion of acceptability, using the CVI statistical tecqnique[47] to determine the second stage of content validity.

METHODS

Study design

A quantitative descriptive study design[31], using an electronic EvaSys© questionnaire, was conducted to address the research aim to describe the face- and content validity of the UFS IHMAI. The content validity guidelines recommended in the literature during initial instrument development were followed for this study[44-47].

Study population and sampling

Limited literature provides guidelines for selecting and using content experts for instrument development and the number of content experts required to evaluate an instrument[23], but there is no consensus on the number of experts to include[23]. Various kinds of "experts" may also be involved. Expert judges are considered as individuals with extensive knowledge in a specific subject area, such as instrument development, or about the domain being studied[47] (e.g., IHM assessment), or possess experience in clinical practice[47]. Alternatively, target population judges, or also called end-users of the instrument[19,23], may include therapists. For this study, the term expert and number of experts were determined based on factors including the phase of the instruments' development (acknowledging that this initial draft will require further rounds of in-depth expert content validity testing), the chosen data collection

method, the level and breadth of knowledge among clinical therapists, and well-defined criteria[46-47].

The study population consisted of occupational therapists working in different contexts and registered with the Health Professions Council of South Africa (HPCSA) and the Occupational Therapy Association of South Africa (OTASA). Membership of OTASA is not compulsory, so only the 2511 members of this association represent over 5000 occupational therapists in South Africa. Therapists were conveniently sampled for this study[27]. All the responses that the researchers received were used in the analysis of the data.

Although content validity relies on the subjective consensus of experts, the selection of experts (as end-users)[19] to review and critique the instrument was regulated by the following well-defined inclusion criteria[23]:

- occupational therapists registered with the HPCSA and OTASA;
- therapists who have varied clinical experience with at least 2 years in paediatric hand function assessment; and
- therapists who have access to the internet and have an email account.

Measurement instrument

Data were collected through a self-developed online questionnaire via the EvaSys© survey system[48]. The questionnaire was compiled with items formulated from the literature regarding IHM[6,8-15], instrument development[25,28], psychometric properties (specifically face- and content validity),[6,11,12, 25,27,46], and based on the IHM assessment instrument under development. The questions in the questionnaire were supported with photos taken of children's hands during a simulated evaluation with the assessment instrument, as well as definitions of the IHM components to guide the participant in completing the questionnaire. For each of the questions, the participants were asked to respond yes or no to the questions. All questions had an additional comment section where therapists could have included opinions and recommendations.

The questions were available in English (the primary official language of communication of the HPCSA & OTASA) and divided into five sections:

- background information about the participant;
- the instrument as a whole;
- the instrument's subtests;
- the administration and scoring guidelines; and
- general questions regarding the assessment instrument and recommendations.

Pilot testing of the questionnaire

A pilot study was conducted with four occupational therapists conveniently sampled, who met all the inclusion criteria to participate in the study. Two therapists reviewed a hard copy of the questionnaire and provided feedback on the content, clarity of questions and layout. After their recommendations were applied to the questionnaire with all the related photos, it was converted onto the EvaSys© survey system[48]. Another two therapists reviewed the electronic questionnaire on EvaSys© and provided feedback regarding the layout of the questionnaire with the photos, the technical aspects of responding to the questionnaire items on EvaSys©, the duration and ease of completing the questionnaire online. After the pilot study, final amendments (such as grammatical and editorial corrections, formatting the appearance on EvaSys©, and ensuring that the final link to access the survey worked) were made, and the questionnaire was uploaded onto the EvaSys© survey system[48]. The pilot study data were not included in the final analysis.

Data collection procedures

Arrangements were made with the administrator of OTASA, who distributed the emails to their registered members with the necessary information regarding the study and access to the questionnaire using their electronic database. A link to EvaSys© to access the study information and questionnaire was made available online for one month, where the occupational therapists willing to participate could complete the questionnaire in their own time. Occupational therapists received a reminder email after two weeks. At the end of the questionnaire completion period, all the questionnaires were exported from EvaSys© to a Microsoft Excel spreadsheet and stored safely on an external device. All electronic data were stored and backed up on an approved password-protected cloud software platform (EvaSys) to ensure that all personal data of participants are safely stored behind a secure firewall. The data will be stored for ten years after the completion of the study and retained for at least five years from the date of publication (since possible future patency of the instrument needs to be considered).

Data analysis

Descriptive statistics, namely frequencies and percentages for categorical data and percentiles for numerical data, were calculated. Content validity ratios were determined per question and the content validity index (mean of CVR values). The data analysis for this paper was generated using SAS software[49].

Ethical considerations

Ethical approval for this study was obtained from the Health Sciences Research Ethics Committee (HSREC) of the University of the Free State (reference UFS-HSD2019/0224/2304). The participants were informed about the study through an information letter, and voluntary completion of the questionnaire implied informed consent. Participants not complying with the inclusion criteria after completing the background information section were denied access to the rest of the questionnaire. All personal information received from the pilot and the main study was anonymised and kept confidential throughout the study.

RESULTS AND DISCUSSION

Demographic profile

The demographic profile of the 55 participants regarding their age, experience and practice setting was small, but similar to other online survey studies[17], as displayed in Table II (below). The two main practice settings indicated, were schools (n=70, 127.3%), and private practice (n=40, 72.7%). Fields of practice were mostly paediatrics (n=45, 81.8) with other fields including physical adult rehabilitation (i.e., neuro, hand, and vocational) (n=8, 14.5%), academia (n=1, 1.8%), and geriatrics (n=1, 1.8%).

Table II. Demographic profile of participants (n=55).

Age and experience		**Median (range)**
Participants' age (years)		33 (23–67)
Experience	Years working as an occupational therapist	10.5 (2–40)
Other variables		**n (%)**
Gender	Female	55 (100)
	Male	0 (0)
Practice setting (participants could choose more than one answer)	Private practice	40 (72.7)
	*Schools	37 (67.3)
	Hospitals	8 (14.6)
	Community clinics	3 (5.5)
	Non rofit organisations	5 (9.1)
Field of practice (participants could select more than one option)	Paediatrics	45 (81.8)
	Other fields of practice	10 (18.2)
Highest Occupational Therapy qualification	Diploma	1 (1.8)
	Bachelor's degree	37 (67.3)
	Postgraduate diploma	4 (7.3)
	Master's degree	9 (16.4)
	Doctorate	2 (3.6)
	Other (e.g., **SAISI,***NDT courses)	2 (3.6)

*Schools included: Preschools/Early childhood development centres, Primary schools, Secondary schools, Tertiary schools, and Special schools), **SAISI, South African Institute for Sensory Integration; ***NDT, neurodevelopmental treatment

The participants mainly made use of the following informal ways to assess IHM: observation (n=36, 65.5%), drawing, writing, colouring (n=7, 12.7%) and activities of daily living (n=6, 10.9%). The participants used the following standardised assessment instruments: the Movement Assessment Battery for Children Second Edition (Movement ABC-2)[50] (n=3, 5.5%), the Miller Functional Assessment and Participation Scales (M-FUN)[51] (n=3, 5.5%) and the Sensory Integration and Praxis Tests (SIPT)[52] (n=2, 3.6%). In the "other" response section, standardised instruments such as the Bruininks-Oseretsky Test of Motor Proficiency Second Edition (BOT™-2)[53], the Bayley Scales of Infant and Toddler Development Third Edition (Bayley®-III)[54], self-developed informal hand function checklists, and the Purdue pegboard tests[55] were listed. Congruent with the literature[17], limited familiarity with published IHM instruments was demonstrated. Participants relied on observation, activities of daily living or standardised developmental assessment instruments.

Concept clarification of in-hand manipulation

The second section of the questionnaire dealt with questions regarding the concept clarification of IHM. Most participants (n=51, 92.7%) regarded that the concept clarification section assisted them in recapping and/or understanding the related IHM components in the assessment instrument. Participants regarded the concept clarification section to potentially "ensure that all terms are correctly understood by all users" (as stated by one participant), to be an essential part of the instrument, and when used, might contribute to the instrument's reliability. This feedback confirmed that a concept clarification section is necessary, as it provides the same baseline theoretical information for the administrators to perform the assessment.

Table III: Face- and content validity of the in-hand manipulation (IHM) assessment subtests (n=55).

In-hand manipulation component	Face validity*	Content validity*				Recommendations**	
	Does this subtest appear to assess the IHM component?	Are there different items allocated to assess this IHM component?	Is there a difference in the difficulty level of the items for this IHM component?	Are the selected items appropriate to assess children's IHM of this skill?	Does the subtest assess this IHM component with stabilisation?	Would you add or remove any items from this subtest of the instrument?	Would you modify any items from this subtest of the instrument?
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Finger-to-palm	55 (100)	53 (96.4)	54 (98.2)	54 (98.2)	53 (96.4)	44 (80.0)	41 (74.6)
Palm-to-finger	55 (100)	54 (98.2)	53 (96.4)	55 (100)	53 (96.4)	43 (78.2)	42 (76.4)
Simple shift	50 (90.9)	53 (96.4)	53 (96.4)	47 (85.5)	49 (89.1)	40 (72.7)	44 (80.0)
Complex shift	54 (98.2)	55 (100)	55 (100)	51 (92.7)	49 (89.1)	49 (89.1)	51 (92.7)
Simple rotation	52 (94.6)	54 (98.2)	55 (100)	51 (92.7)	45 (81.8)	40 (72.7)	46 (83.6)
Complex rotation	55 (100)	54 (98.2)	55 (100)	54 (98.2)	52 (94.6)	51 (92.7)	50 (90.9)

*Values represent participants who indicated "yes". **Values represent participants who indicated "no".

Regarding the marble game, the suggestion was to include more "purpose" to this task by asking the children to put the marbles on a specific picture printed on the towel. Some participants expressed concern about using marbles with young children who might swallow them. However, general safety measures will be incorporated into the guidelines for all test items to avoid any choking hazards. For the dowels in the pegboard game, one participant suggested that the instrument manufacturer must ensure that the dowels are smooth and fit well into the pegboard. Different opinions were given about whether the thickness of the dowels might influence the required level of IHM and if different levels of accuracy would be observed in varying age groups.

A clear articulation of the construct and sub-constructs (domains) of an assessment instrument is one of the qualities of a well-developed instrument[25]. Definitions to clearly distinguish between items are an important part of instrument development and content validation[19]. Such a section is often seen in properly developed assessment instruments.

Face- and content validity of the instrument subtests

Content validity can be established using a predetermined criterion of acceptability (consensus)[23,46,56]. For this study, consensus to establish the face- and content validity was defined as a positive agreement with a question by at least 44 (80%) participants.

Table III (below) shows that **finger-to-palm translation** had a 100% (n=55) agreement for face validity. All the questions relating to the content validity had an agreement between 96.4% (n=53) and 98.2% (n=54). Only the recommendation "modify" fell below 80% agreement for finger-to-palm translation 74.6% (n=41).

Results regarding **palm-to-finger translation** had a 100% (n=55) agreement for face validity, and questions relating to content validity, had an agreement between 96.4% (n=53) and 100% (n=55). Both the recommendation "add/remove" 78.2% (n=43) and "modify" 74.6% (n=42) fell below 80% agreement for palm-to-finger translation. Participants remarked that finger-to-palm translation is assessed with a variety of items (three), each with different objects (money coins, marbles and dowels) and allows the manipulation of different shapes, sizes and textures. With this variety of finger movements and levels of difficulty required from the child, content under-representative is prevented[23,45].

However, the pegboard game's dimensions and dowels were based on recommendations from similar instruments[11,13,18,57], with the board's dimensions 100 x 100 x 20 mm, with nine holes (15 mm deep x 7 mm in diameter, 32 mm apart) and the dowels 32 long x 7 mm in diameter. Regarding the use of real five-rand (R5) money coins in the piggy bank activity, a few participants stated that it was good to use everyday objects but advised instead to use plastic "play" money or buttons. Recommendations for three-dimensional (3D) production of play money with similar dimensions to a R5 coin is applicable for future manufacturing in accordance with other instruments used in previous research[6,8,11,13,18]

Simple shift had a 90% (n=50) agreement for face validity, and an agreement between 85.5% (n=47) and 96.4% (n=53) for content validity. Only the recommendation "add/remove" fell below 80% agreement for simple shift 72.7% (n=40).

Regarding the dressing game, it was advised that a thicker, more durable fabric be used to make the dressing boards or to use actual clothing. Furthermore, it was recommended to use only one medium-sized button as opposed to buttons of different sizes. Concerning the activity involving stringing beads on a pipe cleaner, it was advised that the guidelines should state how the forearms and wrists should be stabilised on the table. When the child has assumed the correct position, it might ensure an isolated finger shift movement instead of a wrist or whole hand movement when putting the bead on the pipe cleaner. Although small beads were recommended for older children, the same medium- sized beads are advised for future manufacturing for all ages.

The results regarding **complex shift** had a 98.2% (n=54) agreement for face validity. All questions relating to the content validity had an agreement between 89.1% (n=49) and 100% (n=55). Regarding the piggy bank activity, no other recommendations were made apart from using "play" money.

For the fanning card game, it was suggested to use high quality cards that are smooth and grade this activity carefully for different ages by using fewer cards for younger age groups. A practical adaptation for the key activity was recommended, namely to have a step for young children to climb on to reach the door handle, or to have a devised door handle lock unit with fitting keys as part of the instrument. Different sized keys were recommended for young children, but the same medium-sized keys are advised for future manufacturing for all ages, as with all the other subtests.

Simple rotation had a 94.5% (n=52) agreement for face validity, with an agreement between 81.8% (n=45) and 100% (n=55) for content validity. For complex rotation, face validity had a 100% (n=55) agreement and an agreement between 94.5% (n=52) and 100% (n=55) for content validity. Only the recommendation "add/remove" fell below 80% agreement for simple rotation 72.2% (n=40).

Regarding the activity involving the unscrewing of a container lid, the rotation of the lid between fingertips (whilst a coin is rotated in the lid), the money rotation between fingertips, and the peg rotation activity, no comments or recommendations for adapting the item were made. In terms of the nut and bolt activity, it was stated that "play" nuts and bolts could also be used and manufactured through 3D printing. Careful attention to possible compensation methods, such as a child releasing and re-grasp and using wrist movements rather than IHM, was recommended. For the money flipping game, replacing the laminated cardboard with a piece of fabric or a small towel was suggested to prevent the coins from slipping while flipping them. Easier, more understandable wording for the instructions in the guidelines was also proposed. Regarding the pencil flipping game, it was advised to consider the pencil grip development of younger children (3/4-year-old) and preferably include different pencil sizes.

General comments and/or recommendations for the instrument's subtests

General comments were made that the items were culturally relevant, functional, representative of daily childhood activities, using everyday objects, appropriate for children of different ages, and incorporating different levels of difficulty in items (for other age groups). Although the instrument was not intended to assess children's participation in a naturalistic, real-life context[58], it does have elements of real-life IHM activities. The findings were supported by the literature[12] that was considered during the instrument development phase.

A recurring theme from the participants' comments was the *size of the objects* used in the instrument. Since the opinion was that the size of objects might require different related hand function skills and degrees of difficulty, using different sizes for different ages was suggested. In contrast,, using the same dimensions (constant construct to assess) for items (i.e., marbles, money, buttons) for all age groups will allow the instrument to determine internal domain differentiation between different groups and provide different age norms during the standardisation of the instrument[59]. A paucity in the literature correlating object size and IHM is evident. Evidence that could be considered during the refinement of this instrument relates to the perceived sizes of an object and how it is seen in terms of the actions that the object affords[60]. The grasp ability and object size are specific to objects within the apparent grasp ability of the hand. Hand dominance and age might also play a role in how children perceive graspable objects[60]. However, the object's size is only one aspect that reflects the manipulation requirements encountered in daily life activities[61]. All aspects of the object's geometric properties (size, shape and texture) and the material properties (rough, smooth, slippery, sticky, compliant) need to be considered[62]. Electromyography (EMG) signal information obtained before the hand is in contact with an object showed that shape, size and surface properties (such as pre-shaping the hand for grasping a soft toy) have more impact on the muscular system than the actual weight of the object to be grasped[62].

Content validity was verified by participants' agreement (expert therapists) of the adequacy with which the instrument assesses the separate components of IHM. Although the target population (for this instrument children) is recommended for content validation studies[47], children will only be used during future studies.

Face- and content validity of the instrument as a whole

The same predetermined criterion was used for the instrument as a whole[46] as for the subtests. Consensus was defined as an agreement with a question by at least 44 (80.0%) participants. A 98.2% (n=54) agreement indicated that the assessment instrument could assess IHM of children in South Africa, as shown in Table IV (below).

Table IV: Face- and content validity of the instrument as a

Type of validity	Questions	n (%)*
Face validity	Do you think the assessment instrument can assess the IHM of children in South Africa?	54 (98.2)
	Are the materials (i.e., buttons, money coins) used for the different items appropriate to assess IHM of children?	52 (94.6)
Content validity	Does the assessment instrument assess all the components of IHM?	55 (100)
	Is the assessment instrument divided into the appropriate subtests?	54 (98.2)
	Are the tasks and/or activities used appropriately to assess IHM of children?	52 (94.6)
	Does the instrument have easier and more difficult items to allow for the assessment of IHM of various aged children?	50 (90.9)
	Do you think an administration time of 15–20 minutes will be suitable for children?	46 (83.6)
	Is the instrument appropriate to assess children between 3 and 12 years of age?	43 (78.2)

*Values represent participants who indicated "yes".

The only question that did not achieve an 80% agreement was relating to the age appropriateness of the instrument 78.2% (n=43). Participants provided valuable remarks regarding the appropriateness and grading of the activities to consider in the refinement of the instrument. For example, a participant posed the question: "Can we make it more fun?" In congruence, the assessment of children must be done in an interactive, fun[63] and child-friendly space to ensure the child's optimal engagement. However, the evaluation process of children is a complex process requiring the therapist to adhere to administration guidelines.

Feedback indicated that the instrument should assess the construct in the least possible amount of time regarding the

administration time. This would depend on the type of assessment i.e., initial comprehensive assessment or in-depth fine motor specific), age and concerns with possible pathology observed in the child. It was remarked that 15–20 minutes would be too long for the initial comprehensive assessment of young children, whereas others proposed at least 30 minutes per child. According to the eleven IHM assessment instruments described in a recent scoping review[5], a duration of 5–7 minutes was the shortest possible administration time, and 20–30 minutes was the longest administration time. However, these tests all varied in the number of test items (ranging from three to 55 items). Therefore, considering that the UFS IHMAI consists of 14 items (including trial items), it might be more realistic to presume the administration time might be around 20–30 minutes.

Further recommendations included the downgrading of some items and instructions for children younger than five years, changing the current age interval from 3–12 years to 5–12 years, and structuring the scoring guidelines to allow for age differentiation[5]. Contrarily, eight of the 11 instruments described in the scoping review included children under five years in their age range. Therefore, it is recommended that the age range is not changed at this stage, but should be established only after field testing (establishing construct validity) of the UFS IHMAI was performed and item difficulty levels displayed[21].

Conclusively, face- and content validity was established for the instrument as a whole, with most questions posed reaching an agreement of above 80%.

Administration guideline

It was evident that the administration and scoring guidelines are appropriate for this specific assessment instrument and would assist with the execution of each item. All the participants (n=55; 100%) agreed that the administrator's material and/or equipment for each assessment item were clear. According to 94.6% (n=52) of the participants, the administration guideline's wording and layout pictures are appropriate and clear for direct administration of the instrument. Recommendations for future improvement were to shorten the instructions for the children, reconsider using words such as "palm" and "flip over", making the instructions for the therapist bold or in different text colour, and language editing the instructions. According to the literature, the instrument should be reviewed to prove technical quality (i.e., format, printed layout, grammar, wording, layout) in content validity[35]. The wording of the instructions should be carefully, clearly, and concisely constructed[47] and appropriate for the child being assessed[35], or else it might contribute to measuring error. It was also suggested by participants and in the literature to include a background section where the purpose, population, construct being assessed, and development of the instrument could be presented with supporting evidence[35]. Further development of this instrument aims to establish cultural fairness and translation of the administration instructions across different ethnolinguistic groups as per steps outlined by Peña[64-66] and the COnsensus-based Standards for the selection of Health Measurement INstruments (COSMIN)[67]

All participants (n=55; 100%) and most (n=49; 89.1%) participants, respectively, agreed that the instructions to be demonstrated and the verbal administration instructions were clear and easy to understand. Most participants (96.4%, n=53) felt that the practice items allowed for the child were clear and easy to understand for each item and that the stop rules were appropriate. However, a better explanation of what is allowed from the therapist during the practice run is required. For example, how much time and how many practice opportunities are allowed? Is it allowed to "teach" the child how to do the task? Can the therapists provide hands-on physical support? Can the therapist demonstrate while giving verbal instructions? The stop rule section's wording of each item should be refined, which will be addressed accordingly during the refinement of the instrument. The administration and scoring guidelines could be more specific regarding measuring time (i.e., with a stopwatch or estimated) and whether there is a time limit for each item (i.e., stop the item after 2 minutes). They recommended that the administration manual of this instrument should include pictures/graphic material to improve their understanding regarding these aspects. Clarification on the general handling of children could be included; e.g., how to handle children with poor concentration and allowing appropriate breaks. The inclusion of safety/preventive measures (e.g., preventing the swallowing of marbles) and a specific section on possible compensatory methods to "look out for" were suggested for the administration guideline.

Scoring guideline

The majority of participants 96.4% (n=53), considered evidence of a scoring scale for the instrument. The instrument's benefit is that it takes into account the quality of a task, speed[16] when performing tasks, control of objects, and compensatory methods used, consistent with other instruments. The refinement of the scale implies that a differentiation between the left- and right-hand scores needs to be added to the scoring form. In accordance with available IHM instruments described in the scoping review by Kruger et al.[5], most instruments (except one) only assess the dominant hand and discourage the use of the other hand. However, it is argued that the UFS IHM instrument should allow the assessor the option to assess both hands or only the dominant hand (especially for children whose dominance is not established or those who are ambidextrous).

General comments regarding the assessment instrument

The last section of the questionnaire contained questions regarding further development of the assessment instrument. All participants (n=55; 100%) indicated the need for a standardised IHM assessment instrument for South African children to guide treatment planning and measure outcomes. Most (n=53; 96.4%) participants felt that the instrument should be developed further, that it would be valuable to establish all psychometric properties for this instrument (n=52; 94.6%), and that it would be valuable if the standardisation of age norms could be established for the diverse South African paediatric population (n=54; 98.2%). Once these norms are available, it will be valuable to include age expectations for each item in the guidelines. These findings are in accordance with results published in previous studies in this field[13,17,18].

Most participants (n=53; 96.4%) indicated they would like to use such an instrument in their practice, and (n=54) 98.2% would purchase the UFS IHMAI when made commercially available. Participants made suggestions for a prefabricated instrument with a printed manual, allowing the copyright of assessment sheets to increase the instrument's validity and reliability. One participant also commented that it would "ensure that the research that is done is translated to practice". Still, some participants indicated they would prefer a self-fabricated (free) instrument, making their own test items but buying the manual. However, this option will open the assessment process to many variables and hence will not be possible for this type of instrument. Although publication of an assessment instrument requires a considerable investment in time, financial resources and expertise if intended for commercial distribution[20], it is intended to develop the UFS IHMAI into a valid and reliable standardised instrument for obtaining reliable data on South African children's IHM skills.

Additionally, 81.8% (n=45) of the participants agreed that such an IHM assessment instrument should form part of a more comprehensive hand function assessment instrument, although it can also be useful on its own. A more comprehensive assessment instrument would allow for aspects such as reaching, grasping, manipulating and other fine motor tasks to be evaluated[67]. Most (n=44; 80%) concurred that an instrument would assist with a more

accurate assessment of children with fine motor difficulties and better treatment planning, and most (n=41; 74.6%) participants did not practically use or were aware of any specific hand function assessment instruments that have an IHM section.

Content Validity Ratio (CVR) and Content Validity Index (CVI) of the instrument

The CVR provides insights into the individual items, whereas the CVI is the mean of the CVR[47] (as presented in Table IV (page 12) for each section, and for the instrument as a whole). Most questions were deemed positive, as seen by the CVR values in Table V (below). The questions regarding validity were all high (>0.8). The average CVI for all the questions was 0.83, which indicates that the questions were relevant. Values for CVI can range between 0 and 1.

Table V: Content Validity Ratio (CVR) and Content Validity Index (CVI) of the instrument

Question*	CVR	CVI
Concept clarification		
Does the concept clarification assist in your understanding of the in-hand manipulation aspects of the instrument?	0.85	
Do you think the concept clarification section should form part of the assessment instrument?	0.96	0.91
Face- and content validity of the instrument subtests		
Finger-to-palm translation		
Does this subtest appear to assess finger-to-palm translation?	1.0	
Are there different items allocated to assess finger-to-palm translation?	0.93	
Is there a difference in difficulty level of the finger-to-palm translation items?	0.96	
Are selected items appropriate to assess children's finger-to-palm translation?	0.96	
Would you add or remove any items from this subtest of the instrument?	0.6**	
Would you modify any items from this subtest of the instrument?	0.49**	
Does the subtest assess finger-to-palm with stabilisation?	0.93	0.73
Palm-to-finger translation		
Does this subtest appear to assess palm-to-finger translation?	1.0	
Are there different items allocated to assess palm-to-finger translation?	0.96	
Is there a difference in the difficulty level of the palm-to-finger translation items?	0.93	
Are selected items appropriate to assess children's palm-to-finger translation?	1.0	
Would you add or remove any items from this subtest of the instrument?	0.56**	
Would you modify any items from this subtest of the instrument?	0.53**	
Does the subtest assess palm-to-finger with stabilisation?	0.93	0.84
Simple shift		
Does this subtest appear to assess simple shift?	0.82	
Are there different items allocated to assess simple shift?	0.93	
Is there a difference in the difficulty level of the simple shift items?	0.93	
Are selected items appropriate to assess children's simple shift?	0.71	
Would you add or remove any items from this subtest of the instrument?	0.45**	
Would you modify any items from this subtest of the instrument?	0.6**	
Does the subtest assess simple shift with stabilisation?	0.78	0.74
Complex shift		
Does this subtest appear to assess complex shift?	0.96	
Are there different items allocated to assess complex shift?	1.0	
Is there a difference in the difficulty level of the complex shift items?	1.0	
Are selected items appropriate to assess children's complex shift?	0.85	
Would you add or remove any items from this subtest of the instrument?	0.78**	
Would you modify any items from this subtest of the instrument?	0.56**	
Does the subtest assess complex shift with stabilisation?	0.78	0.85
Simple rotation		
Does this subtest appear to assess simple rotation?	0.89	
Are there different items allocated to assess simple rotation?	0.96	
Is there a difference in the difficulty level of the simple rotation items?	1.0	
Are selected items appropriate to assess children's simple rotation?	0.85	
Would you add or remove any items from this subtest of the instrument?	0.82**	
Would you modify any items from this subtest of the instrument?	0.67**	
Does the subtest assess simple rotation with stabilisation?	0.61	0.83
Complex rotation		
Does this subtest appear to assess complex rotation?	1.0	
Are there different items allocated to assess complex rotation?	0.96	
Is there a difference in the difficulty level of the complex rotation items?	1.0	
Are selected items appropriate to assess children's complex rotation?	0.96	
Would you add or remove any items from this subtest of the instrument?	0.85**	
Would you modify any items from this subtest of the instrument?	0.82**	
Does the subtest assess complex rotation with stabilisation?	0.89	0.87
Instrument as a whole		
Now that you had a look at the sections of the instrument on the photos, do you think the assessment instrument can assess in-hand manipulation of children in South Africa?	0.96	
Does the assessment instrument assess all of the components of in-hand manipulation (Translation, shift and rotation, with and without stabilisation)?	1.0	
Is the assessment instrument divided into the appropriate subtests, in order to assess the different in-hand manipulation components?	0.96	
Are the tasks and/or activities used in the different assessment items, appropriate to assess in-hand manipulation of children?	0.89	
Are the materials (i.e. buttons, money coins) used for the different assessment items, appropriate to assess in-hand manipulation of children?	0.89	
Is the instrument appropriate to assess children between the ages of 3 to 12?	0.56	
Does the instrument have easier and more difficult items to allow for the assessment of in-hand manipulation of various aged children?	0.82	
Do you think an administration time of approximately 15-20 minutes for such an instrument will be suitable for children?	0.67	0.83
Administration guideline		
Do you think the administration layout is appropriate and clear?	0.85	
Is the material and/or equipment needed by the administrator for each assessment item clear?	1.0	
Does the picture of the layout assist the administrator in performing the assessment?	0.89	
Are the specific verbal administration instructions for the administrator (assessor says) clear and easy to understand?	0.78	
Are the specific administration instructions to be demonstrated by the administrator (assessor does) clear and easy to understand?	1.0	
Are the practice items and/or trials allowed for the child clear and easy to understand for each item?	0.93	
Are the stop rules (where appropriate) clear and easy to understand for each item?	0.93	
Does the scoring section on the form seem easy to follow?	0.82	
Is there evidence of a scoring scale for the instrument?	0.82	
Does the assessment instrument seem easy to administer?	0.93	0.89
General comments regarding the measurement instrument		
Do you think this instrument should be developed further?	0.93	
Do you think it will be valuable to establish all psychometric properties of this instrument (i.e. validity and reliability testing)?	0.89	
Do you think it will be valuable to if the standardisation of age norms could be established?	0.96	
Would you like to use such an instrument in your practice, if it was made available?	0.93	
Do you think such an instrument should be made available to purchase?	0.96	
Do you think the equipment/material forming part of such an instrument, should be prefabricated according to a standardised procedure by the authors?	0.67	
Do you think the equipment /material forming part of such an instrument should be made informally by each therapist (therefore, not standardised)?	0.2 **	
Do you think such an in-hand manipulation assessment instrument should form part of a more comprehensive hand function assessment instrument?	0.61	
Do you currently use, or are aware of any specific hand function assessment instruments, that have an in-hand manipulation section in your practice?	0.49**	
Are there any other comments that you would like to make regarding this in-hand manipulation assessment instrument under development?	0.45**	0.62
Average instrument CVI		0.83

Limitations of the study

The occupational therapists who evaluated this instrument were independent of the developmental process and regarded as expert judges or target population judges, practicing in the field[19,47]. However, in subsequent rounds of content validity testing for this type of instrument, experts with more advanced, and varied levels of expertise might be necessary. The response rate was lower than in other online surveys[17], and the response rate may have increased by the use of a snowball sampling method and direct recruitment of participants. Using a quantitative survey methodology to evaluate the face and content validity of this study provided objective descriptive data. However, using different research methods (i.e., qualitative) and other sources (i.e., children) can augment the future psychometric studies of this instrument.

At the time of the study, the EvaSys© survey system[48] could not support video recordings of the children using the assessment instrument. However, the questionnaire provided definitions and photos of all assessment activities as a visual guide to all questions. The questionnaire was detailed, and although it predominantly consisted of closed-ended questions, most questions also had the option to provide opinions and suggestions (open-ended). The answers to the open-ended questions were valuable, detailed and practical, and could be incorporated into the refinement of the instrument during the next stages of its development and psychometric testing. Although not the aim of the study, some of the questions and feedback from this study provided evidence on the instrument's clinical utility regarding applicability and practicality.

Recommendations

Concerning further research in the continuous development of this instrument, the following recommendations are proposed:

- consideration of participants' recommendations from this study into the current instrument refinement before field testing;
- continuous refinement of the instrument, followed by field testing;
- another round of content validity testing on the revised instruments using experts (in instrument development, with more advanced levels of experience in hand function assessment of children) using CVI calculations.
- further psychometric testing;
- the translation of the instrument for application in the main South African linguistic groups;
- the refinement and revision of the administration manual and scoring guidelines into an online version;
- development and production of assessment kits;
- developing an electronic administration and scoring data capturing system; and
- the development of an intervention guide to support the assessment.

CONCLUSION

This study offers evidence supporting the face and content validity of the UFS IHMAI. Content relevance, content representativeness and technical quality were determined through expert judgment by qualified occupational therapists. The study confirmed that the proposed conditions necessary to claim content validity were met for stage one (the developmental phase with three steps of domain identification, item generation and instrument formation) and stage two of the content validity process (the judgment-quantification stage.

The findings of this study provide practical information for the third stage of the content validity process, namely the revising and refinement of this newly developed assessment instrument. It is recommended that research continues for the evaluation of psychometric properties, and standardisation into a norm-referenced test for the clinical assessment of South African children's IHM skills, to improve assessment practices and support evidence-based practice in occupational therapy.

Author Contributions

Marieta Visser identified the research topic and supervised the study. Marieta Visser, Nicke Orffer, Chante MacDonald and Jana Basson formulated the research aims and objectives, and contributed to the conception and design of the study. Nicke Orffer, Chante MacDonald and Jana Basson collected the data. Mariette Nel analysed the data. Marieta Visser, Nicke Orffer, Chante MacDonald and Jana Basson interpreted the data and prepared the first draft of the manuscript for the first round of reviews. Marieta Visser and Mariette Nel refined the second review round and finalised the final version of the manuscript. All authors approved the final manuscript.

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Conflicts of Interest

The authors have no conflict of interest to declare

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[RESEARCH ARTICLE]

The therapeutic impact of occupational therapy groups on the activity participation of persons with major depressive disorder in an acute mental health setting

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ABSTRACT

Introduction: Participation in meaningful activities is compromised in mental health care users living with major depressive disorder. In acute mental health settings, occupational therapy groups are the main treatment modality used to address occupational dysfunction or activity participation in these mental health care users. However, the evidence for the therapeutic impact of occupational therapy groups on activity participation is limited.
This study aimed to determine change in the activity participation of mental healthcare users with major depression attending occupational therapy groups based on the Occupational Therapy Interactive Group Model during their admission to an acute private mental health setting.
Method: A quasi-experimental, longitudinal, pre-post group study design was employed to collect data from a sample of 70 participants diagnosed with major depressive disorder. The Activity Participation Outcome Measure (APOM) was used to measure change in activity participation in this study.
Results: A significant improvement in activity participation was evident from admission to discharge across all the domains of the APOM. Correlations between the independent variables and improvement in APOM scores indicated stronger correlations for the number of groups attended by participants than their length of stay. Additionally, closed groups yielded a stronger correlation with improvement in APOM scores in comparison to open groups.
Discussion: Occupational therapy groups play an integral role in the road to healing for mental health care users diagnosed with major depression admitted to acute private mental health settings.

Implications for Practice:

- Incorporating the Occupational Therapy Interactive Groupwork Model (OTIGM) in the treatment of patients with major depressive disorder, especially with closed groups, enables members to experience a sense of security and continuity, which can enhance therapeutic outcomes.
- Integrating tools such as the APOM in clinical settings to measure the efficacy of interventions and identify areas needing further attention, will build evidence-based practice.
- Incorporating stress management techniques, such as mindfulness, relaxation therapy, Tension Release Exercises (TRE) and sensory activities, into the therapeutic regimen can be highly beneficial in the treatment of the acute symptoms of major depressive disorder.

BACKGROUND AND LITERATURE REVIEW

Major Depressive Disorder (MDD) is a debilitating mental disorder which was declared a leading cause of disability by the World Health Organization (WHO) as of 2018[1]. In South Africa, MDD is one of the top three contributors of the overall burden of disease[2]. In the wake of COVID-19, an increase in symptoms of depression and inconvenience in everyday living, should also be accounted for when considering the current prevalence of MDD[3,4,5]. Major

Depressive Disorder is characterised by acute symptoms such as persistent sadness, loneliness, loss of interest in activities, anhedonia, avolition, lack of energy, self-harm, suicidal thoughts, and feelings of worthlessness[6,7]. When left untreated, it often results in suicide, increased medical morbidity and mortality, workplace absenteeism, as well as occupational and social dysfunction[6].

When an individual is diagnosed with MDD, participation in meaningful activities of choice is often compromised by lack of energy and decreased motivation to participate in these activities[5,6,7]. Occupational therapy intervention for individuals with MDD aims to address occupational dysfunction and occupational imbalance by encouraging engagement in a variety of occupations[8,9]. Social dysfunction, or social withdrawal caused by MDD, is often addressed by providing opportunities for mental healthcare users (MHCUs) to engage in occupations with others. Participation in occupations is necessary to prepare individuals with MDD to cope with the demands of their immediate environment and to re-integrate into their everyday lives[9,10,11].

In an acute mental health setting, occupational therapy intervention consists of individual assessments, individual treatment, groupwork/therapeutic groups, discharge planning, and community re-integration[12]. Group therapy is the primary treatment modality employed by occupational therapists in inpatient psychiatric settings[13]. Occupational therapists make use of the therapeutic factors inherent in groups such as universality, instillation of hope, altruism, and interpersonal learning, to facilitate increased awareness and behaviour change in each MHCU[14]. By making use of therapeutic factors and purposeful activities, occupational therapists address client factors (e.g., mood, motivation, self-esteem) and occupational performance areas (e.g., social participation) during group sessions[14,15,16]. This aims to improve MHCUs' engagement in their daily occupations and roles, such as work and social participation[11,16].

The Occupational Therapy Interactive Group Model (OTIGM) is an approach used by South-African occupational therapists in both public and private mental healthcare settings. The OTIGM is an occupation focused, psychosocial approach and was developed in the 1980's by an occupational therapist, in conjunction with a psychologist, as reported in Fouche[14]. One of the core concepts underpinning this psychosocial approach is that mental illness and behavioural problems are rooted in poor relationships. Therefore, interactive experiences in the group can change the way individuals interact with others in their own social circle, and contribute to the healing process. One of the critical constructs of the OTIGM approach is that the therapist should lead from behind, emphasising the therapist's role as that of a group facilitator and not the group leader[14]. The group should therefore not be forced in a certain direction by the group therapist, but the group members will determine the course of the group. The therapist facilitates this process by providing opportunities for members to express their needs, interact with one another and share their experiences. Since the OTIGM is an occupation-based approach, an activity must be presented by the occupational therapist. The therapists base their activity choices on the needs of the group, as well as the curative factors they plan to facilitate during the group. A specific procedure is followed with nine consecutive steps, starting with an introduction, and ending with a post-activity discussion and closure[14].

In 2018, Davidson[17] conducted the first study on the use of the OTIGM approach in South Africa. This qualitative study focused on seven MHCUs' perceptions of the model during their admission to a public mental healthcare unit. Themes that emerged from her study were associated with the benefits of interpersonal learning and coping with mental illness. Davidson[17] also found that the OTIGM is an effective change modality as it encourages self-learning, and allows for interpersonal problems to be addressed during the acute phase of intervention.

In a South African study conducted by Ramano et al.[18], two group programmes were compared to investigate the impact of occupation-based groups as intervention method for MHCUs diagnosed with MDD. The one programme was entirely activity-based for nine out of nine group sessions, and the other programme was discussion-based with tangible activities in only five out of nine group sessions. Participants in the entirely activity-based group showed significantly more improvement than participants in the discussion-based group on all components of the Bay Area Functional Performance Evaluation Revised (BaPFE-R) Social Interaction Scale (SIS)[19]. However, the BaPFE-R (SIS), in conjunction with the Patient Health Questionnaire-9 (PHQ-9)[20] which was used to determine the presence and severity of depression[21] by Ramano et, al.,[18] provided limited outcomes against which improvement in activity participation could be assessed. Babalul[22] mentioned that relationship between mental illness and poor participation has not received much attention. Meyer[23] however, demonstrated a non-significant, negligible correlation between activity participation as measured by the Activity Participation Outcome Measure (APOM)[24] and perceived depression as measured by the PHQ-9.

One of the main reasons occupational therapists use symptom and functional performance scales as outcome measures with MHCUs, is the lack of context appropriate, occupation-based outcome measures in mental health[25]. To bridge this gap, the Activity Participation Outcome Measure (APOM) was developed by Casteleijn[24] in the South African context. The APOM is aligned with the Vona du Toit Model of Creative Ability (VdTMoCA), a model used by many South African occupational therapists, to guide clinical reasoning governing treatment in mental health[26,27]. The model comprises of three inter-related concepts of volition, motivation, and action. Volition and motivation are believed to govern action, while action is the manifestation of volition and motivation[26,27]. The VdTMoCA model is concerned with the way in which humans relate to their world through participation in daily activities, with volition, motivation, and corresponding action developing in sequential stages known as the 'levels of creative ability'[26,27]. There are nine levels of creative ability, with defined levels of motivation and corresponding action, but the APOM comprises of the first six levels since those are the levels which may require a degree of therapeutic input[24,25]. Each item on the APOM has six descriptors, where each descriptor represents one of the six levels of creative ability (Table I, below). When using the APOM, therapists use their clinical reasoning, observations made during assessment, and knowledge of the VdTMoCA to determine which descriptor best fits the involved MHCU and scores them accordingly.

Table I: An excerpt of the APOM for the domain Balanced lifestyle with the item habits and relating descriptors on each level of activity participation.

Balanced lifestyle	Level 1 Tone	Level 2 Self-differentiation	Level 3 Self-presentation	Level 4 Passive participation	Level 5 Imitative participation	Level 6 Active participation
Habits	Is unaware of undesirable or good habits.	Inappropriate and destructive habits may be present. Is unaware of good habits.	Inappropriate habits still present but beginning to be aware of negative effects of destructive habits. Useful habits emerging.	Habits not well established and easily disrupted by illness. Finds it difficult to replace undesirable habits with good habits but realizes the importance of it.	Is aware of undesirable habits and able to change to good habits.	Avoids undesirable habits, assists others to change habits. Constantly striving for quality of life and will adapt habits to have a better lifestyle.

Once the level of creative ability has been determined, the occupational therapists use their clinical reasoning and observations to determine the phase within the level, i.e. therapist-directed, patient-directed or transitional phase[24,25]. Occupational

therapists familiar with the VdTMoCA, who attend a one-day training workshop are eligible to administer the APOM and use the online scoring.

Many studies have shown that the APOM is able to track changes in activity participation with occupational therapy intervention[23,28,29,30,31]. However, limited evidence is available on the effectiveness and impact of the OTIGM approach on the activity participation of MHCHs with a diagnosis of MDD. The aim of this study was to determine changes in activity participation from admission to discharge in MHCUs diagnosed with MDD, who attended occupational therapy groups. The majority of groups attended by participants in the study was based on the OTIGM. Factors impacting on the change in activity participation, such as length of stay and number and types of groups attended during admission to the private psychiatric clinic, were accounted for. The association between activity participation and severity of symptoms were also considered.

METHODS

Study design

The design of the study was a quasi-experimental, pre-post-test group design with longitudinal features. Data were collected before intervention and then again after the intervention. No control group was used. The study took place in a 170-bed acute psychiatric clinic in a major city in South Africa.

Sample

A non-probabilistic, convenience sample was used. Inclusion criteria were first admission to the clinic with a diagnosis of MDD, age between 18 and 65 years and provision of consent to be included in the study. The exclusion criterion was admission shorter than 6 days as this short period would not allow for a baseline and a final assessment. The sample size was determined based on results from a previous study by Carter[30]. The planned sample size was 69 participants.

Research Instrument

The Activity Participation Outcome Measure

Activity participation in the APOM consists of 53 items, represented by eight domains: *Process skills, Communication and Interaction skills, Life skills, Balanced lifestyle, Role performance, Self-esteem* as well as *Motivation and Affect*[24,25,32,33]. Scoring of the APOM usually follows assessment of the client in different situations including an interview, participation in various activities or observations made in a social context. After choosing the appropriate level for the item being assessed, a therapist needs to determine the phase within the level. Each level consists of three phases: therapist-directed, patient-directed, and transitional phase (to the next level).

Construct and content validity of the APOM has been established with good inter-rater reliability. Internal consistency and validity of the APOM was confirmed on various South-African populations[32] and the APOM was found to be responsive in describing trends and changes in activity participation as a result of intervention[23,25,29,30,31,33,34]. Previous studies conducted in South African mental health settings using the APOM focused on adolescent MHCUs[31,35], forensic MHCUs[28,33], and MHCUs in a rural context[34]. Another study using the APOM was conducted in the United Kingdom and focused on activity participation of MHCUs with various conditions[30]. The results indicated statistically significant positive changes in activity participation for participants in all these studies who attended occupational therapy group programmes. Using results from the above studies to create a benchmark for improvement in activity participation for MHCUs diagnosed with MDD is however complicated by the grouping of MDD with other psychiatric conditions in these studies.

Research Procedure

Data collection commenced only after ethical clearance was obtained from the Human Research Ethics Committee at the University of the Witwatersrand (M170913). All participants received an information sheet outlining the research aims and procedures and signed informed consent.

Occupational therapy Intervention

Attendance of occupational therapy groups at the research site is voluntary. Mental health care users attend an introduction session in the beginning of their admission where the programme is explained by an occupational therapist. Participants choose the groups they are motivated to attend during their admission. A screening activity during the introduction group assists the occupational therapist to provide guidance to MHCUs who struggle to choose the appropriate groups or to identify those who are not yet suited for certain groups. An average of two to three sessions are covered by the medical aid each day. Participants choose from three categories of groups: stress management groups, craft groups and interpersonal groups. The programme consists of various types of groups with open and closed group membership options. A closed group is a group where the same members are present for a few consecutive sessions without new members joining. With open groups, members are free to join the group regardless of attendance of a previous group with the same theme. The researcher kept track of the number and types of groups participants attended during their admission.

Groups in the interpersonal category at the research site follow the group process and principles of the OTIGM. Therapists facilitating these groups undergo additional training to enhance their understanding and facilitation skills when using the OTIGM. Groups in the stress management category make use of elements of the OTIGM but do not strictly follow the group process of the OTIGM. Occupational therapists at the research site make use of occupation as a means and an end to facilitate participation in activities presented in the groups and, through engagement in activities, assist members in becoming aware of meaningful roles they fulfil in the group or in their lives. The open groups in the craft group category are self-directed. Clients participate in craft activities of their choice at their own pace. While working on their individual products, aspects such as decision making, task initiation and completion and time management are facilitated, depending on each MHCUs' process and needs. Closed groups in the craft group category follow elements of the OTIGM. Although each member works on their own product, they usually follow the same process e.g., emotional check-in at the start of the group, sharing experiences of creating the products and its significance.

Data collection

An initial baseline assessment was completed by the first author (who is trained in the administration of the APOM) before intervention commenced. Table II (page 21) reflects the content of the baseline assessments.

Table II: Assessments and activities used for baseline APOM assessments

Activities used to assess level of Creative Ability:	Administered by:
2.1. Tree metaphor (Draw yourself as a tree activity) * This is a standard activity used by the occupational therapy practice when new MHCUs are orientated to the programme.	Occupational therapists treating the participants at the research site (including the first author)
APOM assessment 2.2. Initial interview and collection of demographic information 2.3. Pie chart of daily routine (how time is spent in a 24-hour cycle) 2.4. Making an envelope by following written instructions with pictures (used to assess process skills) 2.5. Decorating the envelope in a way that represents the MHCU. This could be abstract (e.g. character/personality), or more concrete (e.g. likes/dislikes). Different media were offered to choose from (paint, stickers, pieces of material, stencils, tools).	First author

*During the APOM assessment, participants gave feedback to the researcher on the 'draw-yourself-as-a-tree' activity that was completed during the introduction session and the information was used to aid with the scoring of initial APOM assessments.

Final APOM assessments

Final APOM assessments were administered one or two days before discharge. Participants reflected on personal growth, group participation, and discharge plans. The draw-yourself-as-tree activity was repeated to conclude which areas they felt improved the most during their admission. Similar to the envelope, participants had to follow instructions to fold a box to aid in the scoring of process skills, motivation, and self-esteem domains. The decorated envelope as created during the initial assessment was shown to participants to add any attributes or qualities they discovered or rediscovered about themselves during admission.

Above mentioned assessment activities along with feedback from therapists regarding participants' activity participation in group sessions, were used to complete final APOM scoring sheets. Feedback, in the form of a spider graph, was discussed with participants upon discharge.

Data Management and Analysis

All data were captured by the first author and Statistica v 13.2 software was used for analysis. Demographic data and the scores on the APOM assessments were analysed by using descriptive statistics[36]. The standardised response mean (SRM) was used to calculate effect size of change in APOM scores[37]. Cohen's criteria[38], used to interpret effect size, was used, where 0.2 is considered small, 0.5 is considered medium, and an effect size greater than 0.8 is considered large. The Wilcoxon test, a non-parametric statistical method, was used to assess whether there existed a statistically significant distinction between the baseline and discharge APOM scores. The null hypothesis formulated for this specific inquiry was as follows: There is no significant positive change in activity participation scores for each domain of the APOM between admission and discharge. The rejection of this hypothesis relied on the p-value obtained from the Wilcoxon test, which needed to fall below 0.536. Spearman's Rank Order Correlations were used to indicate if the change in APOM domain scores were associated with the length of stay and number of groups attended[37].

RESULTS

A total of 75 baseline APOM assessments were conducted, five participants were excluded from the study due to change in diagnosis during admission resulting in a sample size of 70. Nine of the MHCUs were discharged before the final APOM could be conducted. A total of 61 final APOM assessments were administered and used for analysis.

Demographics of the sample

Male participants made up 31,15% (n=19) of the sample while 68,85% were female (n=42) with the majority of participants between the ages of 18-29 years (Table III, below). The demographic information of the nine participants whose data were omitted from analysis due to discharge were not included in the demographic information below.

Table III: Demographics of the sample (n=61)

Variables		n	%	Variables		n	%
Age in years	19-29	22	36.07	**Gender**	Male	19	31.15
	30-39	17	27.87		Female	42	68.85
	40-49	12	19.67				
	50-59	9	14.75				
	60-62	1	1.64				
Level of education	High school	20	32.79	**Employment status**	Employed full time	40	65.57
	Post-matric	16	26.23		Employed part time	4	6.56
	Degree	25	40.98		Student	11	18.03
					Learner (Gr12)	1	1.64
					Other*	5	8.20

*'Other' includes volunteer workers, homemakers and participants who are unemployed.

In Table IV (below), the length of stay, total number of groups attended, and the types of groups attended by each participant are indicated. The majority of participants stayed between six and 15 days and interpersonal and stress management groups were attended most often.

Table IV: Length of stay and total number of groups attended during admission (n=61)

Length of stay (in days)	n	%	Type of group	n	Number of groups attended	%
0 – 5	2	4.29	**Stress management groups** *(Open groups)*	49	186	26.64
6 – 10	18	34.29				
11 – 15	20	30.00		50	300	42.89
16 – 20	17	25.71				
21 – 25	4	5.71	**Interpersonal groups** *(Open and closed groups)*	31	169	24.21
Number of groups attended	**n**	**%**				
Low: 0 – 5	11	18.03	**Craft groups** *(Two open groups and one closed group. Included three different mediums)*			
Medium: 6 – 15	34	55.73				
High: 16 – 30	16	26.23				

Change in Activity Participation scores

In Figure 1 (page 5), the change in activity participation for all the domains of the APOM from baseline to discharge is indicated. The change was positive for all the domains of the APOM and indicated a mean baseline APOM score of 9.8 (Self-presentation level, transitional phase) to an average final APOM score on discharge of 11.8 (Passive participation, transitional phase). Balanced lifestyle had

the greatest change from baseline to discharge followed by the Affect domain. The lowest positive change from baseline to discharge was Role performance.

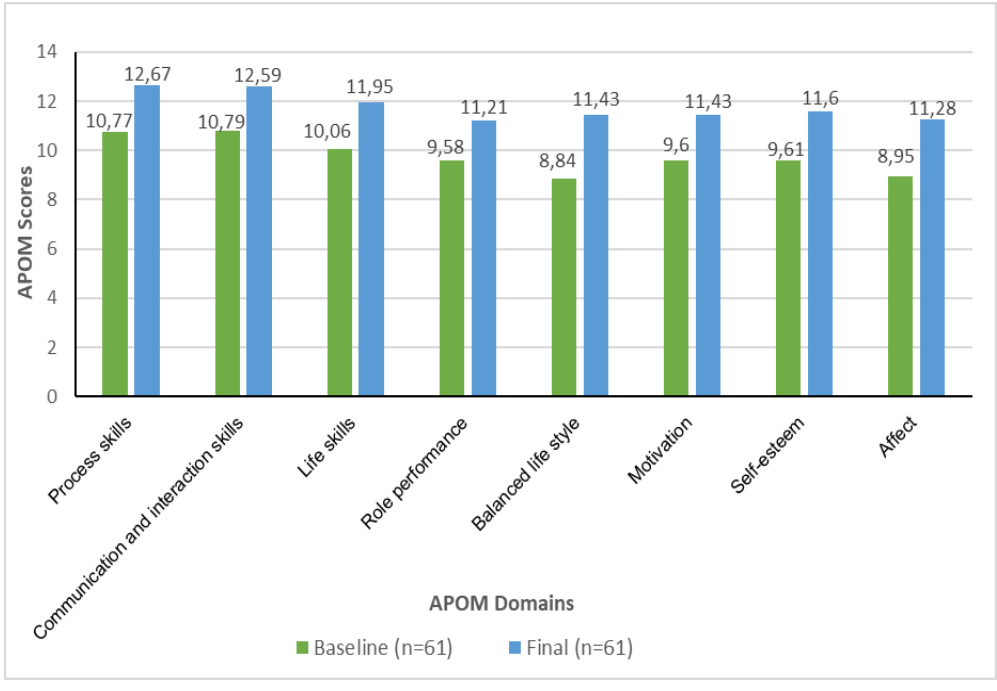

Figure 1: Baseline and final APOM mean scores (n=61)

In Table V (below) the SRM for each domain of the APOM as well as the significance in change of APOM scores according to the Wilcoxon sign ranked tests from baseline to discharge is depicted. The changes in all activity participation scores from baseline to discharge were highly significant with p = 0.00 for all the domains of the APOM.

Table V: Effect sizes per APOM domain calculated by standardised response mean (SRM) (n=61).

APOM Domains	n	Effect size (SRM)	p value
Process skills	60	1.80	0.000*
Communication and interaction skills	58	1.46	0.000*
Life skills	61	1.93	0.000*
Role performance	61	1.41	0.000*
Balanced lifestyle	61	1.81	0.000*
Motivation	60	1.69	0.000*
Self-esteem	61	1.53	0.000*
Affect	60	2.04	0.000*
Total of all domains		1.49	0.000*

*significant at p < .050

In Table VI (adjacent), shows correlations between changes in APOM scores and the number of groups attended, as well as the length of stay. Marked correlations indicate a p-value below 0.05, thus indicating a statistically significant correlation. Non-significant, negligible correlations (rs =0 – 0.2) were found between length of stay and six domains of the APOM and change in APOM scores. Statistically significant, low correlations (rs = 0.2 – 0.4) were indicated between length of stay and change in two APOM domains for Process skills and Role performance.

Correlations between total number of groups and change in APOM scores were higher than those of length of stay and indicated statistically significant correlations across all the domains of the APOM. Moderate correlation (rs =0.4 – 0.6) were indicated between number of groups attended and the change in APOM scores, with Role performance, Motivation, and Balanced lifestyle indicating the highest correlations. The lowest correlation was indicated by the Affect domain.

Table VI: Correlations between the change in APOM scores and total number of groups attended and length of stay (n=61)

APOM Domains	Length of stay	Total number of groups attended
	rho	rho
Process skills	0.29*	0,42*
Communication and interaction skills	0.09	0.44*
Life skills	0.15	0.44*
Role performance	0.25*	0.48*
Balanced lifestyle	0.17	0.47*
Motivation	0.2	0.47*
Self – esteem	0.11	0.45*
Affect	0.03	0.39*

* significant at p < .050

Results of the correlations indicated the relationship between the different types of groups attended by participants during their admission and change in activity participation represented by APOM domain scores are presented in Table VII (below). Marked correlations are statistically significant.

Table VII: Correlations between change in APOM scores and types of groups (n=61).

APOM Domains	Group Categories			Open and closed groups	
	Craft groups	Stress management groups	Interpersonal groups	Open groups total	Closed groups total
	rho				
Process skills	0.17	0.36*	0.41*	0.35*	0.41*
Communication and interaction skills	0.10	0.40*	0.48*	0.33*	0.46*
Life skills	0.21	0.37*	0.37*	0.36*	0.41*
Role performance	0.06	0.38*	0.48*	0.34*	0.41*
Balanced lifestyle	0.17	0.31*	0.43*	0.35*	0.4*
Motivation	0.03	0.41*	0.54*	0.34*	0.49*
Self – esteem	0.09	0.41*	0.42*	0.35*	0.40*
Affect	0.07	0.44*	0.30*	0.32*	0.32*

Statistically significant correlations were found between the domains of the APOM and stress management groups, Interpersonal groups, open groups, and closed groups, while the correlation between craft groups and APOM scores indicated negligible non-significant correlations. The strongest low to moderate correlations were indicated by the interpersonal group category and closed groups.

DISCUSSION

Demographics of the study

Most participants were under the age of 29 years which was in line with the South African Stress and Health (SASH) study conducted in 2009[39]. The study found the mean age of onset of MDD in South Africa was 25 years. Since only first admission MHCUs were included in the study, it makes sense that most of the participants were in the younger age group of 19-29 years.

The level of education for the sample of this study was significantly higher than that of the general population in South Africa. According to the Organisation for Economic Co-operation

and Development (OECD) indicators of 2019[40], only 7% of the South African population had attained a tertiary degree in comparison to 40.98% of this sample, which is significantly more than the general population. The research site is located in a well-developed suburb and admission to the hospital is dependent on medical aid membership or private funding. It can therefore be concluded that participants in this study belong to a higher socio-economic group. The mean length of stay for this study was 13.07 days, which is in keeping with the average length of stay in private in-patient psychiatric settings in South Africa (12 days[41]).

Change in levels of activity participation

A statistically significant positive change in mean APOM scores from baseline to discharge for all the domains of the APOM indicate a change from the average baseline APOM score of 9.8 which represents the Self-presentation level, transitional phase to an average APOM score on discharge of 11.8, representing the transitional phase of Passive Participation. These findings differ from those in previous studies where APOM scores for populations with various other psychiatric conditions, represented lower levels of creative ability at baseline and discharge.

In a study conducted in an inpatient mental health setting in a rural context, more than 80% of the sample had diagnoses of substance abuse or schizophrenia and the mean baseline APOM score was 6,43 (Self-differentiation, transitional phase) and the final mean APOM score post- rehabilitation was 8,18 (Self-presentation, patient directed)[34].The baseline and post-therapy APOM scores were also found to be lower at 7.71 (self-presentation, patient directed) and 10.2 (passive participation, therapist directed) respectively in a study conducted in the United Kingdom. The United Kingdom study sample had more varied diagnoses of schizophrenia, schizotypal and delusional disorders; followed by mood disorders with only 5% having a diagnosis of MDD[30]. Baseline and final APOM scores for the participants diagnosed with MDD were however higher than baseline and post therapy APOM scores for the rest of the United Kingdom sample, with average scores of 8.54 (self-presentation, transitional phase) and 11.1 (passive participation, patient directed) respectively[30]. When considering higher baseline and final APOM scores for the United Kingdom sample and the results of this study, it was hypothesised that the level of creative ability of MHCUs diagnosed with MDD admitted for treatment, may be slightly higher than that of other psychiatric diagnoses. When interpreting these results, it is important to consider the higher levels of education found in the current study, which could also indicate higher levels of creative ability.

Change in APOM scores

An overall improvement in activity participation from admission to discharge was indicated by the change in APOM scores from the baseline to final APOM assessments. Additionally, all effect sizes were statistically significant ($p<0.05$) across all the domains of the APOM. It can therefore be concluded that positive changes in APOM scores from baseline to discharge were related to the interventions participants received. However, the sample size may have impacted the statistical significance in the change of scores thus SRMs and effect sizes were used to determine clinically significant change. Since the criteria for interpreting effect sizes used to indicate improvements in this study may be quite relative, Cohen suggested that practitioners determine their own effect sizes for their populations[38]. When considering previous studies using the APOM, an effect size of 0.8 seems to indicate moderate change, while effect sizes between 1.3 and 2.0 pointed to large clinical effects. The overall SRM for all the domains of the APOM for this study was 1.69 which clinically indicated a large effect with improvement from one creative ability level to the next for both Balanced lifestyle and Affect domains, since participants improved from Self-presentation level (transitional phase) to Passive participation (patient-directed phase).

The importance of considering effect size on clinical improvement was seen when considering the improvement in change in mean APOM domain scores. The greatest improvement in APOM scores from baseline to discharge for participants were Balanced lifestyle, where a mix between physical, mental, social, spiritual and rest activities; and use of time, habits and routines are considered. This was followed by the Affect domain which includes repertoire of emotions, emotional control and mood. The largest effect size was found for the Affect domain at 2.04 with the SRM for Balanced lifestyle at 1.81 indicating greater clinical change in the Affect domain. It should be noted however, that the Affect domain is not exclusively addressed by occupational therapy. Psychopharmacology and psychotherapy provided by psychiatrists and psychologists at the research site also play an integral part in the treatment of mood-related symptoms.

The findings for Balanced lifestyle and the Affect domain are in keeping with results found by Carter[30] and Silaule[34]. Both studies used the APOM with inpatient samples and also found the greatest improvement in Affect and the Balanced lifestyle domains.

Role performance showed the lowest effect size of 1.41 from baseline to discharge which differs from other studies where treatment effects were measured over 11-14 weeks[34]. Role performance or the ability to meet the demands of roles that form social identity may have been affected by the acute inpatient context of the study, where the primary role being fulfilled by MHCUs during admission is often the patient role. These factors prevent them from actively engaging in their everyday roles (for example as an employee or parent) and related expectations[42].

Relationship between dependent and independent variables

Length of stay and total number of groups attended

In the current study, the length of stay was not significantly associated to the change in APOM scores with only Process skills and Role performance found to show a low significant correlation ($rs= 0.2 – 0.4$). This may be accounted for by the small differences in days in the length of stay in an acute mental health setting since the study by Silaule[34] indicated statistically significant, low correlations between length of stay and change in APOM scores for six domains when participants with lower levels of creative ability received intervention for 11-14 weeks. Participants in Silaule's study were at the creative ability level of self-differentiation, often seen among MHCUs with acute psychiatric symptoms[34], requiring constant supervision and assistance for optimal functioning. It could be argued that length of stay plays a more prominent part in stabilisation of severe symptoms and improvement to the next level of creative ability for these participants with lower levels of creative ability.

The relationship between the total number of occupational therapy groups attended by each participant and mean difference in APOM scores was indicated by statistically significant, moderate correlations ($rs = 0.4 – 0.6$) across all the domains of the APOM. This is in line with findings from Carter[30] who also found the total number of occupational therapy groups attended by participants tested superior to length of stay when correlated with change in APOM scores. Although this differed from findings by Silaule[34], where length of stay tested superior to occupational therapy group attendance (as indicated above), this confirmed the importance of length of stay for participants with lower levels of creative ability. It could be argued that participants with higher levels of creative ability on admission are likely to gain the necessary skills to prepare them to reintegrate earlier into their communities and therefore, length of stay for these individuals may not be associated with the change in the APOM scores.

Open and closed groups

A stronger correlation existed between closed groups and change in APOM scores when compared to the correlations for open groups. In occupational therapy, there is limited evidence about the

difference in group therapy outcomes for open and closed groups. Tourigny and Hébert[44] investigated the efficacy of open and closed group therapy for adolescents who were sexually abused and found both group formats were associated with the same significant benefits. Stevenson et. al.[45] investigated the impact of closed versus open groups on programme completion and recidivism for men with a history of sexual offences. No significant differences were observed between open and closed group programmes for treatment completion or for sexual recidivism. In the current study however, a greater association between improved activity participation and closed groups in MHCUs diagnosed with MDD were found. This discrepancy among above mentioned studies indicates the need for future studies exploring the benefits of open and closed groups in occupational therapy with different populations.

Interpersonal groups

Correlations indicated by the interpersonal group category were statistically significant across all the domains of the APOM and showed moderate correlations (rs =0.4 – 0.6) for most domains of the APOM. The Motivation domain had the highest correlation with change in APOM scores, followed by Role performance and Communication and interaction skills. In comparison to the other types of groups, the interpersonal group category had the strongest correlation with change in APOM scores across all the domains of the APOM except for the Affect domain, which also showed the lowest correlation for interpersonal groups. With the use of the OTIGM, members become aware of what they are feeling towards each other, themselves and the activities presented in the group space. Once members have identified their emotions, a cognitive process usually follows during which members make sense of the possible causes or meaning of these emotions[14]. Davidson[17] found that MHCUs identified 'personal shifts' as a key advantage of the OTIGM in their road to recovery, but noted that it was often accompanied by difficult emotions and discomfort[17] , which could explain lower correlations observed in the affect domain of the APOM in this study.

Interpersonal groups at the research site consisted of both open and closed groups with various themes related to interpersonal relationships, addictive behaviour, and self-esteem. All groups in this category strictly followed the process of the OTIGM which made use of Yalom's curative factors to facilitate the group process and to ensure a safe environment conducive to growth[14]. Approval, acceptance, belonging, and connection is encouraged by facilitation of the curative factors such as universality, cohesion, and the instillation of hope[46]. Positive emotions associated with connecting with others therefore enhances motivation of MHCUs on the level of Passive Participation. The findings for the Motivation domain were therefore not unexpected since most participants were functioning at this level of creative ability during their admission. Members functioning on the level of passive participation were provided with opportunities to participate in activities with others but needed facilitation to initiate participation. Although participation was often passive, gaining approval and acceptance from others in the group was a key external motivator providing the courage required to participate.

Direct communication between group members is an essential principle of the OTIGM[14]. During interpersonal groups, direct communication is facilitated regardless of the theme of the group. Group members are encouraged to speak directly to one another instead of communicating with the occupational therapist only. Therefore, communication and interaction skills are addressed in most groups. These groups also created opportunities for participants to explore new roles, refine current roles, or become aware of the roles they fulfil in society. With closed groups especially, participants were able to identify or adapt their roles within the group, fulfilling a core concept of the OTIGM that groups should be seen as a micro sample of society[14] . When describing this phenomenon, Fouché[14:33] stated that "the way people interact with others in the world outside the group will be the same way in which they interact with others in the group."

Craft groups

The relationship between the attendance of craft groups and change in APOM scores was found to have negligible correlations across all the domains of the APOM, except for Life skills, where a low non-significant correlation was seen.

There was a lack of attendance at craft groups in the current study. Only 11 participants attended more than five craft groups during their admission. From a VdTMoCA perspective, a possible interpretation for these participants who did not join the craft groups, could be that they prioritised the interpersonal groups to achieve their goals in therapy. Most participants were at the level of Passive participation and on this level, there is awareness of norms and a need to develop skills to cope with the demands of their occupations[27]. The themes covered in the interpersonal group category could therefor better cater for their therapeutic needs. Another characteristic of Passive participation is that an individual has an increased need to belong to a group and get reassurance of their participation[27] which are facilitated in interpersonal groups, while the craft groups are usually more self-directed.

Previous studies on the effectiveness of craft groups as a treatment modality for MHCUs suffering from MDD have yielded positive results. Reported changes include improved social interaction, improved confidence, enhanced self-expression, improved quality of admission in psychiatric inpatient settings and improved daily functioning[47,48,49]. In this study, however, these benefits of improved confidence and improved social interaction were more evident in the interpersonal group category than the craft groups.

Stress management groups

The relationship between attendance of stress management groups and change in APOM scores indicated statistically significant, low to moderate correlations across all the domains of the APOM. Communication and Interactions skills, Motivation, Self-esteem, and Affect showed the highest correlations for this type of group while the Affect domain had the highest correlation with the number of stress management groups attended. In the current study, the stress management group category appeared to be effective in addressing the acute symptoms of MDD, that are categorised as client factors under mental functioning by the Occupational Therapy Practice Framework (OTPF-III)10 . These client factors may have been addressed directly by the stress management groups that facilitate the experience of mindfulness. The approach followed in these groups facilitated elements of the OTIGM with a focus on sensory activities (such as drumming, or finger painting), psychomotor activation, relaxation therapy, tension release exercises, all of which follow a 'here and now' approach.

CONCLUSION

The positive change in all the domains of the APOM after attending occupational therapy group intervention provides evidence of the effectiveness of occupational therapy groups in the treatment of MHCUs diagnosed with MDD. Although it was not a randomised study, the outcome shows a statistically significant positive change in activity participation from baseline to discharge across all the domains of the APOM for MHCUs diagnosed with MDD attending an occupational therapy group programme.

The number of groups attended during admission had moderate correlations with change in activity participation and highlight the importance of attendance of the occupational therapy group programme for MHCUs diagnosed with MDD. The association between improvement in activity participation that favoured closed

groups over open groups is of clinical significant since there is little evidence in literature to support this finding. This may serve as a stepping stone for future experimental studies with a randomised sample, investigating the difference in outcomes between open and closed groups in occupational therapy.

Attendance of the stress management groups were found to have a better correlation with changes in the APOM domains such as affect, motivation and self-esteem. In the acute phase of MDD these domains of the APOM align with typical symptoms of depression such as low mood, poor motivation and low self-esteem. Attendance of the interpersonal groups had moderate correlations with most of the domains of the APOM except for Affect and Life skills which indicated low correlations. In comparison to the other types of groups, the Interpersonal groups had the strongest correlations with changes in APOM scores and indicated the benefits of using to the OTIGM approach in acute psychiatric settings. It can be concluded that occupational therapy groups play a valuable and integral role in the road to recovery for MHCUs diagnosed with MDD during a short admission to a private psychiatric setting.

Limitations

This study was a pre-post-test design with a convenience sample and without a control group. Causality of results were therefore limited as there was no randomisation of participants. Generalisation of the results were further limited by the fact that data collection occurred at only one psychiatric facility. Correlations discussed in the study represented identified relationships between dependent and independent variables, but there was no description of the causal effects of independent variables on one another. The findings in this study should therefore be followed-up with an experimental study with a control group.

Author Contributions:

Annalie Meyer conceptualised the study, collected and analysed the data, prepared the draft manuscript. Daleen Casteleijn assisted with conceptualisation of the study, statistical analysis and discussion Olindah Silaule assisted with conceptualisation of the study, methodology and discussion. All listed authors contributed to finalising and editing the manuscript.

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[RESEARCH ARTICLE]

South African occupational therapy students' reflections on ethical tensions experienced during fieldwork

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ABSTRACT

Introduction: Ethical tensions are routinely encountered by occupational therapists and students in fieldwork and may impact patient care and team morale, and lead to practitioner burnout. Ethics education is a means to reduce ethical tensions in fieldwork. Despite this, however, limited research exists regarding ethical tensions and ethics education amongst students in the South African context.
Methods: The study was conducted to explore South African occupational therapy students' reflections on ethical tensions experienced in fieldwork practice. A qualitative, descriptive design was used to review thirty-five ethics reflective journals by fourth-year occupational therapy students at a university in South Africa. Students identified ethical tensions, reflected on these using Sokol's decision-making framework and Kolb's Cycle of Experiential Learning, and incorporated their learning into practice. Data were analysed thematically. Trustworthiness was ensured through triangulation of researchers, multiple data sources, and an audit trail.
Findings: Three central themes emerged: (1) Ethics from the perspective of the student, (2) Ethical tensions experienced during fieldwork, and (3) How students navigated ethical tensions.
Conclusion: This study provides an insight into the ethical tensions and reflections of fourth-year occupational therapy students during fieldwork. Findings inform healthcare educators and clinicians regarding students' perceptions about ethics education and the tensions experienced during fieldwork.

Implications for practice

- Students experienced ethical tensions during fieldwork and navigated these ethical tensions by following institutional procedures, acquiring knowledge through research, drawing from the "well" of experience, and reflective practice.
- The study offers a narrative for encountering and resolving ethical tension during fieldwork.
- The main distinction between the two classifications persists when reviewing the support given to the participant who has been empowered to resolve the ethical tension whilst receiving consultation from their site clinician and the institution. Findings inform healthcare educators and clinicians regarding students' perceptions about ethics education and the tensions experienced during fieldwork.

INTRODUCTION

Within the healthcare sector, healthcare professionals such as occupational therapists and students frequently experience a multitude of ethical tensions during their daily fieldwork practices[1, 2]. Examples of ethical tensions include unethical or incompetent colleagues, and working with team members with difficult personalities[3]. Ethics education has been highly regarded as a way to resolve ethical tensions by equipping healthcare students with the necessary knowledge and skills to overcome clinical tensions confidently[4]. At the Department of Occupational Therapy at a university in South Africa, undergraduate students are exposed to

various modes of ethics education including reflective practice using journaling as guided by Kolb's Cycle of Experiential Learning[5], case discussions using Sokol's decision-making model[6] and consolidating their learning by participating in an annual Inter-professional-Ethics World Café[7]. Despite the well-documented significance of ethics education during undergraduate training, research exploring ethics education in occupational therapy is limited, particularly in the South African context. Additionally, the ethical tensions experienced by occupational therapy students in fieldwork are scarcely documented, thus posing the question: Are occupational therapy ethics curricula responsive to social and political climates where the students will subsequently serve as occupational therapists? This paper aims to bridge the gap in the literature by exploring South African occupational therapy students' reflections on ethical tensions experienced during fieldwork practice and how they dealt with these.

LITERATURE REVIEW

Within the healthcare sector, it is widely recognised that fieldwork brings varying degrees of ethical tensions[1,2]. Henry[8:132] proposes that ethics "assesses the ways in which we behave and the quality of moral values that we have" and seeks to uphold this through the provision of mandated codes of conduct and ethical guidelines for good practice such as those legislated by the Health Professions Council of South Africa (HPCSA)[9]. Additionally, occupational therapists and occupational therapy students are required to adhere to an ethical code of conduct proposed by the Occupational Therapy Association of South Africa (OTASA)[10] and derived from the World Federation of Occupational Therapists (WFOT) code of practice[11].

Kinsella et al.[1] and Nortje[2] outlined three variations of ethical tensions namely, ethical uncertainty, ethical distress, and ethical dilemmas. Ethical uncertainty may transpire when a healthcare professional is unsure, or unfamiliar with, which ethical principle is applicable to their experience, or whether their experience is central to a subjective moral perturbation[1, 2]. Ethical distress may occur when a healthcare professional is cognisant of the correct course of ethical action, but feels constrained to act owing to institutional or societal norms[1, 2]. An ethical dilemma arises when a healthcare professional faces two or more equally distressing alternatives that are mutually exclusive[1, 2]. Evidence systematically delineating the definition(s) of ethical tensions is transversely explored across professions. However, case studies or contextual experiences of these ethical tensions in South Africa are rarely documented.

Barnitt[12], in a preliminary exploration of the experiences of 35 occupational therapy and 37 physiotherapy clinicians and students, proposed ineffective treatment, unethical and/or incompetent colleagues, priorities in treatment, causing pain and discomfort, misleading the patient, and confidentiality as some of the main ethical concerns in fieldwork. Nortje[2] and Nortje and De Jongh[13] reported that the three prominent areas where students encountered ethical tensions were in the professional-student relationship, professional boundaries, as well as disclosure of information and keeping information confidential. Clever et al.[3] additionally report the difficult personalities of team members, professionals of lower hierarchical standing, and team business as a rationale as to why occupational therapists and students are unable to express their concerns in the resolution of ethical tensions. Redman and Fry[14] further suggest that healthcare professionals may not have the necessary skills to resolve ethical conflict and that the persistence of the conflict alludes to the professional not having the decision-making authority to resolve the conflict independently, thus speaking to organisational hierarchies and a conceivable unequal distribution of power. Whilst ethical guidelines recommended by the HPCSA[10] and OTASA[11] may support discussions of ethical conflicts, it has been suggested by Brockett[15] and Henry[9] that these professional bodies and guidelines are ineffective in providing professionals with guidance or clear answers. Ethics education is regarded as a means to enable healthcare practitioners and students to manage ethical dilemmas in practice[4].

In the Department of Occupational Therapy at a university in South Africa, undergraduate healthcare professional students are exposed to a tri-modal ethics curriculum as marked by theory, practical and continual learning consolidation through senior educator guidance. Firstly, students undergo extensive exposure to the theoretical underpinnings of ethics in practice that culminate in ethical decision-making as guided by Sokol's decision-making model[6]. Lectures are interactive and afford opportunities for case discussions with peers and guidance from an experienced ethics lecturer. Additionally, students are invited to participate in an Inter-professional-Ethics World Café (IPEWC) which has been described by De Jongh and Wegner[7] as a simple, effective, and flexible format for hosting large group dialogue. IPEWC is beneficial in developing an understanding of the different team members' roles and responsibilities and reflecting on the benefits and conflicts that may arise when working collaboratively as an inter-professional healthcare team[7]. Secondly, students are tasked to implement their learning in practice across 1000 mandated clinical fieldwork hours[16]. In addition, students are required to engage in reflective practice through writing reflective journals guided by Kolb's Cycle of Experiential Learning[5]. According to Kolb[5], experiential learning can be defined as a learning process where knowledge results from the combination of grasping and transforming an experience. This occurs through documenting a concrete experience, reflective observation, abstract conceptualisation, and active experimentation[5]. Lastly, students are given opportunities for further consolidation through feedback gained during weekly tutorials with clinical supervisors, lecturers, and fieldwork site clinicians.

Despite exposure to ethics education, occupational therapists and occupational therapy students alike continue to encounter ethical tensions in their daily practice. These tensions and the processes that clinicians and students must implement to resolve them are poorly understood. Research is further limited when exploring the context of South Africa. This is noteworthy as research clarifying these tensions and processes could be beneficial in transforming the ethics curriculum into one that is responsive, thus better equipping healthcare professionals with the skills to navigate ethical tensions. Therefore, a study was conducted to explore occupational therapy students' reflections on ethical tensions experienced in fieldwork practice.

METHODS

This study employed a qualitative, descriptive research design to explore occupational therapy students' reflections on ethical tensions experienced in fieldwork practice. Qualitative research describes the systemic inquiry of context-specific phenomena that seeks to describe the 'who, what, and where' of events or experiences from a subjective perspective[17].

Study setting

Students were registered for their fourth (final) year of an undergraduate occupational therapy programme at a university in the Western Cape, South Africa. During their fourth year, students are required to complete three, six- to eight-week fieldwork placements in diverse practice settings in the Western Cape, including hospitals, clinics, communities, schools, non-governmental organisations, and care homes. Students are required to write a reflective portfolio at the end of each fieldwork placement as part of their assessment. Students select, and write about, three of six topics that include: 1) the impact of pathology on client/group occupational performance, 2) occupational injustices experienced by the client/group, 3) own learning within the occupational

therapy process as applied to the client/group, 4) own professional development in the fieldwork placement, 5) ethical principles applied to a situation experienced in the fieldwork placement, and 6) topic of own choice related to learning in fieldwork.

Participant selection

All students registered for the fourth year of the undergraduate Bachelors of Science in Occupational Therapy degree programme at a university in the Western Cape during 2020 and 2021 were eligible to participate in the study. The students were informed about the study, and if they wished to participate, they submitted their portfolios for data analysis. This resulted in a total of 165 reflective portfolios which were available for data analysis. These portfolios were reviewed. For the current study, 35 journals written by 32 students were extracted from these portfolios on the basis that they explored ethics in fieldwork practice. The participating students were all female as there were no male students in the cohort, with ages ranging from 21 to 26 years, from different geographical locations in Southern Africa.

Data collection

Data were collected in April, June, October, and November 2020, as well as November 2021 from the reflective portfolios of the 32 fourth-year occupational therapy students. For the ethics component of their journals, students were required to identify an ethical dilemma experienced during their fieldwork placement, reflect on ethical principles in practice, outline ethical approaches applied to address the dilemma and explore how they would apply their learning in the future. Students used Sokol's decision-making model[6] to conceptualise their ethical reasoning and structured their narrative reflective journals using the four phases of Kolb's Cycle of Experiential Learning[5] namely: *Concrete Experience, Reflective Observation, Abstract Conceptualisation,* and *Active Experimentation*. These narrative reflective journals of the students were used as the data sources for this study.

Data analysis

Data analysis was done using Braun and Clarke's six steps of thematic analysis[18]. This process started with the review of the students' portfolios in their entirety to identify and extract relevant ethics narrative journals. These narrative journals were imported into an organisational framework. Secondly, initial codes were flagged from the vast amount of data highlighted in the previous step. Codes were clustered based on similar narratives and were organised using a data extraction sheet. Thirdly, codes were further grouped and organised to formulate sub-themes that aligned more closely with the research topic. Themes were then loosely constructed to represent the data housed in each category. Fourthly, themes were reviewed and evaluated based on the coded extracts and full data set, and some of the themes were collapsed to streamline the data narrative. Fifthly, themes were named by providing a description of the narrative represented by the grouping of the sub-themes and supportive data extracts. The final step involved the reporting of the findings, which occurred through analytic narrative supported by data extracts. The three authors closely monitored the process of data analysis ensuring neutrality in the representation of the data.

Trustworthiness

Trustworthiness was adhered to by means of credibility, transferability, dependability, and confirmability[19]. Credibility was ensured through triangulation including multiple data sources, and a team of three researchers to substantiate the study narrative and findings[20]. Transferability was ensured through documenting the study setting and participants[21]. Dependability and confirmability were achieved through the provision of an audit trail.

Ethics

Ethics approval was obtained from the University of the Western Cape, Humanities and Social Sciences Research Ethics Committee (ethics clearance number HS19/10/3). Prior to consent, the students were provided with a study information letter. In addition, two of the authors verbally explained the study to the students and answered their questions. Participants signed a consent form voluntarily and were aware that they could withdraw from the study at any stage without being penalised. Participants were assigned unique numbers to uphold confidentiality.

FINDINGS AND DISCUSSION

Data analysis yielded the following themes: (1) Ethics from the perspective of the student, (2) ethical tensions experienced during fieldwork, and (3) how students navigated ethical tensions. Themes comprised thirteen sub-themes (Table I below).

Table I: Themes and sub-themes

Themes	Sub-themes
Ethics from the perspective of the student	Defining ethics Students' beliefs, cultural views and biases Ethics education and training
Ethical tensions experienced during fieldwork	The sexually disinhibited patient Consent Patients setting unrealistic therapeutic goals Staff mishandling patients Restricted patient choice, autonomy, and dignity Providing patients with gifts and money
How students navigated ethical tensions	Following institutional procedure Knowledge through research Drawing from the "well" of experience Reflection

Theme One: Ethics from the perspective of the student

In Theme one, the extent of participants' knowledge and understanding of healthcare ethics and implementation in practice were explored. Findings reflect ethics from the perspective of the student by exploring how participants define ethics, observe their own beliefs, cultural views and biases as impacting upon ethics, and their exposure to and the effectiveness of ethics education and training.

Defining ethics

One of the participants defined ethics as a *"framework designed for healthcare professionals that guides them in what is wrong and right in the treatment of patients"* **(P11, June 2020).** Ethics was described by participant 1 as a paramount component of fieldwork practice as it aims to *"protect the rights of patients"* **(P1, April 2020)**. Ethics was perceived by students to be a mechanism that guided healthcare professionals, including occupational therapy students, during the resolution of ethical tensions experienced in practice by navigating the dichotomy of right and wrong. This aligns with Henry's[8] emphasis on acting in a manner that serves the betterment of the patients served. Ethics was highlighted as a significant proponent of fieldwork where the goal of the healthcare professional is to uphold the rights of the patient[22]. All healthcare professionals registered with the HPCSA across 12 professional boards have a moral and ethical duty to their patients, colleagues, and society[9]. These duties are generally in keeping with the principles of the South African Constitution (Act No. 108 of 1996)[23] and the obligations imposed on healthcare professionals by law[9].

Students' beliefs, cultural views and biases

Participants described ethics as a complex concept that can be influenced by one's beliefs, cultural views, and biases. Two participants regarded ethics as being a clear-cut matter according to descriptions of the guidelines mandated by the HPCSA[9], OTASA[10], and WFOT[11]; however, other participants highlighted the role of one's personal beliefs, culture, traditions, and other idiosyncratic factors as potentially influencing ethical decision making.

"Personal ethics may influence how one reacts to ethical situations".
(P4, April 2020)

Three participants reported that owing to personal biases, one healthcare professional may interpret an experience as conflicting whilst another may dismiss it as customary. An example of this could be seen entrenched in the persisting patriarchal views regarding gender norms and practices rooted in many African cultures. One participant described an experience wherein she felt conflicted in approaching and addressing a group of Pedi (a southern African ethnic group) males as the cultural foundation upon which she was raised was that females should avoid physical or social contact with males as an expression of respect.

"Growing up in the village, I was taught that a female should address a male with respect which in some cases can be shown by communicating without making eye contact or physical contact".
(P6, April 2020)

Furthering the narrative of a personal or subjective ethical code, it is suggested that it is possible that an individual may interpret and dismiss an event in practice as customary whilst another may interpret it as a conflict requiring action.

"Based on one's personal morals and opinion of right and wrong it is possible that one person may view a situation as ethically correct while another will see it as wrong".
(P11, April 2020)

Mofokeng[24], in his exploration of the gender role expectations placed upon individuals based on their sex in Lamontville, KwaZulu-Natal Province in South Africa, reports that many of these traditional African views and practices persist today despite attempts to modernise views. It is further suggested that these views and practices may influence various sectors, including healthcare, which assume a more Westernised standing. Whilst moral values are subjective and sculpted on one's personal belief system, culture, spirituality, and other subjective factors, ethics seeks to regulate professional behaviour to safeguard all parties involved[25]. It is valuable for students to make the distinction between professionalism and ethics as autonomous concepts whilst understanding their interrelatedness for healthcare professionals.

Nortjé, and de Jongh[26] in their exploration of professionalism as a case for medical education to honour the societal contract, state that "professionalism is essentially beyond ethics, values, and beliefs and includes behaviours and attributes which need the mastering of a complex body of information and skills, caring of others, guarantee of competency, truthfulness, unselfishness and the promotion of public good, autonomy, self-regulation and accountability to society"[26:43]. This implies that professionalism is rooted in the core values of an individual as owed to their morality, is continually in transformation throughout the individual's life, and regards ethics as informing the quality of patient care. Furthermore, professionalism influences how healthcare professionals reduce or resolve ethical tensions in fieldwork[27].

Ethics education and training

Two participants reported on the ethics education modules they had received as part of the undergraduate programme and stressed the importance of this teaching in scaffolding their ethical reasoning and performance in practice. The participants reported the effectiveness of the education received to the extent that they felt able to act in accordance with the HPCSA[9] and OTASA's ethical guidelines[10] subconsciously.

"During fieldwork, I did not consciously follow the HPCSA's ethical reasoning standards, but I relied on what I had learned in class about ethical reasoning. However, because of what we were taught in class, my actions were consistent with the HPCSA's requirements". **(P14, June 2020)**

Participant 5 further stressed the importance of ethics education and training in equipping students with essential knowledge and skills to navigate inevitable ethical tensions.

"It is important for students to have ethics education and training so that we can handle ethical dilemmas as professionals."
(P5, April 2020)

Participants highlighted the various factors that had the potential to influence ethics in practice. For example, one participant reported a focus on academic prowess as the primary motivator of their decision-making.

"The stress of wanting to get everything right on an academic level sometimes overshadowed what was necessary and therapeutic for my patients."
(P1, April 2020)

Ethics education has been highly regarded as a means to aid in the resolution of ethical tensions by equipping healthcare professional students with the necessary knowledge and skills to overcome clinical tensions confidently[4]. This transition from theory into practice, however, was not always seamless as highlighted by the previous participant, who reported her ongoing discourse in valuing academic prowess over what was necessary and therapeutic to patients. This also suggests that students may conform to an expectation when uncertain despite their empathetic reasoning suggesting otherwise, possibly due to their lack of experience and autonomy to make a more nuanced judgement.

Theme Two: Ethical tensions experienced during fieldwork

In theme two, the findings illuminate the ethical tensions experienced during fieldwork including the sexually disinhibited patient; consent; patients having unrealistic treatment expectations, staff mishandling patients; restricted patient choice and autonomy; and providing patients with gifts or money.

The sexually disinhibited patient

This experience occurred when a participant observed: *"a sexually disinhibited patient attempting to have sexual relations with another patient"* **(P4, April 2020).** The participant intervened, stopped the incident, and reported it to a superior. During a multi-disciplinary ward round, the incident was discussed. Following the ward round, the participant was reprimanded by a senior sister who cautioned the participant that *"if something like this happens it needs to be kept a secret as it just made the nursing staff look bad"* **(P4, April 2020).** The nursing sister furthered her reprimand by stating: *"what happened is all your fault and you should know your place"* **(P4, April 2020).** The participant felt perplexed, belittled, and victimised as shown in the quote:

"I was victimised for doing what I have been taught to do. I felt that I was belittled and made to feel bad about doing what was right."
(P4, April 2020)

Ethical distress as defined by Kinsella et al.[1] and Nortje[2], occurs when a healthcare professional is cognisant of the correct course of ethical action, however, may feel constrained to act owing to institutional or societal norms. During the above-mentioned interaction with the sexually disinhibited patient, the participant reported assessing the encounter expeditiously and acting instinctively in the protection of the patient to uphold her right to safety and security[27, 28]. When escalating the incident to the relevant staff members, the participant noted that not all parties were appreciative of her actions and further continuation in raising the incident. The contesting staff appeared to respond defensively and possibly emotionally by reprimanding the participant whilst heavily leaning into institutional hierarchy, which is of great concern. This left the

participant feeling confused and belittled whilst questioning if her action was warranted and within her scope as a student. Kreindler et al.[28] and Hall[29] propose that healthcare teams are structured by professions and hierarchies that are often associated with varying degrees of organisational importance and subsequent power. This variation in status creates power differentials that further foster climates of professional disregard for the expertise and opinions of those lower on the organisational hierarchy. Bochatay et al.[30] cited that rigid hierarchies have contributed to negative experiences of conflict in the workplace. The argument of power resonates with the barriers brought forth by Barnitt[12], Clever et al.[3], and Redman and Fry[14] further validating their report that students and healthcare professionals alike, fail to report unethical tensions in fieldwork in fear that it could implicate them or further entrench them in toxic workplace dynamics that often stem from team and organisational hierarchy. Hughes and Fallon[31] suggest that the inclusion of occupational therapists during team discussions around patient care is instrumental in dissolving professional hierarchy and centralised team or organisation power as it includes all relevant professions in the conversation thus sharing team power.

Consent

In fieldwork, participants are required to obtain consent from patients for videoing treatment sessions for exam purposes. Most notably, *"One of the requirements of fieldwork is to make a video whereby you demonstrate your skills with patients"* **(P5, April 2020).** One participant assumed that their association with the university would guarantee patient consent at all times.

"I did not expect the nursing sister to deny consent to be filmed".
(P9, April 2020)

Participants also reported that consent to participate was utilised by some patients as a leveraging opportunity wherein they could receive something beneficial such as advocacy for their discharge or gifts/incentives.

"The patient said that in exchange for consent to film her for my exam video I should get her discharged or communicate to the doctor on her behalf".
(P5, April 2020)

Patients' having unrealistic treatment expectations

Two participants highlighted their experience of patients having unrealistic treatment goals by highlighting the co-existence of various confounding factors such as the patient's acceptance of their prognosis, and cultural or spiritual views. The patient presented with paraplegia resulting from a gunshot wound that completely severed the connection between his lumbar spinal vertebrae and brain. Based on prognostic and clinical evidence, the likelihood of regaining functioning to the extent of being able to walk was exceptionally low.

"The patient believed that a miracle could happen and that he could potentially regain function in his lower limbs"
(P11, June 2020)

The participant found it challenging to navigate this dynamic as she too was a spiritual individual and of a similar perspective, who, however, had to set her own views aside and focus on her responsibility as a professional. Here we observe an ethical tension between the personal and professional beliefs of a healthcare worker and often having to suspend one's own beliefs, cultural views, and biases in response to patient care whilst being sensitive and respectful to patients' beliefs, cultural views, and biases. The process of separating the personal self from the professional self can often be challenging for a student to navigate as the student can often still be defining their professional identity or learning about who they are separate from their familial context.

"I had to put my religious beliefs which I was raised with aside and only focus on the medical facts"
(P11, June 2020)

Goal setting is an integral component of occupational therapy practice and the HPCSA upholds it as one of the outcome measures of the Code of Good Practice[9]. Goal setting is said to enhance patient confidence and motivation, engagement in, and satisfaction with rehabilitation, whilst improving task performance, team communication, and teamwork and, possibly improving recovery, goal achievement, and self-care[32]. **Participant 11** agreed with the significance of goal setting. She did, however, report on its complexity when influenced by sensitive factors such as spirituality, culture, and traditional beliefs. These factors were reported to pose a challenge as the participant's patients often had unrealistic treatment expectations which had been fostered on the bedrock of their beliefs or denial of the extent of their prognosis. One participant reported that her patient was optimistic that divine intervention would see a complete recovery to his premorbid functioning. This was concerning as patients displayed disregard for their functional capacity or diagnostic restrictions and over-exerted themselves in hopes of speeding up their recovery. Participant 11 additionally reported that she shared similar beliefs to her patients, however, travelled the conflicting journey of putting their biases aside to act for the betterment of her patients.

Many studies have illustrated the power of spirituality as proponents for better health outcomes including greater longevity, coping skills, and health-related quality of life (even during terminal illness) and less anxiety, depression, and suicide[33]. It is fundamental, however, for the clinician to direct these beliefs toward recovery in a manner that is appropriate and constructive[32, 33]. This may pose further ethical dilemmas for clinicians trying to focus the patient on more realistic outcomes, and could thus be a topic for further research.

Staff mishandling patients

One participant highlighted an incident whereby she and her student peer observed an educator and an educator assistant mishandling children by *"shouting at them, mocking them, saying nasty things to them, dragging them on the ground and hitting them"* **(P13, June 2020).** The participant wanted to do something to aid the children. She was, however, afraid to intervene.

"It was heart-breaking to see this as I would never do that to a child, and as much as I wanted to speak up to them and address the issue, I did not do so"
(P13, June 2020)

The United Nations Committee on the Rights of the Child[34] defines corporal punishment as any punishment in which physical force is used and intended to cause some degree of pain or discomfort, however light. Corporal punishment has been prohibited in educational settings, the justice system, and alternate care settings in South Africa[23,34]. Children are protected through the implementation of the United Nations Convention on the Rights of the Child (UNCRC)[34], the African Charter on the Rights and Welfare of the Child (ACRWC)[35] and the South African Constitution[23] (sections 12 and 28). When the participant observed staff reprimanding children in their classroom through the use of corporal punishment in the form of shouting, mocking, demeaning, hitting, and dragging them around, the participant was concerned for the children's safety, however, felt helpless in doing anything. Nortjé, and de Jongh[13:18] ameliorate this finding by stating that "students often feel that they do not have the authority to approach a senior staff member (or report them in severe cases) and cannot

question the behaviour of qualified therapists, as it could possibly cause tension and even impact negatively on their results/reports". In addition to violating the children's constitutional right to safety and protection against degradation, neglect, abuse, and maltreatment[23], the ethical tension experienced violates the ethical principles of non-maleficence and justice as highlighted by the HPCSA[9] and OTASA[10].

Restricted patient choice, autonomy, and dignity

A participant noted that: *"nurses gave patients maximum assistance in washing, dressing, and grooming. Patients don't decide on the clothes they want to wear even though they have options. Patient privacy is not considered. The patients are expected to take off their clothes in their rooms and then go to the bathroom naked"* **(P30, November 2020).** When bringing the concern to a superior, the participant's views were acknowledged but dismissed due to pre-existing institutional dynamics. These dynamics were attributed to staff roles and responsibilities, high patient numbers or institutional turnover and human resource limitations that indirectly infringed on patients' rights.

"I asked the clinician about addressing these concerns and she informed me that it is a challenge because of the pre-existing team dynamics"
(P30, November 2020)

This participant is reporting the gross removal of participant choice, autonomy, and dignity during basic activities of daily living wherein a state of dependence on care was fostered inadvertently by healthcare professionals. Preservation of human dignity is a core value of healthcare ethos[41] and is fundamentally desired and central to the human experience irrespective of a patient's medical condition[36, 37]. A patient's right to dignity and autonomy in care is strongly upheld in the Patient's Rights Charter of South Africa[22]. Studies by Oosterveld-Vlug et al.[38], Hoy et al.[39], and Moen and Naden[40] suggest that the more dependent a patient, the more vulnerable they are to a loss of dignity, whilst independence was a protector of patient dignity. When attempting to address her concerns with a senior clinician the participant reported the incident being reduced to unresponsiveness on account of complex team and institutional dynamics. These dynamics were identified as dominant team personalities which made it challenging to report on recommendations to increase patient independence in activities of daily living and limited human resources resulting in staff completing rudimentary tasks such as bathing and dressing on behalf of the patients, to save clinical capacity. Clever et al.[3] reported challenging personalities of the team and professionals of a lower hierarchical standing as a potential rationale as to why occupational therapists and students are unable to express their concerns in the resolution of ethical tensions. Redman and Fry[14] further suggest that healthcare professionals may not always possess the necessary skills to resolve ethical conflict and that the persistence of the conflict alludes to the professional not having the decision-making authority to resolve the conflict independently.

Providing patients with gifts and money

A central challenge experienced by four participants during fieldwork was highlighted when weighing whether it was right or wrong to provide patients with gifts, money, or other incentives. In most fieldwork contexts, participants worked with diverse patients, many of whom were faced with vulnerabilities such as financial insecurity. The four participants were aware of this vulnerability and all reflected on their degree of privilege as students. In all four cases, this resulted in feelings of guilt that derailed their ethical decision-making process.

"It made me uncomfortable saying no to patients when they ask for money, food, luxuries, or cigarettes"
(P12, April 2020)

"I reflected how easily I spend R70 without thinking about it."
(P10, April 2020)

One participant's conflict was further compounded when one of her long-stay patients was provided with gifts from her doctor. These gifts included shoes, clothing, toys and snack foods. The patient was medically stable but was, however, still admitted for social concerns. Considering this context, the participant considered these gifts as a kindness as the patient did not have clothing, shoes or toys to occupy her time in the institution. The participant, however, still questioned if providing gifts was considered ethical and if not, what are the parameters that allow healthcare workers to provide patients with gifts or basic necessities such as clothing, shoes, toys etc. as an act of care whilst still upholding professional ethics.

"Although I was happy that the patient was receiving these gifts from her doctor, I was unsure if it was ethical for the doctor to be doing this."
(P15, June 2020)

Participant 12 reported that patients frequently asked the students for money to purchase luxuries or cigarettes. Participants reflected on how they had to negotiate these types of requests in order to provide all patients with the same incentive so as not to create a dynamic of preferential treatment. Wolinsky[41], suggested that the act of gift giving, especially when the gift fulfils a basic need, could create an expectation and that the failure to fulfil this need could influence the dynamic between the professional or healthcare team and patient. Nortjé and de Jongh[13] suggest that in a caring profession – such as occupational therapy – students can often be confronted with diverse patient vulnerabilities that can pose a challenge when distinguishing between professional and unprofessional behaviours. The authors further suggested that students build deeper interpersonal relationships with patients, thus raising a possible argument about the influence of emotion during the decision-making process in patient care[13]. In addition, the potential for professional boundaries to be blurred as a student is high as they are still learning to create, implement and maintain firm boundaries in patient care whilst remaining therapeutic[13].

Theme Three: How students navigated ethical tensions

In theme three, the processes students used to navigate ethical tensions during fieldwork are described. This included following institutional procedure; knowledge through research; drawing from the "well" of experience; and reflection.

Following institutional procedure

One participant highlighted the importance of familiarising herself with institutional protocols that included a summary of systematic steps derived from the HPCSA[9] and OTASA[10] ethical guidelines. Another participant stated that following familiarisation with institutional protocol, it is important to document an incident, provide a brief summary in the patient's medical notes, and when concerned that the patient is injured, seek a medical examination.

"I had to fill out a packet of forms explaining exactly what had happened. I then made a note in the patient's notes while the doctor checked him out"
(P2, April 2020)

Knowledge through research

Participants noted the importance of researching the use of ethical principles and the roles and responsibilities of a healthcare worker in integrating these into practice. Participant 17 highlighted that her experience of an ethical tension during fieldwork reminded her to always seek guidance from evidence-based practice and theory. Her research included the roles and responsibilities of healthcare

workers, the rights and responsibilities of patients, and treating patients with whom one has a non-professional relationship.

"This experience reminded me to always look to theory"
(P17, October 2020)

Drawing from the well of experience

In times of uncertainty, participants reported drawing guidance from others with knowledge and expertise. This included clinicians, fieldwork supervisors, and lecturers from their university, peers and friends, family, and past students who are working as occupational therapists.

"It is beneficial to seek advice from block peers, clinicians, supervisors, lecturers, and friends that are qualified occupational therapists"
(P12, April 2020)

Reflection

Participants highlighted the importance of being reflective in practice.

"I spent a lot of time reflecting on the ethical dilemma"
(P20, October 2020)

"I often journaled about how I felt instead of speaking to others"
(P3, April 2020)

Based on the findings of this study, when confronted with an ethical tension, participants tend to adopt either an active or passive role. In an active role, participants benefit from a robust support structure provided by clinicians, which includes open communication, compassionate teaching, and proactive engagement in learning. Conversely, participants in a passive role are more likely to encounter institutional or clinician-imposed constraints when attempting to address their ethical tensions. They often feel unsupported during on-site ethics learning. The findings further suggest that participants in an active role respond promptly to ethical tensions by reporting and consulting senior staff members for guidance and appropriate steps to take. In contrast, participants in a passive role were found more likely to internalize the incident, assuming blame and responsibility while planning how to handle similar ethical tensions in the future when they possess more power or decision-making authority.

Despite the categorical differences in participants assuming a more passive or active role, the study's findings indicate more similarities than disparities. All participants recognised the importance of planning and taking action based on research and evidence-based practices. They also consulted with from various sources, such as peers in the fieldwork, clinicians (if available), clinical educators, university lecturers or tutors, and qualified occupational therapists, to enhance their knowledge in resolving ethical dilemmas.

All participants additionally made use of reflective practice through the use of journaling as guided by Kolb's Cycle of Experiential Learning[5]. Journaling was found to be a helpful tool in providing participants with an opportunity for introspection and systematic planning. Journaling is beneficial to students as it improves mental health, encourages self-confidence, boosts emotional intelligence, helps with achieving SMART goals, enhances critical thinking skills, heightens academic performance, and strengthens communication and writing skills[42].

The classification between the role of active or passive participant indicates a potential need to foster soft skills such as teamwork, critical and creative thinking, decision-making, and communication that will encourage students to maintain a more assertive position in the health team[43]. Additionally, this distinction alludes to a need to strengthen the collaboration between universities, the clinical educator, the site clinician, and the student to ensure that all students are provided with a comparable support structure and opportunity for learning. Each role-player's duties and responsibilities should be systematically outlined and should be transparent as this will allow an easier resolution of ethical tension or other challenges experienced during fieldwork.

Findings additionally indicate a need in ethics education to explore the concept of professionalism and its interrelatedness to ethics in fieldwork[28, 29]. This is significant as the findings illustrate how interchangeably these two concepts are understood and subsequently implemented whilst navigating ethical tensions. Occupational therapy curricula could build on students' introspection of how their varying views and biases may influence their professional self and how in turn, this could influence their ethical decision-making[17] on a conscious and subconscious level. This is important in the context of South Africa when considering the wide array of individuals, genders, cultures, traditions, and beliefs that co-exist. This is beneficial when considering that healthcare should be accessible and inclusive to all[9, 10, 11, 23, 26].

The study findings align with the argument made by Atwal and Caldwell[4] in demonstrating that ethics education is paramount in mitigating the effects of ethical tensions experienced in fieldwork. Participants were able to identify an encounter as an ethical tension, understood the theory underpinning the experience, and were able to derive an appropriate plan of action regardless of whether or not it was implemented at the time of the encounter. To further strengthen the ethics education curriculum, consideration could be given to implementing simulated ethical tensions in the form of role-playing[25].

Future research could explore occupational therapy students' understanding and experiences of ethics education or ethical tensions experienced or observed during fieldwork. Additionally, future research could explore site clinicians' experiences of supporting students when an ethical tension is encountered during fieldwork.

Limitations

One limitation of this study is that a small portion of occupational therapy students at one university in South Africa elected to reflect on ethical tensions encountered during their fieldwork. Additionally, the sample did not include any male participants. Although occupational therapy students are provided with six profession-specific questions for their end-of-rotation portfolio, they are only required to explore three. This suggests that the remaining occupational therapy students may not have experienced an ethical tension, could have had difficulty recognising or identifying such tensions during their fieldwork, may have lacked interest in exploring the ethical question, or possibly felt uncomfortable delving into their ethical tensions knowing that their portfolios would be marked.

CONCLUSION

This study provides an insight into occupational therapy students' reflective learning as acquired through exposure to ethical tensions during fieldwork. This was achieved through the expression of three themes: (1) Ethics from the perspective of the student, (2) ethical tensions experienced during fieldwork, and (3) how students navigated ethical tensions. Ethics was defined by students as a framework that guides healthcare workers including occupational therapy students, during the resolution of ethical tensions. Students experienced varied ethical tensions during fieldwork and navigated these ethical tensions by following institutional procedures, acquiring knowledge through research, drawing from the "well" of experience, and reflective practice. The study further offered a narrative for encountering and resolving an ethical tension during fieldwork in an active or passive role. The main distinction between the two classifications persists when reviewing the support given to the participant who has been empowered to resolve the ethical tension whilst receiving consultation from their site clinician and

the institution. Findings lastly inform healthcare educators and clinicians regarding students' perceptions about ethics education and the tensions experienced during fieldwork.

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Conflicts of interest and bias declarations

The authors confirm that there are no biases, or conflicts of interest related to publishing the study. No completing interest to declare

Author contributions

Aaqil de Vries was involved in the literature review and data analysis, and took the lead in writing the manuscript. Jo-Celene De Jongh and Lisa Wegner conceptualised the study, developed the research proposal, was involved in data analysis and contributed to writing the manuscript.

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[RESEARCH ARTICLE]

Environmental facilitators and barriers to community reintegration experienced by stroke survivors in an under-resourced urban metropolitan sub-district

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ABSTRACT

Background: Despite inpatient rehabilitation many stroke survivors struggle with community reintegration on returning home. The environment to which the stroke survivor returns affects and may limit participation in home and community-based activities.

Aim: To describe stroke survivors' lived experiences of the environmental barriers and facilitators to community reintegration in an under resourced urban metropolitan sub-district in the Western Cape, South Africa.

Methods: A descriptive, qualitative study design with a phenomenological emphasis used semi-structured interviews to collect the data from purposefully selected stroke survivors who had been discharged for more than one year following inpatient rehabilitation. Supporting data were collected from interviews with two occupational therapists providing rehabilitation services to the stroke survivors. Deductive priori coding of semi-structured interviews with 11 stroke survivors, based on the environment subsystems described in the Person-Environment-Occupation-Performance (PEOP) model explored the barriers and facilitators to their community reintegration.

Findings: Of the six environmental sub systems in the PEOP model the systems and policy, access to information and health education, social determinants of health in the form of poor rehabilitation planning and loss of income as well as the built and natural environment presented the greatest barriers to the stroke survivor participants' community reintegration. However, reintegration was facilitated by social support and social capital, social determinants of health in the form of support groups as well as assistive technologies.

Conclusion: Community reintegration continues to be a challenge for stroke survivors in an under-resourced urban sub-district due to environmental barriers associated with factors such as poor social support, inadequate implementation of policies and systems, poor compliance with home programmes, low socioeconomic status, poor access within the built and natural environment and inappropriate assistive devices. Several facilitators that occupational therapists can focus on to enable community reintegration included ensuring effective social support, access to community-based organisations, the introduction of home visits and provision of appropriate assistive devices.

Implications for practice

All stroke survivors must receive a comprehensive discharge plan to facilitate adequate access to continued rehabilitation and support for successful community reintegration.

- There must be a specific referral to primary health care rehabilitation services on discharge from hospital.
- Occupational therapists at community level have the responsibility to:

- advocate for, or assist stroke survivors to self-advocate, the removal of inter-sectoral environmental barriers that limit their community reintegration and community participation,
- where possible provide services in the home and involve midlevel workers when conducting home visits to enable successful reintegration into the home and resumption of occupational roles where possible,
- look to other resources in their community that can assist in facilitating the community reintegration of stroke survivors to enable access to health, education, productive activities, and social and leisure participation opportunities,
- improve their collaboration with the communities that they service.

INTRODUCTION

Worldwide, stroke is one of the leading causes of death and disability in adults and continues to increase in prevalence[1,2]. In South Africa, a low-middle-income country, stroke ranks fourth as a leading cause of death[3], with similar trends noted in the Western Cape province[4]. Despite the high mortality rate, medical advancements in stroke management have resulted in more people surviving the acute stage[5]. Thus, more stroke survivors are being discharged home from hospitals[6].

In South Africa, hospital-based admissions post stroke tend to be short (5-14 days)[7] and only a small number of stroke survivors receive intensive in-patient rehabilitation at specialised hospitals such as the Western Cape Rehabilitation Centre (WCRC)[7]. Despite this intensive inpatient rehabilitation most stroke survivors are discharged to their homes and communities still requiring rehabilitation to promote their maximal recovery, which can take a year or more, and to adjust to their disability to ensure their wellbeing[8]. The Western Cape Department of Health requires that stroke survivors be discharged from in-patient rehabilitation only when they achieve an acceptable level of independent functioning to return home but may not yet be able to monitor their own health or manage their finances (Lundrum Level III)[9]. Further community-based rehabilitation should be provided for these patients to achieve community integration[10] (Lundrum Level IV)[9] and if appropriate productive activity (Lundrum Level V)[9,11,12].

These community re-integration rehabilitation programmes offer interventions which support the re-establishment of age, gender and culturally appropriate pre-morbid roles and activities wherever possible in the home, family and community[13]. Facilitating community reintegration is an internationally accepted occupational therapy outcome for stroke survivors[14]. Thus, at the community level occupational therapists play a key role in facilitating the community re-integration process consistent with the holistic, person-centred and occupation-based philosophy of the profession and its view that the nature and extent of occupational engagement contributes to health and wellness[14,15]. Additionally, services offered in the community are more cost-effective than in a hospital or clinic and ultimately reduce the fiscal demands on the health system[16].

Research has found that personal factors and stroke outcomes are associated with successful community reintegration for most stroke survivors. These include being younger, having greater motor function and functional independence as well as a longer duration since the stroke[17]. These findings concurred with a Nigerian study where an inability to work, perform domestic activities and participate in recreation and leisure time impacted stroke survivors community reintegration[18]. Graves et al.[19] and Honado et al.[20] confirmed these findings but indicated self-efficacy and motivation were also strongly associated with successful reintegration into the community, even for those with mild stroke[19]. Comorbidities such as diabetes mellitus, impaired cognition and depression were reported as barriers to community reintergration[17].

Environments to which stroke survivors are discharged differ and impact community reintegration. Nayak[17] reported that support from the family and community facilitated higher levels of community reintegration. Higher levels of education and income have been found to better enable community reintegration post stroke. Conversely, the lack of social support systems and services contribute to social isolation and decreased community reintegration[19]. Additional social barriers to community reintegration are inaccessible therapeutic services, limited social networks and negative attitudes such as stigma[21]. Persons with neurological disabilities are often considered as less able in the community[22] by their families and are frequently socially excluded from participating in activities such as shopping and other family and community activities. These factors may play a role in the low levels of successful community re-integration of stroke survivors reported in the Western Cape as indicated by Hassan et al[11] and Joseph and Rhoda[23]. Over 80% of participants are from low socioeconomic areas in their studies since they were either unemployed or had not achieved a secondary school education[23]. Due to the limited evidence showing the effect of environmental factors influencing reintegration post stroke in low resourced communities, the subsystems related to the environment in the Person-Environment-Occupation-Performance (PEOP) model[24] were used as an occupational therapy lens and frame of reference to explore and conceptualise critical issues in this respect.

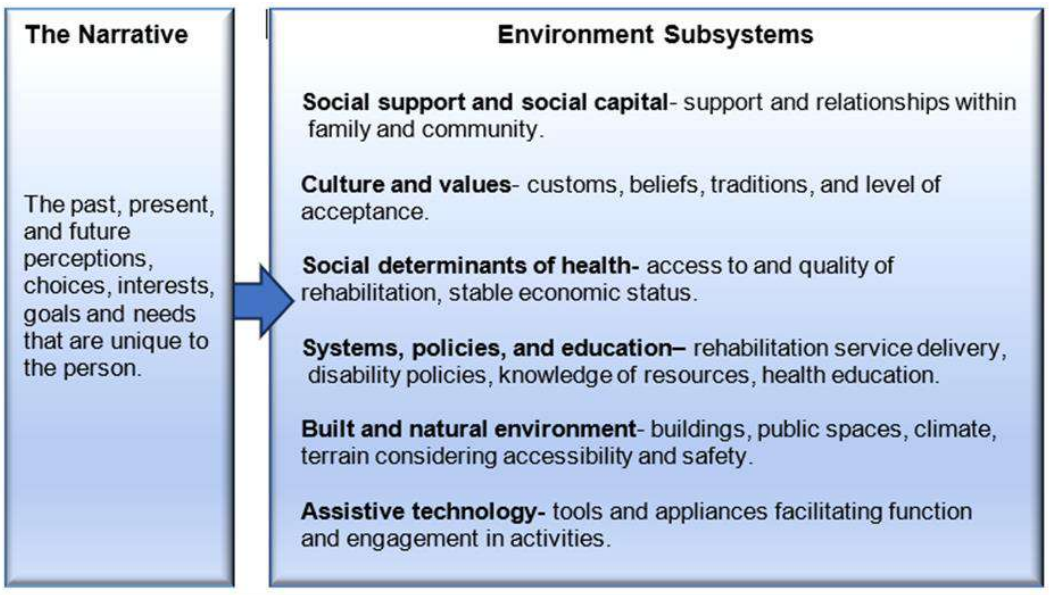

Figure 1: Environment subsystem of the Person-Environment-Occupation-Performance (PEOP) model: Enabling Everyday Living

The PEOP model considers the interaction between the environment, person, occupation and participation that is being performed in terms of factors such as social support and social capital, culture, social determinants of health, systems policy and education, the built and natural environment as well as assistive technology[24].

Other studies conducted to evaluate the levels of community reintegration achieved by patients, including stroke survivors, in the Western Cape[25] were quantitative in nature and provided limited data regarding the effect of the environment from a stroke survivors' perspective on their community reintegration. This study provides a client's perspective of environmental barriers and facilitators impacting community reintegration post stroke to support the development of contextually relevant, person-centred outcomes and community-based occupational therapy programmes. This will allow therapists to understand and advocate for policy changes to address the identified

environmental barriers and capitalise on the facilitators to strengthen service delivery[26].

METHODS

Research design

A descriptive, qualitative study design using a phenomenological approach and constructivist world view was used to conduct this study[27]. The study explored the lived experience of the impact of the environment on the community re-integration after a stroke from the perspective of stroke survivors who had completed a period of rehabilitation at WCRC. Occupational therapists who provided community-based services were also interviewed to develop a comprehensive understanding of the effect of the environment. This data source provided triangulation by converging the information provided by the therapists with that which emerged from the stroke survivor participants[28].

Research setting and sample

The research was conducted in the Eastern Sub District (ESD) of the Western Cape which is a low-socioeconomic area with an unemployment rate of 30% and where 20.5% of the population live in informal dwellings[29] and approximately 88.3% of the population are dependent on the public health system[29].

Purposive non-probability sampling[30] was used to recruit participants from those listed in the WCRC discharge records. One hundred and ninety stroke survivors living in the ESD were identified from a retrospective record review and 69 potential participants gave consent for their medical records to be reviewed to establish if they met the inclusion criteria. These criteria included - a mild to moderate stroke according to the Canadian Neurological Scale Scores[31], one to three years post discharge from WCRC and a rehabilitation outcome at Lundrum level III[9] on discharge. Stroke survivors with expressive aphasia, a communication disorder or severe cognitive fallout on discharge that hindered independent participation in an interview were excluded. Based on the recommendations of Hagaman and Wutich[32] a sample size of 12 participants was identified as sufficient for the study. Twelve participants were interviewed, and data saturation was confirmed by a data saturation table used to determine that no new information emerged after the completion of these interviews. Two occupational therapists providing intervention for stroke patients at community clinics in the ESD were also interviewed.

Research instrument

Participant demographic data were collected from the participants' medical records and during the semi-structured interviews, using a questionnaire specifically designed for this study. The research objectives and current literature guided the development of the semi-structured interview guide[27]. The semi-structured interview guide for the stroke survivor participants consisted of seven open ended questions each with a number of prompts used to ensure consistency between the interviews[27]. The second author, having piloted the interview schedule, interviewed all participants. An interview schedule consisting of four open-ended questions was then used by the second author to explore the occupational therapists' experiences of the environmental facilitators or barriers to the patient's ability to reintegrate into their community . Data from the interviews with the two occupational therapists were not reported as findings but were used to triangulate and support participant information as recommended by Krefting[33] and ensured dependability of the study[27].

Research procedure

Ethical approval for this study was obtained from the University of the Witwatersrand Human Research Ethics Committee (M190530), as well as the Western Cape Department of Health. All potential participants were provided with an approved information sheet detailing the purpose and nature of their involvement in the research. If they agreed to participate, they signed informed consent for participation as well as for the audio-recording of the interview. Data were collected through semi-structured interviews. Nine interviews were conducted face-to face in participants' homes, two were conducted telephonically and one interview took place at a clinic. Conducting the interviews in the stroke survivors' homes gave the principal researcher the advantage of collecting data in situations where stroke survivors' community reintegration could be directly observed[27]. The interviews were conducted in either English or Afrikaans by the researcher and one was conducted isiXhosa. This was to ensure ethnic inclusiveness of the sample as far as possible. The open-ended questions encouraged participants to express their views about their experiences of community reintegration freely. Recordings of the interviews were anonymised and transcribed word-for-word.

Data Analysis

Twelve participants consented to take part in the study and participated in the interviews however, only 11 interviews were analysed as the 5th participant had a severe speech impediment that was not reported in the medical record and was therefore excluded from the study sample. As the data became saturated by the 12th interview, despite the exclusion of participant 5, an additional interview was not conducted. The demographic information was analysed descriptively using frequencies. The transcripts were analysed using concept analysis[27] and MAXQDA software[34]. Based on the identified themes related to barriers and facilitators, a deductive a priori data analysis using the PEOP model environmental subsystem for coding of the categories was completed (Figure 1, page 37). The principles of trustworthiness were used to ensure the rigour of the data analysis: credibility[35], bracketing[36]. reflexivity[36], and confirmability[35].

FINDINGS

Of the 11 stroke survivor participants, 64% were male and most were married (72.75%). The majority were Afrikaans speaking (91%) and had an education level lower than a secondary school. Over 90.9% had had some form of employment prior to their stroke but only one was able to return to work on an informal basis post stroke and two retired. At the time of the study 73% of participants were in receipt of a disability grant. (Table I, page 39).

Table I Stroke Survivor Participants (SSP) (n=11)

CODE	AGE-YEARS	GENDER	MARITAL STATUS	LIVING WITH	HOME LANGUAGE	LEVEL OF EDUCATION	EMPLOYMENT PRE-STROKE	EMPLOYMENT POST STROKE	DISABILITY GRANT / PENSION
SSP 1	67 yrs.	M	Married	Partner and children	Afrikaans	< High school	Permanently employed	Retired	State Pension
SSP 2	32 yrs.	F	Never married	Grandparents, sister, cousin and daughter	Afrikaans	< High school	Permanently employed	Informal worker	Disability Grant
SSP 3	51 yrs.	M	Never married	Mother	Afrikaans	Highschool/ equivalent	Informal worker	Disabled, unable to work	Disability Grant
SSP 4	60 yrs.	F	Married	Partner, children and grandchildren	Afrikaans	< High school	Permanently employed	Disabled, unable to work	Disability Grant
SSP 6	57 yrs.	M	Married	Partner and children	Afrikaans	< High school	Informal worker	Disabled, unable to work	Disability Grant
SSP 7	62 yrs.	F	Widow	Children and grandchildren	Afrikaans	< High school	Unemployed, not looking for work	Retired	State pension
SSP 8	62 yrs.	M	Married	Partner	Afrikaans	< High school	Self-employed	Disabled, unable to work	Disability Grant
SSP 9	51 yrs.	M	Married	With family	Afrikaans	< High school	Unemployed, not looking for work	Disabled, unable to work	Disability Grant
SSP 10	68 yrs.	M	Married	Children and grandchildren	Afrikaans	< High school	Contract employment	Retired	No
SSP 11	60 yrs.	M	Married	Partner, children and grandchildren	Afrikaans	< High school	Self-employed	Disabled, unable to work	Disability Grant
SSP 12	48 yrs.	F	Married	Partner and children	isiXhosa	< High school	Self-employed	Disabled, unable to work	Disability Grant

The priori coding supported the aims of the study in identifying the stroke survivors' experiences of the environmental facilitators and barriers which formed the two themes reported in this paper. Both themes were confirmed by the perceptions of the occupational therapists.

The first theme was the environmental barriers perceived and experienced by the stoke survivors that hindered community reintegration. The second theme described the environmental facilitators that stroke survivors and occupational therapy participants perceived to have enabled their community reintegration supported by perceptions of occupational therapists.

Theme 1: Perceived and experienced environmental barriers to community reintegration

Table II (below) details the categories, subcategories and codes from the deductive priori analysis using the PEOP model.

Table II Theme 1 Perceived and experienced environmental barriers to community reintegration

THEME 1	CATEGORIES	CODES	FREQUENCY
Perceived and experienced barriers to community reintegration.	Social support and social capital.	Lack of social support.	3
		Excessive support from family	4
	Cultural.	Fearing the communities' attitude.	4
		Personal values such as not wanting help	1
	Social determinants of health.	Poor co-ordination of rehabilitation and discharge services.	7
		Inadequate treatment.	3
		Loss of income.	8
	Systems and policy and access to information and health education.	Poor implementation of disability policies.	4
		Inaccesible transport.	11
		Inadequate knowledge of resources.	3
		Ineffective health education.	5
	Built and natural environment.	Factors like stairs and small spaces hindering access.	5
		Long travel distances.	7
		Factors like flooding and uneven terrain.	5
	Assistive technology.	Inappropriate assistive devices.	2
		Lack affects community mobility	5

The effect the environment had on the community reintegration of the stroke survivors was experienced as both a **lack of and excessive social support.** Human capital relationships within the family were often experienced as a barrier to community reintegration firstly with families not allowing stroke survivors to attempt completing activities alone.

"Sometimes when I want to do something they scold, mommy, go sit, or so on .... I must then sit." **[SSP 7]**

The family also affected their reintegration in the home by limiting participant's previously valued activities by someone else in the family having been assigned to do them.

"At the moment I'm not doing activities inside the house anymore. Because here is someone that can do it, I just make myself coffee and a sandwich and so on." **[SSP 9]**

A second barrier experienced by other participants was that there was insufficient practical support from the family such as practical and financial assistance.

"No ... I haven't been in church forever. They do not want to push me ...with the wheelchair." **[SSP 7]**

"My other daughter works ... but at the end of the month [she] doesn't give her money." **[SSP 4]**

Stroke survivor participants also experienced **the culture and values** in the community, for example: negative attitudes, as a barrier to their community reintegration.

"If I ... go to a braai with my friends. I will not go sit there with them and chat.... Because they will tease me and say look at how this guy looks, you know.... Because when I walk, I feel ... someone is [always] looking at me." **[SSP 8]**

"Many, many of them have changed in their attitude towards me .... Like before, before the stroke we communicated a lot ... but now then don't even speak to me ...." **[SSP 9]**

Social **determinants of health** were perceived as: adequate access to health care at the community level. Access was experienced to be hampered by **poor discharge policies, inadequate referral for rehabilitation and limited rehabilitation services** at local clinics. These were perceived to be barriers to their continued

rehabilitation following discharge and thus negatively influencing community reintegration.

"No [follow-up therapy] has not been available at the clinic.... Again, and again when I get there. But it remains like that at the clinic. The people of the therapy are not there." **[SSP 6]**

Some who had been referred considered the support group to be unhelpful.

"Oh, those two weeks, three weeks .... I get there, we sit in a circle, then we chat and drink tea, eat cookies and stuff. Then they throw you a big ball. Now you can't catch the ball. Then I just left that [referring to the stroke support group his wife took him to]." **[SSP 11]**

Economic factors, also a social determinant of health, were experienced as a major barrier to community reintegration. The loss of or very limited finances prevented stroke survivors from engaging in previous leisure activities, accessing rehabilitation and a struggle to cover basic living costs.

"Look, they told me I should go to the clinic, ... for the classes. The reason [for not going] is that I did not have money every time to go to there .... That is actually the main reason ...." **[SSP 2]**

"[Before the stroke] I did not need money because there was always money .... We could always pay for everything that we wanted, could always go out, me and my wife, now we can't anymore .... [It's a] very big change ... very big." **[SSP 8]**

Several **system and policy barriers** in their communities were identified as influencing community reintegration. **Inaccessible public transport** due to minibus taxis not being disability friendly was a barrier. Taxi drivers were often in a hurry, rude and charged the disabled with assistive devices an extra fee to use their minibus taxi.

"I walk slowly, and usually struggle to get into a taxi. [It is difficult] to get into the door where I sit, and many of the taxi drivers are rude with how disabled I am ...., they hurry you along." **[SSP 9]**

In addition, participants experienced **poor implementation of disability policies** regarding service users with mobility limitations which also limited their ability to access services in the community.

"[Getting service at the] SASSA is a problem in the sense of you aren't seen as disabled if you walk with a crutch or a cane." **[SSP 3]**

Another barrier perceived by participants was due to a **lack of sufficient information** on accessing further social and health services and support in the community after discharge.

"I don't want to be helped sooner but ... if the information [about accessing the SASSA grant] was given correctly in the beginning, then one would not have such problems." **[SSP 3]**

The low levels of community reintegration that were being achieved by stroke survivors was, according to the occupational therapists, associated with poor buy-in and compliance with **home programmes** making them ineffective.

"So, in all honesty, their mobility can improve but compliance is the problem .... I think going home and continuing or reinforcing what we've been teaching them at the facility, that does not happen, and I think that's what hinders the physical mobility more." **[OTP 2]**

Stroke survivor participants experienced **built environmental** barriers to their community reintegration. The built environment like stairs and small spaces often made independent mobility a challenge.

"Stairs remain my problem. If there are no railings, then it can be very [challenging]." **[SSP 3]**

Stroke survivor participants also perceived the **natural environment** as a challenge citing factors like uneven terrain, inadequate drainage, and the long travel distances to basic community resources.

"Because I can't get to the shops .... I mean, I cannot walk until there ... it's a bit far for me " **[SSP 7]**

"What I find difficult man. I want to go to that place, alone. But someone has to go with me, ... I don't like using the wheelchair that I can only use one hand to pedal, you know." **[SSP 6]**

Assistive technologies or tools and appliances.
During the interviews it emerged that stroke survivors experienced that inappropriate devices were prescribed by the rehabilitation professionals causing problems with their independent community mobility and participation in everyday activities.

"I got that walking [frame] ... at the club, the stroke club. I can't really use the thing because I don't [get it down the stairs] to the bottom on the ground level." **[SSP 7]**

All six environment subsystems identified in the PEOP presented barriers to community reintegration post stroke to varying degrees.

Theme 2: Perceived and experienced environmental facilitators to community reintegration

Table III (below) details the categories, subcategories and codes from data following the deductive priori analysis using the PEOP model for Theme 2.

Table III Theme:2 Perceived and experienced facilitators to community reintegration

THEME 3	CATEGORIES	CODES	FREQUENCY
Perceived and experienced facilitators to community reintegration.	Social support and social capital.	Encouraged independence.	8
		Motivators such as dependants.	3
	Cultural.	Expectations of the community	2
		Role fulfilment	1
	Social determinants of health.	Stroke support groups.	10
		Home visits.	3
	Systems and policy and health education.	Social welfare system and policies.	5
		Accessible or alternative public transport.	4
		Implementation of home visits.	1
	Built and natural environment.	Provision of external support.	4
		Less crowded areas and even surfaces.	4
	Assistive technological.	The availability of assistive devices.	10
		Assisted mobility outside of the home	5

Some stroke survivors perceived the social support from family **and their community** as a facilitator to community reintegration. They appreciated the support which facilitated their attempts to participate in homecare tasks independently.

"Because in the beginning, when I came home, she did everything. She dressed me, everything. Later, she said 'Come, mommy, dress like that ... I'm not going to do everything for mommy.' And I struggle-struggled, but now I'm fine." **[SSP 7]**

Some participants recognised that the needs of dependent family members provided the motivation to getting stronger and complete tasks independently.

"... and my little daughter, I fought for her ... that was actually my main thing, I needed to fight for my little daughter. I [could] not [just] sit in a wheelchair when I come home." **[SSP 2]**

Both stroke survivors and occupational therapists perceived support from the community as a facilitator, particularly neighbours and church communities.

"... the church people were the people that also supported me...When I had the stroke ... the church also motivated me a lot ...." **[SSP 2]**

Stroke survivor participants also perceived the expectations of role fulfilment in the community that were culturally appropriate served as a facilitator to activity participation and therefore community reintegration.

"Yes, I am the one that controls, money, everything. Shopping and such, I [have to] do everything myself, that's my job, according to my culture...." **[SSP 6]**

Access to services which supported **social determinants of health** in the community were viewed as supportive to community reintegration. The availability of community stroke support groups were facilitators to regaining functional skills and the opportunity to socialise.

"[The stroke group] helped a lot ... because [before] I just sat here and spoke to nobody but now, I can speak to them and so and I do [the] exercises that they give me and so." **[SSP 9]**

In terms of **economic factors** stroke survivors reported that access to community-based organisations such as stokvels (communal savings schemes run by a relatively small group of people who know each other)37, helped them to save money and thus better manage their finances.

"I joined stokvels so I can save my money. Whatever I am thinking of doing I am able to do. But now I am assisted." **[SSP 12]**

Some stroke survivor participants perceived that some **systems and polices** provided by the government, such as grants and pensions, facilitated community reintegration post -stroke.

"My SASSA [disability grant] money, hey, it's a little, but okay, it helps. It helps a bit for the things in the house and so on." **[SSP 11]**

The availability of accessible and subsidised public transport provided the opportunity to move around independently in the community which was confirmed by the occupational therapists.

"... when I go to the stroke club ... then a taxi [organised by the stroke club] comes to pick me up...now, the taxi that comes for us, they at least have a small step that ... that we step on and climb in...."
[SSP 7]

The occupational therapists experienced their ability to conduct **home visits**, work as an MDT member, and have the assistance of health care workers as a facilitator.

I think, in terms of service delivery, I can say that we offer a multi-disciplinary approach. Like ... if we are visiting the patients in home ... it's never in isolation - I think, the multi-disciplinary aspect also aids the patient in ... offering them the best in terms of rehab services so that they can be integrated into the community." **[OTP 1]**

In the **built and natural environments** stroke survivors experienced some facilitators to activity participation which assisted community reintegration.

"There has to be railings [when I walk upstairs] ...the railings were not here [by these steps] ...My son came to put them up for me."
[SSP 8]

"No, it is easy for me to move ... At the church, where we hold the stroke club, I move easily there. ... space is bigger, and the chairs and stuff are out of your way." **[SSP 9]**

The last facilitating factor that the most participants identified, was the availability of **assistive technology** in the form of assistive mobility devices such as walking sticks and wheelchairs. These assisted with managing their balance and fatigue when mobilising outside their homes or in allowing mobility in the community which would otherwise not be possible.

"Yes, look, I don't go out without my cane. So yes, the cane, it's just definitely for safety, because my balance is not quite, and I think ... the experts will recommend that one takes the cane with you."
[SSP 3]

DISCUSSION

The sample in this study although small, is consistent with qualitative research sample sizes utilised[27] and that for relatively homogeneous groups[32].

The mean age for the 11 stroke survivor participants was 56 years, which is congruent with trends for stroke in Africa, where many survivors are between the ages of 40 and 602. Over 70% of stroke survivor participants were married and living with their spouse while others lived with other family members, which has been associated with increased independence in activities in daily living (ADLs) and better general health than living alone[38]. In terms of education only 9.09% of the participants reported finishing high school which may have affected their health literacy[39] which in turn could have had a negative effect on their health and continued functional improvement post discharge from WCRC. While most participants had been employed prior to their stroke only one participant had returned to work and then only part time. This finding is consistent with the finding by Duff et al.[40] in Buffalo City in the Eastern Cape.

The high percentage of comorbidities found in the participant group concurs with work by Ranganai and Matizirofa[41] who reported hypertension, diabetes and hypercholesterolaemia as associated with stroke patients.

Barriers to community integration

One of most disabling environmental barriers that emerged was the lack of, or too much support from family. Stroke survivor participants as well as occupational therapists experienced that overprotective families create dependency with the stroke survivors feeling a loss of control and being a burden. Families can preclude stroke providers from performing meaningful activities which was often perceived as a barrier to community reintegration[42]. This was confirmed by one occupational therapist who indicated that in her experience stroke survivors seldom carried out their responsibilities within the home mostly due to the expectation that their family members should take care of them and take over their responsibilities. She also reported this mindset often kept the stroke survivor housebound.

However, a lack of social support from family and the community results in isolation since continued interaction with other people is essential for successful community reintegration[42]. Some participants in this study reported family members were unwilling or unable to assist them in activities and attending community events. The occupational therapist speculated that it seemed families may not adequately value the stroke survivor's need for community interaction which limited their community reintegration. However, she acknowledged safety in the community was a concern for someone with mobility issues as to go out alone in the community was associated with a high risk of falling or being a victim of crime.

The participants also perceived cultural barriers associated with community attitudes acted as barriers to community reintegration and this deterred them from asking for assistance[25]. The occupational therapist confirmed experiencing community stigma for stroke survivors[43], particularly those with confusion and the

cognitive fallout. In some cases, these stroke survivors are believed to be cursed, kept indoors, or hidden away.

Environmental barriers to community reintegration related to the social determinants of health were challenges in accessing rehabilitation, health care and loss of income. In this study, participants experienced that rehabilitation staff were not at the clinics, and they were unable to get an appointment. Literature highlights several reasons for the lack of continued rehabilitation of stroke survivors in South Africa at community level[44]. This reflects problems with the referral pathways between health care providers and levels of health care[44] and some referral forms not indicating occupational therapy as an option[45]. Follow-up appointments are often poorly scheduled requiring multiple trips to the clinic[46] which participants had difficulty funding.

The findings of this study reflect the shortage of rehabilitation professionals, including occupational therapists, in the public health sector at the PC level. Community based occupational therapist are required to provide services at multiple facilities[47] with overbooking on some clinic days and limited bookings on others. Thus, therapists often prefer that appointments are made directly with them, which in turn makes booking appointments difficult if the therapist is not at a specific facility when the stoke survivor attends other appointments. The occupational therapists in this study also reported challenges in providing services at the clinics, long waiting-times for files and other medical appointments clashing with rehabilitation times. Similar barriers reported by Cawood and Visagie[48] in 2016 do not seem to have been resolved. Another barrier to rehabilitation was the stroke survivors perceived irrelevance of the therapy they received as supported by Mlenzana et al.[46] who found rehabilitation that is not personalised is a barrier to accessing the service.

Only 9% of stroke survivors were able to return to work with many others becoming dependent on social grants. Loss of finances limited engagement in previous leisure activities and made it challenging to cover basic costs like accommodation and food as well as access to health care. Scheffler and Mash[7] found that the loss of income had even wider repercussions, as some caregivers needed to resign from their work to assist stroke survivors, further adding to the financial burden of the family. One of the occupational therapists concurred this was particularly true when the stroke survivor was the breadwinner in the family.

Systems, policy and education affecting the community reintegration of stroke survivor participants included the implementation of rehabilitation services which are hindered by policies such as the Western Cape Health Service Delivery Platform 2030 Policy[7]. This policy states that rehabilitation services at PC level should focus on body structure and function impairments which can be resolved quickly with the provision of assistive devices. Furthermore, it states that services will be nurse driven, supported by a medical officer with no clear indication of the role of rehabilitation personnel except for playing a supportive role. Thus, the ability of the multidisciplinary team to provide personalised, home-based care to overcome the social determinants of health is of concern particularly for persons with newly acquired permanent disabilities. Task shifting to midlevel healthcare workers (CHWs) employed by non-government organisations to increase service delivery in areas that have a limited number of occupational therapists has been proposed in the Community-Orientated Primary Care (COPC) programme[49]. Nonetheless, the efficacy of this has not yet been proven and currently CHW's do not have the skills and knowledge to provide rehabilitation services to stroke survivors[47]. This in turn can result in a shortfall in continued therapy [6,50].

The inaccessibility of the public transport system due to physical barriers and expense is supported in several studies[21,48] in the Western Cape. Stroke survivor's experience of issues with taxi drivers has resulted in them paying exorbitant fees to hire private transport to access the community or health services[51]. The need to hire private transport or use an Uber to travel to access health care was confirmed by the occupational therapists. Although the Dial-A-Ride alternative transport is available to people with disabilities in the Western Cape metropolitan area[52], it is inundated with long waiting lists. The traveling routes are also lengthy making users late for appointments.

A lack of information regarding inter-sectoral systems which provide services such as disability grants was noted by stroke survivors and occupational therapists. One of the occupational therapists agreed, indicating stroke survivors often relied on neighbours or friends to get information about how to apply for a disability grant. Literature indicates that patients have reported a lack of information regarding support services in the community being provided on discharge[6].

Only the occupational therapists and not the stroke participants experienced home programmes and health education as affecting community reintegration. The therapists felt education around the importance of home programmes was affected by the health literacy of the stroke survivors and their families as well as other barriers such as lack of support and contextual relevance[53]. Even though family education was provided, the continuation of home programmes was reported by the occupational therapists as a problem and some stroke survivors found alternate programmes from other sources such as the internet which they considered more appropriate and meaningful. The importance of personalising home programmes consistent with the beliefs and attitudes of the stroke survivors, their routine, and joint decision making on the collaborative goals to be achieved needs to be considered[53].

The natural and built environment posed barriers to mobility and community reintegration of the stroke survivor participants due to the lack of adaptations and maintenance of roads and pavements resulting in the ability to move around in the community being problematic and wheelchair bound persons having to navigate busy roads, many with pot holes[54]. The occupational therapist confirmed these environmental barriers affected mobility and stroke survivor participants were therefore dependent on family or community members to push their wheelchairs outdoors. These barriers are not uncommon in South African poorly resourced communities[20,55]. Other structural barriers such as stairs, lack of lifts, narrow passages and small rooms were also reported which is exacerbated by the failure of South African municipalities to deliver services and adequate housing, thereby endangering people with disabilities and compromising their human rights[56]. The occupational therapists indicated homes in informal settlements were a challenge for stroke survivors with walking frames, wheelchairs, or crutches. The terrain around the houses often have loose stones and sand so entering the property and exiting the home is difficult. Some stroke survivors live in third floor apartments in buildings with no lift resulting in the person and wheelchair having to be carried up and down the stairs. Even accessing health care in the built environment becomes an issue when the lifts do not work during loadshedding and services for stroke survivors are not on the ground floor. This makes it especially challenging for occupational therapists to facilitate community reintegration because as reported, the stroke survivor cannot mobilise in or outside their house.

The last environmental barrier related to technology that arose during the study was having inappropriate devices or experiencing problems with the devices. Govender et al.[44] found that wheelchair-bound individuals often become homebound due to an inability to mobilise using the issued assistive devices. This occurred when devices were issued without training and there was not a holistic view of where and for what the device was needed[55]. The occupational therapists reported challenges in not having stock of the appropriate or limited assistive devices to issue so they

are not able to appropriately facilitate participation in home and community activities[57]. They reported budgets for medical services are often prioritised leaving limited resources for assistive devices[58] with cheaper alternatives such as scooters not on tender and being too expensive for families to afford.

Facilitators to community reintegration

Factors facilitating their community reintegration reported by stroke survivor participants was the "just right" social support from family which facilitated the stroke survivor in attempting tasks independently, encouraging them to succeed and offering practical help to adapt tasks. Families play an important role in how stroke survivors reintegrate into their communities and having others dependent on them facilitated return to previous roles and activities[6].

Cultural facilitations included gender and cultural norms that expected the stroke survivors to contribute to household and community activities also played a role with the occupational therapists noting that some stroke survivors set goals and found ways to continue previous household activities. Facilitators were associated with the church, which provided many stroke survivors with financial and emotional support as well as social interaction opportunities. Another South African study found that stroke survivors perceived their church as a source of support[44] and highlighted that for many stroke survivors, leisure activities are associated with attending church and engaging in religious activities.

Social determinants of health that provided some financial support in facilitating community reintegration included disability grants, stokvels, burial societies or informal self-help groups of people that pool their funds to provide financial support[37]. Stroke support groups in the community have been highlighted as a factor that facilitates community reintegration[48]. The occupational therapist viewed the stroke group as an opportunity to build relationships and friendships, therefore facilitating reintegration of the stroke survivors into the community.

The occupational therapists were aware of the COPC programme[59] which advocates for support teams to provide treatment for stroke survivors in their homes and experienced this as a facilitator. Although not mentioned by the stroke survivors, rehabilitation professionals from some clinics, were conducting home visits with CHWs to provide home based intervention post stroke. Providing appropriate education and ensuring appropriate home programmes were implemented, were also achieved through home visits. The occupational therapist felt random visits were an external motivator since the stroke survivor worked harder as they were unsure when the rehabilitation team would be coming again. Where home visits had been instituted the occupational therapist indicated these visits improved their own understanding of the home environment and allowed for appropriate goal setting with the patient and prescription of appropriate mobility devices. The ability to work within an MDT and with CHWs facilitated the rendering of community services with the possibility of providing early supported discharge and reducing healthcare costs[60].

Systems that facilitated community reintegration for stroke survivors included services at the clinics to expedite the flow through for those in wheelchairs and prevent long waiting times for them, as well as the availability of accessible transport. Such transport was provided by a stroke support groups using an accessible taxi or by online cabs. The use of online cabs could address the lack of accessible public transport in metropolitan areas, but unfortunately, it is expensive and would not be accessible to all stroke survivors. It has been suggested that Uber introduce wheelchair accessible vehicles and train drivers on how to interact with and assist clients with disabilities61 but no research on the use of these cabs by people with disabilities in South Africa was sourced.

Built and natural environments were perceived to be accessible where external structures to hold onto when walking were available, as well as less crowded areas, and availability of even surfaces to manoeuvre on were experienced as a facilitator to community reintegration. The occupational therapists also identified accessible homes and access to basic amenities such as an indoor bathroom made is easier for participants to be independent.

When appropriate assistive technology was available this was perceived as a facilitator to community reintegration. Stroke survivor participants experienced mobility assistive devices like walking sticks and wheelchairs as assisting them in managing their fatigue and mobilising outside their homes. This was confirmed by the occupational therapists who found that the availability of wheelchairs allowed stroke survivors to go out of the home and attend activities such as going to church. In confirmation, Algurén et al.[62] argued that assistive devices specifically for indoor and outdoor mobility such as wheelchairs and walking frames are crucial for the health related quality of life of stroke survivors.

CONCLUSION

The stroke survivors' perspective of environmental barriers and facilitators impacting community reintegration in an urban metropolitan sub-district, post stroke is vital in providing effective community reintegration services.

Most environmental barriers were perceived to be associated with the social determinants of health, inaccessible resources and poor policy and service implementation in the sub-district in which they lived. Poor infrastructure was compounded by the provision of inappropriate assistive devices.

The environmental subsystems perceived as facilitators to community reintegration were social support from the family, social determinants of health in the form of access to community organisations where they could socialise, and assistive technologies that allowed mobilisation in and outside the home. The occupational therapists perceived home programmes as more important than the stroke survivors in achieving community integration.

This study emphasised the importance of stroke survivor being referred to the community-based services to ensure more effective community reintegration and the role of occupational therapists in advocating for disability friendly access within our communities.

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Conflicts of Interest

None to declare.

Author Contributions

Celice Lindner completed the research project as part of a post graduate degree, under the supervision of Patricia de Witt and Lebogang Maseko. The article was conceptualised and written by Patricia de Witt and Denise Franzsen based on data collected with permission of Celice Lindner.

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[RESEARCH ARTICLE]

Occupational therapists' perceptions of a school-to-work transition programme for learners at a special educational needs school

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ABSTRACT

Introduction: South Africa has a high unemployment rate and few post-school employment opportunities for learners with disabilities. School-to-work transition programmes in special educational needs schools prepare learners with disabilities for work in the open labour market, optimizing post-school employment opportunities. Occupational therapists are the main key role players in facilitating school-to-work transition programme in many contexts of education.
Aim: This study explores the perceptions of occupational therapists of a school-to-work transition programme at the school for learners with special needs.
Methods: This study was a descriptive qualitative study. The researchers conducted semi-structured interviews with six occupational therapists involved in delivering the programme at the school. To ensure ethical compliance, we obtained clearance from the UP-Research Ethics Committee. The collected data underwent reflective thematic analysis for interpretation.
Findings: Three prominent themes emerged from the data analysis: (1) The Significance of the Programme: Participants highlighted the importance and benefits of the program. (2) Facilitators affecting school-to-work transition programme: Various factors that positively influenced the smooth transition from school to the workforce were identified and discussed. (3) Barriers to school-to-work transition programme: Participants also pointed out obstacles and challenges that hindered the successful transition from school to the workforce.
Conclusion: The school-to-work transition programme was influenced by personal, environmental, and occupational barriers and facilitators. The findings highlighted that the benefits of the programme should be viewed in a broader context, as learners mature and develop self-confidence. The value of the programme thus extends beyond employment opportunities.

Implications for practice

The research findings inform barriers that need to be focused on in order to have a successful and effective school-to-work transition programme. There are facilitators that show the perceived effectiveness of the school-to-work transition programme that could assist in motivating for more assistance from stakeholders of the school.

INTRODUCTION

From an early age, individuals often foster aspirations regarding their future occupations and the specific work that will enable them to sustain their livelihood[1]. As they mature, these ambitions lead them to pursue educational and training pathways. Nonetheless, persons with disabilities (PWD) encounter a myriad of obstacles while striving to actualise these aspirations[2]. While legislation and policy exist in South Africa to support the employment of PWD, unemployment rates remain high[3]. Within this context, the Pretoria School for Learners with Special Educational Needs (LSEN),

implemented a school-to-work transition programme in 2007[4]. Despite the long running nature of the programme, the experiences of stakeholders have not yet been explored.

LITERATURE REVIEW

Learners who have physical or cognitive disabilities, such as the learners at the Pretoria School for LSEN, are at risk of not being employed in the open labour market (OLM) when they leave school[5,6]. South Africa has a high unemployment rate, estimated to be 32.6% in 2021, which includes PWD[7]. Currently, the National Development Plan, 2030, aims to employ 2% of South African PWD, but a community survey conducted in 2016 indicated that the overall employment rate of PWD is still below the target[5,8]. To address these unemployment rates, South Africa has developed legislative frameworks and guidelines to support learners with disabilities (LWD)[9]. The Revised National Curriculum Statement (RNSC) supports the employment of LWD in White Paper 6[10,11]. The RNCS emphasizes the importance of strengthening education for learners with severe disabilities in the form of outcome-based education[12]. The RNSC strives to support the process of successfully transitioning LWD into a sustainable work environment to create post-school employment opportunities[10].

The Pretoria School identified that their learners had poor post-school employment opportunities through informal feedback obtained from staff and parents[4,12]. The school realised that the actions of the government were inadequate to successfully transition LWD into the OLM and that the employment rates of these learners have historically been low[5,15]. The school-to-work transition model for youth with disabilities in South Africa was developed in 2002, and it was based on the successful implementation of transition models in the United States of America (USA)[12].

The school-to-work transition programme at the Pretoria School for LSEN comprises different elements of various models such as the Vocational Transition Model, the Youth Transition Programme Model, and the Model of Supported Employment[12]. The school-to-work transition programme was structured in three phases to prepare LWD who have the academic potential to be employed in the OLM (Table I, below)[12].

Table I: Overview of the school-to-work transition programme at the school

Phases	Activity	Duties of the occupational therapist
Phase 1: Pre-vocational preparation phase	• Pre-vocational training • Integrated school curriculum • Functional skills training, three times per week • Introductory in-service training in the open labour market (OLM)	• The provision of pre-vocational skills training and participation in therapeutic groups. • Tailored educational and vocational planning, along with the creation of a personalized vocational profile. • An orientation session to familiarize individuals with the OLM requirements
Phase 2: Vocational preparation	• Vocational training and in-service training in the OLM • Daily, full-time exposure, and rotation among jobs every three to six months • On-site learning opportunities	• Exploring opportunities for in-service training. • Identifying potential matches for in-service training. • Negotiating on-site job training arrangements. • Confirming the actual fit for in-service training. • Conducting job analysis and providing job coaching
Phase 3: Placement and follow up	• Employment	• Discussing terms and conditions of part/full-time employment, ensuring fair labour practices. • Arranging for the transfer of supervision to a support person. • Providing continuous support and follow-up assistance. • Offering aid in the process of re-employment.

School-to-work transition programmes increase post-school employment opportunities for LWD[12]. The school-to-work transition programme of the Pretoria School was established and implemented in 2007. Even though the programme has been running for about 20 years, there is limited literature on the perceptions and experiences regarding the effectiveness of the programme. This qualitative study explores the experiences and perceptions of occupational therapists who were involved in the school-to-work transition programme regarding the effectiveness of the programme.

Introduction to the school-to-work transition model at the Pretoria School for LSEN

School-to-work transition programmes prepare learners to enter the work environment and opportunities in life[13]. Learners acquire prevocational and vocational skills[13]. Pre-vocational skills include work motivation, work habits, work endurance, and job seeking skills, while work speed and vocational skills are job specific skills[2]. Evidence suggests that if LWD are not prepared with adequate prevocational and vocational skills, transition to work will be ineffective and this will result in poor post-school employment opportunities in the OLM[5,14].

Progress of the school-to-work transition programme

Indication of positive outcomes has been observed in terms of growth in the diversity of services offered and the number of learners enrolled in the school-to-work transition programme[12]. The LWD also displayed personal maturation and growth[12]. Research supports that if LWD are able to identify their own goals and purpose in life, there is an increased opportunity for employment[15,16]. Evidence supports the contention that developing vocational skills will enable LWD to transition successfully and will also assist them later in life[17]. The school-to-work programme at the Pretoria School for LSEN also resulted in the local community and surrounding employers welcoming the employment of LWD[12]. Literature suggests that LWD have better post-school employment outcomes if they obtain work experience in high school[18, 12]. At the Pretoria School for LSEN, limited funding and staff for the service delivery of the school-to-work transition programme negatively impacted the employment options for LWD[12,16].

In the USA, vocational rehabilitation agencies are required to allocate 15% of their funding to transition services[17,18]. If South African legislation followed the example of the USA, LWD might have better employment outcomes[19]. In South Africa, allocating funding to transition programmes might be challenging due to insufficient infrastructure and financial resources[7,20]. When analysing school-to-work transition programmes, resources should be considered as structural factors that contribute to effectiveness[19,21]. The Youth Transition Programme is an example of a programme that has government funding and enough staff to facilitate an effective programme[21,22]. Currently, there is no literature that indicates whether lack of funding and resources are still barriers and whether LWD are employed in the OLM. Literature suggests that more research is needed to explore the perceived effectiveness of school-to-work programmes[23].

METHODOLOGY

This study aimed to explore the perceptions of occupational therapists on a school-to-work transition programme at the Pretoria School for LSEN.

Study design

An exploratory-descriptive research design was utilised to develop a better understanding of what is happening within the school programme. The aim of descriptive studies is to seek new insight and to ask questions that bring phenomena into new light[24]. This qualitative study that allowed the researchers to obtain rich data by interpreting participants' lived experiences and perceptions regarding the effectiveness of the school-to-work transition programme[24–27].

Study setting

The study was conducted at the Pretoria School for LSEN which is situated in the Prinshof suburb of the Tshwane Metropolitan municipality, Gauteng[4]. The Occupational Therapy Department at the school offers pre-vocational skills groups and the school-to-work transition programme, also known as the Building Tomorrow Training programme[4].

Sampling and participants

Participants were selected using purposive sampling and snowballing[28-30]. The researchers purposely selected six occupational therapists who were involved in the delivery of the school-to-work transition programme at the Pretoria School during the 2021 academic year. Following the selection of an initial participant, additional participants were identified via snowball sampling as the initial participant informed the researchers about other participants who were actively involved in the service delivery of the programme and who could provide valuable insight to the study[3]

Data collection

Data for this study were gathered through semi-structured interviews, with accompanying field notes being taken during the process[26,28]. The researcher conducted a pilot interview prior to data collection to prepare for the face-to-face interviews with participants[28]. These semi-structured interviews were audio-recorded and had varying durations, lasting between 25 to 55 minutes. The interviewer employed eight broad open-ended questions, followed by probing questions that facilitated a comprehensive exploration of the topic under consideration[29]. To ensure consistency in data collection, all the semi-structured interviews were conducted in person by a single researcher. This researcher also took field notes for all six interviews, maintaining a consistent format throughout[28]. These field notes were subsequently analysed in conjunction with the semi-structured interviews, providing valuable insights into theoretical aspects that aligned with the existing literature review.

Data analysis and trustworthiness

The data were thematically analysed as described by Braun and Clarke on reflective thematic analysis which acknowledges the subjectivity of the participants[32].The researchers immersed themselves in the data by reviewing all the transcripts that were transcribed from the audio recordings. Immersing themselves in the data meant reading the content several times so that it is easier for the next step to formulate meaning from the data[33]. Codes were generated with labels attached that will later be grouped to form themes[33]. The data analysis approach was bottom-up and inductive, which enabled theme development directly from the data instead of predetermined themes[32]. Themes were created from sub-themes supporting the themes from the codes, then the naming of the themes was done by all the researchers in a group meeting. The themes were then reviewed and then reported systemically following findings from the data. To ensure credibility and trustworthiness in this study, the researchers employed triangulation, which involved converging two methods of data collection: semi-structured interviews and field notes. This approach allowed them to capture the perspectives of all six participants comprehensively. Additionally, member checking was utilized to verify the accuracy of participants' perspectives, providing them with the opportunity to clarify and elaborate on their experiences and perceptions. This process enhanced the researchers' comprehension of identified themes and subthemes. To establish confirmability and neutrality, the researchers practiced reflexivity, actively addressing and mitigating potential biases in their analysis. This methodological self-awareness helped maintain an objective stance throughout the study.

Ethical considerations

The Faculty of Health Sciences Research Ethics Committee of University of Pretoria granted ethical approval for the study (ethics number 804/2020). Permission to conduct the study at the Pretoria School for LSEN was obtained from the principal and the head of the occupational therapy department prior to commencing the study. All the ethical principles of non-maleficence, beneficence, and confidentiality were adhered to in the study. Informed consent was obtained in the form of written and verbal consent from the participants prior to commencing the study.

RESULTS

Demographics of participants

The participants (n = 5) were all white, female qualified occupational therapists who were all employed in the occupational therapy department at the Pretoria School for LSEN. The participants' ages ranged between 20 and 59. Two participants (Participants A&B) had been involved in the programme for more than 11 years and primarily provided services in phase two and three of the programme. Two participants (C&D) had been involved in the programme for six to ten years and provided services in phase one of the programme. Participant E had been involved in the delivery of phase one for two to five years

Theme 1: The value of the programme

The participants agreed that the programme enabled the learners' ***personal growth and development***. Participants explained that the programme had been running for 20 years, and that the programme had been used as a blueprint for similar programmes at other LSEN schools which again alludes to the value of the programme. The participants express ed that the effectiveness of the programme is not only measured in ultimate employment in the OLM, but it is also measured in terms of personal growth and development of the learners (Table II page 49). The school-to-work transition programme allows LWD to develop mature characteristics. Through the programme, LWD displays improved self-esteem, self-identity, and confidence leading to increased health and an experience of well-being. LWD have an opportunity to develop their unique adult roles by acquiring the appropriate prevocational skills to be employed in the OLM. This further creates a sense of purpose. The occupational therapists involved in the programme innovatively created ***vocational training opportunities in the school,*** such as the school tuck shop, due to the limited in-service training opportunities in the OLM. These training opportunities include income-generating projects that allow LWD to have a chance to practice their work habits and other prevocational skills at the school to prepare them for employment in the OLM (Table II, page 49). The participants also reported that the programme has been effective and continues to have a positive impact on the overall lives of learners for several years, therefore making the ***programme sustainable for 20 years.*** One of the participant's expressed how the programme has assisted some of the learners to start their businesses and hire other learners with disability within the businesses.

Table II: Theme 1: The value of the programme

Subtheme	Quotation
The learners experience personal growth and development.	*"...the success is not only measured in ultimately getting employment...It is in their human dignity ...I have equipped this child with enough personal growth...to know what they can contribute within the community...."*, **Participant D** *".... you get a lot of children who have hidden skills or newfound confidence...I think it's a sense of purpose.... It's really a general improvement of the child's health and well-being."*, **Participant C** *"...you can just think of the basic skills that you need to present yourself to become a young adult... how I communicate...what do I do if I have a conflict situation...how do I problem solve"*- **Participant C**
The programme offers vocational training opportunities in the school.	*"...she's running the staff tuck shop where the learners actually work in the kitchen...take orders from the staff, make the stuff, deliver it and handle the money..."*, **Participant D** *"...they learn to make a variety of food products so that they can do simple catering or just sell it on the corner of the street in the informal sector. Something to have an income... the whole process of having a small business set up..."*, **Participant A** *"...they create opportunities within the school environment for them to do office administration, kitchen skills, waitressing or sewing..."*, **Participant C**
The programme has been sustainable for 20 years	*"...I believe that we are making a difference...If I look back 20 years to now... just to see that the kids can believe in themselves ...I think it's very effective..."*, **Participant B** *"...he is now a business owner...and employs two other persons with disabilities as well as another employee."*, **Participant A** *"...she was a CP quad, severely disabled...and she took a big bucket of yoghurt and scooped little cups for the hostel kiddies...I actually placed her there, so then at the end they paid her a competitive salary..."*, **Participant B** *"I think every school is different, it depends on the resources that you have...our approach would be different than another LSEN school due the different disabilities of the learners"*, **Participant B**

Theme 2: Facilitators that influence school-to-work transition.
LWD receive various forms of ***social and physical support*** throughout the programme and the role of occupational therapists as skills trainers and job coaches is to facilitate school-to-work transition (Table III, adjacent). The school starts with ***prevocational and vocational skills training from a young age*** which also facilitates school-to-work transition. The participants stated that the learners are given various forms of physical support. The participants mentioned that the programme has received more financial support over the years and currently has a set budget. A participant supported this by saying that most of the expenses have been accounted for. The participants also mentioned that they use a multidisciplinary team for physical and social support. The participants expressed that the programme offers social support in the form of a safe space to learn the needed prevocational and vocational skills. The multidisciplinary team provides the needed individualised support that each learner needs to flourish. The occupational therapists who are employed at the Pretoria School provide the services in the programme that contribute to the learners' work readiness and this starts from an early age. One of the services that was prominently mentioned was pre-vocational and vocational skills training. The second service that is delivered by the occupational therapists that were mentioned prominently, is ***skills training and job coaching.***

Table III. Theme 2: Facilitators that influence school-to-work transition

Subtheme	Quotation
The learners have various forms of physical and social support throughout the programme.	*"...I think there's really a massive amount that goes into supporting the kids...you just look physically, everything from assistive devices to wheelchairs, to physicians, to adapted bathroom facilities..."*, **Participant C** *"...it just provides a safe and supportive environment where the learners have the opportunity to practice among people who are accepting of their mistakes and help them to overcome challenges..."*, **Participant A**
Occupational therapists fulfil the role of skills trainers and job coaches in the programme.	*"I'm doing the pre-voc programme... my role there is teaching them good manners, time management skills, money management, communication skills, specific telephone skills ...and household skills..."*, **Participant D** *"... I coordinate their in-service training and assist with their exit planning... that entails all the duties that a job coach would be responsible for...I have to source appropriate placement positions...I then match the learners appropriately to those placement positions..."*, **Participant A**
The LWD start with prevocational and vocational skills training from a young age.	*"The advice is not to think that a school-to-work transition programme starts when the child exits school... it starts from the time that they enter school. It's an ongoing programme..."*, **Participant D** *"...working from the pre-primary phase on those pre-vocational skills, the building blocks, developing and practicing them."*, **Participant C**

Theme 3: Barriers that influence school-to-work transition
A significant barrier to the school-to-work transition programme is that the ***programme does not provide a formal qualification*** for LWD after completion. This negatively impacts the learners' employment opportunities as employers require the learners to have a formal qualification such as a certificate. A number of LWD elected not to join the programme for this reason. Participants also explained that ***learners with severe disabilities*** experience different challenges to obtaining employment and thus have greater socio-economic challenges (Table IV, page 50). The participants explained that ***employment in the OLM for LWD is scarce*** due to the poor economic status of the country. Furthermore, employers are driven to meet productivity standards to profit in the poor economic market. Barriers such as prejudice and discrimination in the workplace regarding disability are other factors that limit employers from appointing LWD. Participants explained that employers do not always know how to treat LWD in the workplace. The COVID-19 pandemic has heightened the reluctance of employers to employ LWD due to the narrowed employment market and decreased economic status of the country.
The participants also expressed challenges regarding Sector Education and Training Authority (SETA) learnerships which limits employment opportunities for learners. Some employers require LWD to complete a learnership before they can be employed. The challenges with the SETA learnerships are that some learners do not

qualify for the learnerships due to their *disability profile or severity of their conditions.* The SETA learnerships do not provide learners with sufficient vocational skills to meet job requirements. More time and therapists are required to assess and re-assess the learners and negotiate with the employers for appropriate placement in the OLM. The participants additionally expressed that funding for assistive devices, specific skills training, and transport to and from work remain a concern despite the increased financial support that has been received over the years. Due to the **funding, time, and staff constraints**, there is subsequently **limited space** in the programme and at the school itself to accommodate all the learners with the potential for school-to-work transition.

Table IV. Theme 3: Barriers that influence school-to-work transition

Subtheme	Quotation
The programme does not provide a formal qualification.	*"None of this has been formalized...we have basic guidelines in place, but they have not been formally aligned with the Department of Education...and we have had learners who have elected not to join the programme because they won't have a paper at the end of it"*, **Participant A**
A number of learners have severe disabilities and socio-economic challenges.	*"...a lot of placements require at least matric, or mobility, so I think there's not a lot of placements available for our type of learners who are physically and cognitively impaired."*, **Participant E** *"...The child might not afford accommodation and transport every time... so even when there is an employment opportunity, it's not necessarily close to home, or easily accessible for that learner."*, **Participant E**
There are limited employment opportunities for learners with disabilities in the open labour market.	*"...socio-economic factors actually play the largest role in the limited employment opportunities and the barriers within the employment market itself..."*, **Participant A** *"...the employment market has preconceived ideas about where and how disabled people fit into the picture...and there is a lot of discrimination..."*, **Participant A**
There are time, staff, space, and funding constraints in the service delivery of the programme.	*"...I read about the service in the UK...one job coach takes on only ten clients, and it's because it's so labour intensive. At our school, on average, one therapist treats about 100 learners in small groups...for one therapist to see only 10 clients...it's almost unfair to the rest."*, **Participant B**

DISCUSSION

The findings of this study provided valuable insight regarding the perceived effectiveness of the school-to-work transition programme at the Pretoria School for LSEN. The study revealed the facilitators and the barriers that influenced the school-to-work transition. These barriers and facilitators aligned with the chosen theoretical framework, the Person, Environment and Occupation (PEO) model, which guided the study in terms of how the perceives effectiveness of the school-to-work transition programme could possibly be improved.

The PEO model consists of personal, environmental, and occupational spheres that need to interact optimally to ensure enhanced occupational performance[34,35]. Effective school-to-work transition resulting in post-school employment opportunities was considered enhanced occupational performance for LWD in this study. The personal sphere included LWD interests, values, beliefs and motor, sensory, cognitive, and social abilities[35]. The environmental sphere included the LWD social and physical environment[34]. The occupational sphere included the necessary prevocational and vocational skills as well as a formal educational qualification needed to be employed[2]. The model guided the researchers' understanding in terms of identifying the barriers (Figure 1 below) and facilitators (Figure 2, page 51) in the three spheres of the school-to-work transition programme that influenced its effectiveness[34].

PERSON	ENVIRONMENT	OCCUPATION
Severe disability (motor, sensory, cognitive and social)	High unemployment rate	Limited transition from school to work
Limited prevocational and vocational skills	Narrow employment market	Work - unemployment
	Adverse effects of COVID-19	Lack of a formally recognised qualification
	Limited workplace exposure	SETA qualification
	Limited access to transport and accommodation	
	Limited resources (staff, time, space)	

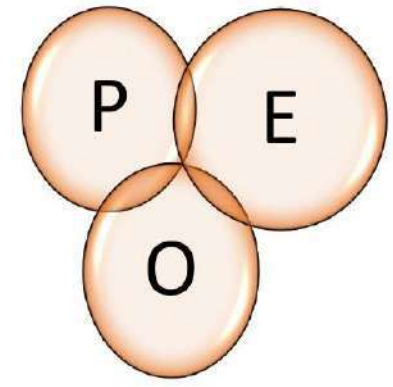


Figure. 1. Barriers to the effectiveness of a school-to-work transition programme for learners with disabilities [34,35].

Personal barriers

According to the findings of the study individuals with LWD face certain personal barriers that hinder their employability. A number of the learners who were enrolled in the programme had severe disabilities that further decreased employment outcomes. Evidence supports that LWD who have either motor, sensory, cognitive or social disabilities, struggle to attain pre-vocational and vocational skills which limits their ability to effectively transition from school to work[2,5,18,34].

Environmental barriers

The participants in our study explained that there were limited employment opportunities in the OLM because of the poor economic status of South Africa. South Africa has a high overall unemployment rate which will inevitably affect the disabled population due to the narrowed employment market[7]. The participants further mentioned the adverse effects of the COVID-19 pandemic on South Africa's economy[36], which also decreased the employment opportunities for LWD. Aside from fewer opportunities, participants also expressed that COVID-19 safety regulations prevented LWD from entering workplaces for in-service training. LWD could not engage in the second, vocational-preparation phase of the programme[12]. Not being able to engage in in-service training ultimately affected the third phase of the programme, namely placement, as LWD had less full-time exposure and onsite learning in the workplace[12]. Additionally, LWD could not interact with potential employers and could not develop a positive employee-employer relationship. Lack of workplace exposure may also perpetuate discrimination and prejudice in the workplace, which are environmental barriers that limit employment opportunities for LWD[5,20].

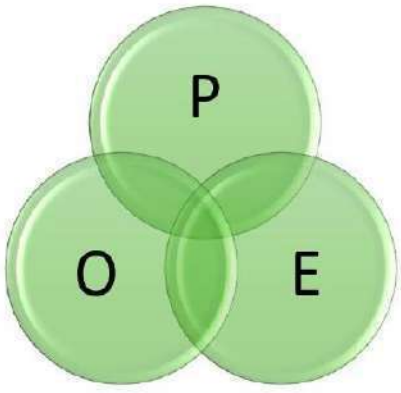
In South Africa, LWD with socio-economic challenges are also excluded from employment because they do not have access to transport and accommodation close to their place of employment[19-20]. Nel and van der Westuyzen[12] suggested that a government-driven transition service should be introduced to increase the employment rates and successful transitions of LWD. A government-driven transition service could ensure increased

financial support for the services provided in the programme.[12] The participants acknowledged that time, staff, space, and funding constraints in the service delivery of the programme remained an environmental barrier that influenced school-to-work transition, which is consistent with the literature[19, 23]. In this study, participants expressed that limited funding and staff also limited their ability to meet all the transition needs of LWD. The Pretoria School also has limited space to enrol learners in the programme and limited space at the school to offer vocational training opportunities. A government-driven transition service could further ensure a nationally recognised formal qualification, which is a real need for both prospective employees and employers. The environment sphere in figure 1 shows multiple barriers contributing to the limited occupational performance of LWD and the effectiveness of the school-to-work transition programme.

Occupational barriers

Another finding in our study was the mention of SETA learnerships. Participants explained that employers required LWD to compensate for the lack of a formal qualification by completing a SETA learnership, which is an occupational barrier for LWD. Most employers require that prospective employees have a formal qualification such as a learnership certificate[37]. Unfortunately, SETA learnerships do not provide LWD with the necessary skills to enter the workplace. Furthermore, evidence indicates that learners' employability does not significantly improve after completing a learnership, as some learners were still actively seeking employment six months post-learnership completion[37].

Personal, environmental, and occupational facilitators



PERSON	ENVIRONMENT	OCCUPATION
Innovation and resilience of occupational therapists	Assistive devices and technology	Sustainable school to work programme
Improved self-esteem and confidence	Accessible school facilities	Improved adult roles
Improved self-identity	Multidisciplinary team	Improved transition from school to work
Early intervention	Integration into communities	

Figure. 2. Facilitators to the effectiveness of a school-to-work transition programme for learners with disabilities [34,35].

We identified several personal, environmental, and occupational facilitators that increased the perceived value and effectiveness of the school-to-work transition programme. Where poor economic status of the country and socio-economic challenges of LWD was a barrier, occupational therapists involved in the programme had to be innovative to compensate for the lack of in-service training opportunities in the OLM, which usually forms part of phase two of the programme. This was seen as an occupational facilitator as the learners were given the opportunity in the school to acquire appropriate pre-vocational and vocational skills. If LWD are prepared with the appropriate skills and qualifications to work, school-to-work transition could be effective and this could result in better post-school employment options in the OLM[5,14]. The study revealed that the resilience and innovation of the occupational therapists, led to the sustainability of the programme and optimal service delivery, which is consistent with the literature[33]. The programme at the Pretoria School has been operating successfully for the past 20 years and similar programmes could be implemented at other LSEN schools, which reflects the value of the programme.

Other environmental facilitators included the various forms of physical and social support offered to LWD and the involvement of occupational therapists in the programme as skills trainers and job coaches. The Pretoria School has the facilities, including disability access, assistive devices, and assistive technology to support LWD. The benefit of a multi-disciplinary team is that each team member can contribute their discipline specific knowledge to optimise the therapeutic outcomes for an individual with a disability. The involvement of occupational therapists, physiotherapists, speech therapists, psychologists, educators, and social workers enhanced transition outcomes for LWD. Participants explained that a multi-disciplinary team offered a safe space, acceptance of mistakes, and ongoing individualized support for the learners to develop their work competency skills[38,39]. Occupational therapists fulfil the unique role of skills trainers and job coaches to prepare LWD with the necessary pre-vocational and vocational skills[2,34].

The assessment of the school-to-work transition programme focused on the successful integration and eventual employment of LWD in the OLM[16]. However, participants also felt that LWD benefited in terms of personal growth and development. This personal growth was identified as a personal facilitator of enhanced occupational performance. LWD displayed improved confidence, self-esteem, self-identity, and well-being. The personal growth and development of the learners helped them to fulfil adult roles that enhanced their integration into their communities. The school-to-work programme thus helps a learner to enter into employment as well as community living[33]. At the Pretoria School, learners started the programme from a young age which was another personal facilitator of effective school-to-work transition. Similar results were seen in the school-to-work transition programme for learners with emotional and behavioural disorders in the USA, which also incorporated early intervention similar to the "pre-vocational training" phase of the school-to-work transition programme at the Pretoria School[12,23].

The PEO model indicates that many barriers limited occupational performance and that many facilitators enabled occupational performance33 in the Pretoria School. The PEO model thus alluded to the fact that if the identified personal, environmental, and occupational barriers were reduced and the facilitators were optimized, the occupational performance of LWD in terms of effective school-to-work transition would inevitably improve34. This results in a 'good fit' between the spheres of the PEO model and therefore improved school-to-work transition programme as shown in Figure 2 (adjacent).

Limitations

The scope of the study was restricted to exploring the experiences of the occupational therapists actively engaged in the program. Educators and other therapists were omitted from the study due to their lack of day-to-day involvement in the program. The interconnected perspectives among occupational therapists within the department, influenced by its size, led to a narrowing of the study's focus.

CONCLUSION

Using the PEO model, we explored occupational therapists' views of the school-to-work transition programme at the Pretoria School for LSEN. Barriers to the programme must be addressed while strengthening the facilitators so that the programme remains sustainable. Most of the barriers identified are environmental and this shows the impact that an environment has on one's occupational performance. The COVID-19 pandemic had a great influence on the successful implementation of the school-to-work transition programme, therefore plans needs to be in place on how

to deal with future pandemics or similar events so that LWD continue to experience occupational justice. The findings provide valuable evidence for how the school-to-work transition programme at the Pretoria School for LSEN has been sustained, this shows the importance of translating the programme to other schools in South Africa. Central to this programme is a need for a formally recognised qualification to enable an easier transition to employment, collaboration with government authorities in this regard is needed.

The school-to-work transition programme should be evaluated in a broader context and the effectiveness of the programme can be measured in a variety of ways. Quantitative studies on the effectiveness of the programme are needed to provide statistical evidence of the effectiveness of the programme. This would be beneficial to the school-to-work transition programme at the Pretoria School as it will provide leverage to formalise the programme for national recognition. This will ensure that learners receive a certified qualification after completing the programme and allow the programme to be officially implemented at other LSEN schools.

Author contributions

Henry Msimango was the lead author who planned and organised the study. The sections of the article were divided among all authors and each contributed to the writing of the article. Riekie Germishuys, Megan Jamieson, Kay-Lee Avenant and Thabang Rameetse analysed the data and identified the themes and subthemes, Nthabaleng Phalatse and Henry Msimango validated the themes. All the authors finalised and approved the final manuscript.

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Conflicts of interest

Authors declare that there are no conflicts of interest to declare.

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[RESEARCH ARTICLE]

Rehabilitation and work reintegration within the disability claims management process: A South African Private Insurer Perspective

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ABSTRACT

Background: Maintaining or promoting employment in the presence of disability or reducing the impact of disability on employability should be the adopted focus to decrease the negative impact that disability has on the economy and just as important on the livelihood and well-being of exposed insured individuals. Group risk disability insurance protects an employee's income when illness or injury result in work disability. To achieve this, factors that promote the success of rehabilitation and support for return-to-work of employees following illness and injury need to be understood from an insurance perspective.
Objectives: To explore principles of disability claims management during the rehabilitation and work reintegration stage using a multi-stakeholder approach for the purpose of successful return to work.
Methods: An exploratory qualitative design was used to collect data via semi-structured interviews with 26 purposively selected participants. Interviews were audio-recorded, data were transcribed and analysed thematically. Qualitative research was used to understand the necessary role players in the work reintegration process, factors that hinder and promote work reintegration and best practice principles for Disability Claims Management (DCM)
Results: Three themes emerged from the study; (i) role players and their functions with collaboration is integral to disability claims management, (ii) various factors promote and restrict return-to-work planning, and (iii) best practice principles in the DCM pathway that promote return-to-work. These principles include behavioural economics as the central principle, with resource identification and competency, governance, role engagement and education and awareness as supporting principles.
Conclusion: Collaborative and integrated approaches by role players within a workers' family unit, health system, employer structure and insurance compensation are required for positive return-to-work outcomes. The various role players are responsible for creating policies, structures, intervention strategies, and environments that foster return-to-work.

Implications for practice

- An integrated approach is required for optimal RTW outcomes as employers' policies restrict work integration.
- A collaborative approach by all role players involved in DCM, focusing on positive RTW outcomes is required in the RTW process
- Occupational therapists can influence employer incapacity and disability policies in order to keep people employed and productive in the presence of medical conditions with the application of reasonable accommodations where necessary.
- Occupational therapists are suitably positioned to outline workplace environment and other supports required to guide and support employees through rehabilitation and RTW and in ensuring that employees who can remain at work while on a partial or fully insured benefit, can engage optimally in aspects of work function.

INTRODUCTION

Work disability most often refers to the permanent inability to work, but it can also include temporary inability to work, sick leave, or reduced work hours[1]. Work disability is a crucial health outcome measure of critical lifestyle importance to workers who suffer injury and chronic illness. Work disability is costly for workplaces, families, and society, and incurs enormous expenditures every year[2]. Work reintegration forms a component of work disability management and is oriented towards returning an individual to work following injury or illness. Work reintegration includes treatment, rehabilitation, retraining, and early return to work (RTW) procedures[3]. One in 13 employees globally claim disability benefits[4], reinforcing the frequency of insurance losses and necessitating strengthening insurance disability claims reserves[5]. Maintaining or promoting employment in the presence of Work disability is required to decrease the adverse effects on employees' economic livelihood and well-being. The ensuing review explores disability management (DM) in the context of rehabilitation and RTW following the admission of a disability claim within Group Risk Insurance.

In terms of disability claims management, employers provide group risk disability insurance to their employees as part of the employer's risk management strategy to provide income to employees if health or injury impacts workability. Based on the first author's background in the insurance industry, it seems evident that the responsibility for managing employees after illness or injury is a shared effort between the insurer and the employer. Consequently, Disability Claims Management - when an insured benefit is in effect - can be seen as a collaborative intervention approach between the employer and the insurer. Disability Management is also viewed as Disability Claims Management and is not limited to claims processing under the specific disability benefits plans, but includes the active management of claims. Disability Management is proactive and aimed at recovery and work reintegration, including the employer, the worker, private or state insurers, and healthcare professionals[3,6].

Role players in Disability Management (DM)

Teamwork, establishing expert interactions within a multidisciplinary team (MDT) including the employer, employee or employee's representative, and Disability Management (DM) rehabilitation service providers are essential for DM[7], with co-operation between all stakeholders[3] crucial. The interdisciplinary DM team may include employer representatives (safety managers, occupational health nurses, risk managers, human resources personnel, and operations managers), labour union representatives, the worker's treating physician, a rehabilitation case manager, an onsite physical or occupational therapist, the employee[8] and insurer[4]. HR managers are responsible for developing organisational policies and providing advice or guidelines on labour issues to manage an employee with impairment or disability in the workplace[8]. Occupational therapists are essential in providing RTW recommendations, strategies, and job coaching[9].

It has become common for insurers in South Africa to employ occupational therapists as claims assessors to ensure robust assessments considering the occupational impact of medical diagnoses[10]. The importance of disability claims assessors as role players in DCM has been identified as a central and integral factor in insurers' managing and improving claims experience. Assessment teams with more experienced assessors yielded higher claims termination rates than teams with less experienced assessors[10].

In 2012, Reinsurance Group of America (RGA) conducted a survey which cited that 43% of South African insurers did not employ rehabilitation services to manage disability claims. This was in marked contrast to the other regions surveyed (Australia, North America, and the UK). Over 80% in each market reported using rehabilitation services to manage disability claims[10], indicating the need to strengthen RTW programmes and their uptake within the South African context. There is a growing need for DM rehabilitation service providers to be included in effective programmes in various workplace environments so that accommodations and RTW services can be managed efficiently and appropriately to allow employees with functional limitations in the workplace to remain employed[7,11].

Essential DM concepts and strategies

DM programmes that include a blended approach, that is, between organisations with proactive RTW interventions and individuals, limit the incidence of disability[12]. The blended approach outlines integrated corporate leadership with management collaboration and timely RTW for employees, concepts essential in formulating and implementing a successful DM strategy[8]. Early during a claim, the insurance representative, treating doctor, and insured must help determine risk factors and barriers to returning to work, align expectations, and collectively agree on personalised interventions for optimal health recovery[13].

Factors that impact Disability Management

Employers who assume ownership and responsibility for injured worker reintegration and worksite accommodations frequently use Disability Management (DM) programmes that include components for optimal disability management[8]. These components include an accurate understanding of the types of injury and illness that occur, the employer's timely response to the injury or illness, clear administrative policies and procedures, and the effective utilisation of health care and rehabilitation services [8].

Disability management policy secures care for valued personnel; affected workers are back on the job as quickly as feasible to preserve productivity with meaningful employment, improve staff morale, reclaim their previous income levels, and improve the social well-being of the individual within the family unit[4].

Employees are central to the reintegration process; a positive attitude toward work, a strong relationship with their employer, and appropriate physical and mental stress levels improve RTW[14], including motivation to RTW[10]. A supportive, caring, and empathic supervisor with co-worker support[9] and health-related messaging from family and friends, often referred as "significant others", is a significant factor influencing recovery and RTW[14]. The stigma associated with disability and impairment negatively impacts the disability management and RTW process[15,] including stigma from claims processes, colleagues, professional service providers and employers[2].

Injured persons who continue engaging in work activities have better outcomes than those off work[14]. If someone is off sick for six to 12 months, there is a 90% chance they will not return to work in the foreseeable future; if they are off for more than two years, they are more likely to retire or die than return to work[4].

The experience of the insurance claims process impacts the RTW status and procedural fairness[16]; people who were not focused on compensation eligibility[14] resulted in positive RTW outcomes. Supporting claims management through the insurance policy wording and benefits structure in successfully returning employees to work becomes collaborative with role players. The insurer's customer-oriented approach and involving customers actively in the planning and decision-making processes significantly positively affected rehabilitation and allowed the insurer to promote success[17] effectively. The quality and range of resources available to the claims team and services available to assist the claimant also feature as factors that impact DM[10], access to health-focused interventions related to the RTW is seen as an integral RTW

intervention[18]. Legislation in South Africa supports rehabilitation and return to work following disability[9]. There is, however, a lack of implementation and monitoring of policies that support RTW despite the existence of the policies[9].

To consolidate an effective disability claims management pathway, we need to understand the factors that impact rehabilitation and work reintegration for injured and ill employees. Dermody and colleagues[19] were confident that the key to improving outcomes in RTW lies in understanding the social and psychological factors that influence disability[19]. This speaks to a collaborative approach when integrating social and psychological factors. Employers, employees, and insurers are well-positioned to facilitate reintegration into work environments post-work disability. This article explores the experiences and perspectives of role players within disability claims management, factors that enable or restrict the disability claims management process and identifies the best practice principles required in an insurance disability management pathway during the rehabilitation and work reintegration stages.

METHODS

Study design

The methodology for this study referenced the Consolidated Criteria for Reporting Qualitative Studies (COREQ) according to the 32 items on the checklist, which is recommended for comprehensive reporting of qualitative studies[20].

Reflexivity and research team

The primary author is a qualified female occupational therapist with ten years' clinical experience spanning private and public healthcare and a further 13 years' experience in corporate insurance, focusing on disability benefits and case management to facilitate RTW. Data collection was completed with the assistance of a co-facilitator. The co-facilitator was a qualified female occupational therapist with four years' clinical experience and corporate insurance experience. The co-facilitator, a disability assessor within an insurance company at the time of the study, was chosen as she had insight into the selection of questions and interview probing due to her familiarity with the study aims, peer debriefing and data triangulation. In a professional capacity, several of the study participants knew the primary author. As a result, the researcher's positionality was made overt through a series of reflective statements and exercises that indicated practical knowledge of the subject of study, allowing for the suspension of judgments as needed and reducing researcher bias. The researcher analysed her goals and how her roles and identities influenced the study techniques.

Study population and sampling strategy

The study focused on a sample of 40 identified stakeholders engaged in the management of private insurance disability claims in South Africa, selected through purposive sampling that aimed for maximum variation. Participants were chosen based on their expertise in ill-health intervention and disability insurance. The first author had professional interactions with several stakeholders. The study purposively sampled its target population from diverse sources such as companies, broker houses, insurance groups, reinsurance groups, and occupational therapy practices. The participants encompassed CM and vocational occupational therapists, Employee Wellness Practitioners (EWP), group insurance disability claims managers, Health Risk Managers (HRM), Human Resources (HR) professionals, insurance brokers, and an Occupational Medical Practitioner (OMP). Individuals were selected based on their knowledge, interest, and experience in the field. To initiate engagement, an expression of interest e-mail was dispatched to five stakeholders within each group, totalling 40 stakeholders. From these, 26 stakeholders responded, representing various roles, including human resource managers (n=4), employee wellness specialists (n=3), occupational health medical practitioners (n=4), group insurance disability claims brokers (n=3), health risk managers (HRM) (n=3), group insurance disability claims assessors (n=3), vocational/case management occupational therapists (n=3), and group insurance reinsurance disability claims managers (n=3). All respondents were subsequently included in the study for interview purposes.

Data collection

Semi-structured interviews were used in this study as this method facilitated in-depth data collection using open-ended and probing questions[21, 22]. The development of questions was guided by the literature reviewed and the authors' practical experience of RTW. Each interview was conducted in English with the primary author and a co-facilitator to gather the relevant data comprehensively. All participants communicated in English within their respective roles. Interviews were completed after receiving informed consent from the participant. Twenty-six, 60-minute semi-structured interviews were conducted. The interviews were conducted individually to allow the participants to express their personal experiences without influencing other role players.

The interviews occurred online and were audio-recorded and transcribed verbatim using the Microsoft Teams platform. The researcher then checked the relevant transcripts against the audio recordings multiple times to ensure the integrity and amended any incongruences in the data during analysis, thereby providing a basis for trustworthiness[23].

Data analysis and rigour

The data were analysed using thematic analysis, which entailed reading and re-reading the transcripts to identify themes within the data[24]. Subcategories were created and coded data were placed into each subcategory before formulating categories. The various categories were classified in MS Excel and then grouped into themes and concepts. Via inductive reasoning and analysis, overarching themes that captured the rehabilitation and RTW reintegration phenomenon described by the participants in the study were developed. Trustworthiness of the data centred around confirming credibility, dependability, transferability, and confirmability[25]. Credibility and member-checking were ensured by reviewing understanding with the participants through paraphrasing and summarising responses in the interview. The interviews were audio-recorded and transcribed to provide accurate data capture. Dependability was facilitated by using the same interview schedule for all participants with additional probing questions to foster a deeper discussion. Confirmability was ensured through reflexivity by noting preconceptions and biases in a notebook and by constantly reflecting on these during the study together with the supervision team. Transferability was confirmed by using detailed descriptions of the research methods, context where possible, maintaining confidentiality, and participants' actual experiences.

Ethical Considerations

Ethics approval was provided by the Human and Social Sciences Ethics Research Committee (HSSREC/00002870/2021) of the University of KwaZulu Natal. The participants were contacted via e-mail to explain the study's aim, purpose, and process. The details about the study, the biographical details request, and consent were sent via e-mail for acknowledgement and signature. The right to withdraw from the research process at any point, research content, and anonymity of data were iterated in the consent and at the start of the interview. All participants provided written consent to participation and publication of data in the study. Confidentiality was maintained by de-identification of participants and the pooling and synthesis of the data sets.

RESULTS

Twenty-six individuals volunteered to participate in the study; and included CM/vocational occupational therapists (n=3), EWP (n=3), group insurance disability manager (n=6), HRM (n=3), HR (n=4), OMP (n=4), insurance disability claims broker (n=3). A total of 46% of the stakeholders held an Occupational Therapy qualification, albeit performing different roles in the disability claims management process. All participants who met the inclusion criteria were included in the study. Stakeholders without exposure to disability in the workplace and disability benefits were excluded from the study (Table I below).

Table I: Demographics of the sample of stakeholders (n=26)

Variables	Number (n)	Percentage (%)
Gender		
Male	2	92%
Female	24	8%
Age group		
29-39	9	35%
40-49	10	38%
50-59	7	27%
Number of years of work experience		
<5	3	12%
>15	12	46%
11 to 14	4	15%
5 to 10	7	27%
Number of claims handled per month		
<20	16	62%
>40	7	27%
21-40	3	12%
Highest Level of Qualification of Participants		
Bachelor's Degree	18	69%
Diploma	3	12%
Doctoral Degree	1	4%
Master's degree	4	15%
Qualification		
Qualified Occupational Therapists	12	46%
Other varied qualifications e.g. Human resource qualifications, financial services qualification	14	54%

Three themes emerged from the data analysis and reflect the study's aims.

Theme 1: Role Players and their Functions in DCM-Rehabilitation and RTW (Tables II-VI)

This theme identified the role players in the DCM pathway and described their *function* in the rehabilitation and RTW stage. Five role-player categories were consolidated: (1) employee and employee support structures, (2) employer, (3) intermediary group, (4) medical and rehabilitation, and (5) insurer group. The following tables These are illustrated in tables with verbatim quotes highlighting the participants' voices.

Table II – Theme 1 (Category 1) : Employee and employee support structures

Role Player	Description	Quote
Insured Employee	The individual beliefs, motivation and self-efficacy, level of resilience, ability to take responsibility for their medical condition and perception of their illness and roles in life have an impact on rehabilitation and RTW. Employees need to collaborate with all the role players and need to be actively involved in the rehabilitation and RTW plan	*"Employees that have young children to care for, depend on continued income hence the motivation to RTW is increased while if the employee is required to take care of grandchildren at home, then the motivation to RTW is decreased".* **Participant 6, HR.** *"It is the employee's responsibility to take responsibility of their medical condition. So, it's very important that they are following up with appointments and that they understand why they are there and getting the relevant information from their treating health care team, and to provide their employer with the various medical certificates, keep the employer updated, be able to evaluate if they are comfortable with the treatment programme and service providers and if not be able to discuss this. In RTW employees are the link to role players, they need to provide the contacts and information that consolidates RTW. They must be involved in the RTW plan",* **Participant 1, EWP**
Employee support structure: Family	Most participants, constituting 80%, expressed that family plays a crucial role in providing support and guidance to employees during periods of disability. The understanding and perception of the disability process by families were noted by 40% of the participants as having an impact on both the rehabilitation and the RTW process.	*"Family employees that interpret the rehabilitation and RTW as too pressuring or stressful will actively resist RTW, where disability is perceived as a norm, maintaining a disability role is accepted, if being on a disability benefit is perceived as a weakness, employee resist being on a long-term disability benefit".* **Participant 5, HR.**

Table III – Theme 1 (Category 2) : Employer

Role Player	Description	Quote
Executives and Line managers	The support of employers on RTW in a productive role is inconsistent. The proximity of the line manager influences work relationships- intact relationships with the direct manager influences the degree of support that they afford employees to stay at work longer and get back to work sooner. The direct manager's involvement is crucial for RTW.	*"You get some companies where they truly support getting employees back to work in a productive role, that is obviously far more successful in getting people back to work and then you have others who, it's all about productivity and the bottom line, and they're not prepared to budge an inch"* **Participant 6, HR** *"Line managers should know the processes, not just for disability claims, they don't even need to know details, but they need to understand what a medical incapacitation process could look like, so that they work together with the employee to support them in that process, my experience I haven't seen much of that but I think is a very strong case to actually educate line managers",* **Participant 25, HR**
Human Resources	50% of the participants saw the function of HR as knowing where to refer an employee to pre and post WD and ensuring the workspace is ready to receive the employee upon RTW, guiding on RTW legislation in the interest of the employee.	*"My service as HR. I'm the conscious of the line manager in terms of identifying the blind spots, communicating with the employee and relevant stakeholders on process statuses on RTW and dealing with difficulties early and being open to provide solutions,"* **Participant 5, HR**
Colleagues	Negative reactions of colleagues to the employees' symptoms and medical condition determines if the employee experiences the workplace as hostile and not conducive to RTW and will rather want to remain on a disability benefit	*"Fear of being labeled or being viewed as different. Being viewed differently by your team due to the work they would have had to cover on your behalf "***Participant 16, EWP** *"There is often friction with colleagues due to workplace absence. Colleagues do not know how to support incapacitated employees in the workplace as they often are not aware that absences are related to medical conditions",* **Participant 6, HR**

Table IV – Theme 1 (Category 3) : Intermediary: Group Insurance Disability Broker, Health Risk Managers

Role Player	Description	Quote
Brokers	Play a role in the education of benefits, the broker can be an asset or can be a massive barrier to rehabilitation and RTW *IF* they do not understand the nuances when it comes to aspects such as RTW, or the impact of work disability on an occupation.	*"They can be the make or break because it depends on how much access they going to allow the insurer to have to the employer and the client. If they are overprotective and you're not allowed any contact the RTW is restricted. If you get the broker on your side and you can convince them that what you're doing is in the best interest of their client and how it's going to make them look good, then you can get somewhere and get people back to work"* **Participant 21, Disability Manager.**
Health Risk Managers	Play a role in education and guidance to the employer and the insurer, they provide an independent medical opinion while considering the work environment and the employee's medical condition.	*"From the insurance point of view, they are our eyes, they are the bridge between the insurer and the employer, they assist with the gathering of information with recommendations about the working environment,"* **Participant 12, Disability Manager.**

The feedback, level of intervention from the medical providers and how the medical condition is explained impact RTW. The medical team is described in Table V (below).

Table V – Theme 1 (Category 4) : Medical and Rehabilitation

Role Player	Description	Quote
Employee Wellness Practitioner (EWP)	EWP focuses on improving the health and well-being of employees from a corporate wellness perspective to support an employee and employer in the work environment.	*"Wellness provides a supportive role and understands the employers. Wellness checks in with the employee once a week, maybe twice a week depending on the medical condition and the job"* **Participant 1, EWP**
Industrial Psychologists	Industrial and organisational (I/O) psychologists focus on the behavior of employees in the workplace and apply psychological principles and research methods to improve the overall work environment.	*"RTW programs should look at partnering with industrial psychologists around career counseling and looking at re skilling that has easy transferable skills and then obviously focusing on RTW options"* **Participant 16, EWP**
Occupational Health Staff (OHS)	Occupational health seeks to promote and maintain the health and well-being of employees to ensure a positive relationship between an employee's work and health. The advice, guidance provided by OHS can play a substantial role in effective RTW	*"They could make or break the success of RTW. Depending on management's philosophy around it, but they will just push people onto disability, and they will not support RTW in any capacity whatsoever, then you get occupational health staff, both nurses and the doctors who are phenomenal in supporting a person,"* **Participant 7, OMP**
Medical Specialists	Medical specialists include doctors who have completed advanced education and clinical training in a specific area of medicine relevant to the medical condition diagnosed. The intervention from the medical specialists could facilitate or restrict early RTW or RTW.	*"A lot depends on the medical providers advice and what people say to the person on RTW. Where a person is advised of pending or current disability then they may be more likely to go off sooner than if a doctor that says look, we don't know what the future holds, but for the foreseeable future, you know we can treat you and you could get better, and we can control your symptoms. You'll have a much better chance of success with person like that."* **Participant 26, OMP**
Rehabilitation Specialists	A healthcare professional who helps people recover from an illness or injury and return to daily life. Examples of rehabilitation specialists are physiotherapist, biokinetists and OT. Rehabilitation specialists can provide better RTW outcomes when rehabilitation is geared towards RTW	*"Rehabilitation is often very medical and there should be an understanding of the operational sort of requirements of the employee, that's going to be returning to work because that would guide the rehab"* **Participant 9, Case Manager**
Social Workers	Assist employees and their families solve and cope with problems in their everyday lives. Clinical social workers also diagnose and treat mental, behavioural, and emotional issues.	*"Social workers, going to the homes and assessing the environmental situation we recruited hired signed on social workers to go to the home to check on employees"* **Participant 23, OMP**

Table VI – Theme 1 (Category 5) : Insurer group: Insurer, Disability Claims Assessor and Case Manager

Role Player	Description	Quote
Insurer	The insurer provides disability benefits in the event of disability for as long as an employee meets the definition of disability until retirement age. Rehabilitation and RTW favours a positive claim experience for the insurer with reduced claims losses. The insurer's involvement in rehabilitation can facilitate an early RTW post-injury/illness and decrease disability. The relationship between the employer and the insurer is an essential factor in facilitating RTW.	*"I think there's very few insurers who managed to get that relationship to the point where they can sustain that type of relationship. The relationship between the scheme and the insurer is an important factor in facilitating RTW"* **Participant 6, HR** *"I think the insurer needs to be a lot more proactive in the process from start to finish"* **Participant 14, Broker**
Disability Claims Assessor	Well trained and experienced disability assessors with an OT qualification understand matching skills and residual function and assess this within an insurance policy. Assessment competency and accuracy is mandatory.	*"There is a focus on RTW because of employing OTs in insurance. The offices with South African OTS working in them tend to have a far more focused approach to RTW".* **Participant 18, Claims Manager**
Case Manager	The case manager sets the structure for RTW and guides all stakeholders. Success with CM is usually achieved by case managers who have a business understanding and understands the insurance requirements. Competency in CM is mandatory.	*"OTs that are more successful with CM and RTW tend to be the ones who have worked in insurance and then gone into private practice. They are far more successful because I think they understand that you know where the person is coming from"* **Participant 18, Claims Manager**

Theme 2: Factors that facilitate and restrict rehabilitation and RTW based on the opinions of the participant group

Several factors posed as facilitators and or barriers to rehabilitation and RTW implementation. The factors listed in Table VII (page 59) have been grouped into the following categories: Laws and Legislation, Employer Incapacity and DM policy/Process, Disability Insurance Products, Insurer mandates, policies and processes, Organisational Culture and mindset, Health Resources, Financial position of the employee and Education training.

Table VII Factors that facilitate or restrict RTW

Factor	Facilitators/Enablers	Restrictors/Inhibitors/Barriers
Laws and Legislation	▪ South Africa is well supported with laws and legislation for persons with disabilities. "*South Africa is quite up there in terms of laws and legislation around employees with disabilities and persons with disabilities*" **Participant 1, EWP** ▪ The legislation is proven effective when there is a need due to the employee's skill, experience, and manner to promote, accommodate and retain an employee in the workplace." *Insurers sometimes listen with under employment equity it's the employer needs to look at accommodating this member. They need to look at the disability aspect of it."* ***Participant 3, Disability Manager***	▪ South African law and legislation do not address integrating employees who were employed full-time and then experience work disability. There is limited government intervention to incentivise employers to accommodate or reintegrate employees post-work disability. *"We really good with putting legislation implies I think we just suck at implementation. So, we've got all the legislation in place or employees know what they need to do. We know what we need to do, but implementation an in monitoring it.*"**Participant 19, Disability manager.**
Employer Incapacity and DM Policy/Process	▪ There are fair and equitable processes documented in the management of work disability. ▪ Disability policies include the following: Employer consultation at disability, effective and supportive handling of a disability claim, partial stay-at-work benefits, consideration of an employee's value in terms of skill, knowledge, past performance prior to termination, and post admittance on a disability benefit, RTW plans with gradual RTW processes, RTW support for a period post-RTW and volunteering options. *"The infrastructure that is in place ensures a fair and equitable process already exists. People feel comfortable enough to come forward because they have seen colleagues treated fairly in the past, creating an environment where they believe they will be treated fairly as well",* ***Participant 6, HR***	▪ The relationship between the employer and employee is cauterised on admission of a claim. ▪ Employees are not kept in the workplace for as long as possible or encouraged to RTW as soon as possible. ▪ The relationship between employer and employee is fragile due to previous frustrations. ▪ Limited structures in place to facilitate the medical incapacity process ▪ The lack of internal disability policies to guide employees on utilisation workplace accommodations, disability notification and the disability application process. *"The absence of internal disability policies to instruct employees on the use and depletion of sick leave affects rehabilitation and return to work efforts'"* **Participant 22, Case manager**
Disability Insurance Products	▪ South Africa boasts innovative disability products with benefits for rehabilitation and RTW bonuses. Often, a client will not have access to programmes because they do not have the funds for such. "*Products are also quite innovative. I have to say compared to products overseas."* **Participant 18, Claims Manager** ▪ 60% of the participants iterated that it is also quite useful when insurers are open to continuing the patient's disability benefits during a work trial and partial RTW post-work disability, as this affords the employer to assess the employee's work ability without compromising the access to the disability benefit or employee's salary in a reintegration period. "*You know why make the person got*	▪ Disability products dictate a waiting period in which disability must continue prior to qualifying for a disability. This can encourage disability and restrict RTW. *"The waiting period imposed by disability products before qualifying for benefits can discourage individuals from returning to work promptly. This delay may encourage prolonged disability and hinder efforts towards successful return to work",* **Participant 3, Disability manager.**

	off work totally when you can keep them at work and pay them a partial benefit from the start, **Participant 18, Claims Manager**	
Insurer mandates, policies, and processes	▪ Claims assessors with an OT qualification. *"There is a focus on RTW as a result of employing OT's in insurance. The officers that have South African OTS working in them tend to have a far more focused approach to return to work and I think it's interesting that the role of occupational therapists in insurance in South Africa has got come so far."* **Participant 18, Claims Manager** ▪ Well-understood insurance benefits and processes by all role players. *"Members understanding their benefits and their rights without a doubt, the employer understanding that they can access things like UIF, benefits, etc."* **Participant 4, Broker** ▪ Use of a case management identification tools to objectively identify RTW candidates following WD. ▪ Incentivisation of insurance products that promote rehabilitation and RTW	▪ Delay in assessment decisions. *"Delays in making assessment decisions significantly hinder the emotional journey of returning to work"* **Participant 19, Disability manager.** ▪ Utilisation of OT case managers for RTW with limited corporate understanding or exposure. ▪ Ill-defined or poorly understood case management protocols and claims assessment processes. ▪ Limited confidence in insurers' assessment protocol or insurance products.
Organisational Culture and mindset	▪ Organisations where stigmatisation of ill health /injury is limited, the focus on integration and RTW is embedded in the employer's philosophy, where there is trust in disclosing medical conditions, where cultural barriers are transparent and well understood, and there is support to employees in the workplace exposes itself to more successful RTW outcomes. "*As a collective if we are focused on the patient, and I think ideally the patient should be at the center of care if we can truly do that, I think that we will naturally evolve towards a much better space. We talk about it, but the degree to which we actually do it, I think still has a long way to go.*" **Participant 7, OMP** *"Create a culture where you feel empowered to raise your hand and say, 'I'm not working at full capacity because I don't feel great,' and where this is something to be proud of."* **Participant 12, Claims Manager**	▪ Organisations that cultivate behaviour of limited tolerance to work disability, RTW post work disability is not supported, there is a fear to share/divulge information, consultation within the employer is limited, where request for workplace accommodations is frowned upon and where there is a lack of empathy or sympathy for somebody who might not be as resilient restricts rehabilitation and RTW. ▪ Strained relationships with colleagues. *Returning to work after a period of disability, especially with accommodations, can sometimes lead to resentment within the team. Team members may feel frustrated because they've had to pick up extra work during the absence or while the person was working reduced hours. For instance, needing physical assistance like taking an employee to the bathroom in a wheelchair can be seen as a significant demand. This can stir up past frustrations team members have faced in similar situations",* **Participant 25, HR**
Health Resources	• South Africa is rich in the expertise of various medical specialists, and access to virtual services is increasing. • There is a focus on RTW because of employing OTs in insurance.	• Treatment adherence is dependent on an employee's financial status and access to medical treatment. Limited access to medical treatment restricts rehabilitation and RTW. *"Access to healthcare, both financially and environmentally, poses significant challenges.*

	"The offices that have South African OTS working in them tend to have a far more focused approach to return to work and I think it's interesting that the role of occupational therapists in insurance in South Africa has got come so far. well respected insurers do see value in having OTS in their claims team and do see the value of case management and return to work" **Participant 18, Claims Manager** • The access to medical aid and insurance rehabilitation benefits enhances rehabilitation and RTW.	*Reductions in public health staffing exacerbate this issue. Even if individuals have access to certain treatments, the frequency may not meet optimal standards. For instance, someone might require physiotherapy twice a week for effective rehabilitation, but in the public sector, they might only receive it less frequently. Accessing essential medical treatments and rehabilitation services often becomes a major obstacle. For example, obtaining a prosthesis might be delayed for two or three years, by which time additional complications could arise, hindering the individual's ability to return to work effectively,* **"Participant 1, EWP** • Dependence on a salary results in employees continuously working through disabling symptoms and complicating their medical condition • Rehabilitation benefits are difficult to claim. • Differing options from professionals on RTW or booking employees off work.
Financial position of the employee	▪ Financial responsibility and family support that encourages employees to return to work sooner rather than later. "*Employees who are financially driven to go back to work as the breadwinners and have young families to support are often forced to go back to work sooner and seek treatment and abide with recommended recommendations treatment*", **"Participant 16, EWP**	▪ Employees with strong financial support that may assume roles of caregivers for grandchildren etc. would have a limited need for rehabilitation and RTW. The high unemployment rate indicates sufficient resources for employment thus reducing the need for employers to wait for rehabilitation and full RTW. *"Employers are essentially expressing that they have a line of 100 able-bodied and healthy individuals waiting outside their factory daily, seeking employment. From their perspective, there's little incentive to rehire someone who can only perform at 70% capacity. It's more straightforward to hire someone who can work at full capacity. This logic extends to employees with performance issues as well. Employers question why they should invest effort in reintegrating problematic employees when there are many others with comparable skills who are readily available and without issues, actively seeking employment".* **Participant 18, Claims Manager**
Education and Training	▪ Education for all stakeholders is mandatory – to understand the various roles, the insurance policy, the work environment, the employee's medical condition, the employee's social factors, the workplace factors, employees understand their benefits and their rights. ▪ Employer's understanding of available benefits during the work disability process	▪ Professionals are not trained with the mindset of returning the patient to work. They treat a patient in the here and now and there is no focus on the downstream *"We prioritise responding to the patient's needs, regardless of the impact on my earnings. However, if the patient loses their job due to their condition, they may not afford medical care or return to me for*

	▪ HR training around how to manage this process. ▪ Where education to clients on RTW is a solid option post or pre-admittance of a disability claim. *"Members understanding their benefits and their rights without a doubt, the employer understanding that they can access things like UIF, benefits, etc".* **Participant 4, Broker.**	*treatment. Unfortunately, not many professionals share this patient-centered mindset, which highlights a gap in our training. Impact:",* **Participant 7, OMP.**
Employee Psychosocial Factors	▪ Employee motivation and career aspirations ▪ The perception by employees that RTW is integral ▪ Resilient employees *"Employees who demonstrate resilience in the face of adversity are better equipped to navigate the challenges associated with returning to work post-disability. When employees perceive returning to work as an integral part of their recovery and overall well-being, they are more likely to prioritize and commit to the rehabilitation process. motivated to continue their careers and pursue their aspirations, they are more likely to actively engage in the rehabilitation process and work towards returning to their previous roles",* **Participant 17, HRM**	▪ Overprotective families that encourage disablement are barriers to RTW *Family support greatly influences whether individuals return to work (RTW) after rehabilitation. If families find RTW too stressful, they may oppose it and instead encourage disability claims. Spouses, especially those preferring dependency and control, can strongly influence this decision",* **Participant 18, Claims Manager** ▪ Cultural beliefs that prevent access to medical treatment or acknowledgement of a medical conditions ▪ If the employee is not in their chosen occupation ▪ If an employee's job is not versatile e.g., accommodations are not possible
Role player engagement and competency	▪ Collaboration and involvement between all stakeholders to facilitate the rehabilitation and RTW process. ▪ The training, exposure, and experience of the role players in disability management is deemed to be competent. *"Bringing the line manager into the discussion from the beginning is aimed at sensitizing them and securing their buy-in. When roles are clearly defined and competencies are met, it often leads to successful outcomes",* **Participant 11, HRM**	▪ Lack of collaboration between all stakeholders and limited feedback is provided; hence the rehabilitation and RTW become disjointed. ▪ Employer responsibility is ignored post admittance for work disability *"I do not believe that placing the entire responsibility for employee wellness solely on HR and line managers is practical, as their primary focus is on achieving organizational goals and deliverables. While HR must play a crucial role as primary stakeholders in this process, they may lack the necessary skills and knowledge unless they have prior exposure to EAP environments. Therefore, expecting line managers to handle this responsibility alone is unrealistic. A balanced collaboration between EAP, line managers",* **"Participant 16, EWP**

Theme 3 - Best Practice Principles

Figure 1 (below) illustrates the five best practice principles that emerged from the study

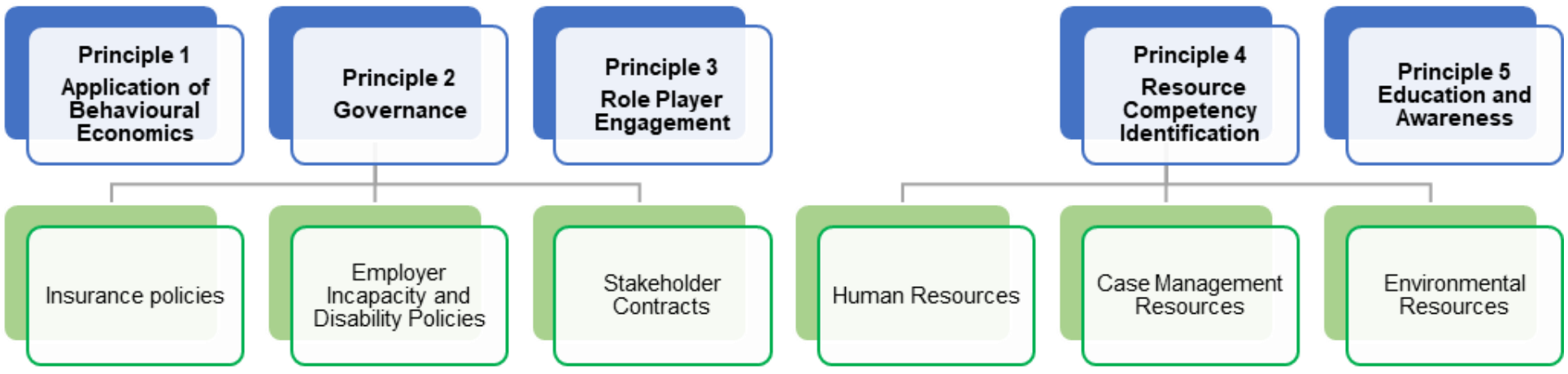

Figure 1: Best Practice Principles Emerging from the Study

Principle 1 : *Application of Behavioural Economics*

Behavioural economics is a field of study that combines insights from psychology and economics to understand how individuals make economic decisions. It examines the psychological factors, cognitive biases, and social influences that impact people's choices in economic situations[29]

The approach and resultant behaviour of how role players approach disability claims management and manage RTW must be structured to adopt the approach/ attitude that the employee's RTW is integral in promoting quality of life and claims management. Recommendations around access to healthcare must be intentional, realistic, and aligned to the collaborative goals of all role players to support claims management and RTW. Adopting a claims management "philosophy" was recommended.

"Eat, live, breathe claims management because, client management for me is everything we, we can't put things into little pockets. We need to have a very clearly defined philosophy. If you don't have that, it's not going to work,"
Participant 20, Disability Manager

"As a collective if we are focused on the patient, and I think ideally the patient should be at the centre of care if we can truly do that, we will naturally evolve towards a much better space. We talk about it, but the degree to which we actually do it, I think still has a long way to go," **Participant 7, OMP.**

Principle 2 : *Governance*

The governance framework needs to exist to ensure that the correct policies are in place, so the proper procedures can be followed. These frameworks are fundamental for fairness in the process for all stakeholders.

The following governance frameworks were noted from the respondents:

- ***Insurance policies*** must support rehabilitation and RTW through policy wording and benefits, including the employee's role and responsibility in disability claims management. This was highlighted as follows:

  "Insurers involvement in rehabilitation can facilitate an early RTW post injury/illness and decrease disability if the financial support and guidance is part of the insurance policy", **Participant 18, Claims Manager**

  - Employer Incapacity and Disability policies should focus on keeping people employed and productive in the presence of medical conditions and applying reasonable accommodations where necessary. The policies should define the processes to be followed in case of loss of productivity due to medical reasons, and stakeholders should be consulted. The policy must outline the workplace environment and people support required to guide and support employees through rehabilitation and RTW. If employees can remain at work while on a partial or fully insured benefit should be considered in the workplace to keep an employee semi or fully engaged in aspects of work function.

Family support greatly influences whether individuals return to work (RTW) after rehabilitation",
Participant 18, Claims Manager

"Allowing the employer to remove the employee from payroll reduces the chances of them returning to work. We should push for ongoing payment during this period. If the employer continues to handle the employee's salary, they might be motivated to help them return to work. However, if the employer stops managing the salary and removes the employee from payroll, it damages the relationship between the employer and the employee, discouraging the employer from making efforts to bring them back to work",
Participant 4, Broker

Stakeholder contracts are crucial to clarify roles, comply with requirements, and acknowledgement of roles in the rehabilitation and RTW process. Contracts must ensure that the appropriately qualified stakeholders are sourced to achieve RTW success. Informal contracting with family employees and support structures are also included in this principle. **Participant 5, Broker**, noted:

"Contracting the right skill for the role and contracting the responsibilities or all parties involved is crucial for accountability and positive outcomes"

Principle 3 : Role Player Engagement

The purpose of the key role players identified in Theme One, including the employee, must be maintained throughout the process. The motivation and incentive of the employee to participate meaningfully in treatment and RTW integration must be monitored. Direct contact or communication between the employees and the identified role players is required for successful outcomes.

"Direct contact with employees either in person or telephonically. Are you seeing this person picking up the phone and calling them and saying this is who I am? This is what I'm asking you? Do you have a minute?" **Participant 19, Disability manager.**

"Having a well-coordinated team is the best way to manage RTW. That has been the biggest differentiator in terms of how well people RTW, or whether they even stay within the workplace" **Participant 21, Disability manager**

Rehabilitation and RTW planning must be consolidated with all the relevant role players. The plan must ensure that there is understanding, transparency and communication. Feedback loops must be established to adjust plans to achieve the return-to-work goals.

Engagement between stakeholders must allow for a level of flexibility and agility. This includes both proactive and reactive management from the insurer. The insurers' contribution to early identification and management of claims, including financial support for rehabilitation, must be discussed as part of the engagement. Role players engage in the workplace, family environment and medical treatment. Role players must engage with the various treatment pathways for a positive outcome.

"Make sure all parties are talking to each other "
Participant 13, HRM

Principle 4 : *Resource Identification and Competency*

We have outlined the role players that play a critical role in positive RTW outcomes. However, the competency of these role players plays a crucial role in the DCM process and RTW.

- Human Resources

  "I think that we need to upskill our managers and our HR in terms of how we integrate and what can be done in the integration period because I think sometimes our managers and our HRBP's are not patient and understanding enough",
  Participant 24, HR

- Disability Assessors: There is a focus on RTW because of employing occupational therapists as claims assessors in

insurance. The South African occupational therapists working at the insurance companies bring that skill level. Medical background knowledge is integral in claims assessment and is challenging to teach when compared to technical terms and policy conditions and how they are applied

"Understanding medical knowledge and how it relates to function is essential - occupational therapists are probably the best equipped", **Participant 21, Disability Manager**.

CM Resources in the insurance context must include suitably qualified case managers.

"Case managers with exposure in the corporate and clinical settings have better RTW outcomes based on their practical knowledge in the workplace and exposure to work environments", **Participant 20, Disability Manager**

- ***Environmental Resources*** should be focused on creating a conducive RTW environment; this is achieved by addressing any previous frustrations between colleagues and educating the employer on stigma and what to expect from the employee upon RTW.

"Ensure that the employee has the tools and, workspace, and access rights that are necessary when they RTW "
Participant 13, HRM

Principle 5: ***Education and Awareness***

- *"Ensuring adequate education and awareness is the responsibility of all role players"*, participant 1 EWP. Medical role players must ensure that the employee understands his medical condition and what interventions are required for RTW.

"The employer has a role in raising awareness of RTW options with colleagues and line managers and workplace sensitisation participant "Participant 16, EWP

- All role players need to understand the product details, the definition of disability, the purpose of the benefit, and how the policy/ product is practically applied at the claim stage. Increased understanding of active participation by employees must occur while they receive disability payment to facilitate RTW. Employees and line managers must understand and be orientated to these key facts from when the product is sold.

"All role players must be educated on the disability benefit when a claim is admitted, including the potential for RTW and termination options for the benefit" **Participant 9, Case Manager**

DISCUSSION

This study confirmed that an integrated stakeholder approach is required to succeed with rehabilitation and work reintegration goals. NIDMAR[7] supports the need for a multidisciplinary team approach that includes employers, employee's representatives, and disability management rehabilitation service providers, which are essential. Dunstan & MacEachen[3] further add the private insurer as part of the team. This study's findings highlight that players' individual and collaborative functions are integral in determining and facilitating RTW success. This is congruent with the literature highlighting the importance of co-operation between stakeholders[3,26]. This study found that co-operation must include transparent communication on intervention, prognosis, and alignment of rehabilitation and RTW goals. Streamlining and co-ordinating the functions of each role player is crucial, with active involvement of the employee in goal setting for the return-to-work process. This is essential to prevent fragmented rehabilitation and RTW efforts. The competence of each role player holds significance, and regular monitoring of the RTW plan and the functions of all involved parties must be conducted at agreed-upon intervals.

Ensuring accurate assessments and anticipated outcomes from medical and rehabilitation providers is essential to manage expectations right from the outset of the process effectively. The employee is the key stakeholder who strongly influences RTW outcomes depending on their, level of motivation to engage in the interventions to RTW. The employee's motivation is influenced by various factors, including the work environment, relationship with the employer (including managers and colleagues), family support, cultural beliefs and whether the employee is resilient or not[27]. Throughout the study, the role of the occupational therapist and insurer was evidenced in the work, health, and insurance systems. The importance of including rehabilitation has been cited previously10. South Africa's utilisation of rehabilitation services to manage disability claims was limited compared to Australia, North America, and the UK. Evidence indicates that rehabilitation, specifically CM services promote quality and cost-effective RTW outcomes[11]. The study participants' stance was that rehabilitation, specifically CM by occupational therapists, was necessary for successful and durable RTW reintegration. However, the training and competency of the case manager were highlighted as a strong determinant in measuring success. Case managers who lacked balance between clinical and insurance exposure, insurance policy understanding, and work reintegration processes experienced limited success in RTW reintegration.

One of the participants' significant reasons for limited success is the lack of general training in South Africa. A study concluded in 2018 noted that training in CM at undergraduate and postgraduate levels of occupational therapy is required11. The role of the insurer and occupational therapist is merged in RTW as insurers employ occupational therapists as claims assessors. The participants expressed value in claims assessors being qualified occupational therapists. It provided insight at the claims assessment stage to evaluate the interventions required to consider RTW reintegration and prognosis. Wells and Barrett affirmed that occupational therapists conducted robust assessments confirming occupational impact following injury and illness, and employing occupational therapists in insurance is becoming common to employ occupational therapists in insurance[10]. Insurers within the Group Risk Insurance space sit squarely in supporting employers while managing their disability claims experience and supporting employees to achieve a maximal level of function that can result in RTW. This concept was voiced by participants who indicated that the insurer is well positioned to finance RTW rehabilitation, define claims process flows that encourage RTW, facilitate engagement with employers, and provide benefit structures that enable RTW.

Knauf & Schultz[28] describe the RTW process as biopsychosocial, this is affirmed by Dermody and colleagues[20] in their statement that we need to understand the social and psychological factors that play a role in rehabilitation and work reintegration, in addition to the role players identified. Disability legislation from a South African context of support for rehabilitation is well documented, as vocalised by participants. Still, the application of legislation to facilitate RTW is lacking. This sentiment is echoed in the study by Govender and colleagues[9] in the local context. Disability legislation is both a facilitator and an inhibitor, depending on whether legislation is enforced in the RTW process. There was consensus amongst participants that a well-defined, transparent employer incapacity and DM policy/process documenting the process and protocols to be followed in the event of injury or illness that leads to work disability is valuable in promoting work reintegration or

allowing for a period of work accommodations. The inclusion of a disability management policy demonstrates value for employee retention[4]. Employers' policies that dictate cauterisation of the employee/employer relationship or delayed RTW has been shown to restrict work reintegration. Trippolini and colleagues confirmed that ongoing engagement in work and returning to work as soon as possible[8] improved RTW outcomes. In addition, unclear insurers' claim processes can lead to client, broker, employer, and employee frustration, thus reducing the RTW collaboration opportunity. Outcomes of claims assessments and utilisation of case managers who are not well-versed in RTW CM negatively influence RTW. The insurer needs to engage resources with the correct expertise to manage claims and optimise CM. Ensuring the accurate identification of employees who will benefit from CM is relevant to the RTW outcomes. Sheehan, Tyler, Gray, Grant, & Collie[16] expressed that procedural fairness by insurers and positive claims experiences contributed to favourable engagement on RTW initiatives. Insurers adopting a customer-orientated approach where the customer is included throughout the process positively impacted rehabilitation[17].

The financial support for rehabilitation in insurance products promotes rehabilitation. However, participants expressed that the insurer restricts access to disability products as goals to RTW may not be well understood or agreed on. The disability-waiting period in insurance policy dictates that disability must be evident for a specific period prior to an employee accessing the disability product. The nature of the waiting period could be seen as restricting early intervention and delaying treatment that could result in RTW. Wells & Barrett[10] identified a limited utilisation of rehabilitation services amongst South African insurers, exposing the opportunity to improve RTW from an insurance perspective. The disability process application and retention of benefits can further ingrain a disability attitude versus a RTW attitude. The role of the disability policy in promoting RTW needs to be positioned firmly through the policy wording and assessment process.

Zooming out of the governance concept and into the environmental space of the employee, the organisational mindset can either promote or restrict RTW reintegration. Participants perceived a general lack of trust in the South African context around medical diagnoses, influencing disclosure by employees due to the stigma related to diagnoses. Organisations that foster stigmatism and reduced disability tolerance tend to restrict RTW. In contrast, organisations where RTW is embedded in the employer's philosophy and disability processes and is well understood, will support RTW. The support provided by line managers and colleagues and their awareness and understanding of the RTW process can either enhance the RTW environment or place stress and anxiety on all role players. Participants agreed that the employee /claimant is the centre of care, and the organisation will naturally evolve to a better RTW space as a collective. This concept is echoed by Dekkers-Sánchez[30] conclusion that to address work disability by combining various interventions, considering the holistic well-being of the worker, involving the worker actively, and recognising the significance of the work environment, is believed to be the most effective way to deal with the multifaceted nature of work disability and enhance return-to-work outcomes.

Financial and environmental access to medical treatment, adherence to treatment, and access to skilled specialists positively influence rehabilitation and RTW. The lack thereof is the opposite of not getting a confirmed diagnosis and adequate treatment. The delay in treatment has a dual impact on RTW; the delay in medical treatment complicates recovery and delays the assessment for potential benefits and interventions that could result in RTW. The state of finances of the employee either encourages or restricts RTW depending on the life roles being assumed by the employee. Participants divulged that some employees would continue to work amidst symptoms and to the detriment of their health due to not getting time off work for treatment or for fear of being placed on disability. When this individual may not work further, rehabilitation and RTW may not be an option, as a WD may appear permanent. There are also instances where employees are driven to RTW post injury and illness, as maintaining their worker role is the only option.

Education and training of all role players is seen as a decisive factor in determining RTW. In circumstances where all stakeholders are well informed on employer processes, insurer processes, reasons for claims decisions and CM, thorough and informed decisions lead to the correct employees engaging in RTW and reintegration with more significant positive RTW outcomes. Awareness and knowledge are crucial to ensuring engagement in the RTW process. Coupled with this are the education and training qualifications of the injured or ill employee. Where opportunities are limited due to educational level and experience, the need for RTW to work may be more significant, and the opportunity to cross-skill the same employee to RTW may be reduced.

Best practice principles have emerged from the findings (as illustrated in Theme 3). Figure 2 (below) summarises how these best practice principles may work from a behavioural economics perspective.

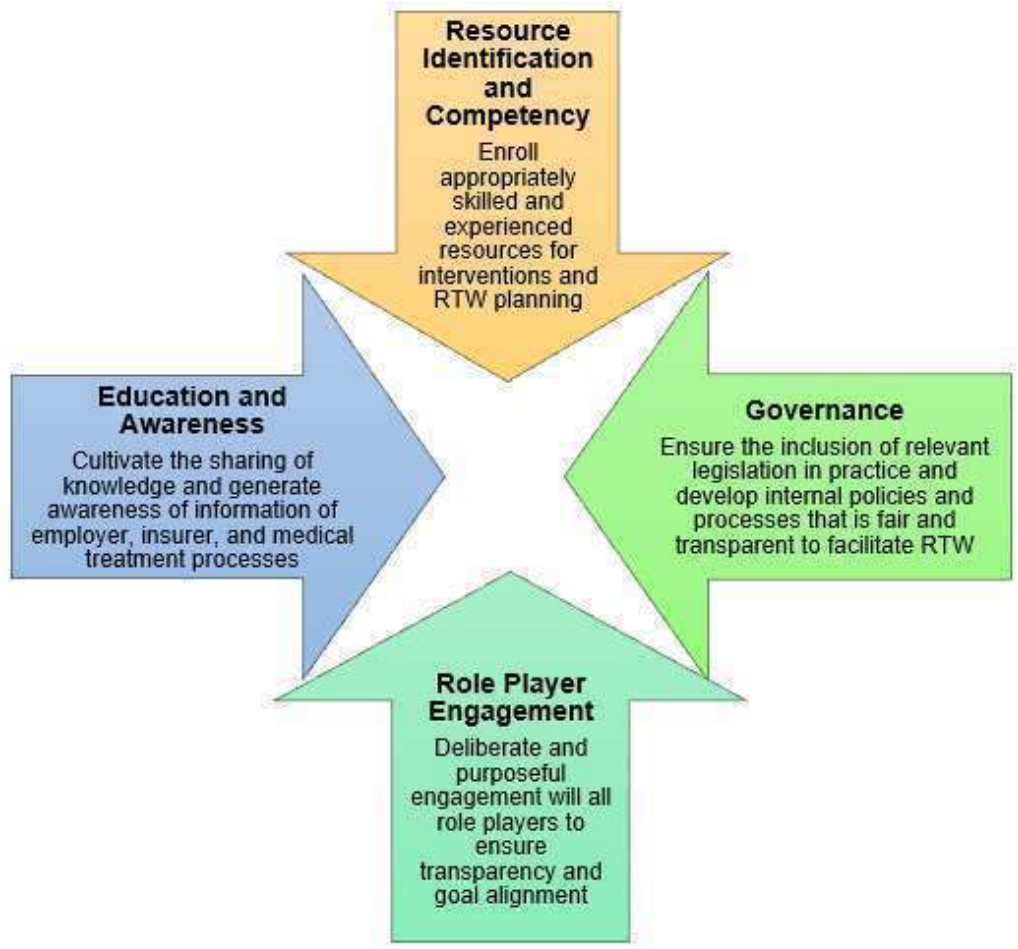

Figure 2: Interplay of Best Practice Principles

The concept that role-players need an integrated approach in the environmental and health context is integral for successful RTW and illuminates the principle of resource identification and competency. The collaboration of these stakeholders in drafting and planning a RTW strategy, facilitating a RTW environment, and contributing to encouraging RTW speaks to a principle of role player engagement. Ensuring sufficient knowledge is disseminated, RTW policies, health conditions, insurance processes, and policies highlight the principle of education and awareness. Ensuring alignment to South African legislation, employer DM policies and insurance policies to promote RTW brings in the principle of governance. All these principles stem from the core concept of the employee being the focus in DCM's rehabilitation and RTW phases. Implementing a biopsychosocial approach and behavioural economics to ensure that all factors are considered around facilitating RTW post-work disability are highlighted as the study's fundamental principle.

CONCLUSION

The study has cemented that a collaborative and integrated approach by role-players within an employee's family unit, health system, employer structure and insurance compensation is required for positive RTW to work outcomes. The various role players are responsible for creating policies, structures, intervention strategies, and environments that foster RTW.

The profound impact of rapidly escalating workers' claims costs will be experienced worldwide by businesses and industries throughout the next decade because of reduced strained economies, reduced healthcare options and insurance benefits that provide a source of income. As this crisis challenges the insurance industry, RTW interventions create an opportunity. South Africa is faring well in having conversations around illness and injury and RTW, and employees can access care from an insurer perspective where RTW is possible. A more integrated approach could augment RTW options and give more structure and governance within the DM process to enhance RTW post-injury and illness.

Declaration of conflict of interest

The authors declare no conflict of interest

Author contributions

Dineshree Reddy completed this study towards a Masters in Occupational Therapy degree and was responsible for the conceptualisation of the study, data collection, analysis and drafting of the original manuscript. Pragashnie Govender and Deshini Naidoo were supervisors of the study and guided the process from conceptualisation and design of the study to drafting and revision of the manuscript. All authors read and approved the final manuscript.

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[RESEARCH ARTICLE]

Appropriateness of the standard manual wheelchair for occupational performance by wheelchair users in the Thulamela Municipality of the Vhembe District, Limpopo, South Africa

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ABSTRACT

Background: There was a need to investigate the appropriateness of the standard manual wheelchair for occupational performance in Thulamela Municipality Vhembe District, Limpopo.
Methods: An observational cross-sectional descriptive design using simple random sampling was used to select n=60 wheelchair users who were issued with standard manual wheelchairs between 2014 and 2018. The Wheelchair Outcome Measure was used to investigate the participants' level of satisfaction in engagement in ADL and IADL and the suitability of the wheelchair in terms of the user's comfort and satisfaction with positioning and prevention of skin breakdown. Descriptive statistics were used to analyse the data.
Results: The wheelchair users viewed activity participation in the home as important and were generally satisfied with their standard manual wheelchairs while performing occupational activities at home and outside the home. A total of (n=46; 78%) of the participants felt comfortable in their wheelchair.
Conclusions: Wheelchair prescription should take into consideration the occupational choices of the user. Further qualitative studies to explore the factors that determined the participants' choices for their activity participation goals should be undertaken.

Implications for practice

- Training of new occupational therapy staff in each facility in the Thulamela district to equip them with the skills to prescribe wheelchairs is necessary.
- The level of importance that wheelchair participants attached to level of importance of activity participation inside and outside the home was high therefore there is a need to consider the client's occupational choices when prescribing wheelchairs.
- The wheelchair needs to facilitate participation in a wide range of occupational choices ranging from self-care activities and watching TV in the home to visiting friends and family and attending events outside the home.

INTRODUCTION

According to the World Health Organisation (WHO) report on disability, more than a billion people, that is 15% of the world's population, live with some form of disability[1]. Worldwide, approximately 20 million people do not have access to adequate wheelchairs to maintain mobility and independence, particularly in low-income countries like those in Africa[2]. The last national census in South Africa estimated the prevalence of disability at 7.5% of the total population in 2011[3]. According to the District Health Information Software (DHIS), the total number of wheelchairs issued during 2019/20 across South Africa was 23 611, with 2 614 wheelchairs issued across the Limpopo province[4].

The Framework and Strategy for Disability and Rehabilitation Services (FSDRS)[5] in South Africa identified many challenges

relating to the implementation of rehabilitation services in South Africa, including the inadequate provision of appropriate assistive devices (AD) such as wheelchairs and other accessories. The two most important national policies as they relate to this study are the South African National Rehabilitation Policy (NRP)[6] and the South African National Guidelines on the Provision of Assistive Devices policy[7]. The South African National Guidelines on the Provision of Assistive Devices predate both the United Nations Convention on the Rights of Persons with Disabilities[6] and the WHO Guidelines on the Provision of Manual Wheelchairs in less resourced settings[8].

South Africa ratified and signed the UNCRPD[9] in 2007, voluntarily committing itself to act on the articles of the convention. Although this provides evidence of South Africa's commitment to addressing issues facing people with disabilities (PWDs), research shows problems at the service provision level because the said guidelines do not seem to address the needs of PWD in rural settings[4,10,11,12]. The South African NRP guides general rehabilitation services in South Africa, whilst the South African National Guidelines on Provision of ADs stipulate the essential responsibilities and requirements regarding the provision of ADs in the public health sector in South Africa[7]. In the public sector in SA wheelchairs are provided as per the RT233-2023 tender available from the National Department of Health. The standard manual wheelchair is defined by the World Health Organisation assistive devices procurement document as a manually operated device with a durable frame, four wheels (includes large rear wheels for self-propulsion) adjustable and detachable armrests and removable and adjustable footrests[8]. Bateman[10] and Visagie et al.[13] highlight that there should be consideration of the uneven terrain, lack of paved roads and sidewalks, eroded paths, small houses and narrow doors when prescribing manual wheelchair in rural areas.

This study investigated the appropriateness of the standard manual wheelchair for occupational performance in various occupational and community settings in the Thulamela Municipality of Vhembe District of Limpopo province in South Africa. It was essential to understand wheelchair user needs and the appropriateness of the prescribed wheelchair. The objectives of the study were to (i) compile a demographic profile of the standard wheelchair users in Thulamela Municipality Vhembe District, (ii) assess the level of importance and wheelchair user satisfaction in the performance of activities of daily living (ADL) and instrumental activities of daily living (IADL) when using the standard manual wheelchairs at home and outside the home; (iii) assess the level of satisfaction of the wheelchair user on their body position when using the standard wheelchair and determine the level of comfort experienced by wheelchair users when using the prescribed standard wheelchairs.

LITERATURE REVIEW

Disability is contextual; the experience of disability differs between various individuals due to the nature of the impairment. People use wheelchairs because of their limitations in mobility. Wheelchair users are people with various musculoskeletal and neurological impairments, lifestyles, life roles and socio-economic status living in different environments, including rural, semi-urban and urban. PWDs represent a wide range of mobility needs, according to the guidelines on the provision of manual wheelchairs in less resourced settings[2,11,13].

When selecting a wheelchair, factors to ensure that the wheelchair contributes to the quality of life of the wheelchair user should be considered. The diversity of wheelchair users and the different contexts in which occupations are performed emphasises creates the need for different designs of wheelchairs [2,7,10]. No single wheelchair can meet the needs of all wheelchair users. The function of the wheelchair can be affected by different wheelchair design features, including overall length, wheelbase, frame type, rear wheels and front castors, transportability, and stability versus mobility setting[8,10,13].

South Africa has experienced a complex health transition in the past few decades. The Department of Health ensures that the necessary polices are available to guide the various provinces in South Africa. The department of Health in Limpopo is responsible for the rendered provision of ADs, including wheelchairs[6,7]. According to the FSDRS[5], the increase in the burden of disease has necessitate an increased investment in health systems thus the management of people with disability needed to increase at all levels.

The South African national guideline on ADs includes specific protocols on key service steps in the provision of wheelchairs and other ADs, such as hearing aids, spectacles and walking aids[7]. South Africa ratified and signed the United Nations Convention for Persons with Disability[9] (UNCRPD) in 2007, thus voluntarily committing itself to act on the articles of the convention. According to the UNCRPD people with disabilities have a right to appropriate ADs to ensure their full and equal enjoyment of all human rights. The rights of wheelchair users are summarised in article 20 of the UN Convention for Persons with Disability[9]. The wheelchair user has a right to an appropriate wheelchair; this wheelchair should meet the user's environmental, functional and postural support needs and durability standards, safety and affordability criteria. The WHO wheelchair guidelines state that a wheelchair is appropriate when it meets the user's needs and environmental conditions; provides proper fit and postural support; is safe and durable; is available in the country, and can be obtained, maintained, and serviced in the country at an affordable cost[8]. All these are factors that occupational therapists should consider when assessing and prescribing wheelchairs for their clients[13].

In 2012, Statistics South Africa[12] reported that the prevalence of mobility impairment in South Africa is about 1% of the total population. These statistics exclude disabilities in children under the age of five years. Every wheelchair user requires an individual assessment carried out by a person with the appropriate skills. The assessment should be holistic, considering the user's lifestyle, living environment, and physical condition[14]. The necessary assessment equipment, such as a plinth, measuring tape, and foot blocks, should be readily available[15].

The prescription should detail the type and size of the wheelchair, additional components needed, including customised components and the information the client needs to have before leaving the prescribing institution. An estimate of when the wheelchair will be ready should be given to the client[10,13]. The RT233-2023 tender document governs purchasing of wheelchairs in South Africa; this tender document has a comprehensive range of wheelchair options.

However, financial constraints appear to lead institutions into procuring only one type of wheelchair as the price, rather than the quality, is often the deciding factor when wheelchairs are procured. Budgetary challenges negatively impact the ability of occupational therapists to provide a service per policy and guidelines. According to Visagie et al.[13] if only one type of wheelchair is provided, the wheelchair user will not have a choice between different wheelchairs as only one type will be funded. Shore[14] study showed that receiving one of the two wheelchair models offered in less-developed[16], areas of the world seems to have a positive effect on job opportunities and income which demonstrated the need to offer choice when prescribing wheelchairs.

Several factors can negatively affect wheelchair prescription. This includes funding, the ability to assess the need for and order wheelchairs accurately and the extent of training of occupational therapists during their undergraduate course[12,14]. This may pose a challenge to the occupational therapists offering wheelchair services and may create a situation where an inappropriate wheelchair is prescribed, which will, in turn, affect product preparation, fitting, user training and function[15,16].

METHODS

Design

An observational cross-sectional descriptive design was used to achieve the aims of this study. Data were collected from every participant who required a standard wheelchair to mobilise in a defined area at the time of the study[17].

Study Location

The study was conducted in the Thulamela Municipality region in Vhembe District, Limpopo. Thulamela municipality has a population density of people 497237 [18]. Health services are delivered by one Regional Hospital, one District Hospital, one Specialised Psychiatric Hospital, three Community Health Centres, 49 clinics and mobile services. The Thulamela Municipality catchment area has a geographical mix of rural, urban and semi-rural areas, 47.7% of Thulamela Municipality, Vhembe district's population lives in Thulamela municipality[18]. More than 85% of the people in the Thulamela municipality live in tribal areas. A total of 10.7% of the households have access to a flushing toilet connected to sewerage, whereas 15.2% have access to tap water inside the yard. Thulamela municipality has an unemployment rate of 43.8%, most people in the municipality derive their livelihoods through agricultural pursuits[11].

Recruitment and Sampling

Simple random sampling was used to select 60 wheelchair users who were issued with standard manual wheelchairs and discharged from which hospital between 2014 and 2018. Simple random sampling was selected because it would be an equal chance of each participant being selected, thus eliminating any sampling bias[19].

Data Collection Instrument

The Wheelchair Outcome Measure (WhOM) was used in this study[20]. According to Mortenson et al[20] - the developers of the tool - the WhOM is a client-specific wheelchair assessment tool that was designed to measure client satisfaction level. The WhOM consists of two parts. Part one deals with the participants' level of satisfaction whilst engaging in their basic activities of daily living (ADL) and instrumental activities of daily living (IADL). Part II focuses on the suitability of the wheelchair in terms of comfort in using the wheelchair and satisfaction with positioning and skin breakdown. The instrument has been developed for adult wheelchair users[20, 21].

Data Collection

Data were collected on the descriptive components from wheelchair users over a three weeks period in August 2018. The survey was completed at the participants' homesteads by the first author. The demographic section comprised three subsections namely, client identifying data; lifestyle and environment; and medical diagnoses. Data on participants' opinion of importance, satisfaction, and comfort with the standard manual wheelchair during occupational performance inside the home and outside the environment were collected under the descriptive component using Part II (Importance and participation) of the WhOM Questionnaire. The WhOM is designed to assist wheelchair users identify and evaluate the impact of wheelchair interventions on participation level outcomes[20, 21].

Data Analysis

Descriptive data were recorded using Microsoft excel and then analysed and coded using the Statistical Package for Social Sciences (SPSS-2) programme (IBM, 2021). Descriptive statistics were used to analyse frequencies on dependent and independent variables for Part I, II, and III. The dependent variables for this study were the standard manual wheelchairs prescribed for various disabilities. The independent variables for this study were wheelchair user levels of satisfaction and comfort with the appropriateness of the standard manual wheelchairs during occupational performance and sitting, respectively. To ensure content validity in this study, items included for investigation were based on the WhOM manual. In this study, the interpretation of results considered the participants' diverse disability needs for wheelchair users to ensure consequential and external validity.

Ethical considerations

Although the data collection method for this study did not involve any known risk, during data collection, all efforts were made to ensure the safety and welfare of the participants. Participation in the study was voluntary. Written informed consent was obtained from each participant. All information was treated as confidential. The names of the clients or any information directly identifying the client are not included in the research report or any other form of publication of this study. Any other patient-identifying data required for data analysis is kept confidential and used only for analysis purposes. All completed questionnaires are kept in lockable storage, which is only accessible to the authors. The questionnaires will be disposed of through shredding after five years.

Relevant ethical considerations were adhered to. Ethical clearance was obtained from the University of KwaZulu Natal Biomedical Research Ethics Committee (BREC Ref No.: BE411/17). Gatekeeper permission was sought from the Limpopo Department of Health and Thulamela Municipality Vhembe district Department of Health and Tshilidzini Regional Hospital, responsible for wheelchair management for the Thulamela Municipality Vhembe district.

RESULTS

The results of the study collected through the use of the WhOM Questionnaire are highlighted. The demographic profile of the standard manual wheelchair users and their activity participation goals are presented followed by the results on participants' level of satisfaction and comfort during occupational performance inside the home and outside environment are illustrated. The results level of comfort experienced by the participants when sitting in standard manual wheelchairs is presented.

Demographic Profile of Participants in this Study

This study involved 60 participants who use a wheelchair for mobility; ages ranging between 18 to 93 years; mean of 45.08 (± 19.07). The sample comprised both males and females. The majority of the participants were males (n=34; 57%). Distances travelled ranged between less than 1 and over 5km. the participants travelled in their wheelchairs was over 5km (n=28; 47%), with the least distance being up to 1km (n=12; 20%). Most participants (n=43; 72%) spent over eight hours a day in their wheelchair, with (n=2; 3%) spending 1-3 hours a day in the wheelchair. A large proportion of the participants (n=48; 80%) were independent in wheelchair transfers. Most of the participants used inside toilets (n=26; 43%), or pit privy toilets (n=26; 43%), whilst PWDs (n=2; 3%). had access to an inside wheelchair adapted toilet Almost half of the participants relied on minibus taxis as a mode of transport (n=29; 48%), a fair amount relied on private cars (n=23; 38%). The most common diagnosis reported was spinal cord injuries (n=28; 47%), with the least prominent diagnosis being poliomyelitis (n=1; 2%). (Table I, page 71).

Table I: Demographic profile of standard manual wheelchair users in Thulamela Municipality, Vhembe district (n=60)

Variable	Characteristics	n (%)
Age	Mean (sd)	45.08 ± 19.07
	Median (iqr)	39.50 (32.00, 54.00)
Gender	Male	34 (57%)
	Female	26 (43%)
Distance travelled per day travelled on wheelchair	Up to 1KM	12 (20%)
	1-5KM	20 (33%)
	>5KM	28 (47%)
Hours per day using wheelchair	<1 hour	4 (7%)
	1-3 hours	2 (3%)
	4-5 hours	4 (7%)
	6-8 hours	7 (12%)
	>8 hours	43 (72%)
Transfer	Independent	48 (80%)
	Assisted	12 (20%)
Type of toilet	Inside: standard	26 (43%)
	Inside: Adapted for PWD	2 (3%)
	Outside: standard	1 (2%)
	Outside: Adapted for PWD	5 (8%)
	Pit Privy	26 (43%)
Type and mode of transport	Mini-bus taxi	29 (48%)
	Car meter taxi	8 (13%)
	Private: Car	23 (38%)
Diagnosis and client condition	Cerebral palsy	5 (8%)
	Spinal cord injury & Spasms	28 (47%)
	Congenital deformity	6 (10%)
	Frail & Fracture	3 (5 %)
	Amputation	8 (13%)
	Poliomyelitis	1 (2%)

Table II: Activity participation goals in the home

Goal	N	IMPORTANCE		SATISFACTION	
		Mean (sd)	Median (iqr)	Mean (sd)	Median (iqr)
Watching TV	38	9.39 ± 1.69	10.00 (10.00, 10.00)	8.18 ± 2.69	9.50 (8.00, 10.00)
Cooking	24	9.58 ± 1.32	10.00 (10.00, 10.00)	5.75 ± 3.07	6.00 (4.00, 8.00)
Eating	13	9.46 ± 0.97	10.00 (9.00, 10.00)	9.54 ± 1.39	10.00 (10.00, 10.00)
Doing laundry	9	9.78 ± 0.67	10.00 (10.00, 10.00)	3.00 ± 1.73	3.00 (2.00, 4.00)
Cleaning	8	9.12 ± 1.46	10.00 (8.75, 10.00)	6.38 ± 2.92	6.50 (6.00, 8.00)
Bathing	5	9.20 ± 1.79	10.00 (10.00,10.00)	5.80 ± 3.03	6.00 (4.00, 7.00)
Moving within the yard	5	8.80 ± 1.10	8.00 (8.00, 10.00)	9.00 ± 1.41	10.00 (8.00, 10.00)
Gardening	3	8.67 ± 2.31	10.00 (8.00, 10.00)	2.67 ± 1.15	2.00 (2.00, 3.00)
Going to the bathroom	2	8.50 ± 2.12	8.50 (7.75, 9.25)	5.50 ± 6.36	5.50 (3.25, 7.75)
Playing games	2	7.00 ± 2.83	7.00 (6.00, 8.00)	5.50 ± 3.54	5.50 (4.25, 6.75)
Studying	2	10.00 ± 0.00	10.00 (10.00, 10.00)	7.50 ± 3.54	7.50 (6.25, 8.75)
Looking after children	1	10.00 ± NA	10.00 (10.00, 10.00)	6.00 ± NA	6.00 (6.00, 6.00)

Activity Participation Goals

The activity participation goals of the participants at home and outside the home are presented in Tables II and III (adjacent). Participants were asked to provide activity participation goals that they performed inside the home and outside the home. Each activity participation goal given by the participants was recorded. Each activity participation goal provided by the participant was rated from 0 to 10 by the participant for level of not therapist satisfied at and 10 meaning extremely satisfied. Table II (adjacent) presents a summary of the participants' activity participation goals in the home, including mean and median satisfaction and importance scores per activity participation goal. The table is ordered according to the activity participation goal with the most to least number of respondents.

The most common activities performed at home that the participants identified were watching television (TV), cooking, eating, doing laundry, cleaning, bathing and moving around the yard. The least common activities performed at home were looking after children, studying, playing games, going to the bathroom and gardening.

Watching television was the most common activity that the participants participated in at home (n=38; 63%). A high level of importance (mean of 9.39± 1.69) on a scale of 0 -10 and satisfaction (mean 8.18± 2.69) was noted. Cooking was the second most prominent activity participation goal amongst the participants (n=24; 40%), with a high level of importance (mean of 9.58± 1.32) and overall average satisfaction (mean of 5.75± 3.07). Looking after children was the least prominent (n=1; 2%). Overall, the wheelchair participants rated the level of importance of activity participation in the home as high (mean 9.36 ± 1.46), with an average level of satisfaction (mean 6.93 ± 3.18).

The participants' activity goals outside the home varied. Visiting friends was the most reported by participants (n=14; 23%), with an average importance (mean 9.86 ± 0.53), and a high level of satisfaction (mean 8.43 ± 2.28). Travelling to town, moving around the workplace and going to the hair salon were the least common activity goals amongst the participants (n=1;2%). Travelling to learnership (n=7;12%) was ranked as highly important (mean=10) and average for level of satisfaction (mean 6.71± 3.15). Table III (below) presents a summary of activity participation goals outside the home by the participants. Overall, the wheelchair participants ranked the level of importance of activity participation outside the home as high (mean 9.28 ± 1.38) with an average level of satisfaction (mean 6.72 ± 3.11).

Table III: Activity participation goals of the participants outside the home

Goal	N	IMPORTANCE		SATISFACTION	
		Mean (sd)	Median (iqr)	Mean (sd)	Median (iqr)
Visiting friends and family	14	9.86 ± 0.53	10.00 (10.00, 10.00)	8.43 ± 2.28	9.50 (8.00, 10.00)
Going shopping	11	8.64 ± 1.63	9.00 (7.50, 10.00)	5.27 ± 3.29	5.00 (3.50, 8.00)
Going to the clinic	11	9.00 ± 1.55	10.00 (8.00, 10.00)	7.45 ± 2.94	8.00 (6.50, 10.00)
Attending funerals	7	9.71 ± 0.76	10.00 (10.00, 10.00)	5.57 ± 3.36	4.00 (4.00, 8.00)
Travelling to school (learnership)	7	10.00 ± 0.00	10.00 (10.00, 10.00)	6.71 ± 3.15	8.00 (5.50, 8.50)
Attending soccer matches	4	9.50 ± 1.00	10.00 (9.50, 10.00)	3.25 ± 1.50	4.00 (3.25, 4.00)
Attending parties	3	6.67 ± 2.89	5.00 (5.00, 7.50)	4.00 ± 1.73	5.00 (3.50, 5.00)
Attending family events	2	10.00 ± 0.00	10.00 (10.00, 10.00)	9.00 ± 1.41	9.00 (8.50, 9.50)
Attending stokvel	2	10.00 ± 0.00	10.00 (10.00, 10.00)	10.00 ± 0.00	10.00 (10.00, 10.00)
Playing games	2	9.00 ± 1.41	9.00 (8.50, 9.50)	9.50 ± 0.71	9.50 (9.25, 9.75)
Going to hair salon	1	6.00 ± NA	6.00 (6.00, 6.00)	10.00 ± NA	10.00 (10.00, 10.00)
Moving around the workplace	1	10.00 ± NA	10.00 (10.00, 10.00)	9.00 ± NA	9.00 (9.00, 9.00)
Travelling to town	1	10.00 ± NA	10.00 (10.00, 10.00)	4.00 ± NA	4.00 (4.00, 4.00)

Level of Comfort, Pressure Sores and Body Position experienced by Wheelchair Users

Table IV (below) highlights the self-reported scores of how the participants rated the level of satisfaction related to comfort and body position while sitting in the wheelchair. The participants were given a scale from 0 to 10 to their level of satisfaction related to comfort and body position while in a wheelchair. A value of 0 means that the participant is not at all comfortable/not satisfied at all, whereas a value of 10 means that the participant is extremely comfortable/ extremely satisfied with the comfort and body position when they are using their wheelchair. A mean score of 6.61 ± 2.89 was rated for the level of comfort, and a mean score of 6.25 ± 3.21 was also rated for body position. The majority of the participants (n=54; 92%) had not experienced pressure sores on their buttocks six months prior to data collection whereas five of the participants (8%) had experienced pressure sores in the prior six months.

Table IV: Summary of the level of comfort, pressure sores and body position experienced by wheelchair users when using the prescribed standard wheelchair.

Comfort	Mean (sd) Median (iqr)	59; 6.61 ± 2.89 59; 7.00 (5.00, 9.00)
Body position	Mean (sd) Median (iqr)	59; 6.25 ± 3.21 59; 7.00 (3.50, 10.00)
Pressure sores	No Yes	54 (92%) 5 (8%)

Table V: Summary of the level of comfort experienced by wheelchair users while sitting in a wheelchair (n=59)

	Level[a]	N
Comfort	0 to 4 5 to 10	13 (22%) 46 (78%)
Body position	0 to 4 5 to 10	19 (32%) 40 (68%)

[a]The numerical scale rate was from 0 to 10. The range from 0 to 4 represented less comfortable and a score within the range of 5 to 10 represented comfortable

DISCUSSION

This study investigated the appropriateness of the standard manual wheelchair for occupational performance in various occupational settings and community settings in the Thulamela Municipality, Vhembe District of Limpopo province in South Africa. Determining the level of importance and wheelchair user satisfaction is an essential aspect of assessing the appropriateness of the standard manual wheelchair in occupational performance. The results illustrated that wheelchair users in the Thulamela Municipality Vhembe district view activity participation in the home as very important and are generally satisfied with their standard manual wheelchair while performing occupational activities at home. Moreover, the study revealed that there is significant participation by wheelchair users in occupational activities outside the outside the home in the Thulamela Municipality, Vhembe district. Wheelchair users have a high level of satisfaction with their standard manual wheelchairs while performing occupational activities outside the home. There was a wide range of activities that the participants engaged in while outside the home which is an encouraging finding since the literature indicates that individuals who are "healthy" are those who are engaged in meaningful occupations[22].

The diagnosis of spinal cord injuries (SCI) was prominent amongst the participants in this study (47%). In South Africa, the main cause of SCI in was found to be assault, which accounted for approximately 60% of all cases23 followed by transport related causes and falls. The majority of the participants (72%) spent over eight hours a day in their wheelchairs. A large proportion of the participants (80%) were independent with wheelchair transfers. Though a significant number of participants were independent in wheelchair transfers, the age range of the participants ranged between 18 to 93 which could have an impact on the participants' independence in wheelchair transfers as older participants could have had difficulties with independent transfers due to their frailty. As pointed out earlier this is in view of the total age of the participants averaging 45.08 ± 19.07 therefore, the age range is wide. Injuries that led to the participants using a wheelchair for mobility ranged from motor vehicle accidents to violence, neurological disorders and genetic disorders.

Almost half of the participants relied on minibus taxis as a mode of transport (48%). It is possible that the design of the standard manual wheelchair, which is small with a foldable design and therefore and takes up less space inside taxis[24]. Therefore, it is easier to transport[25] and thus making it easier for wheelchair users to access public transport. Chakwizira et al.'s findings whereby persons with disabilities reported that they faced challenges with public transportation[25]. This study found that 48% of the participants were using taxis and 52% of the participants use private car or metered taxi which would make accessing transport expensive. Lister and Dunpath[26] noted that historically, there has been limited focus on the rights of and provision of transportation for people with disabilities despite policies and legislation aimed at guaranteeing the inclusion of people with disabilities. Visagie et al.[27] found that challenges with regards to transportation that wheelchair users experienced might be attributable to factors other than wheelchair design such as inaccessible transport, the cost of transport etc.[26,27]. The factors that hindered accessing transport were not explored in this study.

The participants were from rural, peri-urban and urban areas where different types of toilets are available. The pit privy toilets, also referred to as 'latrines', are used for onsite waste management. They consist of a hole in the ground, which may be unlined or lined, with a reinforcing material to contain human excreta and the standard inside toilets is the most common in these areas.

The level of importance attached to being able to perform occupational activities in the home was reported as high however, participants' level of satisfaction with their performance was not substantial. The participants could have viewed the activities as very important however they may have not been satisfied with the extent to which wheelchair use enhanced their participation in activities in the home. The choice in the type of the wheelchair as well as the adjustments made to the wheelchair must be individualised to enhance satisfaction and usability[28]. The wheelchair prescriber would have to be innovative in customizing the wheelchair as there is only one standard wheelchair available that can be equipment with 'tuffee' wheels to ensure suitability for rural use.

Overall, the wheelchair participants attached a high level of importance to activity participation outside the home but the participants' level of satisfaction was not substantial. Bergström and Samuelsson[29] conducted a study exploring participants' satisfaction with their manual wheelchairs[29]. The focus was on the clients with spinal cord injuries. Overall, 80% of the participants were satisfied with their wheelchairs. This correlated with this study's findings.

A total of (n=46; 78%) of the participants felt comfortable in their wheelchair, and 22% (n=13) felt less comfortable in their wheelchair. Most of the time they will be sitting. In a study by Visagie et al.[27]comfort as an essential wheelchair feature was ranked as one of the three key features by adults in the study[27]. Bergström and Samuelsson[29] found that with an improved sitting posture, participants found an enhancement in engagement of activities related to the fact that the participants found it easier to use the wheelchair[27]. This could be correlated to the results of this study participants also reported that they felt comfortable in their

wheelchair and felt that their body was positioned well while in a wheelchair. The majority of the participants (n=40; 68%) reported that their body was positioned well while using the wheelchair.

The participant who received 16 wheelchairs in five years is a 53-year-old female with a diagnosis of spinal cord injury, residing in a rural area who spends more than eight hours a day in a wheelchair. In this case, the unsuitability of the type of wheelchair on the terrain might be contributing to frequent breaks and the need for frequent wheelchair replacements. The National Guidelines on Provision of Assistive Devices[7] do not stipulate the expected service life of appliances such as wheelchairs however, the Western Cape Department of Health[30] stipulates that the expected lifespan of a wheelchair is five to eight years, depending on the activity level, the weight of the user and the terrain used[30, 7]. The aforementioned guidelines however highlight that there should be no limits on the replacement of an assistive device unless it is not needed anymore, or there is evidence of poor maintenance or abuse. Given the overall high satisfaction scores in the study, one could therefore question whether the participants were more likely to report participation outcomes with which they were satisfied rather than those which they were not satisfied with.

CONCLUSION

The study found that level of importance that wheelchair participants attached to level of importance of activity participation inside and outside the home was high. Overall, the participants felt comfortable while sitting in their wheelchair and also felt that their body was positioned well. Most of the participants had not experienced pressure sores on their buttocks in the prior six months. There was participation in a wide range of occupational choices ranging from self-care activities and watching television in the home to visiting friends and family and attending events outside the home. This highlighted the need to consider the wheelchair users occupational choices and the context when prescribing a wheelchair. This also implies a need to ensure training of new occupational therapy staff in each facility in the Thulamela district to equip them with the skills to prescribe wheelchairs. A qualitative study is recommended to explore the different aspects that determined the participants' choices for the activity participation goals, how they determined the importance of those participation goals, their level of community participation and socialization. This would allow occupational therapists to gain better insight into the use of their client's wheelchairs both in the home and outside the home and assist in identifying the facilitating factors and barriers to using the standard manual wheelchair.

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Competing interests

No completing interest to declare

Author contributions

Khumbelo Nethathe and Helga Lister conceptualised the study. Khumbelo Nethathe conducted the data collection and initial data analysis. Pragashnie Govender and Helga Lister assisted in the data analysis. Helga Lister, Pragashnie Govender and Deshini Naidoo assisted in the interpretation of the data. Khumbelo Nethathe, Helga Lister, Pragashnie Govender and Deshini Naidoo drafted the manuscript. Pragashnie Govender and Deshini Naidoo assisted in the critical review of the manuscript and revisions.

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[RESEARCH ARTICLE]

Online Assessment and Feedback Experiences of Occupational Therapy Students

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ABSTRACT

Introduction: The COVID-19 pandemic brought about a global crisis in higher education, where students were required to transition to emergency remote teaching (ERT). This study explored students' experiences of online assessments and feedback during the pandemic to inform future practice.

Methodology: This study utilised a descriptive cross-sectional quantitative design with purposeful sampling to describe student's experiences of online assessments. Data were collected from occupational therapy students in 2022. The Assessment Experiences Questionnaire was sent to all eligible participants (n=166). Data were analysed using SPSS version 28.

Results: Students reported that 'tackling' assignments made them apply their learning more deeply (79.75%; n=63). More than half of the students learned more from doing assignments than studying course material (61.25%; n=49). Majority of students felt they did not receive timely feedback through online assessments (67.5%, n=54), which impacted their learning. More than half of the students use feedback in preparation for assignments (56.25%; n=45), hence timely and quality feedback is needed.

Conclusion: Occupational therapy students had a positive experience of online assessments; however, the transition was challenging. It is recommended for lecturers to consider the challenges of online assessments, the number of assessments and timely feedback for an effective online learning process.

Implications for Practice

- For online learning to be effective, relevant and timely access to resources and support systems are required. These include internet access, resources like laptops and smartphones which facilitate engagement with remote learning.
- The provision of institutional and academic support can positively influence students' experiences of online learning.
- Timing and quality of feedback is essential to the online learning experience. Delayed feedback can negatively impact learning, emphasising the importance of timely feedback to aid student growth and improved learning outcomes.
- Students' experiences and perceptions of how they receive feedback change over time. Thus, personalised feedback focusing on improvement rather than comparison to peers should be emphasised in the learning environments to which they are exposed.
- The importance of effective time management in students is emphasised for online learning and students need to be equipped with these skills for this mode of learning.

INTRODUCTION

The COVID-19 pandemic brought about a global crisis in higher education, including healthcare education[1]. In March 2020, South Africa went into lockdown, and COVID-19 protocols were necessitated, forcing the higher education industry to make urgent decisions on disseminating learning materials and content in alternate and remote methods.

Transitions were thus required to preserve the academic year, one of which was emergency remote teaching as opposed to blended learning with in-person lectures and practical sessions involving applying theoretical concepts into practice. It also included learning how to use various online platforms for teaching and learning. For occupational therapy students enrolled in the programme at the University of KwaZulu Natal (UKZN), various practical components contribute to the student's final weighted mark[2]. All these assessments were amended for online delivery. These assessments were quality assured using the UKZN-approved policies and procedures[3]. The transition to online learning and assessments meant fewer practical examinations and physical resources.

This transition was not without its challenges. Since transitioning to emergency remote teaching, UKZN students had to be familiar with Zoom technology[2]. Students and lecturers must also be familiar with the online learning platform (Learn/Moodle site) used for online assessments. Many UKZN students initially had unequal access to technology during the lockdown, placing them at a disadvantage compared to their peers[1]. UKZN students funded by the National Student Financial Aid Scheme (NSFAS), for the first time in 2020, had not received laptops by the time the academic programme had begun. After some time, NSFAS and UKZN were able to counteract this for students qualifying for assistance by providing them with a laptop and data packages that could be utilised for their online learning and assessments.

Several factors have been identified in studies that either promote or impede successful online assessments during the COVID-19 pandemic. Online assessments were found to be more prone to experience technical difficulties, resulting in class disruption and decreased participation[4]. Infrastructural impediments, such as power outages, disadvantage some students when undertaking online assessments[5]. Despite the UKZN assessment policy, indicating that students are accountable for adhering to the rules and regulations governing assessments and must conduct themselves ethically and responsibly when completing assessments, this proved more challenging to monitor online[6]. The likelihood of cheating increases with online assessments as no invigilators are physically present to monitor the integrity of the assessment process. Feedback from assessments forms an integral part of the assessment process[7]. One study reported a lack of feedback from lecturers regarding assessments for students[4]. According to Mandasari[8], online assessments also affect the motivation to learn and perform well in an online exam due to studying in their own home environment and lack of invigilators, thereby allowing discussion amongst students during online exams.

There are advantages to online learning and assessments despite drawbacks. The benefits of UKZN online teaching and learning include having instant access to content on any device, making content easily accessible[9]. Moreover, online assessments provide flexibility because students can write remotely rather than travelling to a specified location. This saved time and money for both students and lecturers[10].

Given that online assessments have been embedded into the occupational therapy curricula, it is essential to evaluate students' experiences of these online assessments as an understanding of student perspective can be useful in identifying barriers and enablers of using online tests in undergraduate education[11].

LITERATURE REVIEW

Online Learning and Teaching

Since the advent of higher education in South Africa, most South African universities and schools have depended on in-person teaching and learning. In-person teaching and learning provide real-time and practical contact with resources such as libraries within a specified time, resulting in quick and understandable feedback for students[12]. UKZN utilised a student-centred remote teaching and learning plan, which emphasised student learning, by informing activities of teaching teams to provide students with a reliable response to their learning needs[7]. One of the principles utilised by UKZN regarding the project plan during COVID-19, recommended a single joint session, where both the teaching team and students can engage[7]. Questions and answers were discussed in this session and recommendations were provided for preparation for assessments[7].

As students faced COVID-19, there was a swift adjustment to emergency remote teaching, which left them feeling despondent and anxious, as this new way of life differed from what students and lecturers were accustomed to[13]. Academic faculty were compelled to rethink their curriculum as transitioning to an online platform encouraged problem-solving, critical thinking, and applied understanding through a holistic and integrated approach[9].

Some of the advantages of online learning and teaching included online discussions, which allowed students to participate in the discussion without the fear of excessive attention or confrontation and to engage in the lessons from the comfort of their environments[14]. This also allowed students to engage equally, support each other's points, and offer new channels of knowledge[9]. Moreover, the extensive use of online learning management platforms such as Zoom®, Microsoft Teams, voice-over PowerPoints and tutorials allowed increased participation and the ability to revisit materials. Online student assessments included using technology to provide in-depth feedback on particular sections of students' work through automated immediate marking, thus facilitating learning of content in action and enhancing students' understanding of the assessment content and feedback[9]. In a study by Baczek et al[15], (n=804), medical students found the main advantages of online learning to be continuous access to online materials (69%) learning at your own pace (64%) and comfortable surroundings (54%). One of the main disadvantages reported was technical problems with technological tools (54%)[15]. Despite its challenges, emergency remote teaching had various advantages for students as well as lecturers.

Online Assessments

Online assessments consisted of multiple-choice questions, short and long answer questions. This became the core method of student assessment and learning during the pandemic. Lecturers preferred students to have access to required resources to enhance their knowledge and understanding of the content while ensuring examination integrity[16]. The UKZN Policy on assessments states that assessment practices should be aligned to the highest quality assessment and management principles, should be appropriate to the qualification levels and module programme outcomes and a responsible translation of the policy into assessment practices to ensure any quality audit or evaluation can show evidence of sound assessment practice[3]. Assessment principles consist of validity, reliability, fairness and sufficiency. Online assessments adhered to validity and reliability by ensuring that another lecturer moderated all content tested. Fairness and sufficiency was achieved by ensuring all students had a set time limit to conduct the assessment and that the memorandums for assessments were consistent. Students were responsible for reading, understanding and complying with the rules and regulations related to assessments in the modules and the programme for which they are registered; for using assessments to engage in critical self-assessment of progress towards learning outcomes; and for behaving ethically and responsibly in the conduct of assessment tasks as stipulated in module outlines, College Handbooks and University Academic Rules[17].

In a study conducted at a university in the southeast of the United States[18], there was no discernible difference in the students taking online examinations in terms of effort or achievement. According to this study, online assessments give convenience benefits rather

than intellectual excellence[18]. The study concludes that the usage of online tests as opposed to in-person assessments have no extreme differences on students' marks.

Feedback during the learning process and following assessment is essential, and feedback should enhance learning[9]. Lizzion and Wilson[19] examined and assessed the student's understanding of the value and efficacy of feedback on assessment in a case study. The study analysed the feedback that 57 students had received on various assignments and identified the traits of cooperative and uncooperative lecturer comments. The results of this study demonstrated that providing feedback had a large and significant impact on the student's degree of learning and that an increase in learning and improvement in assessment is mostly linked to how well students perceive effective feedback[20]. Another study indicates that feedback should be provided in a timely and cumulative manner to ensure that it is efficient, helpful, and relevant[21]. Students who receive feedback promptly benefit from the feedback instead of feedback received later[21]. Online feedback during COVID-19 was hindered as feedback and memorandum provided were uniform for all students and not based on each student's problem area.

Measuring the Response of Students to Assessments

The Assessment Experiences Questionnaire (AEQ) was used in this study. The AEQ correlated with the research questions about the experiences and assessment preparation related to online assessments[21]. The AEQ examined the extent to which students experienced various learning conditions on the whole programme of study. It consisted of 28 items across nine sub-scales linked to learning conditions from assessment, with one overall satisfaction item. In 2019, Dawson and his team used the AEQ in the first year of higher education. They discovered that using feedback was associated with confidence in achieving effective study skills and marks, regardless of the quantity and quality of feedback[22]. This indicated a link between the feedback and its association with confidence in achieving practical study skills and marks. Jessop and Maleckar[23] also employed the AEQ in their study of students across three disciplines who reported poor learning levels, which they attributed to the lack of feedback from examinations. These indicate that the AEQ may be beneficial in eliciting student perception and experiences regarding online assessments and feedback during the COVID-era of online teaching and learning[24].

METHODOLOGY

Aim

This study aimed to describe University of KwaZulu-Natal occupational therapy students' experiences of online assessments and feedback during the COVID-19 pandemic in South Africa.

Study Design

This study utilised a descriptive cross-sectional quantitative design[25].

Study Setting

The study was undertaken at the University of KwaZulu-Natal, located in South Africa and the only tertiary institution offering a Bachelor of Occupational Therapy programme in the province.

Study Population and Sampling

The participants were limited to occupational therapy students within the College of Health Sciences due to the accessibility of Occupational Therapy students able to participate in the study. The sample was selected using non-probability purposive sampling[26]. All students enrolled from year one to year four (N= 166 students) in 2022 were included. This included 32 first-year students, 53 second-year students, 34 third year and 47 fourth-year students. The pilot study participants (n=11) included physiotherapy students who were completing their final year of study in 2022. Physiotherapy students were chosen for the pilot study as they were health science students whose field of study was closely affiliated with occupational therapy. Within this selected cohort, first- to third-year Occupational Therapy students would have had their last written in-person assessment in secondary school. Thus, the sampling ensured that all students who engaged in the study would have had a minimum of two years (2020-2022) experience with online assessments. The biostatistician was consulted and calculated the current study's required sample size at 116. Participants were recruited via WhatsApp and Email.

Data Collection

The AEQ[27] used to collect data for the study was hosted on Google Forms as it is easily accessible and easy to utilise. The AEQ comprised six subsections answered on a Likert Scale, ranging from (1) indicating strong disagreement to (5) indicating strong agreement. Subsection one included six questions related to the amount and distribution of study effort. Subsection two included six questions related to assignments and learning at an undergraduate level. Subsection three included six questions on the quantity and timing of feedback. Subsection four included six questions on the quality of feedback provided on assessments. Subsection 5 included six questions on what is done with the feedback provided. Subsection six included six questions on examination and learning (during the COVID-19 pandemic).

Following ethical approval, the link to access the google documents form was distributed to all registered UKZN occupational therapy students for 2022 via WhatsApp and Email. The survey was opened for six weeks and reminders were sent across all year groups on WhatsApp twice per week and weekly to the administration distributor via email.

Data Analysis

The data from Google Forms were manually imported to an MS Excel spreadsheet in preparation for the analysis conducted on the Statistical Package for Social Sciences (SPSS) version 28. A p-value < 0.05 was considered statistically significant. The demographic data were converted into categorical data. The categorical variables were described as counts and percentage frequencies. To determine the association between categorical variables, Chi-Square Test and p-values were used.

Factor analysis was used, working alongside the statistician, to take all of the information collected in the study and synthesise it into data sets grouped into categories, which reduced variables by extracting their commonalities, making data more understandable and manageable[28]. This allowed for identifying patterns demonstrating correlations between variables that overlapped[28].

Validity and Reliability

A study conducted by Batten and colleagues[24] delivered conflicting results about the statistical validity of the AEQ. Whilst the AEQ has been successful in measuring and allowing for interpretation of results across the different components within the AEQ in relation to students' perceptions of assessments, the lack of clarity and specificity in the AEQ were said to influence the validity of the AEQ negatively, with some items in the questionnaire being open to misinterpretation by being quite vague, making it difficult for respondents to answer accurately[24].

Ethical approval and considerations

Gatekeeper permission from the Registrar of the UKZN and ethical approval from the University of KwaZulu-Natal's Human and Social Sciences Research Ethics Committee (HSSREC/00004148/2022) was obtained prior to the commencement of the study. Ethical principles of anonymity were adhered to in this study by de-identifying biographical data.

RESULTS

A total of 80 students (19 first-years, 19 second-years, 20 third-years and 22 fourth-years) voluntarily participated in the study. The majority of the students indicated being at the proficient level of computer literacy (n=60; 75%) and having access to electronic devices at home (n=75; 93.8%) and internet access (n=66; 82.5%).

Time Management | Amount of Study Time and Effort Students invest towards learning

Most students across the years reported that they do not study the same amount each week, regardless of whether an assignment is due or not (65.82%; n=52).The first years (n=12; 63.16%) reported that they only study topics that are going to be covered in the assignments. Across all years, the majority of the students reported that in weeks that assignments are due, they put in more hours (80% n=64). However, more than half of the students across all years felt that studying regularly is required to do well on the course (67.5%; n=54) and the majority also reported that it is not possible to do quite well without studying in the Occupational Therapy course (77.5%; n= 62). All p-values were $p>0.05$ (in section on *amount and distribution of study effort*) across all years, except for studying regularly to do well on the course ($p = 0.015$), indicating a significant difference between the years (Table I, below).

Table I: The amount of study time and effort UKZN occupational therapy students invest towards learning

Amount and distribution of study effort		1st year n (%)	2nd year n (%)	3rd year n (%)	4th year n (%)	p-value	Overall n (%) 80 (100)
		n=19(23.75)	n=19(23.75)	n=19(23.75)	n=22(27.5)		n=79
Sufficient study time regardless of assignment due	Agree	4 (21.05)	4 (21.05)	1 (5.26)	0 (0)	p = 0.152	9 (11.39)
	Neutral	6 (31.58)	2 (10.53)	4 (21.05)	6 (27.27)		18 (22.78)
	Disagree	9 (47.37)	13 (68.42)	14 (73.68)	16 (72.73)		52 (65.82)
		n=19(23.75)	**n=19(23.75)**	**n=20(25)**	**n=22(27.5)**		**n=80**
Selective about what to study and learn and still do well	Agree	7 (36.84)	7 (36.84)	4 (20.00)	7 (31.82)	p = 0.561	25 (31.25)
	Neutral	5 (26.32)	6 (31.58)	10 (50.00)	10 (45.45)		31 (38.75)
	Disagree	7 (36.84)	6 (31.58)	6 (30.00)	5 (22.73)		24 (30.00)
		n=19(23.75)	**n=19(23.75)**	**n=20(25)**	**n=22(27.5)**		**n=80**
Only study work covered in assignments	Agree	12 (63.16)	8 (42.11)	7 (35.00)	9 (40.91)	p = 0.649	36 (45.00)
	Neutral	1 (5.26)	2 (10.53)	4 (20.00)	3 (13.64)		10 (12.5)
	Disagree	6 (31.58)	9 (47.37)	9 (45.00)	10 (45.45)		34 (42.50)
		n=19(23.75)	**n=19(23.75)**	**n=20(25)**	**n=22(27.5)**		**n=80**
Study regularly to do well on the course	Agree	14 (73.68)	17 (89.47)	11 (55.00)	12 (54.55)	p =0.015*	54 (67.50)
	Neutral	0 (0)	1 (5.26)	7 (35.00)	8 (36.36)		16 (20.00)
	Disagree	5 (26.32)	1 (5.26)	2 (10.00)	2 (9.09)		10 (12.5)
		n=19(23.75)	**n=19(23.75)**	**n=20(25)**	**n=22(27.5)**		**n=80**
Possible to do quite well without studying much	Agree	6 (31.58)	1 (5.26)	3 (15.00)	1 (4.55)	p = 0.058	11 (13.75)
	Neutral	0 (0)	3 (15.79)	1 (5.00)	3 (13.64)		7 (8.75)
	Disagree	13 (68.42)	15 (78.95)	16 (80.00)	18 (81.82)		62 (77.5)
		n=19(23.75)	**n=19(23.75)**	**n=20(25)**	**n=22(27.5)**		**n=80**
In weeks assignments due – one puts in more hours	Agree	14 (73.68)	17 (89.47)	14 (70.00)	19 (86.36)	p = 0.800	64 (80.00)
	Neutral	3 (15.79)	1 (5.26)	4 (20.00)	1 (4.55)		9 (11.25)
	Disagree	2 (10.53)	1 (5.26)	2 (10.00)	2 (9.09)		7 (8.75)

*$p<0.05$ indicates a significant difference

Students' Experiences of Online Assessments and Learning

There were no significant differences between years with p>0.05 for all items (Table II below). Most students across the years found that tackling assignments made them think (78.75%; n=63), and they found the assignments, mainly of long answer questions, to be very challenging (76.25%, n=61). More than half of the students across all years felt that they learn more from doing the assignments than studying the course material (61.25%; n=49) and agreed that you cannot get away with not understanding the work but still get high marks (57.5%; n=46) since assessment drives learning.

Table II: Students' experiences with online assessments and learning

Assessments and learning		1st year n (%)	2nd year n (%)	3rd year n (%)	4th year n (%)	p-value	Overall n (%) 80 (100)
		n=19(23.75)	**n=19(23.75)**	**n=20(25)**	**n=21(26.26)**		**n=79**
Tackling assignments makes one think	Agree	16 (84.21)	15 (78.95)	15 (75.00)	17 (80.95)	p = 0.840	63 (79.75)
	Neutral	2 (10.53)	4 (21.05)	4 (20.00)	3 (14.29)		13 (16.46)
	Disagree	1 (5.26)	0 (0)	1 (5.00)	1 (4.76)		3 (3.80)
		n=19(23.75)	**n=19(23.75)**	**n=20(25)**	**n=22(27.5)**		**n=80**
Learn more from doing assignments than studying the course material	Agree	12 (63.16)	9 (47.37)	16 (80.00)	12 (54.55)	p = 0.082	49 (61.25)
	Neutral	0 (0)	0 (0)	0 (0)	2 (9.09)		2 (2.50)
	Disagree	7 (36.84)	10 (52.63)	4 (20.00)	8 (36.36)		29 (36.25)
		n=19(23.75)	**n=19(23.75)**	**n=20(25)**	**n=22(27.5)**		**n=80**
Completing assignments and get away with not understanding the work but still get high marks	Agree	6 (31.58)	3 (15.79)	4 (20.00)	2 (9.09)	p = 0.396	15 (18.75)
	Neutral	5 (26.32)	5 (26.32)	5 (25.00)	4 (18.18)		19 (23.75)
	Disagree	8 (42.11)	11 (57.89)	11 (55.00)	16 (72.73)		46 (57.5)
		n=19(23.75)	**n=19(23.75)**	**n=20(25)**	**n=22(27.5)**		**n=80**
Assignments give clear instructions about what is expected to do	Agree	8 (42.11)	5 (26.32)	4 (20.00)	2 (9.09)	p = 0.259	19 (23.75)
	Neutral	4 (21.05)	7 (36.84)	13 (65.00)	13 (59.09)		37 (46.25)
	Disagree	7 (36.84)	7 (36.84)	3 (15.00)	7 (31.82)		24 (30.00)
		n=19(23.75)	**n=19(23.75)**	**n=19(23.75)**	**n=22(27.5)**		**n=79**
When tackling assignment, it is not clear what would count as successful answer	Agree	6 (31.58)	12 (63.16)	4 (21.05)	9 (40.91)	p = 0.252	31 (39.24)
	Neutral	8 (42.11)	7 (36.84)	10 (52.63)	8 (36.36)		33 (41.77)
	Disagree	5 (26.32)	0 (0)	5 (26.32)	5 (22.73)		15 (18.99)
		n=19(23.75)	**n=19(23.75)**	**n=20(25)**	**n=22(27.5)**		**n=80**
The assignments are not very challenging	Agree	3 (15.79)	0 (0)	3 (15.00)	1 (4.55)	p = 0.632	7 (8.75)
	Neutral	3 (15.79)	3 (15.79)	3 (15.00)	3 (13.64)		12 (15.00)
	Disagree	13 (68.42)	16 (84.21)	14 (70.00)	18 (81.82)		61 (76.25)

Students' Experiences of Frequency and Timely Feedback All p-values were above p>0.05, indicating no significant difference between years (Table III, below). Several students across the years felt that on this course, they do not get sufficient feedback on how they are doing (42.5%; n=34), and more than half of the students reported that the feedback is not delivered timeously (67.5%, n=54). Many students across all years found that whatever feedback they get comes too late to be useful (47.5%, n=38), and the majority agreed that they would learn more if they received more feedback (77.5%, n=62).

Table III: Students' Experiences in terms of quantity and timing of feedback

Quantity and timing of feedback		1st year n (%)	2nd year n (%)	3rd year n (%)	4th year n (%)	p-value	Overall n (%) 80 (100)
		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)		n=80
Get plenty of feedback on this course	Agree	4 (21.05)	4 (21.05)	3 (15.00)	8 (36.36)	p = 0.314	19 (23.75)
	Neutral	6 (31.58)	8 (42.11)	9 (45.00)	4 (18.18)		27 (33.75)
	Disagree	9 (47.37)	7 (36.84)	8 (40.00)	10 (45.45)		34 (42.5)
Feedback comes very quickly		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)		n=80
	Agree	3 (15.79)	0 (0)	2 (10.00)	3 (13.64)	p = 0.158	8 (10.00)
	Neutral	6 (31.58)	3 (15.79)	6 (30.00)	3 (13.64)		18 (22.50)
	Disagree	10 (10.53)	16 (84.21)	12 (60.00)	16 (72.73)		54 (67.50)
Hardly any feedback in assignments when received back		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)		n=80
	Agree	8 (42.11)	3 (15.79)	5 (25.00)	12 (54.55)	p = 0.108	28 (35.00)
	Neutral	3 (15.79)	8 (42.11)	8 (40.00)	4 (18.18)		23 (28.75)
	Disagree	8 (42.11)	8 (42.11)	7 (35.00)	6 (27.27)		29 (36.25)
When things are wrong or misunderstood – there's not much guidance about it		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)		n=80
	Agree	8 (42.11)	9 (47.37)	9 (45.00)	12 (54.55)	p = 0.765	38 (47.50)
	Neutral	4 (21.05)	6 (31.58)	4 (20.00)	7 (31.82)		21 (26.25)
	Disagree	7 (36.84)	4 (21.05)	7 (35.00)	3 (13.64)		21 (26.25)
Learn more if received more feedback		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)		n=80
	Agree	12 (63.16)	16 (84.21)	15 (75.00)	19	p = 0.461	62 (77.5)
	Neutral	3 (15.79)	3 (15.79)	4 (20.00)	2 (9.09)		12 (15.00)
	Disagree	4 (21.05)	0 (0)	1 (5.00)	1 (4.55)		6 (7.50)
Whatever feedback comes too late to be useful		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)		n=80
	Agree	11 (57.89)	9 (47.37)	9 (45.00)	9 (40.91)	p = 0.464	38 (47.50)
	Neutral	2 (10.53)	5 (26.32)	9 (45.00)	9 (40.91)		25 (31.25)
	Disagree	6 (31.58)	5 (26.32)	2 (10.00)	4 (18.18)		17 (21.25)

Students' Experiences in terms of Quality of Feedback
All of p-values were above p>0.05, except of the question of that feedback mainly told them how well they are doing in relation to others (p = 0.015) which indicated a significant difference between years (Table IV, page 81). Majority of the students in 2nd year stated that feedback does not mainly inform them on how they are doing in relation to others (84.21%; n=16). Both 3rd (55% n= 11) and 4th (36.36% n=8) year students are neutral and equal to the number of students that disagree about how feedback mainly tells them how they are doing.

The majority of the students across all years agreed that once they received and read feedback, they could understand why they got the mark they did but can seldom see from the feedback what they needed to do to improve (47.5%; n=38). (Table IV, page 81).

Table IV: The students' experiences in terms of quality of feedback

What you do with the feedback		1st year n (%)	2nd year n (%)	3rd year n (%)	4th year n (%)	p-value	Overall n (%) 80 (100)
		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)		n=80
Reads the feedback carefully and try to understand what the feedback says	Agree	14 (73.68)	17 (89.47)	14 (70.00)	19 (86.36)	p = 0.371	64 (80.00)
	Neutral	5 (26.32)	2 (10.53)	4 (20.00)	3 (13.64)		14 (17.50)
	Disagree	0 (0)	0 (0)	2 (10.00)	0 (0)		2 (2.50)
One use feedback to go back over what was done in the assignment		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)		n=80
	Agree	11 (57.89)	15 (78.95)	10 (50.00)	15 (68.18)	p = 0.236	51 (63.75)
	Neutral	5 (26.32)	0 (0)	8 (40.00)	4 (18.18)		17 (21.25)
	Disagree	3 (15.79)	4 (21.05)	2 (10.00)	3 (13.64)		12 (15.00)
The feedback does not help with any subsequent assignments		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)		n=80
	Agree	3 (15.79)	3 (15.79)	4 (20.00)	6 (27.27)	p = 0.416	16 (20.00)
	Neutral	8 (42.11)	5 (26.32)	10 (50.00)	11 (50.00)		34 (42.50)
	Disagree	8 (42.11)	11 (57.89)	6 (30.00)	5 (22.73)		30 (37.50)
The feedback prompts to go back over material covered earlier in the course		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)		n=80
	Agree	10 (52.63)	11 (57.89)	6 (30.00)	12 (54.55)	p = 0.401	39 (48.75)
	Neutral	4 (21.05)	4 (21.05)	5 (25.00)	4 (18.18)		17 (21.25)
	Disagree	5 (26.32)	4 (21.05)	9 (45.00)	6 (27.27)		24 (30.00)
One doesn't use the feedback for revising		n=19(23.75)	n=18(22.5)	n=20(25)	n=22(27.5)		n=79
	Agree	4 (21.05)	3 (16.67)	3 (15.00)	4 (18.18)	p = 0.140	14 (17.72)
	Neutral	4 (21.05)	2 (11.11)	10 (50.00)	4 (18.18)		20 (25.32)
	Disagree	11 (57.89)	13 (72.22)	7 (35.00)	14 (63.64)		45 (56.96)
One tends to read for marks		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)		n=80
	Agree	8 (42.11)	7 (36.84)	5 (25.00)	5 (22.73)	P= 0.554	25 (31.25)
	Neutral	3 (15.79)	1 (5.26)	8 (40.00)	6 (27.27)		18 (22.50)
	Disagree	8 (42.11)	11 (57.89)	7 (35.00)	11 (50.00)		37 (46.25)

Utilisation of Feedback from Online Assessments given to Students: All of p-values were above p>0.05, indicating no significant difference between years (Table V, page 82). The majority of the students across the years found that once they read the feedback carefully and tried to understand what the feedback was saying, they could work on improving (80%; n=64). More than half of students across all years reported that they used the feedback to go back over what they had done in the assignments (63.75%, n=51), and more than half of students from across all years did use the feedback for revising (56.25%; n=45).

Table V: Utilisation of feedback from online assessments given to students at UKZN

Examination and Online Learning		1st year n (%)	2nd year n (%)	3rd year n (%)	4th year n (%)	p-value	Overall n (%) 80 (100)
Preparing for the exam was mainly a matter of memorising		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)	p = 0.394	n=80
	Agree	6 (31.58)	9 (47.37)	3 (15.00)	6 (27.27)		24 (30.00)
	Neutral	4 (21.05)	3 (15.79)	7 (35.00)	5 (22.73)		19 (23.75)
	Disagree	9 (47.37)	7 (36.84)	10 (50.00)	11 (50.00)		37 (46.25)
Doing the exam brought things together		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)	p = 0.100	n=80
	Agree	12 (63.16)	4 (21.05)	4 (20.00)	10 (45.45)		30 (37.50)
	Neutral	5 (26.32)	10 (52.63)	9 (45.00)	5 (22.73)		29 (36.25)
	Disagree	2 (10.53)	5 (26.32)	7 (35.00)	7 (31.82)		21 (26.25)
Learnt new things while preparing for the exam		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)	p = 0.019*	n=80
	Agree	15 (78.95)	15 (78.95)	5 (25.00)	16 (72.73)		51 (63.75)
	Neutral	4 (21.05)	1 (5.26)	10 (50.00)	3 (13.64)		18 (22.50)
	Disagree	0 (0)	3 (15.79)	5 (25.00)	3 (13.64)		11 (13.75)
Understanding things better as a result of the exam		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)	p = 0.174	n=80
	Agree	13 (68.42)	11 (57.89)	6 (30.00)	9 (40.91)		39 (48.75)
	Neutral	2 (10.53)	5 (26.32)	10 (50.00)	8 (36.36)		25 (31.25)
	Disagree	4 (21.05)	3 (15.79)	4 (20.00)	5 (22.73)		16 (20.00)
Probably forget most of it after the exam		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)	p = 0.025	n=80
	Agree	9 (47.37)	10 (52.63)	4 (20.00)	12 (54.55)		35 (43.75)
	Neutral	6 (31.58)	3 (15.79)	10 (50.00)	5 (22.73)		24 (30.00)
	Disagree	4 (21.05)	6 (31.58)	6 (30.00)	5 (22.73)		21 (26.25)
In the exam can get away with not understanding and still get good marks		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)	p = 0.779	n=80
	Agree	4 (21.05)	4 (21.05)	4 (20.00)	4 (18.18)		16 (20.00)
	Neutral	5 (26.32)	5 (26.32)	8 (40.00)	5 (22.73)		23 (28.75)
	Disagree	10 (52.63)	10 (52.63)	8 (40.00)	13 (59.09)		41 (51.25)

Students Experiences of Examination and Online Learning across all years

All of p-values were above p>0.05, except one which indicates that students forget most of the learning after the exam n=51; 63.75%, (p = 0.019), indicating a significant difference between years (Table VI, above). The majority of the students in 1st, 2nd and 4th year reported that they probably forgot all the learning after the exam (47.37% n=9); 52.63% n=10 and 54.55% n=12 respectively). Half of the students in 3rd year reported that they were neutral (50% n=10).

The majority of students across all years agreed that they found it difficult to learn new content while preparing for the exam (63.75% n=51), but more than half agreed that in the examination, you cannot get away with not understanding and still get good marks (51.25%; n=41). (Table VI, page 83).

Table VI: Occupational therapy students' experiences with examination and online learning across all years

Examination and Online Learning		1st year n (%)	2nd year n (%)	3rd year n (%)	4th year n (%)	p-value	Overall n (%) 80 (100)
Preparing for the exam was mainly a matter of memorising		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)	p = 0.394	n=80
	Agree	6 (31.58)	9 (47.37)	3 (15.00)	6 (27.27)		24 (30.00)
	Neutral	4 (21.05)	3 (15.79)	7 (35.00)	5 (22.73)		19 (23.75)
	Disagree	9 (47.37)	7 (36.84)	10 (50.00)	11 (50.00)		37 (46.25)
Doing the exam brought things together		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)	p = 0.100	n=80
	Agree	12 (63.16)	4 (21.05)	4 (20.00)	10 (45.45)		30 (37.50)
	Neutral	5 (26.32)	10 (52.63)	9 (45.00)	5 (22.73)		29 (36.25)
	Disagree	2 (10.53)	5 (26.32)	7 (35.00)	7 (31.82)		21 (26.25)
Learnt new things while preparing for the exam		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)	p = 0.019*	n=80
	Agree	15 (78.95)	15 (78.95)	5 (25.00)	16 (72.73)		51 (63.75)
	Neutral	4 (21.05)	1 (5.26)	10 (50.00)	3 (13.64)		18 (22.50)
	Disagree	0 (0)	3 (15.79)	5 (25.00)	3 (13.64)		11 (13.75)
Understanding things better as a result of the exam		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)	p = 0.174	n=80
	Agree	13 (68.42)	11 (57.89)	6 (30.00)	9 (40.91)		39 (48.75)
	Neutral	2 (10.53)	5 (26.32)	10 (50.00)	8 (36.36)		25 (31.25)
	Disagree	4 (21.05)	3 (15.79)	4 (20.00)	5 (22.73)		16 (20.00)
Probably forget most of it after the exam		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)	p = 0.025	n=80
	Agree	9 (47.37)	10 (52.63)	4 (20.00)	12 (54.55)		35 (43.75)
	Neutral	6 (31.58)	3 (15.79)	10 (50.00)	5 (22.73)		24 (30.00)
	Disagree	4 (21.05)	6 (31.58)	6 (30.00)	5 (22.73)		21 (26.25)
In the exam can get away with not understanding and still get good marks		n=19(23.75)	n=19(23.75)	n=20(25)	n=22(27.5)	p = 0.779	n=80
	Agree	4 (21.05)	4 (21.05)	4 (20.00)	4 (18.18)		16 (20.00)
	Neutral	5 (26.32)	5 (26.32)	8 (40.00)	5 (22.73)		23 (28.75)
	Disagree	10 (52.63)	10 (52.63)	8 (40.00)	13 (59.09)		41 (51.25)

*p<0.05 indicates a significant difference

DISCUSSION

This study provided insight into the University of KwaZulu-Natal occupational therapy students' experiences with online assessments and feedback during the COVID-19 pandemic in South Africa. The study identified that the majority of student's had access to the internet and resources such as operational laptops and smartphones, which facilitated the engagement with remote learning. This was due to UKZN and NSFAS counteracting student issues by providing IT support for laptops[29].

The first aspect that this study focused on was the experiences of students in terms of the distribution of time and effort to their studies, which varied according to the years of study. The results revealed that students felt that study time and effort are allocated narrowly to assessed topics and that regular studying is required to do well in the degree. A previous study concluded that to ensure that students are learning effectively, remote teaching requires students to complete more assignments than traditional courses. Additionally, assignments may aid students in making up for a lack of one-on-one time with lecturers[18].

The study also identified the experiences of students' pertaining to assignments and online learning. Majority of students across all years experienced assignments as very challenging, and tackling them made them think. They reported that they learn more from doing assignments than studying the course material and cannot get good marks without understanding the work content. Overall, it was revealed that occupational therapy students had a positive experience with online assessment. The above results are reinforced by a study which revealed that online learning promoted self-learning, where the student actively participates in the learning process[30]. More importantly, students acquired new learning

experiences, particularly self-discipline and time management[30].

Regarding frequency and timing of feedback, the results revealed that most students did not feel that they received feedback in time through online assessments. Delayed feedback impacted their learning as they reported that when they did receive feedback, it was useful and enabled them to understand why they got the mark which they were allocated. This enabled them to learn from the feedback and ensure assessments were sufficient. These statements were true across all the years of study, indicating that the quality and timing of feedback given throughout the degree are insufficient and need improvement. A study shows that students have used teacher feedback to gauge their progress, and by using the lecturers' input, they can also assess their internal growth[31]. Additionally, lecturers are typically more successful in identifying errors in students' work than students finding errors in their own, hence why giving accurate and timely feedback is crucial in ensuring student learning and fair assessment[31].

Once received, students perceived the quality of feedback to be very informative regarding understanding concepts better and allowing them to see how to improve in the future. Understanding the feedback also helped students understand why they achieved their marks, which further contributed to their learning process. A research study found that giving students marks, feedback, and discussion on their answers provided the most efficient guidance for effective learning to take place[32]. Students also indicated that they did not understand some of the feedback they received, which then negatively impacted the quality of their online learning experience as a whole. This indicated that feedback is useful but not always comprehensible by students. Majority of second years indicated that feedback does not mainly indicate how they doing in relation to others.

In contrast, the majority of third years remained neutral and fourth years equally disagreed and remained neutral. The study did not include how they think they are doing in relation to achieving the learning outcomes. This shows that as the years of study progress, there is a shift regarding how students perceive the feedback they receive. In the senior years of study (years three and four) feedback should primarily be used by students to improve their own performance, which does not appear to be the case, as many use it to compare to other peers. There is evidence that giving written feedback with explanations is more effective than giving marks[32]. This indicates that lecturers should emphasise providing students with written feedback, which includes explanations on how to improve moving forward, instead of just giving students their marks without much direction on how to improve for the future. This finding demonstrates that a quality approach to assessment (descriptive qualitative feedback) is more effective than quantitative feedback (marks and percentages). A study found that students performed much better on tests when given feedback in the form of brief written remarks rather than grades alone and that feedback does boost engagement, however if the feedback is not effective, then it has no bearing on performance[32].

The majority of the students had a positive perception regarding the use of feedback from online assessments. According to the study results, students across different years reported that reading the feedback carefully and trying to understand it assisted in allowing the students to go back over what they have done in the assignments for revision purposes and exams. Upon reading and understanding the feedback, students found it useful. They were, therefore more interactive and engaged with the feedback, which assisted them more with regard to their assignments and exams. This collated with a study done by Kim-Daniel[33] and team on examining students' feedback engagement and assessment experiences, which emphasised that feedback needed to be perceived as useful by students so that students could interact and and use feedback given[33]. During the pandemic, lecturers interacted with students using online feedback. This emphasises the significance of the assertions of Ndaba[9] and colleagues that feedback during the learning process is crucial, and feedback should serve the objective of increasing learning[9]. This was seen in the study as the more detailed and understandable the feedback was, the more the students used that feedback to enhance their learning.

Over half of the students across all years had a positive experience with examinations and online learning; it allowed them to study more and learn new topics while preparing for the exam; assessments also functioned as a factor that brought things together for their understanding. This correlates with studies done [30, 34] that reflected that examinations and online learning allow learners to access online materials around the clock. Moreover, it also encouraged self-directed learning, where students also play a role in learning. This could be the outcome of a variety of factors, some of which include: having access to voice-recorded PowerPoints and tutorials which they could revisit any time for revision and exam, the university working with NSFAS to ensure that students have access to data, laptops and every student getting an opportunity to participate in the discussion without the fear of excessive attention or confrontation and to engage in the lessons from the comfort of their own environments[16]. More factors included support being provided to guarantee that no student fell behind. Staff at higher educational institutions were encouraged to conduct tutorials and ensure assessment validity.

Online assessments consisted of various question styles, including short answers, long answers, multiple choice questions and essays. The type of online assessment also affected the student's online learning experiences. Students were also urged to interact with academic professionals if they required further assistance in clarifying theoretical subjects; this was also a positive factor that resulted in the students having a positive experience[9].

Limitations of the study

The lack of clarity and specificity in the AEQ were said to influence the validity of the AEQ negatively, with some items in the questionnaire being open to misinterpretation by being quite vague, making it difficult for respondents to answer accurately[25]. There were limitations to the sample size as several other studies with this cohort of students co-occurred; thereby affecting voluntary participation. The study was focused on occupational therapy students from one university therefore, results are contextually relevant to one faculty.

CONCLUSION

The COVID-19 pandemic has rapidly changed how teaching, learning, and assessment are carried out. It brought about a global crisis in higher education as students were required to rapidly transition from in-person teaching, learning, and assessments to an online platform. This study describes how the UKZN occupational therapy student's experienced online assessments during the COVID-19 pandemic in South Africa. The results reveal that students had a positive experience with online assessments; however, the transition was challenging. Most students across all years experience assessments as challenging as it made them think critically, allowing for improved learning. Students report that they learn more from doing assessments than studying the actual course material which also ensures better learning and the need for feedback helps students understand the course and where they can improve. Therefore, emphasis is placed on receiving feedback in time. It is therefore recommended that lecturers consider the above factors, such as the difficulty levels of assessments, the number of assessments, timely and quality of feedback of assessments and the quality of assessments to ensure an effective and valuable online learning process for students.

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Conflicts of interest
All authors have no conflict of interest to declare.

Author contributions
The study was conceptualised and designed by Pragashnie Govender & Gina Rencken. Tasneem Hoosen, Faatimah Salajee, Merissa Naidoo, Nokwanda Ntombela, Tasmiya Aron and Nothando Mchunu were responsible for the data acquisition with analysis an interpretation occurring together with Pragashnie Govender and Gina Rencken. All authors were responsible for the drafting the work; Pragashnie Govender, Gina Rencken and Tasneem Hoosen revised it critically for important intellectual content; and final approval of the version to be published.

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[RAPID REVIEW]

Occupational therapy treatment protocols for cerebrovascular accidents: a rapid review of evidence

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ABSTRACT

Introduction: The rising prevalence of stroke in sub-Saharan Africa necessitates the exploration of the role of occupational therapy in rehabilitation of stroke. In the southern African country of South Africa, occupational therapy aligns with healthcare policies and laws, and this article presents a review of synthesized evidence of occupational therapy intervention in stroke care and rehabilitation.
Method: Rapid review methodology was used to develop a research question about cerebrovascular accident - intervention by occupational therapists., The Cochrane Library and MEDLINE databases were searched for relevant articles published between 2018 and 2023. Twenty four articles met the inclusion criteria and were analysed according to quantitative and qualitative parameters.
Results: Evidence of occupational therapy intervention with post-stroke upper limb impairment was found in 37,5% of articles. Occupational therapy for global improvement in function, cognitive rehabilitation, balance, social participation, work, and leisure comprised 45,8% of articles, and one article each reported evidence for occupational therapy addressing ADL and caregiver interventions.
Conclusion: Evidence from the past five years reflect diverse occupational therapy interventions with clients with stroke. Gaps in recent evidence remain in relation to context-specific interventions, especially from low- and middle-income countries.

Implications for practice
Occupational therapists adopt a holistic approach to stroke rehabilitation, tailoring interventions to address the multifaceted needs and goals of individual stroke survivors. The effectiveness of individualised, occupation-based approaches across various domains are highlighted.

- Therapists stay informed and up to date about emerging technologies and evidence-based practice to enhance their effectiveness in stroke rehabilitation.
- This review provides evidence of the prevalence of upper limb impairments post-stroke, which will enable therapists to be well-versed in the diverse intervention approaches for upper limb rehabilitation as outlined in the literature reviewed, including technologies like Brain Computer Interface, Mental Practice, Mirror Therapy, and Action Observation Therapy.
- Occupational therapy is vital in addressing cognitive impairments in stroke survivors, and practitioners can apply the evidence provided on interventions such as Virtual Reality and computer-assisted cognitive rehabilitation that have shown promise in improving cognition and ADL.

INTRODUCTION

Cerebrovascular accident (CVA) or stroke is increasing in sub-Saharan Africa and contributes to poverty in the region due to disabling sequelae in people of working age (18yr-65yr)[1,2,3]. Stroke is the second leading cause of death in the world[1,3], with most deaths occurring in low-income regions[2]. Occupational therapists as rehabilitation professionals intervene with stroke to address and remediate the effects of resultant impairment. Occupational therapy's focus in stroke rehabilitation is on the functional performance of day-to-day activities by persons injured by stroke. They use activities that are contextually relevant and meaningful to clients when focusing on a range of functions, including sensory and cognitive, that may be affected by stroke[4].

In South Africa, occupational therapy intervention for stroke is guided by laws and policies (for example, the National Health Act[5] and the Framework and Strategy for Disability and Rehabilitation services[6]) that enshrine the fundamental human right of all people to attain the highest standard of health as stated in the Bill of Rights in the South African Constitution[7]. Since 2012, a phased approach to the implementation of the National Health Insurance Policy was rolled out to promote universal health coverage and realise the equal right to health for all citizens [8]. Professional associations, such as the Occupational Therapy Association of South Africa (OTASA), were approached to describe and define their members' roles and practices within quality healthcare available to all who live in South Africa[9].

OTASA subsequently commissioned a task team to identify and compile practice evidence for occupational therapy services offered in various areas of healthcare, including the pertinent field of rehabilitation for CVA. The aim of this review was to synthesise evidence that describes occupational therapists' practice and intervention in CVA care and rehabilitation at all levels of care, and for all age groups.

METHODOLOGY

Rapid review methodology was selected to address the research aim through producing evidence in a resource-efficient manner[10]. This methodology enables accelerated knowledge synthesis, compared to traditional systematic review procedures, through the omission or streamlining of specific methods of producing evidence for stakeholders[10]. A rapid review approach enabled the researchers to produce high level evidence for decision-making in high priority, emergent, and contextual health questions[10]. The authors of this paper met weekly to ensure consistency and uniformity in approach and support. They are all occupational therapists with both clinical and academic experience, including in lecturing and clinical student supervision. Subject-specific expertise was obtained from one author with practice experience in CVA rehabilitation, and from the standard operating procedure for occupational therapy CVA intervention protocols document that was developed by a collective of expert therapists. The first author was the principal researcher for this review and was assisted by the other authors during all phases of the review.

The Department of Health's Method Guide for Rapid Reviews and Protocol Template for Rapid Reviews[11] were used to guide the review process, as well as the Cochran Rapid Reviews Method Guide[10]. The World Federation of Occupational Therapists' (WFOT) definition of occupational therapy was used to delineate the profession as a client-centred discipline that is concerned with the promotion of health and well-being through occupation[12]. The WFOT stipulates the primary goal of occupational therapy as enabling participation in activities of daily life by enhancing the ability of people and communities to engage in meaningful occupations[12]. OTASA's outline of where occupational therapists work, informed the levels of care to be considered in this review as primary, secondary, and tertiary care institutions[9]. Based on the same outline, practice across the lifespan of stroke survivors receiving occupational therapy was included in this review[9]. The definition of stroke referenced by the OTASA task team that developed the Stroke Rehabilitation Standard Operating Protocol for Occupational Therapy was used in this review, viz. "stroke is a clinically defined syndrome of acute, focal neurological deficit lasting more than 24 hours, attributed to vascular infarction, haemorrhage of the central nervous system"[13].

Setting the research question and topic refinement

The Cochrane Rapid Reviews Methods Group[10] suggests that a review question be defined with stakeholder involvement to ensure fit for purpose. As such, the research question for this review was set with due consideration of the OTASA Standards Protocol Group's work[13], as: *What CVA-related evidence exists for occupational therapy treatment protocols across the human life span?* The population of interest was defined as human beings of all ages, genders, and cultural groups who had sustained brain injury as a result of CVA and sought healthcare at settings at any level or care, and was referred for occupational therapy. Occupational therapy interventions were defined as per WFOT[12] and the OTASA[13] Standard Operating Protocol, and outcomes were considered as functional ability in the engagement of occupations after stroke.

Eligibility criteria

Only peer reviewed, full text articles of systematic reviews (Level 1 evidence[14]) that described occupational therapy decision making, skills, and intervention were considered for inclusion. Two databases, the Cochrane Library and MEDLINE, were searched for evidence. Initially, articles available in English that were published between 1 January 2012 and 31 March 2023 were included which generated a high number of articles. To accommodate the scope of rapid review methodology and timelines of the review, the date range of included articles was then changed to 1 January 2018 to 31 March 2023.

Searching

The two databases were searched with search terms and search strings developed by the authors in research team discussions, PIO (participants, intervention, outcome) term elements, and MeSH (Medical Subject Headings) terms were used:

"cerebrovascular accident or CVA or stroke" AND "occupational therapy or occupational therapist or occupational therapists or OT" AND "systematic review".

Grey literature and supplemental searching were not included. The search generated no systematic reviews that satisfied the eligibility criteria on the Cochrane database (n=0), and 143 articles (n=143) from the MEDLINE database. The PRISMA diagram[15] in Figure 1 (page 3) shows the results of the search, screen, and selection of articles.

Study Selection

The articles were imported to Rayyan et al.[16], a web tool to assist researchers with reviews and knowledge synthesis, to conduct screening and review (Figure, page 88). The first author screened the titles and abstracts of all articles (n=143) for inclusion, and the third author blindly screened 59 (41,3%) of the titles and abstracts (n=59). This author also screened all articles that were excluded by the first author (n=49). Two conflicts were identified after this level of screening and the second author resolved these through further screening.

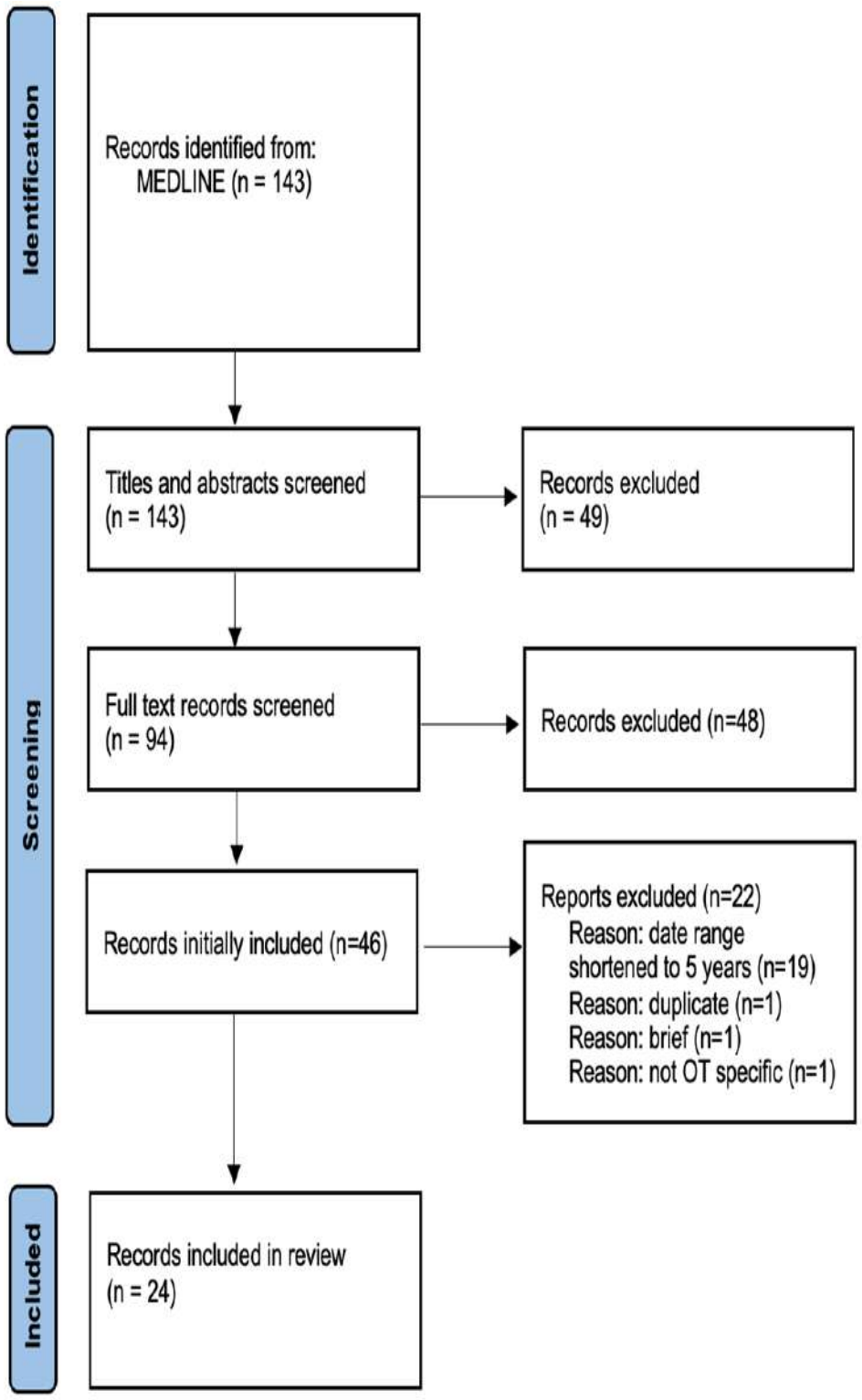

Figure 1: PRISMA diagram

Forty nine articles were excluded after the first level of screening. The first author then did full text screening of the remaining ninety-four articles (n=94), and excluded 48 articles (n=48) because they did not focus on occupational therapy, or were focused on an instrument or equipment rather than an intervention protocol, or did not report a systematic review, or reported on assessment rather than treatment. After full text screening a total of 46 articles were included for review (n=46). Due to the time and scope constraints of a rapid review and evidence of sufficient records available from 2018 to 2023, the time frame of articles included in this review was then further narrowed to the past five years. On this basis a further 22 articles were excluded - 19 that were published before 2018, one that was a duplicate, one that reported a brief of an included article, and one other that did not report on occupational therapy specific intervention. The final number of articles included for review was therefore 24 (n=24).

Risk of bias assessment, quality appraisal, and data extraction

The first author used the Critical Appraisal Skills Programme (CASP) appraisal tool for Systematic Review[17] to evaluate the quality of included articles. Table I (below) shows the quality scores given to articles according to the three answer options: Yes = 2, Can't tell = 1, and No = 0. The total score of each article was converted to be expressed as a percentage value. A higher percentage indicated a better quality article.

An Excel data extraction sheet (Table II. Page 90) was also developed to record quantitative and qualitative data extracted from articles for analysis. Data items that were extracted included participant characteristics, interventions, outcomes, and publication information.

Table I: Type of evidence and CASP rating of included articles.

Article	Type of evidence	CASP rating
Villa-Berges et al.[18]	Systematic review	100%
De Souza et al.[19]	Systematic review	100%
Kerr et al.[20]	Systematic review	80%
Dorsch et al.[21]	Systematic review	90%
Nogueira et al.[22]	Systematic review and meta-analysis	80%
Zhang et al.[23]	Systematic review and meta-analysis	70%
Turville et al.[24]	Systematic review	80%
Barclay et al.[25]	Intervention review	90%
Bai et al.[26]	Systematic review and meta-analysis	70%
Mohammadi et al.[27]	Systematic review and meta-analysis	80%
Green et al.[28]	Systematic review	80%
Mack and Hildebrand[29]	Narrative synthesis systematic review	90%
Gibson et al.[30]	Systematic review	80%
Chen et al.[31]	Systematic review	80%
Nie et al.[32]	Systematic review	80%
Proffitt et al.[33]	Systematic review	90%
Lee et al.[34]	Systematic review	80%
Stewart et al.[35]	Systematic review	80%
Sarfo et al.[36]	Systematic review	60%
Rodríguez-Martínez et al.[37]	Systematic review	60%
McGlinchey et al.[38]	Systematic review	70%
Díaz-Arribas et al.[39]	Systematic review	80%
Peng et al.[40]	Systematic review	80%
Khan et al.[41]	Review of systematic reviews	60%

Synthesis

Quantitative data underwent analysis using Excel. Frequency of treatment protocols described in articles were counted and grouped, and percentages were used to derive meaningful insights. Concurrently, qualitative data were examined for textual elements. Weekly group discussion were held to share and deliberate on the outcomes of analyses, and to address emerging patterns of discrepancies. The first author integrated the insights gleaned from analyses into a coherent whole to synthesise the discussion and conclusions of findings.

Table II: Articles included in the review

Post-stroke focus area	Authors & Publication	Title	Study population	Intervention	Findings
Upper limb	Villa-Berges et al., 2023[18] Occupational Therapy International	Motor Imagery and Mental Practice in the Subacute and Chronic Phases in Upper Limb Rehabilitation after Stroke: A Systematic Review	Clients diagnosed with stroke and upper limb affected, with MI or MP as the only or combined modality, in sub-acute and chronic phases	• Therapist-supervised MI or MP • Conventional PT and/or OT (stretching exercises, NDT, techniques to enhance independent ADL)	MI and/or MP treatment in subacute and chronic phases combined with traditional treatment is more effective in UL motor recovery than intervention with only conventional treatment
	De Souza et al., 2021[19] Occupational Therapy International	Protocols used by occupational therapists on shoulder pain after stroke: systematic review and meta-analysis	Populations that had stroke and sequelae of shoulder pain	Interventions with equipment or resources associated with exercise and functional activities to treat shoulder pain: • TENS • t-NMES • FES-BCI • therapeutic taping • dry needling	• Meta-analysis indicated pain reduction with the main protocols used in shoulder pain, i.e. electrical stimulation (with or without control by brain-machine interface), therapeutic taping, and dry needling. • UL function and ROM are favoured by these treatments.
	Kerr et al., 2020[20] American Journal of Occupational Therapy	Stretching and Splinting Interventions for Poststroke Spasticity, Hand Function, and Functional Tasks: A Systematic Review	≥ 18 yrs with chronic stroke (≥ 6mths) with PSS (poststroke spasticity)	UL stretching and splinting interventions: static and dynamic splinting, manual stretching, stretching devices	Low to moderate strength evidence for effectiveness of stretching interventions aimed at reducing spasticity, increasing hand function, and improving engagement in functional tasks for adults with post-stroke spasticity
	Dorsch et al., 2023[21] Journal of Physiotherapy	Bobath therapy is inferior to task-specific training and not superior to other interventions in improving arm activity and arm strength outcomes after stroke: a systematic review	Adults (ave 49 yrs - 73 yrs) after stroke; ranging < 6 months (acute/subacute) to 4,5 years post-stroke	Therapy based on the Bobath concept, targeting affected UL; compared with different interventions, i.e. general arm movements, task-specific training, robotics, mental practice, or no intervention	• Task-specific training and robotics resulted in improved arm outcomes for stroke when compared with Bobath therapy; • Task-specific training is also superior to Bobath therapy for arm activity and strength outcomes
	Nogueira et al., 2021[22] Brain Research Bulletin	Mirror therapy in upper limb motor recovery and activities of daily living, and its neural correlates in stroke individuals: A systematic review and meta-analysis	Mean age of 59.1 yrs; 8.5 days post-stroke to 4.76 yrs poststroke	Mirror therapy	• MT contributes to improvements in motor and sensory functions, especially compared to standard protocols; • Also showed small benefit (compared to sham therapy) to motor and functional recovery outcome and ADLs
	Zhang et al., 2019[23] PLOS ONE	The effects of action observation training on improving upper limb motor	Participants who had CVA between < 1month ago to > 6 months ago	Task-based AOT or movement-based AOT	• AOT had a significant effect on UL motor functions immediately after intervention; • Task-based AOT may be more effective than movement-based AOT

		functions in people with stroke: A systematic review and meta-analysis			
	Turville et al., 2019[24] Clinical Rehabilitation	The effectiveness of somatosensory retraining for improving sensory function in the arm following stroke: a systematic review	199 stroke survivors; ave age = 59.5; ave 1.8 yrs post-stroke (ranged 3 wks to 6.2 yrs); > male participants; almost equal R- and L-sided stroke	Retraining somato-sensation or combined somatosensory and motor retraining	• Somatosensory discrimination retraining may improve stroke survivors' ability to discriminate bodily sensations in the arm and hand; • Limited evidence for somatosensory discrimination retraining facilitating arm function
	Barclay et al., 2020[25] Cochrane Database of Systematic Reviews	Mental practice for treating upper extremity deficits in individuals with hemiparesis after stroke.	Individuals with hemiparesis after stroke; in settings - clinic, home, research laboratory, or unclear	MP of UL movement or tasks in addition to other treatment or standalone	• Moderate-certainty evidence shows that MP with other treatment appears more effective in improving UL activity than the other treatment alone; • Also beneficial in improving UL impairment; • ADLs may not be improved with MP in addition to other treatment
	Bai et al., 2020[26] Journal of NeuroEngineering and Rehabilitation	Immediate and long-term effects of BCI-based rehabilitation of the upper extremity after stroke: a systematic review and meta-analysis.	Persons with hemiparesis after stroke; mean age range 40.94 - 67.1 yrs	BCI-orthosis, -exoskeletan, - visual feedback or somatosensory feedback, - robot, conventional rehabilitation and visual feedback, standard training and orthosis, -FES, and other	• BCI training is safe after stroke and had significant immediate effects on improvement of upper extremity motor function; • BCI seem more effective than MI-based BCI; • FES may be more useful device triggered by BCI for functional recovery than other kinds of neural feedback
Balance	Mohammadi et al., 2019[27] Journal of Stroke and Cerebrovascular Diseases	Effects of Virtual Reality Compared to Conventional Therapy on Balance Poststroke: A Systematic Review and Meta-Analysis	Mean ages ranged 51.96 yrs - 64.85; poststroke periods ranged recent (>15 days) - chronic (>6 months)	• VR and conventional therapy	VR combined with conventional therapy is moderately more effective in improving balance than conventional therapy alone in post-stroke individuals.
	Green et al., 2019[28] American Journal of Occupational Therapy	Systematic Review of Yoga and Balance: Effect on Adults With Neuromuscular Impairment	Community-dwelling persons post-stroke	Yoga-based intervention (beginner yoga group sessions, and yoga group sessions)	Yoga has potential as an effective modality in occupational therapy intervention to improve balance post-stroke, and to reduce risk of falls in community-dwelling older persons with stroke
Caregivers	Mack and Hildebrand, 2023[29] American Journal of Occupational Therapy	Interventions for Caregivers of People Who Have Had a Stroke: A Systematic Review	Adult caregivers (>18y) of someone with stroke	• CBT techniques • Caregiver education only • Caregiver support only • Education and support • Multimodal interventions	• OT has a role in helping caregivers maintain participation in caregiving. • Problem-solving interventions, CBT, education and training, and support interventions (or a combination of approaches) should be used by OTs • Intervention should be provided before discharge, in person in health care settings, in the home, and remotely

Cognition	Gibson et al., 2022[30] Cochrane Database of Systematic Reviews	Occupational therapy for cognitive impairment in stroke patients.	Adults with clinical stroke & confirmed cognitive impairment; • ages 43 – 81 yrs; • 1142 participants; • 2 wks to 8 yrs since stroke; • in hospital/rehab centre/out-pts	Remediation approaches: • CBI • pen and paper materials Compensatory and adaptive approaches: • ADL strategy training • ADL GUIDE training • Home Automation training • Dressing training	• Effectiveness of OT for cognitive impairment post-stroke is unclear • Little to no clinical difference in BADL immediately after intervention and at 3- and 6-months follow-up • Slight improvement in global cognitive performance of clinically important difference immediately after intervention
	Chen et al., 2022[31] Archives of Physical Medicine and Rehabilitation	Effects of Virtual Reality Rehabilitation Training on Cognitive Function and Activities of Daily Living of Patients With Poststroke Cognitive Impairment: A Systematic Review and Meta-Analysis	35y - 85y; in-hospital	Conventional therapies (rehabilitation therapy; drug therapy) and VR training	• VR training improved cognitive function and ADL in post-stroke cognitive impairment and ADL • VR rehabilitation training can be widely used in clinical rehabilitation as complementary strategy to conventional cognitive rehabilitation
	Nie et al., 2022[32] Journal of Clinical Nursing	The effects of computer-assisted cognitive rehabilitation on cognitive impairment after stroke: A systematic review and meta-analysis	18 yrs – 85 yrs	Computer-assisted cognitive rehabilitation, incl. • Rehacom software • Brain Train System • Individually tailored computer-aided programs	Computer-assisted cognitive rehabilitation added to conventional therapy significantly improved global cognition and ADL of patients with post-stroke cognitive impairment
Social participation, work, leisure	Proffitt et al., 2022[33] American Journal of Occupational Therapy	Interventions to Improve Social Participation, Work, and Leisure among Adults Poststroke: A Systematic Review	Post-stroke (or caregiver), ≥ 18 yr	• Occupation-based approaches, metacognitive strategy training • Education and training approaches • Impairment-based approaches • Enriched environment approaches	• There is low strength evidence for occupation-based and problem-solving approaches • Moderate evidence for group-based approaches
	Lee et al., 2019[34] Archives of Physical Medicine and Rehabilitation	Content and Effectiveness of Interventions Focusing on Community Participation Poststroke: A Systematic Review	Mean age range 46-73 yrs; mean time post-stroke ranged 80 days - 7 yrs;	• Leisure participation and community integration in community or hospital; • delivered in one-on-on format or groups, or combined; • for 6 weeks to 12 months	• Limited positive effects on participation, depression and health-related quality of life • Community participation-focused interventions seem to have a promising effect on these outcomes when interventions were individualised and aimed to empower people with tools to manage community participation

ADL	Stewart et al., 2018[35] PLOS ONE	Non-pharmacological interventions for the improvement of post-stroke activities of daily living and disability amongst older stroke survivors: A systematic review	≥ 65y or mean age must be ≥ 65y	Various in-hospital and home-based interventions	• Some evidence shows that additional OT can benefit older stroke survivors' ADL • No evidence suggested that additional OT can improve post-stroke disability
Global	Sarfo et al., 2018[36] Journal of Stroke and Cerebrovascular Disease	Tele-Rehabilitation after Stroke: An Updated Systematic Review of the Literature	Not specified	Interventions for different impairments: • Motor rehabilitation (hemiparesis and UL limitations) • Interventions for ankle disability • Guttman Neuro Personal Trainer cognitive tele-rehabilitation (higher cortical dysfunction) • Intervention for depression	Tele-rehabilitation for motor and high cortical deficits and post-stroke depression appears as effective as in-person therapies, if not better
	Rodríguez-Martínez et al., 2021[37] International Journal of Environmental Research and Public Health	Evidence of Animal-Assisted Therapy in Neurological Diseases in Adults: A Systematic Review	Clients with stroke	Animal-assisted therapy (AAT) with horses: • grooming and equipping horse • equestrian activity • balance exercises • trunk rotation exercises • exercises to train affected parts • cognitive exercises • strength exercises • relaxation • body awareness • deep, slow breathing	• Significant results in perception of recovery up to 6 months after intervention; • Improved QoL in caregivers after intervention up to 3 months later; • Effectiveness in improving gait and functional mobility observed
	McGlinchey et al., 2020[38] British Medical Journal	The effect of rehabilitation interventions on physical function and immobility-related complications in severe stroke: a systematic review	Patients with severe stroke - ≥ 18 yrs; mean age 72.7 yrs	Non-surgical or non-pharmacological interventions used in current clinical practice as part of usual rehabilitation care after stroke, to manage problems relating to physical function or immobility-related complications	• Very early mobilisation and OT in care homes were no more effective than usual care • Wrist and finger NMES improve wrist extensor and grip strength • Additional UL and LL training improves UL and LL function respectively • Improvement in independent ADL and gait, and gait speed

	Díaz-Arribas et al., 2020[39]
	
	Disability and Rehabilitation
		Effectiveness of the Bobath concept in the treatment of stroke: a systematic review.	Adults with stroke	• PNF compared with Bobath compared with conventional treatment:
				  ○ traditional exercises
				  ○ functional activities
				• NDT compared with robot-assisted therapy
					• Constraint-induced therapy shows greater effectiveness in UL treatment/rehabilitation than Bobath therapy
					• UL training shows greater effectiveness than conventional therapy (incl. Bobath concept)
					• Multimodal interventions and treatments where Bobath is used are more effective combined with intensive therapy for UL

				• Constraint-induced movement therapy compared to NDT • Standardised dose-matched NDT exercises compared to BATRAC • Bobath compared to orthopaedic approach • Arm BASIS training	
	Peng et al., 2019[40] Clinical Rehabilitation	Action observation therapy for improving arm function, walking ability, and daily activity performance after stroke: a systematic review and meta-analysis.	600 clients; mean age 48.65 to 78.8 yr; mean stroke onset time varied 17.8 to 1472.9 days	Clients asked to watch video of arm and hand ROM exercises, reaching and grasping movements, walking on different surfaces	Moderate to large effects sizes on improving arm and hand motor function, walking ability (acute/subacute/chronic phases), gait velocity, and daily activity performance compared with control treatments
	Khan et al., 2019[41] Annals of Physical and Rehabilitation Medicine	Non-pharmacological interventions for spasticity in adults: An overview of systematic reviews.	Not specified	• Acupuncture (incl. electro-acupuncture) • Electrical stimulation • Multidisciplinary rehabilitation after BoNT injections	• Electro-acupuncture combined with conventional routine care reduce spasticity, improve overall motor functions and ADL • NES combined with other interventions improve spasticity and joint ROM • Some evidence for rehabilitation programs targeting spasticity (e.g. mCIMT, stretching, dynamic elbow splinting and OT)

BCI=brain-computer interface; UL=upper limb; MI=mental imagery; FES=functional electrical stimulation; MP=mental practice; MT=mirror therapy; ADL=activities of daily living/life; AOT=action observation training; ROM=range of movement; AAT=animal assisted therapy; QoL=quality of life; NMES=neuromuscular electrical stimulation; BoNT=botulinum toxin-A; VR=virtual reality; CBT=cognitive behavioural therapy

Reporting of results

The preliminary results of this review were presented to stakeholders at an online OTASA webinar during May 2023. These were member and non-member occupational therapists of the Association from different fields of clinical and non-clinical practice (for example, academia), and OTASA management. Two hundred and seventy four attendees were present and were encouraged to participate in discussion, feedback, and questions. The webinar engagement was used to refine the discussion and conclusions in this article.

RESULTS

Twenty-four systematic reviews were included for analysis in this review (Table I page 89). Occupational therapy for upper limb impairment after stroke was reported by the largest proportion of articles (n=9; 37,5%), followed by articles that reported occupational therapy for global improvement in function (n=6; 25%). Three articles (12,5%) focussed on cognitive interventions, and two articles (8,3%) reported occupational therapy to address balance, and leisure, social participation and work grouped together. One article (n=1; 2,4%) reported interventions for improvement of ADL generally, and another on interventions with caregivers of stroke survivors.

Occupational therapy rehabilitation for upper limb after stroke

Populations of clients who received upper limb rehabilitation after stroke included adults (>18 years) with upper limb impairment up until the age of 73 years, and their recovery spanned acute (8.5 days post-stroke) to chronic (6.2 years post-stroke) stages. Only one article reported intervention settings clearly as either at a clinic, at a client's home, or in a research laboratory[25]. Other articles were not specific about where intervention took place.

One article did not specify if the protocol under scrutiny was offered by an occupational therapist or another rehabilitation professional, but the authors included occupational therapists. These authors reported on the use of brain-computer interface (BCI) technology in post-stroke upper limb (UL) interventions by occupational therapists[26]. The researchers confirmed that BCI in combination with traditional treatment, to treat UL motor impairment and motor activity after stroke. Nogueira et al.[22] also found that mirror therapy (MT) is used in occupational therapy to improve UL motor and sensory functions as well as in motor and functional recovery outcomes and activities of daily living (ADL).

Action Observation Training (AOT) was reported to be used by occupational therapists with significant effect on UL motor function improvement after stroke, with task-based AOT being more effective than movement-based AOT[23]. Occupational therapists further retrain somatosensory components of the UL to improve sensory discrimination in the arm and hand of stroke survivors[24].

De Souza et al.[19] reviewed evidence for the use of electrical stimulation, dry needling, and therapeutic taping, as the primary occupational therapy protocols used to reduce shoulder pain after stroke. The authors found that these protocols deliver related positive outcomes for upper limb function and range of movement (ROM). One article reviewed intervention for post-stroke upper limb spasticity and found that occupational therapists use stretching interventions with static and dynamic splints, passive and active manual stretching and passive stretching devices, for example, resting hand splints, effectively to reduce spasticity, increase hand function, and to improve engagement in functional tasks[20].

A review by Dorsch et al.[21] concluded that task-specific training and robotics are used by occupational therapists to improve upper limb activity and strength with greater success than with Bobath therapy.

Occupational therapy interventions for global improvement after stroke

Seven articles reported reviews on occupational therapy interventions that address the global functioning of clients after stroke, ranging from interventions for post-stroke UL limitations, mobility functions, and balance, to interventions for daily activity performance. One article reported and updated systematic review of evidence for tele-rehabilitation[36], while the rest of the articles reported on face-to-face or in-person interventions[37,38,41,39]. Sarfo and colleagues[36] reviewed tele-rehabilitation for persons with stroke injury that is used by rehabilitation therapists (including

occupational therapists). Therapists offered motor rehabilitation for hemiparesis and UL limitations, interventions for ankle disability, cognitive rehabilitation, and depression through tele-media such as telephones and videoconferencing. The review concluded that tele-rehabilitation was effective in treating motor and high cortical deficits, as well as depression post-stroke.

Rodríguez-Martínez et al.[37] systematically reviewed evidence about animal-assisted therapy (AAT) with dogs and horses to inform activity-based occupational therapy practice for clients with stroke. They evidenced that AAT significantly improved clients' perception of recovery up to six months after intervention, that the quality of life (QoL) of caregivers improved up to three months after intervention, and that clients' gait and functional mobility effectively improved.

Two articles, one systematic review and one overview of systematic reviews, focused on non-pharmacological interventions aimed at relieving spasticity and immobility-related complications along with physical function after severe stroke. McGlinchey and colleagues[38] concluded that very early mobilisation and occupational therapy after severe stroke in care homes were no more effective than usual post-stroke care for the improvement of physical function and immobility-related complications. An improvement was found in independent instrumental ADL (those ADL that enable the individual to live independently in their community), gait, and gait speed, however, only when additional upper and lower limb training were offered to usual rehabilitation care. Additional wrist and finger Neuromuscular Electrical Stimulation (NMES) in conjunction with usual care also brought about improvement in wrist extensor and grip strength, but not necessarily in ADL performance. Khan et al[41] considered the effectiveness of occupational therapy with dynamic elbow extension splinting as part of multidisciplinary rehabilitation that follows post-stroke Botulinum Toxin-A (BoNT) injections. They concluded that very low quality evidence suggests that dynamic elbow splinting and occupational therapy can improve elbow range of motion after stroke.

One article considered the effectiveness of the Bobath concept in post-stroke rehabilitation, compared to conventional treatments such as functional activities and orthopaedic approaches that promote compensation of lost function[39]. They found that training via forced use of an affected upper limb (with/without the use of robotic aids, and with/without restriction of movement of the non-affected upper limb) was more effective in addressing motor control and upper limb dexterity compared to the Bobath concept. The authors further concluded that the Bobath concept did not prove to be superior in treatment of post-stroke balance disorders[39].

A final article reported moderate to large effect sizes on the use of AOT after stroke to improve arm and hand motor function, gait velocity, walking ability, and daily activity performance, when compared with conventional occupational therapy[40].

Occupational therapy intervention for cognitive impairment after stroke

Three articles reported occupational therapy intervention focused on improving cognitive impairment as a result of stroke[31,32,30]. These included two systematic reviews that reported promising findings about the use of computer-based activities used in combination with conventional cognitive rehabilitation. Chen et al.[31] reviewed the use of Virtual Reality (VR) together with conventional rehabilitation therapy and the effect thereof on cognitive function and ADL in stroke survivors between 34 and 86 years of age. Their review concluded that the combination of VR training and conventional rehabilitation resulted in improved cognition and ADL outcomes for this population, and that VR rehabilitation training can be used widely as complementary to conventional cognitive rehabilitation. Nie et al.[32] reviewed the effects of various software packages and computer-based cognitive training systems on cognitive impairment after stroke, and found that 18 to 85-year old clients with cognitive impairment due to stroke, showed significant improvement in ADL and global cognition when computer-assistive cognitive rehabilitation is added to conventional therapy.

One article reviewed remediation approaches (e.g. using pen and paper materials) and compensatory and adaptive approaches (e.g. ADL strategy training) used by occupational therapists with stroke patients with cognitive impairment[30]. They found that these interventions resulted in little to no clinical difference in the performance of basic ADL (BADL), and a slight improvement in global cognitive performance. There was, however, no clear effectiveness of occupational therapy for cognitive impairment after stroke identified.

Occupational therapy post-stroke interventions for balance

Two systematic reviews considered post-stroke interventions done by rehabilitation professionals to address balance impairment. Mohammadi et al.[27] reviewed studies where VR was used in combination with conventional rehabilitation (stretching, range of motion, therapeutic exercises, strengthening, FES, neurodevelopmental treatment, gait and balance training, and functional activities) with persons ranging in mean ages from 51.96 to 64.85 years. Periods of post-stroke were from recent (>15 days) to chronic stages (>6 months). VR training included the use of speakers, monitors, and static or dynamic balance training surfaces or floor space (i.e. non-immersive systems). The reviewers' main finding was that VR, when combined with conventional therapy, was moderately more effective in improving balance in post-stroke individuals.

The second review focused on the use of yoga in addressing balance with adults with neuromuscular impairment as a result of various conditions, including stroke[28]. The population of interest was older persons who lived in the community and the aim of the review included ascertaining whether yoga for balance affected risk of falls. Yoga-based intervention comprised beginner yoga group sessions, and yoga group sessions. The latter, which was offered twice a week for eight weeks, resulted in significantly improved balance baseline scores for individuals. The review concluded that occupational therapists can use yoga as an effective modality to improve balance in people with stroke.

Occupational therapy with caregivers of persons with stroke

One review addressed the role of occupational therapists in supporting and enabling caregivers of persons with stroke. Mack and Hildebrand[29] systematically reviewed studies focused on interventions with adult caregivers (>18 years) of persons with stroke. Reviews considered the use of caregiver education and support, Cognitive Behavioural Techniques (CBT), and multimodal interventions with this group. They concluded that occupational therapists have a role in enabling caregivers to maintain participation in the occupation of caregiving. The review further found that CBT, problem-solving interventions, education, training, and support interventions (or these approaches in combination) should be offered to caregivers before discharge of the person with stroke. These could, alternatively, be offered in person in health care settings, in the home, or even remotely.

Occupational therapy to improve work, social participation, and leisure after stroke

Two systematic reviews reported occupational therapy interventions for the occupational categories of social participation, work, and leisure. Proffitt and colleagues[33] included studies that focused on persons with stroke or caregivers that were 18 years and older. These studies reported on metacognitive strategy training, occupation-based approaches, impairment-based approaches, education and training approaches, and enriched environment approaches used in occupational therapy with stroke clients. For each approach, a number of intervention aspects were reported,

specifically: individual-focused problem-solving, cognitive orientation to daily occupational performance, group-based interventions, client education, community-based with follow-up, caregiver education, upper extremity training, cognitive training, visual scanning training, individual exercise and balance training, group intervention, work, and leisure. Their review concluded that improvement in the social participation, social functioning, or social roles of post-stroke clients, were found in primarily occupation-based studies. According to their quality rating used in the review, strength of evidence for problem-solving approaches and occupation-based were low while evidence for group-based approaches was of moderate strength.

Lee et al.[34] reported studies done with persons of mean ages 46 to 73 years who sustained stroke from 80 days up until 7 years later, and reviewed the content and effectiveness of interventions that were focused on community participation for this population. They considered occupational therapy interventions in both community and hospital settings that were delivered in individual, group, or combined formats, over periods of six weeks to 12 months. Interventions that prioritised community participation, coupled with individualised approaches to empower people with tools for management of their participation, yielded promising effects on health-related quality of life, participation, and depression.

Occupational therapy intervention for ADL

The involvement of occupational therapy as non-pharmacological intervention after stroke to improve activities of daily living was considered in one systematic review. The review focused on older stroke survivors (older than 65 years or mean age > 65 years) and included 12 randomised control trials with a wide range of occupational therapy interventions[35]. These interventions included group-based assistive device demonstrations in hospital and additional home-based training, facilitating more independence in ADL and return to function, and the teaching of new skills. Further interventions were to enable the use of the supplied equipment, giving information to participants as well as carers, referring to or liaising with other agencies, and strategy training to compensate for apraxia during ADL performance. Occupational therapy that was provided quicker and more often, and home visits with individual goals for self-care were, furthermore, reported in the review. Other occupational therapy interventions involved participation in domestic and leisure activities, addressing outdoor mobility goals, and leisure activity focused interventions. The review concluded that evidence suggests benefit to older stroke survivors' ADL performance with occupational therapy sessions offered additionally to usual occupational therapy intervention. However, one approach is not evidently more beneficial than another. They further surmised that ADL focused therapy is important in stroke rehabilitation, although optimal intensity and/or duration of intervention have not been determined yet.

Ethical considerations

Ethical clearance was not required for this review as no primary data collection was done. The quality and bias of selected articles were tested to ensure quality results to inform the question of this review.

DISCUSSION

Articles included in this review report provided an overview of occupational therapy interventions for stroke survivors that were recorded and published over the past five years (2018 - 2023). One article offered a review of 18 other systematic reviews41, while the rest of the articles (n=23) reported systematic reviews completed by the authors of these articles. Included articles satisfied the lead author's assessment of risk of bias and quality in a range from 60% to 100%. A comprehensive overview of the various occupational therapy interventions for stroke survivors were reported that covers a range of domains including upper limb rehabilitation, global functioning, cognitive impairment, balance, caregiver support, social participation, work, leisure, and ADL. These were considered only in terms of persons 18 years and older receiving post-stroke occupational therapy, and, therefore, excluded clients from 13 months of age until 17 years old[13]. The higher prevalence of stroke in adult and older life stages may explain the focus of reviewed articles reflected over the past five years. Nevertheless, review findings demonstrate the wide variety of occupational therapy interventions available for stroke survivors that reflect the multifaceted nature of stroke recovery and are tailored to address specific impairments and needs of individuals.

Further reported evidence reflect a lack of focus on occupational therapy's role in vocational rehabilitation and return to work13 or reviews of occupational therapy for driving post-stroke as an aspect of mobility.

No studies in this review (with the exception of one that focused on improvement in ADL[35]), specified the settings within which post-stroke occupational therapy was offered, although inference was possible from reports on the stages of recovery as acute to chronic. Such lack of reporting may be significant in the context of local service provision with a primary healthcare and community-based rehabilitation focus, if evidence for the profession is rendered primarily from high income countries with different healthcare settings, approaches and priorities.

Findings from this review indicate an emphasis on occupational therapy interventions for upper limb impairments, suggesting the profession's focus on the specific challenges associated with stroke. The array of intervention approaches reported to treat post-stroke UL impairment, illustrates occupational therapy's potential for innovative practice and the use of new methods and technologies, such as BCI and VR. Other innovative rehabilitative approaches, including the use of tele-rehabilitation in the treatment of motor deficits and cognitive impairments, illustrate the profession's alignment with global trends of integrating technology with healthcare services to overcome geographical and accessibility barriers. The role and utilisation of technology in stroke rehabilitation continued to present throughout the literature on occupational therapy approaches to cognitive rehabilitation and interventions to improve balance after stroke. In the context of South Africa's under-resourced public health system, the availability, access to, and use of technology by South African occupational therapists in stroke rehabilitation requires consideration if rehabilitative interventions were to benefit local clients optimally.

Caregivers of stroke survivors also benefit from occupational therapy intervention. Providing caregivers with CBT techniques, education, training, and support can help them cope with the challenges of caregiving and in maintaining their own well-being. Occupational therapy interventions further extend beyond physical rehabilitation to promote social participation, work, and leisure activities. Individualised, occupation-based approaches were found to be somewhat effective, emphasising the importance of tailoring interventions to the individual's needs and goals.

Occupational therapy interventions targeted at improving ADL performance in older stroke survivors were shown to be beneficial. The review highlighted the diversity of intervention approaches, suggesting that a personalised approach may be more effective.

While this review provides valuable insights into the effectiveness of various occupational therapy interventions, it also identifies areas where further research is needed. Our review underscores the pressing need for contextually relevant studies utilising experimental designs, particularly in South African context, where there was a notable scarcity of research contributions within the scope of the review. Future studies should aim to clarify the optimal intensity and duration of interventions, determine long-term outcomes, and explore the cost-effectiveness of these approaches. Of interest would, furthermore, be the level of training, skills and

experience of therapists offering sophisticated stroke rehabilitation in South Africa.

The findings from this review imply that occupational therapists should consider a holistic approach and tailor interventions to the specific needs of stroke survivors. Additionally, in the advent of emerging technological approaches therapists should stay informed about technologies and evidence-based practices to promote their effectiveness in stroke rehabilitation.

Limitations

The scope of this review did not include assessment protocols, methods, and instruments/tools used by occupational therapist in post-stroke care.

No articles reported occupational therapy intervention with post-stroke oedema in particular, while prevention and intervention for clients with swelling in extremities after stroke are included in South African protocols of occupational therapy[13]. Occupational therapy protocols for paediatric clients, including learners of school age were not included in the scope of this review and would require a focused separate review to render more age specific interventions.

CONCLUSION

This rapid review has provided a comprehensive overview of occupational therapy interventions for stroke survivors, drawing from level one and double peer-reviewed evidence published over the past five years. The diverse interventions reported shows the multifaceted nature of stroke recovery and the profession's commitment to addressing impairments and individual needs. However, analysis has highlighted critical research gaps on the role of occupational therapy in stroke rehabilitation with clients participate in post-school or higher learning environments, as well as in vocational rehabilitation and post-stroke return to work. Additionally, a lack of attention to occupational therapy's involvement in post-stroke driving rehabilitation was exposed. Moreover, the absence of specified settings within which post-stroke occupational therapy is offered raises questions about the applicability of evidence generated primarily from high-income countries to settings with different healthcare approaches and priorities.

Conflicts of interest and funding information

The authors have no conflict of interest to declare. The Occupational Therapy Association of South Africa (OTASA) requested the authors to do this rapid review and they were remunerated by the association.

Author contributions

All listed authors planned and participated in the review. Shaheed M Soeker initiated and supervised the review and Madri Engelbrecht led the construction of the article, and drafted it. Hester van Biljon, Janke van der Walt, and Shaheed M Soeker reviewed and contributed to the article in its various iterations.

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[OPINION PIECE]

School-related gender-based violence: A call for action in occupational therapy

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ABSTRACT

School-related Gender-based Violence (SRGBV) is a sub-set of gender-based violence (GBV) that occurs in primary and secondary school settings. SRGBV is a daunting reality, a crime against humanity, and therefore a human rights issue. Responsive SRGBV programmes need to be dynamic, and determined by the needs of communities and learners. If the Department of Basic Education (DBE) wants to remain relevant in supporting communities into becoming safe spaces for all, it needs to promote safe community models with adequate flexibility. Although school-based occupational therapists are a human resource of the DBE, traditionally occupational therapists have not been involved in addressing SRGBV in school settings in South Africa.

Implications for practice:
This opinion paper elaborates on the context within which school-based occupational therapists can reframe SRGBV as an occupational injustice, and develop life skills interventions that address SRGBV. Recommendations for action are made using existing frameworks such as the Participatory Occupational Justice Framework, and the INSPIRE framework of the United Nations. It encourages school-based occupational therapists to become activists that promote occupational justice, and are leaders in the prevention of and intervention for SRGBV.

INTRODUCTION

School-Related Gender-Based Violence (SRGBV) is widespread problem that affects millions of children, adolescents, families, and communities around the world. In 2006, the South African Human Rights Commission highlighted that "*the environment and climate necessary for effective teaching and learning is increasingly undermined by a culture of school-based violence and this is becoming a matter of national concern*"[1:1]. Safety in schools is the key aim of the National Development Plan (NDP) which states that "*in 2030 people living in South Africa…feel safe at home, at school and at work, and enjoy an active community life free of fear*" [2:73]. In addition to this, the main objective of the National School Safety Framework (NSSF) is to create schools that nurture supportive learning environments and create a safe space where all involved in the school system feel welcome (i.e. learners, educators, principals, administrative staff, and School Governing Body (SGB) members)[3].

Shifting the culture of school-based violence requires a collective response from all stakeholders, including occupational therapists who work in schools. Occupational therapists view people through an occupational lens, while considering the internal and external factors which potentially influence individuals' engagement in certain occupations. According to Feldhacker, Cerny, Brockevelt and Lawler[4], children are occupational beings who are born with a natural desire to experience learning, control, and mastery. Their ability and intrinsic motivation to engage in occupations is what provide purpose and fulfilment, improve their

general quality of life, enable their physical and emotional health and well-being, and organize their behaviour. School takes up a big portion of children and adolescents' time. It is therefore critical that school-based occupational therapists play a role in creating school environments where learners feel safe, and are able to pursue this natural desire for learning, control and mastery. This opinion piece highlights the phenomenon of SRGBV and its impact on experiences of occupational justice, and suggests a starting point for interventions that occupational therapists working in schools can offer.

Understanding SRGBV and its consequences

School-related Gender-based Violence occurs in a variety of ways, in a variety of places, and between different people.

> *"School-related [gender-based] violence is typically defined as any acts of violence that take place inside an educational institution, when travelling to and from school or a school-related event, or during such an event. These school-based acts of violence can be both physical and non-physical and may or may not result in bodily or emotional harm to the victim. This violence typically takes the form of learner-on-learner, learner-on-educator, educator-on-educator, and educator-on-learner violence and severely disrupts the normal functioning of the schooling system"*[3:5].

According to UNGEI and UNESCO[5], the manifestations of SRGBV may vary. It may include physical, sexual or psychological acts of violence that are inflicted on people in and around the school environment because of various stereotypes, norms and roles that are expected of or assigned to them in terms of either their gender or sexual identity. It furthermore alludes to the differences between how males and females experience vulnerabilities and how they react to violence. The types of violence include corporal punishment, bullying, sexual assault or non-consensual touching, sexual harassment, seduction, sexual acts in exchange for favours, encouragement of male dominance and aggression within the school setting. Often the primary intent of SRGBV is to reinforce gender roles, and to perpetuate gender inequalities that are ingrained in society's unequal power relations.

SRGBV hampers the well-being and health of those who find themselves in the school environment, while preventing many learners in South Africa from embracing their schooling experience fully[6]. SRGBV poses a huge risk to occupational performance since it negatively impacts on educational achievement of learners, and reduces the productivity of school personnel. For example, SRGBV negatively impacts on learners' intellectual capacity which in turn hampers their abilities to advance in school[7]. It furthermore has an impact on the physical and psychological health of all those involved[8]. Physical health consequences may include the following acts: forced sex, exposure to sexually transmitted diseases, unwanted conception, pregnancies, childbirth, abortions and even death. Psychological consequences may include delayed development of social skills and positive self-esteem. It may also result in anxiety and depression, impaired concentration and decision-making skills, feelings of guilt, insomnia, substance use, suicide ideation, aggression, and school dropout. Ripple effects may come into play i.e. learners who are exposed to SRGBV may become perpetrators of violence themselves[5,7].

According to UNESCO and UN Women[9], SRGBV violates children's rights to education and limits their ability to enjoy the benefits of education and participate fully in their individual and social development. It also violates children's right to security, privacy, integrity, freedom, and often also their right to life[7]. This means that SRGBV hampers the well- being and health of many learners in South Africa, as it prevents them from embracing their schooling experience fully[6].

The role of schools in addressing SRGBV

According to Psaki et al.[10], schools are the most important socializing environments outside of the family structure. Schools are not isolated from the outside world but perpetuate traditions, culture, norms, customary laws, and the governmental policies that exist in countries and communities. The experiences of both learners and staff inside and outside school settings are contributory factors that inform the individuals' ideas of the world and how they are supposed to function[11]. Schools often become the breeding grounds where various sources of disadvantage play out or are reinforced[10]. Patterns of school violence reflect the broader inequitable social and gender norms, as well as the power imbalances and dynamics between adults and children, and between women and men or girls and boys[12].

Schools need to protect and promote human dignity and must therefore be free from SRGBV[7]. Schools must also mirror the central rights of children as stipulated in United Nations Convention of the Rights of the Child (CRC) of 1989. Equally important are the rights of the school personnel. Consequently, Magalhães et al.[6] explain that schools represent an important place for SRGBV awareness raising, addressing family and gender violence, as well as supporting learners and parents affected by it[7]. Preventative measures and interventions should also extend beyond school grounds, and adopt an ecological or whole school approach to safety in schools[13].

The role of occupational therapists as change agents for SRGBV

Occupational therapists are one of the human resources available in schools who have the competencies to address some of the education and health consequences of SRGBV, as well as contribute to awareness raising and prevention. The World Federation of Occupational Therapists (WFOT)[14:1] states that *"the role of occupational therapist is to enable, support and promote full participation and wellbeing of students by supporting the strengths and finding solutions, reducing or removing learning activity limitations and participation restrictions"*. However, as an occupational therapist with extensive experience working with children and adolescents in a psychiatric hospital, and in the schooling system, the first author (SSF) noticed that the occupational therapy approach to practice was more holistic in mental health services than in the school system. This is echoed by Galvaan, Peters, and Gretschel[15], who highlight that the predominant focus of occupational therapists working in schools are interventions for learners with disabilities and barriers to learning. UNESCO and UN Women[9], argue that these practices do not necessarily address the many other challenges that learners are facing in the real world daily and dual economy of schooling. Nevertheless, Sonday et al.[16] also point out that occupational therapists' roles extend beyond the traditional 'one-on-one' treatment sessions with disabled learners and those with developmental delays and learning difficulties. It is important to note that our role within the education system also incorporates multidisciplinary team collaboration inside and outside of the school environment, referrals and follow-up, support and empowerment of educators, advocacy, and policy development that extends into parental support and community development[16].

The discipline of occupational therapy has reflected on how to become a more politically and socially responsible profession, with calls for politically informed transformative approaches[17]. Occupational justice includes the right to participate in diverse and meaningful occupations to meet one's basic needs, and have equal opportunities and life chances to achieve ones potential[18]. Victims

and perpetrators of SRGBV may lose their opportunity and chances to achieve their potential, as a result of the health and educational occupational injustices, so that people have consequences of SRGBV. Even if not directly involved in an instance of SRGBV, and teachers may still experience occupational injustice. Occupational deprivation is a risk factor for occupational injustice that is the social consequence of broad political and social forces that deprive individuals of engaging in meaningful activities due to circumstances that are outside of their control[19]. SRGBV is one such social force that falls outside the control of learners, teachers, parents, and the broader community. Magalhães t al.[20] point out that children are supposed to feel safe and protected within and around schools, but often this is not the case due to SRGBV. Feelings of being unsafe and at risk may deprive children and adolescents of their right to education, and restrict their ability to enjoy the benefits that accompany education, and to participate fully in their individual and social development[7].

Interventions informed by occupational justice and the INSPIRE framework

School-based occupational therapists can work within the parameters of existing frameworks to address SRGBV. The Participatory Occupational Justice Framework is directed towards achieving social inclusion by highlighting and addressing occupational injustices, so that people have the resources, capabilities, and opportunities to be able to participate in life and make a contribution to society[21]. This article is a step towards the process of raising consciousness of occupational injustice for victims and perpetrators of SRGBV, as well as others in the school community. Other processes to enable occupational justice within this framework include engaging collaboratively with partners across the school, including learners, teachers, and other staff, parents, and the broader community; co-developing plans to address SRGBV within a particular school or community; identifying strategies to find the resources needed to support action and continuous evaluation; and finally to inspire advocacy against SRGBV in all its forms, so that the fight against SRGBV is sustainable[22].

The World Health Organisation's INSPIRE strategy is a second framework using an integrated approach to assist those committed to preventing and responding to violence against children[23]. The seven strategies in this framework include implementing and enforcing laws, altering values and norms, creating safe environments, caregiver and parent support, economic and income strengthening, support and response services, and life skills and education. We believe occupational therapists can promote occupational justice, across all seven strategies, using the strategies outlined in Table I (below).

Table I: Life Skills Programme Content to Address SRGBV and Enable Occupational Justice

INSPIRE STRATEGY	PROCESSES TO ENABLE OCCUPATIONAL JUSTICE	LIFE SKILLS CONTENT
Implementing and enforcing laws	Raising consciousness of occupational injustice, by developing children, teachers, parents, and community's awareness of how a culture of SRGBV affects the ability and opportunity to fully participate in school life.	Raising awareness of laws that protect children including: - laws that ban corporal and any form of violent punishment by parents, caregivers, teachers, and other adults, - laws criminalizing perpetrators of sexual abuse and child exploitation - laws preventing alcohol misuse - laws preventing access to firearms Know your rights and how to report violations of the law Know your responsibilities and abide by the law
Norms and values	Engage collaboratively with partners, by including social and religious leaders in the community in the development of a norms and values-based curriculum.	Developing knowledge of social norms, and important values for addressing SRGBV including: - Respect - Bullying and victimization - Societal norms and societal stereotypes - Sexuality and Destigmatization Promoting the rights of people in the LGBTQ+ community and their vulnerabilities Introducing masculine and feminine role models that inspire
Safe environments	Mediate agreement on a plan and strategies to gain resources by collaborating to make schools a safer space for children to be.	Respect and take care of your environment Be proud of your environment: Don't litter initiatives Play in groups and avoid dangerous activities and areas Different types of violence: Physical abuse, psychological abuse, economic abuse, and domestic violence How to report crime and people that make you feel unsafe
Parent and caregiver support	Engage collaboratively with partners – Extend life skills training to parents and teachers who are the most important partners to meet the individual needs of children	Positive Parenting Supportive parents: Know, understand and support your child Communication: Parent/caregiver-child interaction Mutual respect Supporting my parents: Chores and responsibilities
Income and economic strengthening	Engage collaboratively with partners – Extend life skills training to parents and teachers who are the most important partners to meet the individual needs of children	The economic standing of families can alter children's experience of GBV. Aim to develop: - Financial knowledge: Becoming a productive citizen - Basic budgeting and saving - Income generation - Cash transfers, group savings, and loans programmes vs loan sharks

CONCLUSION

In this opinion piece, we have argued that school-related gender-based violence (SRGBV) poses a serious threat to the occupational engagement, health, and well-being of children, teachers and staff, parents, and the broader community. Because SRGBV restricts the choice of occupations, and opportunities to participate, it is a source of occupational injustice7. Occupational therapists working in schools have a crucial role to play in addressing this injustice, which extends beyond their traditional role of working individually with children with specific learning needs. This opinion piece is a call to action for school-based occupational therapists, and offers potential actions based on existing frameworks as a starting point while developing the collaborative networks needed to eradicate this scourge from the lives of South African children.

Author Contributions

Sylnita Swartz-Filies conceptualised and designed the piece. Literature was collected by Sylnita Swartz-Filies, and Nicola Plastow, and the manuscript was drafted by all listed authors, who also approved the final version thereof.

Conflicts of Interest

None to declare

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[COMMENTARY]

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Reflections on the 10th World Congress of Cognitive and Behavioural Therapies: Lessons for African occupational therapists

ABSTRACT

Cognitive behavioural therapy (CBT) is a well-researched and evidence-based psychotherapy that is underutilised in Africa. CBT presents opportunities for occupational therapists to expand their practice, for example by promoting engagement in meaningful and purposeful activity (behavioural activation), engaging with a mental health care user's thoughts during and after participation in activity (cognitive restructuring), and grading exposure to traumatic activities (exposure therapy). However, it is also critical that occupational therapists using CBT techniques culturally adapt these for their practice context and engage in professional development activities to develop their competencies as CBT practitioners. This commentary highlights recent advances in CBT practice and calls for CBT and associated techniques to be made more accessible to mental health care users in Africa.

Implications for practice

- The relationship between participation and mental health is gaining prominence within the field of CBT. Occupational therapists should position themselves as experts in the therapeutic use of activity.
- Occupational therapists using CBT techniques should culturally adapt their practice to meet the mental health needs of people living in Africa.
- Occupational therapists using CBT techniques should follow internationally recognised pathways to CBT professional development, and register as Affiliated Members of the Cognitive Behavioural Therapy Association of South Africa

INTRODUCTION

The cognitive behavioural approach is widely applied in mental health services by a range of health professionals, including occupational therapists and psychologists. To our knowledge, there are few opportunities for formal cognitive behavioural therapy (CBT) training in Africa, although the approach is included as a topic in many undergraduate occupational therapy programmes. As two occupational therapists and one psychologist attending the 10th World Congress of Cognitive and Behavioural Therapies (WCCBT) in Seoul, Korea from 1st to 4th June 2023, we appeared to be the only delegates from the African continent. We were left with a strong sense that CBT needs to be made more accessible to service users in Africa. Several strategies were shared during the conference that could facilitate this process, including cross-cultural translation and adaptation of CBT protocols and techniques, digitisation of services, and improved training of CBT practitioners. The term CBT practitioner is used internationally to refer to any health professional who has formal CBT training. In South Africa, the term CBT practitioner refers to a psychologist trained in CBT. However, occupational therapists are able to register as Affiliated Members of the Cognitive Behaviour Therapy Association of South Africa (see

https://cbtasa.co.za/membership-join-us/ for membership subcategories based on level of training).

Key principles of CBT for practice

CBT is based on the theory that thoughts, feelings, and behaviour influence each other[1]. CBT uses a range of specific techniques to change unhelpful thoughts (e.g. identifying cognitive distortions, thought stopping), feelings (e.g. emotional diaries), and behaviour (e.g. behavioural activation) to improve the person's mental health symptoms and function, otherwise known as occupational performance[2].

In the opening keynote presentation, Judith Beck, daughter of Aaron Beck, the founder of cognitive behavioural therapy, outlined the key tenets or principles of CBT[3]. These principles, and their implications for clinicians using a CBT approach are:

1. Therapy should focus on the relationship between thinking and behaviour: In occupational therapy, the focus of a cognitive behavioural approach is on how the person's thinking and occupational performance influence each other.
2. Therapy should be goal-directed: After the initial assessment, it is essential to spend time collaboratively setting goals with mental health care users (MHCUs). This ensures that the person's goals are achievable, and that therapy sessions are more meaningful. In occupational therapy, collaborative goals should focus on desired improvements in occupational performance and participation.
3. Outcomes should be measurable: It is essential to choose outcomes that can be measured before, during, and at the end of therapy. This ensures that the MHCU can track their progress and see improvement. Occupational therapists should select outcome measures at the level of occupational performance, participation, or quality of life.
4. Therapy should be structured: It is important to have a clear and structured plan of action from the beginning of therapy. If the MHCU makes less progress than expected, this plan can be modified in collaboration with the Mental Health Care User (MHCU). In occupational therapy, the collaborative goals set will inform the intervention plan.

The key principles of CBT are applied during the use of CBT strategies in therapy. Some of the CBT strategies highlighted by Stephanie Oluku, in her presentation at this congress, on supporting health professionals experiencing secondary traumatic symptoms, are already used by clinicians in Africa. According to Oluku, *psychoeducation* helps people to understand their experiences and develop coping strategies. It is important to provide information about the mental health problem, its symptoms, and its causes. She said that *problem solving skills* development enables people to identify and solve problems that contribute to their symptoms or reduced participation. This helps to develop a structured approach to solving problems and managing symptoms and performance deficits. Oluku also highlighted that *relaxation techniques* can be taught to reduce stress and anxiety, and manage symptoms. She said it is important to develop a personalized relaxation plan to meet the person's specific needs. A local example of occupational therapy-led relaxation in South Africa is our progressive muscle relaxation program for garment workers[4].

Techniques recommended by Oluku, that we believe may be less familiar to occupational therapists, include *cognitive restructuring*, exposure therapy, and behavioural activation. According to Oluku, cognitive restructuring is a technique where the therapist helps the person identify and challenge negative thoughts and beliefs that contribute to symptoms, such as feeling overwhelmed, guilty or helpless. The aim is to develop a more balanced and rational perspective on the person's participation and experiences. While this technique is more appropriate in a psychology consultation, we would suggest that occupational therapists could use activity participation as a tool to make these thoughts and beliefs more salient or noticeable to the person. Oluku presented *exposure therapy* which is used to gradually expose the person to the traumatic experiences that contribute to their symptoms, in a controlled and safe environment, to reduce anxiety and desensitize them to the traumatic content. We would suggest that exposure therapy is within the scope of occupational therapy when the activating condition is participation in a particular occupation, such as shopping. In this case, occupational therapists could plan gradual exposure to that occupation. *Behavioural activation* was the third strategy mentioned by Oluku, Judith Beck, and a number of other presenters at this congress, which we found less familiar. We interpreted behavioural activation as the use of meaningful activity participation by a different name.

The importance of engagement in positive activities

People with depression and other long-term mental health problems are less likely to engage in activities that provide positive reinforcement. Many conference presenters emphasised the importance of engaging in meaningful activity to promote mental health. Within CBT this is referred to as "behavioural activation"[(5)]. Within behavioural activation, meaningful activity is defined as positive activities that are most likely to enable people to experience happiness and mastery, and that reflect their values and goals[5]). The core principle of behavioural activation is that the therapist facilitates identification of meaningful activities with the MHCU. The person participates in these activities (with or without the therapist). The person then reflects on how participation has influenced their thinking and behaviour. Although much of this process is consistent with occupational therapy, when working in a cognitive behavioural framework it is important to link behaviour or participation to thoughts and emotions. Application of CBT principles means that during or after activity participation, the therapist should facilitate reflection on thoughts and emotions that were experienced during and after the activity.

Questions suggested by presenters, that we believe clinicians can ask people when using a cognitive behavioural approach during activity participation, include:

- What does your participation in this activity say about you?
- Did this activity show that you are capable?
- Did you enjoy doing this activity more than you expected?
- Did you have enough energy to do this activity?
- Were you able to make other people happy from doing this activity?
- How did others treat you or see you when you shared the product of the activity with them?
- What could this mean for you in the future?

Western and non-western societies

As a precursor to the discussion on cross-cultural adaptations, several presentations highlighted the differences between 'western' and 'non-western' societies. The mismatch between the mental healthcare workers and communities in need was one such highlighted fact. These presenters reiterated that in non-western societies, psychoeducation is vital before any interventions can take place. Globally there remains a shortage of trained mental health care workers, a lack of awareness around mental health in general,

and a lack of understanding about psychotherapy. This lack of understanding and awareness often results in inappropriate treatments. After attending a few presentations on the cultural adaptation theme, this appeared to be the case for many different countries.

Some recommendations were made to address the mental health literacy problem as well as the stigma around mental health treatment seeking. One suggestion to move towards accessibility and appropriate care was to integrate CBT treatment at primary healthcare level. Given that people typically seek out physicians for any health issue, the presenters said it may be useful to offer basic CBT treatment as part of physical care. This integration could additionally help destigmatise mental healthcare and provide appropriate interventions to those who need it. For occupational therapists working in community-based physical rehabilitation in Africa, this recommendation would mean routinely including assessment for mental health problems, and then using CBT and other strategies in a holistic intervention package that addresses both physical and mental health needs.

Another recommendation was to move towards group-based rather than individual interventions as this has a wider reach and will likely be more acceptable than individual interventions. Included in this discussion were suggestions for community-focused interventions and prevention strategies, such as CBT-based psychoeducation.

Cross-cultural Practice

In a session on cross-cultural adaptation of treatments for anxiety, Ardian Praptomojati, Diana Setiawati, Shin-ichi Ishikawa, and Cecilia Essau all spoke to the importance of considering culture during CBT. Mental health problems are experienced differently by people with different cultural backgrounds[6,7,8,9]. CBT includes a range of standardized treatment protocols that have been developed in WEIRD (Western, Educated, Industrialized, Rich, Democratic) countries. Cultural adaptation is the systematic modification of an evidence-based intervention protocol to consider culture, language and context in such a way that it is compatible with the individual's cultural patterns, meanings and values[10]. Cultural adaption can be understood on a continuum that ranges from delivering treatment "Western Style" (hardly any adaptation) to starting from scratch by developing new indigenous way of doing. The cross-cultural adaptation framework for psychological interventions, mentioned by Praptomoiati and Setiyawati suggests three ways in which health care practitioners can adapt therapy[11].

Understanding the cultural concept of distress: This is about understanding what people think is the cause or origin of the mental health problem being experienced, and the cultural relevance or salience of symptoms addressed in therapy. When people present with mental health problems, therapists should spend time finding out how the person understands their emotional or cognitive difficulties, and the core difficulties they experience as a result. Therapy can be culturally adapted by including interventions the person believes will address their most important problems, and what they believe will be effective. In occupational therapy, this could mean using the occupations a person believes are most likely to help in their recovery, rather than having a pre-determined set of activities in a ward program.

Adapting treatment approaches: Cultural adaptation of treatment approaches means choosing the practice approach that is most acceptable to the person and best addresses their needs, adapting the therapeutic use of self to meet the needs of the person, and choosing treatment techniques or modalities that are consistent with the person's culture and are meaningful to them. For example, when choosing a practice approach, an occupational therapist may explain to the person the difference between following a cognitive behavioural versus psychodynamic approach to occupational therapy, and empower the person to choose the approach they believe would work best for them. Similarly using activities as means (e.g. daily crafts groups) versus group psychoeducation sessions could provide the MHCU with two different experiences of occupational therapy.

Adapting treatment sessions: Cultural adaptation can also be applied within individual treatment sessions. Specific techniques may include adjusting treatment to meet the language needs of the person, changing materials and language used to adjust for low levels of literacy and the socio-economic status, using cultural examples and themes (e.g. in education materials and worksheets), adjusting treatment based on the gender of MHCUs, and selecting the treatment environment and other people present (e.g. family, caregivers) to better meet the person's cultural needs.

Another model for cultural adaptation that was presented by Maria Santos from California State University was the Shifting Cultural Lenses (SCL) model[12,13]. In this model, culture is conceptualised as what is at stake for a client, given their lived experiences in local social worlds. When implementing this model, the therapist attempts to view the situation through the 'cultural lens' of the person. In other words, they make a specific attempt to understand the situation from the person's perspective. When communicating their own viewpoint, the therapist does this tentatively. This could be through a phrase like "When I think about your situation, I think….. What do you think about that?". In this way, the therapist shows they remain open to having their viewpoint challenged, so that the person and therapist can reach a common understanding of the problems experienced, and best methods to address them. Dr Santos concluded that the SCL model was useful in assisting clinicians with incorporating client's cultural views into behavioural activation.

Digitisation of Therapy

There has been a rapid increase in the development and use of digital CBT programs, particularly since the Covid-19 pandemic[14,15,16]. Many presenters talked about the potential digital interventions have to increase the accessibility of interventions, particularly in low to middle income countries (LMICs) or low-resourced areas in high income countries. Across the presentations it was highlighted that digital interventions may address other barriers to traditional therapy such as cost, stigma and logistical challenges.

According to an invited talk by Sabine Wilhelm from Harvard University, smartphone penetration in South Africa is 60%, presenting a golden opportunity for digital mental health. She reported that over 20 000 mental health apps are currently available, but many of these are not evidence-based and have not been developed in collaboration with clinicians and MHCUs. Guided use of certain mental health apps has been found to be as effective as in-person CBT with body dysmorphic disorder. This guidance does not need to be done by a mental health professional, but could be facilitated by a trained lay person. Personal guidance makes digital mental health treatment much more effective. Credibility is a challenge to effectiveness, as MHCUs believing that treatment will be ineffective may have a negative effect on their progress. For this reason, it is helpful to use mental health apps in clinical practice, where clinicians can explain the use of the app as well as outcomes data to the MHCU. In occupational therapy, this could mean incorporating the use of a mental health app into the

person's routine, and using the app's outcomes data as a way of monitoring progress towards occupational goals.

The most commonly used mental health apps are those with immediate benefit, e.g. mindfulness apps such as Headspace and Calm, whereas some MHCUs may benefit more from other treatment modalities. It was recommended that practitioners develop digital mental health programs in collaboration with industry partners such as medical insurance companies, in order to obtain funding to support high quality product development. It may also be useful to include software engineers, designers, clinicians and MHCUs in product design.

Some of the new digital mental health programs presented at WCCBT 2023 were:

- Psidamai: an Indonesian mindfulness interventions for students (https://instagram.com/psidamai?igshid=NTc4MTIwNjQ2YQ==)
- COMET: Originally developed in the USA and adapted for the UK, this is a two-hour brief interventions for students (http://essay.utwente.nl/81554/1/Loos_MA_EEMCS.pdf)
- Intellect: A 12-day intervention of 10 minutes per day improved students' self compassion using this app. Available on Google Play and in the App Store (https://play.google.com/store/apps/details?id=co.intellect.app&hl=en&gl=US)

Before using these programs, it is recommended that occupational therapists in Africa carefully consider how the technology was developed (e.g. with clinicians and MHCU's), and whether they are appropriate to context.

Education and Training

A highlight of the congress was the presentation by the World Confederation of CBT's (WCCBT) training and education guidelines. This was a historic moment as it is the first set of guidelines to be disseminated for CBT training and education. These guidelines

- are a direct response to the World Health Organisation's call for action on mental health;
- were established to ensure that CBT practitioners have appropriate licensure and registration to practice in their respective region;.
- aim to identify different competencies required for CBT and work towards best practice of CBT amongst various healthcare professionals;
- aim to ensure that minimum requirements are met for now, but eventually work towards an optimum level of practice within CBT;
- use the term "CBT practitioner" to account for the use of CBT across disciplines, including occupational therapy, and across different skill levels; and
- adopt a premise that CBT practitioners are ethical, flexible and able to culturally adapt for their own contexts.

Conference presentations from several countries, including Malaysia, Canada and South Africa[17], demonstrated the current diverse training pathways across institutions and in different countries. The WCCBT guidelines were presented to create a standardised approach, however, acknowledging the various types of cognitive and behavioural therapies used across the globe.

The guidelines, presented by Professor Firdaus Mukhtar, president of the ACBTA (Asian Cognitive Behavioural Therapies Association), included guidelines for selection of trainees, training strategies, and a range of definitions. It was evident that the guidelines apply to post-graduate training in CBT since the guidelines emphasised the selection of trainees qualified to provide mental health services, with basic clinical skills and knowledge as well as an understanding of ethics in healthcare. Prof Mukhtar emphasised that training should be continued until competency and adherence is reached. Adherence is the accuracy with which clinicians implement specific CBT interventions, while competence is described as how well they deliver the intervention across a range of diversities.

Supervision was highlighted as a key teaching strategy, as well as experiential learning for trainees with real cases. Several further strategies such as didactic lectures, readings, webinars, presentations, live observations, demonstrations, group discussions, experiential case conceptualisation, activities, role plays, skills practice and reflection activities were recommended.

Further recommendations included supervision across multiple cases, with trainees having exposure to at least three cases with a minimum of six sessions each. The guidelines also indicated that multiple supervisors (at least two) is best. Supervision should aim to include direct observation, discussion of clinical decisions and implementation, regular feedback on strengths and areas of development and evaluation of specific knowledge and competencies. The interdisciplinary nature of the guidelines means that occupational therapists would need to adhere to these guidelines, to develop their competence. In South Africa, the membership category of the CBTASA is based on the level of training received. This ranges from Open Member, who has an interest in CBT, through to Accredited Members who hold internationally accredited status as a CBT Trainer and Supervisor.

Prof Mukhtar emphasised the importance of developing both knowledge and competency in CBT, while highlighting that these guidelines are not regulations. It was recommended that the guidelines are implemented in the users' own region within their own legal and accreditation frameworks, in order to produce best practice and for the protection of the public or service users.

CONCLUSION

Cognitive behavioural therapy is one of the most widely researched psychotherapies that has the potential to address the burden of mental illness in Africa. This means it is important that occupational therapists develop competencies in CBT through accredited CPD opportunities. An emerging field in CBT is engagement in meaningful activity to promote mental health. Occupational therapists are already experts in the relationship between occupation and health, and so have the opportunity to make a substantial contribution within the CBT community.

In some countries, like Malaysia and South Africa, being a cognitive behavioural therapist is limited to psychiatrists and psychologists. In other countries, such as the United States of America and the United Kingdom, a range of health and social care professionals can gain additional registration as CBT practitioners. Nevertheless, in South Africa there is the opportunity for occupational therapists to gain Affiliated Membership of the CBTASA, and follow a recognised pathway to professional development.

We believe that in Africa, CBT should be used by a range of mental health practitioners including medical doctors, nurses, psychologists, occupational therapists, social workers and counsellors. This will improve access to cognitive behavioural interventions. However, it is essential that CBT is culturally adapted for the African context, whether it is delivered face-to-face or on a digital platform.

Author contributions

All listed authors contributed to the writing of this manuscript and approved the final version.

Conflicts of Interest

There are no conflicts of interest to declare.

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[26th VONA DU TOIT MEMORIAL LECTURE]

Harnessing Human Praxis: Turning our Wisdom into Practice with Impact

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ABSTRACT

Human praxis denotes practical wisdom, which through deliberate human action aims at personal and collective transformation, including people's ideas, commitments and consciousness. The occupational therapy profession has a long history of both enacting human praxis for the evolvement of the profession, and also facilitating it among the people it serves. Occupational therapy can draw on its innate wisdom and ability to accurately read contexts to consciously harness human praxis to render the profession as indispensable as a healthcare profession as well as a profession that can contribute significantly to social development. Consciously harnessing human praxis for change can be done by applying reflective and reflexive critical reasoning; epistemic fluency within multidisciplinary spaces (that could promote better transdisciplinary practices); as well as deconstructing the constituents of human praxis to apply it as a treatment mode. Furthermore, consciously using human praxis can contribute to the fields of education, research and leadership that promote and cultivate human dignity.

INTRODUCTION

The outline for today's lecture is the following. The concept of human praxis will be discussed with examples and its possible relevance for the occupational therapy profession. The possible ways how we can harness human praxis will then be put forward in terms of a) Critical reasoning and the value of Philosophy, b) Epistemic fluency, c) Human praxis as a possible treatment mode. The lecture will then conclude with some reflexive suggestions/thought provocations on making it happen in future regarding education, research, practice and leadership. It is noticeable that there is a semantic tension in today's title. 'Human praxis' signifies a complex and perhaps qualitative connotation, while the word 'impact' suggests a denotation that is more definite and measurable. I hope that the very nature of human praxis and the calls to our profession will underscore this tension comfortably.

One of occupational therapy's roots stems from the first wave of feminism, a small group of women known as the Suffrage Movement. Two women, Jane Addams and Ellen Gates Starr founded the social community settlement in Chicago known as Hull-House and advocated for the health, safety and labour rights of immigrants, who were also often institutionalised and labelled as 'mad' because of not being able to speak the language. Hull-House created spaces for reciprocal, and interdependent relations between people with various identities. Addams was convinced that "society was made stronger through better understanding among diverse people"[1:107-108]. This view of transactional/pragmatic caring[2] was contrarian to the capitalist drive of a second industrial revolution of the day to harness human power for little money for many, and much more money for few. This counter posture to the

social norms of the day not only brought significant changes to the Suffrage Movement but also important changes to the Chicago community they formed part of through e.g. health and protective legislation for juveniles, women and children[3]. Hull-House was a hub where many activities were generated in response to the community members' needs such as social clubs, adult education, parks and recreation programmes and community theatre1.

Fast forward to WWII and the occupational therapy profession, yet to formalise its knowledge base through evidence, its establishment at universities as training programmes reached the South African shores and the first occupational therapy higher education programme of the continent was founded at Wits University in 1943. The profession was such a hot topic of the day that there are anecdotes of people slipping into hospitals as members of staff, pretending to be an occupational therapist[4]! Occupational therapy changed the scene of medical healthcare, elucidating the importance of a holistic view of both patients and their context. However, in the following couple of decades, the profession did so again not only despite, but also because of its response, albeit under duress to the medical fraternity's appeal for scientifically proving its theoretical knowledge base. Thereafter, in the eighties occupational therapy negotiated its second paradigm shift when it was reflexively confronted with the attenuated tenets of a mechanistic paradigm. Following an occupational science symposium in 1988 at the University of Southern California, a call for an occupational science doctoral programme saw the light in 1989 - giving function and form to occupational science as a discipline[5], the mythological birth of a parent discipline borne from the young-adult, applied science.

These are all examples of the occupational therapy profession as a collective enacting praxis. Reflexively responding to context, and actioning for change. And because the profession, in its theoretical roots, understands the importance of context and the associated complexity, it could change it. In its negotiation of two paradigm crises, it did not only show resilience, akin to an elastic stretched and returning to its original form. I would argue that in the vein of Nasim Taleb's[6] work on antifragility, significant growth happens upon disruption, and because of, not despite adversity. It is also within such ruptures where critical turns are possible, where we can acknowledge mistakes, including our boundedness by the historical markers of colonialism[7]. For as Confucius[8] would say, 'To make a mistake and yet not to change your ways, this is what is called truly making a mistake'. Occupational therapy made change matter because it responded to context, perhaps even sometimes acted counter-intuitively, and demonstrated the courage to leap into the unknown, focusing less on personal metrics (an inward gaze) and more on what it can contribute to the greater good, which is an outward gaze[9].

HUMAN PRAXIS

We have asked this question before: "Why do some people with little or no therapeutic intervention after, or during injury, illness or trauma, manage to not only reconfigure their own lives but also exert that change and transformation beyond themselves into the communities they form part of? Think of for example Helen Keller (1880-1968), the iconic scholar, poet, and political activist who was born deaf and blind. Another striking example is the narrative of Zama Mofokeng, 26 years old [in 2021] and who set a Guinness Book record in 2017 and again in 2021, for the most single-hand backflips. He lives in a township in Gauteng, taught himself gymnastics after a car accident and subsequent epilepsy, and set the world record to prove resilience despite epilepsy, and demonstrated to the children in his community that one can overcome challenges[10*,11:14] (The video can be accessed here https://youtu.be/eGUOamTekX0)

Human praxis is a dynamic, dialogical and creative process that simultaneously is about being in this world but also being critical of it. Praxis is the practical application of theory, in Aristotle's terms phronesis; practical wisdom, through deliberate human action aimed at personal and collective transformation, including people's ideas, commitments and consciousness.[12,13] Important to note here the constituents of both the individual and the collective, a dichotomy that we often and automatically critique in decolonial work. At the nexus of praxis, is a process by which individuals or groups engage in intentional action to effect change in their own lives and society at large. This committed action is buttressed by an agency in response to constraints; and a perceptive awareness and accurate critical reflection of past and present struggles, as well as possible opportunities for change[11,14]. At the core of human praxis is an openness to learning by doing, including making mistakes and trying again – therefore a process and not a singular event. Do you recognise this process? Have you witnessed it? Or even lived it? I am sure you have...

Human praxis across disciplines

As argued previously, "the concept of human praxis straddles various disciplines and theoretical frameworks such as philosophy, institutional change theory, education, and critical theory[15,16,17,18]. Within organizational change theory, Seo and Creed15 define praxis as collective human action that involves a highly dialectic process in responding to the inertia of the organizational status quo, and the desired changes for the greater good."[11:14] In education, Freire's[14] critical pedagogy argues for the importance of critical reflection and action towards transformation for education to be liberating, and not reproducing encultured patterns of unjust inclusion and exclusion. "Within occupational therapy, praxis is a term that is used in Sensory Integration to denote motor planning in the sense of how to plan, organize and carry out a sequence of unfamiliar actions within one's physical environment; how to do what one intends efficiently[19]." [11:14]. Can you already see the parallel in this definition of sensory praxis with human praxis? South African scholars doing critical work in occupational therapy, put forward evidence of how decolonial praxis can form the centre of community development practice as a pedagogy informing teaching and learning in a Global South contexte.g[20]. Furthermore, how a decolonial perspective in research praxis, "enriches occupational science to re-orient knowledge production away from dominating paradigms, opening opportunities for exploring the plurality and diversity of human occupation"[21:252]. Another example of praxis work explored in South Africa is the paper presented by Dr Adams[22] about the application of the Vona du Toit Model of Creative Ability towards decolonial collective occupation, and how important enabling environments. i.e. contexts, are for cultivating relationships needed for collective occupations.

POSSIBLE STRATEGIES FOR HARNESSING HUMAN PRAXIS

Occupational theory is undergirded by an awareness and understanding of the occupational nature of human beings, the intrinsic link between occupational participation and health, as well as context. Be it the physical environment, historical, cultural, geopolitical, educational, socio-economic, or ecological. We must understand the context if we want to design contextually responsive treatment for our clients/patients.

One strategy could be to with intent, critically reason about what we know, and its relevance in the Global South context. To be contextually responsive, we also need to be critical of the appropriateness or shortcomings of theoretical lenses, evaluating their "ideological and structural contexts"[23:23] and their appropriateness for South African practice contexts. For example, factors associated with the Sustainable Goals of Development, such as employment, gender and education disparities, social status, personal safety across community spaces, and transportation, are imperative considerations in the quest for accurate reflection and applying theory wisely[24].

A second strategy pertains to reading accurately the context of interdisciplinarity, we need to practice epistemic fluency. Reading contexts perceptively may also imply that we need to 'read the professional grid' of accessibility of our professional and research jargon to members of the multi-disciplinary team and, how we communicate in these spaces. An uncomfortable but invaluable lesson I learned some years ago when I delivered a keynote at an interdisciplinary social justice event on critical discourse analysis and archaeology. Using very technical philosophical and Foucauldian terms deemed epistemically inaccessible (see, as I am doing now), many of my interdisciplinary colleagues' epistemic alienation was palpable... And where alienation/exclusion is experienced, often disengagement follows. A third strategy is about the process of human praxis that can serve as a possible treatment mode to consciously facilitate agency and action, which I will discuss briefly later. Let us expand a little on each of the strategies to harness human praxis.

Critical Reasoning and the Value of Philosophy

We all are philosophers

What is the value of philosophy in occupational therapy? Sjo, what a question. Whether we know it or not, each of us here has philosophical underpinnings driving our ways of thinking, speaking, being and becoming. We have a certain way of viewing the world, people and living things in it; and what we regard as a good life. These lenses include the values we underscore about how we view (and think of) people, and how we behave toward people (i.e. ethics). However, knowledge and coming to know, do not happen on our accord only. Knowledge and how we came to know is historical, intergenerational and political – meaning, 'where there is knowledge there is power'[25]. Michel Foucault a prolific philosopher, in dismantling systems of knowledge and how we come to assume taken-for-granted ways of thinking, speaking and doing reminds us (every time I read this quote it is with a sense of such a goodness-of-fit for occupational therapy: "[K]nowledge is always the historical and circumstantial result of conditions outside the domain of knowledge. In reality, knowledge is an event that falls under the category of activity" [26:13]. That means knowledge does not stand alone, waiting to be harvested, but is co-created through many 'rules of formation'. Such as who had a say about why certain knowledge was legitimised, and what types of reasoning were employed to elevate knowledge to a 'thing' of importance, a 'truth'[27].

In many ways, we become what we know. With each "acquisition of knowledge, we change ourselves a little bit. We change what we can do, what we think it is rational to do, what is important to do"[28:1]. Think about how social media has shaped how people decide what is rational and important to do, and how this way of assimilating or "renting knowledge" as Shackell[28] argues, has become akin to what AI is becoming, an astounding reflection of what is going on inside of us, how we articulate or regard humanity.[29]

Reflectivity and reflexivity

Hence it is so important to question our knowing. While questioning things is a human condition (because we are all philosophers), the conscious application of accurate judicious reflective, and reflexive critical thinking is a key element in turning our wisdom into contextually responsive practice that matters. Reflectivity relates to thinking about what one has learnt, and how the learning affects one's actions going forward. (Note the embedded posture here to an openness to see and acknowledge possible mistakes and learn from them). Reflexivity is a deeper reflective process, where one thinks about what one has learnt, and considers the implications thereof not only for oneself but also for the broader context in which one lives and works[30].Reflexivity also means to think and question, one's ways of being in, and seeing the world. For example, could our subjective lenses of interpretation not be one of the reasons models in occupational therapy developed in the Global North are often, though sometimes perhaps unfairly discredited? Many models are about systems e.g. Kielhofner's Model of Human Occupation being a pertinent example, and systems in their structures are often universal[31]. For example, think about occupational science's paradigmatic premise that all human beings are occupational beings. However, how we interpretively use systems models is also bound by subjective context and worldview. Part of reflective and reflexive thinking is therefore intentional critical reasoning.

Purpose and traits of a critical thinker

Critical thinking is the art of analysing and evaluating thought processes (and not people, it is not personal) to improve thinking and reasoning toward better outcomes for everyone. Intellectual traits such as intellectual integrity, intellectual empathy and intellectual humility as well as intellectual confidence distinguish a fair-minded critical thinker who is ethical, empathetic and strives towards justice, from a possible good-hearted but self-deceived person, or, from an unethical, self-righteous and self-deceived critical person[32].

A few key questions for guiding your thinking

So, holding back the occupational therapist in me, it is here where I could have asked you: pick any argument, any belief you feel strongly about. (Be reminded though that a belief is not necessarily true and that the two concepts, an argument and a belief, are not the same.) The background to the skill of good critical reasoning is when people are locked in conflict or have differences in 'opinion', ever so often the default is to jump right into an argument about values, concepts or characteristics, dishing out fallacies such as attacking the personhood of a person. All while skipping a simple but fundamental first question: What are the facts? Here are a few fundamental questions to check your reasoning. Now, often when students and I dialogue about concepts or content, and we arrive at a true understanding; usually simple but elegant, I would joke and say: 'We need to tattoo that on the soles of our feet (so it can leave an imprint of wherever we go)'. These key questions to check for sound reasoning (slightly adapted from Paul & Elder)[32:15] may be well worth being tattooed somewhere, if not ingrained as 'second nature':

a) "What is the purpose of your argument/reasoning? What problem do you want to solve?"
b) What are the facts/evidence/information? (This question should be asked very early on before we make assumptions about what the meaning of concepts is for the person/groups of people we are engaging. This is a very important reflective question since many of us when in an

argument or conflict, rely heavily on our assumptions before going to the facts first Asking questions before making assumptions is a posture that couples well with intellectual humility.)

"What are your assumptions and are they justified?" Equally, "What is your point of view and what are its weaknesses?"

And importantly, "What are the consequences and implications of your reasoning?" This question is a good ethical barometer because it implies also some consequential ethical reasoning.

The importance of sound critical reasoning cannot be overstated. Image thinking is taught as a life skill from primary school, as applied in several West African schools and households with children from a young age[e.g.33]. (See also as an example this gripping narrative about a father conversing with his young son about inevitable congenital blindness, here https://www.ritcsonline.be/video/into-darkness/)

Epistemic fluency: Reading accurately the context of multi-disciplinary towards transdisciplinary spaces

Long ago, when I did an ideology critique of the occupational therapy profession as part of a master's degree I imagined the following: "...if we lived in a world where [occupational therapy] is globally considered as fundamental to the human rights of health and the well-being of all; a world where other disciplines such as the health sciences, political science, anthropology and economics consult the vital discipline of [occupational therapy] to inform their understanding of what humans perceive as meaningful occupation; a reality where, because of these collaborations, [occupational therapy] is in a position to actively contribute to the making of political and administrative decisions that promote occupational justice for all humans"[34:169].

We have argued in the new 6th edition of Crouch and Ahlers Occupational Therapy in Psychiatry and Mental Health that "[w]hile profession-specific technical language and vocabulary are important to develop a professional identity, especially in a young profession such as occupational therapy, profession-specific technical language and vocabulary do not provide access to persons outside the profession to the body of knowledge (or episteme) used in clinical decision-making and clinical reasoning. Thus, for occupational therapy and its practitioners to be recognised as fundamental to achieving occupational justice for all human beings, we must develop epistemic fluency. As early as 1995, epistemic fluency was defined as: 'the ability to identify and use different ways of knowing, to understand their different forms of expression and evaluation, and to take the perspective of others who are operating within a different epistemic framework'[35:40]. An epistemic framework is the way in which professional knowledge and 'ways of knowing about the world,[36:1] is structured or organised. Developing epistemic fluency means that we must understand our own profession's episteme (i.e. knowledge structures and the associated philosophy and practices deriving from it...), as well as being able to identify that there are 'different ways of knowing'[36:1].... Someone who is epistemically fluent is proficient in 'different ways of knowing about the world'[36:1] and can flexibly move between various types of knowledge, [to] communicate ... decisions effectively within the multi-disciplinary team [36,37]. Epistemic fluency thus, amongst others, involves using a common language with other healthcare professionals in the health and social sectors, for example using the knowledge structure of the International Classification of Function, Disability and Health (ICF)"[30:93]. Epistemic fluency is therefore important when working in a bio-medical setting and may be imperative when we work multidisciplinary; and as astutely argued by Dr Romano, 'when assertively knocking at the doors of co-leaders'[38], leading to better transdisciplinary practices. Epistemic fluency may therefore be put forward as another example of practical wisdom where we need to balance our personal metrics (inward gaze) with how we can contribute to the situation and setting (outward gaze) for the greater good of patients.

Human praxis as a potential treatment approach

There are many examples of how human praxis is/can be harnessed in occupational therapy as a treatment mode such as Galvaan and Peters' Occupation-based Community Development Model[39]; how Soeker's Model of Occupational Self-Efficacy can be used for Work Retraining[40], as well how Casteleijn's Activity Participation Outcome Measure (APOM) can be used to measure therapeutic impact[41] . Here is another example of a study by a group of undergraduate students at the UFS highlighting the core constituents of human praxis. They interviewed people and community leaders who enact praxis in urban and peri-rural environments. The findings included that human praxis is a "dynamic, recursive[17,42,43] and two-phase process consisting of initiators and enablers. This process is recursive because both the initiators and the enablers are defined in terms of each other and are therefore interdependent"[11:18]. Figure 1 (below) depicts the process and constituents of initiators and enablers of human praxis.

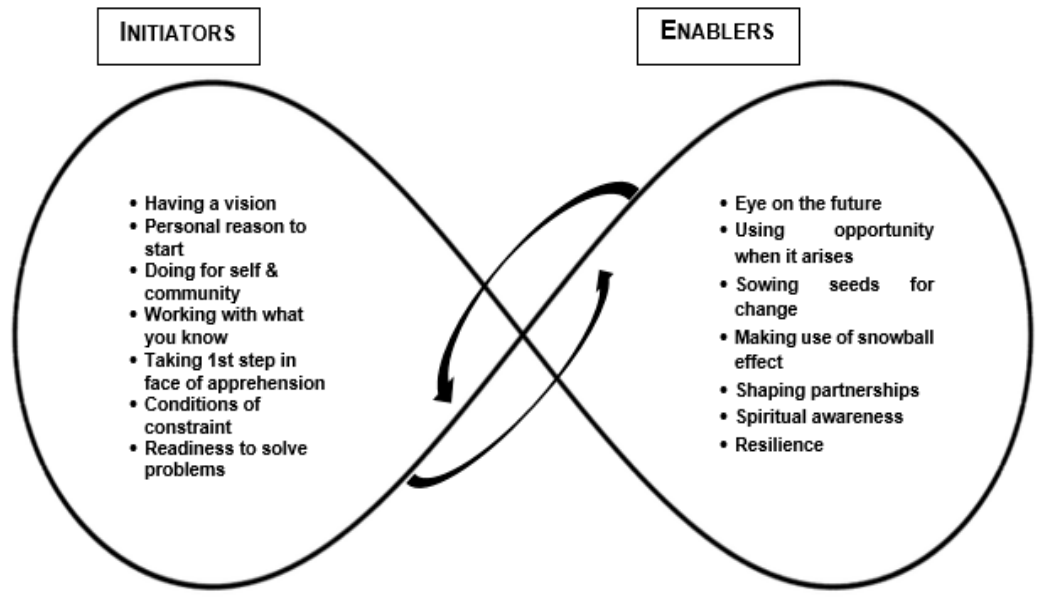

Figure 1. Initiators and enablers of human praxis (Slightly adapted from Rauch vd Merwe et al.[11:16])

To give form to the ideated change, people who enact praxis embrace the importance of shaping partnerships, by sharing their vision that often leads to a snowball effect toward collective change. In this way, a personal responsibility evolves into a shared, and ongoing responsibility because of being aware of and understanding themselves to be part of a whole[44,45,46]. However, central to the mechanisms of human praxis appears to be also the [implicit] conditions of constraint, as an initiator, and resilience as an enabler. It seems that people who enact praxis, consciously anticipate conditions of constraint as well as probable failure with initial attempts. They are however not deterred by it but deliberately use the lessons learned to occupationally adapt toward realizing a solution to occupational challenges[47]. This posture underscores an openness to learning, not taking failures personally or viewing them as defeat, but purposely applying gained insights to grow and develop existing knowings[48,49, 11:18-19]. Here is another audio-visual example of a blind woman enacting praxis. Though the context is within the Global North, the mechanisms are universal. In a colleague's affirming words, 'stories like this remind us of why we

are OTs'. See here
https://www.youtube.com/watch?app=desktop&v=elCqcOUKLpc

MAKING IT HAPPEN

Moving toward the last section of this lecture. How can we then make it happen in various sectors of the occupational therapy practice?

Education

Making a full circle on what it means to know, and then what it means to teach what we know. Foucault,[27] among many other critical philosophers on coloniality and epistemic oppression (e.g. Said50, Mignolo[51], Mbembe[52], Ndlovu-Gatsheni[53]) have argued in the vein of coloniality and oppression that the Western world tends to conquer in order to come to know. So, to know about the 'other', these 'others'/the 'deviant' must be marginalised and suppressed so they can be studied. Much critical literature has been written about these origins of knowledge e.g. about psychiatry, and anthropology[e.g.54].

I too did a critical analysis of the historical markers that formed part of occupational therapy's fraught origin of the profession – we had to fight hard for legitimacy. The study was a theoretical analysis of what we already know in our continuous quest to disrupt unjust historical patterns of inclusion and exclusion in curriculum, and service delivery for example, along our historical societal fault lines of race, gender and class[55]. However, I have since also started questioning the premise of how a body of knowledge, a discipline, in our case a profession, has been formed through the a priori suppression in order to know, as a given rule. As perhaps that is not the case of occupational therapy. Historically, the origin of the occupational therapy profession is built on the strive for inclusion. Inclusion of humanistic values, diverse identities, diverse contexts and diverse occupational needs.

Yet, in many universities and practices, our knowledge is organised in the same way that knowledge about medicine is organised, linear, and compartmentalized to understand. Perhaps underlining the profession's continuous struggle to straddle the knowledge worlds of categorising to control, vis-à-vis including to create, we need to demonstrate our aptness when we move between the worlds of natural and social sciences. What would happen if we organise knowledge differently in curricula closer to the structure representing systems and their complexity? In a very appreciated mentor, Professor Teresa Lorenzo's words: imagine what can happen when we organise the curriculum in terms of child development; life as an adolescent and adult with all its concomitant intricacies of having to negotiate life in South African contexts. Contexts that include poverty and unemployment; violence; and intergenerational trauma. Additionally, skills are needed to imagine a collective occupational future in a democracy as responsible citizens who think critically with effect, and who are praxis enablers. What if we would further organise our curriculum in terms of family life, and work, including 'ethical entrepreneurship' (in Ramano's[38] words) and the occupation of self-employment[56]. Adding a module on intergenerational dynamics and wisdom with a strong focus on occupational performance as the latter is irrevocably linked with a person's context[57]. What will happen if we ask students what do they want to know about a certain exit-level outcome? And let them take agency in choosing literature and constructing learning outcomes and objectives? These suggestions are merely meant to be illustrative alternative ideations, keeping in mind that one of the major calls for occupational therapy is rehabilitation against the backdrop of the WHO 2030 rehabilitation framework[58].

However, on a critical note, neoliberalism is also a global and dominant discourse of our time. It is deeply anchored in capitalism and interprets everything through a lens that translates all ways of being, experiences, education, and relationships into a potential market value or value for the self and proximity partners only, i.e. a mindset underlined by a maxim: 'more for myself and few people close to me, that can repay the favours'. Neoliberalism underscores economic deregulation, privatisation, inequality; shifting responsibility from government to citizens and normalises mindsets of individualism - stopping short of agency for the greater good. Neoliberalism encourages consumerism and (inter alia monetary and status) competitiveness. It does not seek interdependence, (including with the planet we inhabit), pluriversality, or inclusion for the sake of expanding and strengthening the collective for the greater goode.g.[59,60].

This discourse must be countered critically, intellectually and in practice. For example, in the ways we teach and assess students, urging us to revisit the question: what does contextually responsive assessment look like? What role can accrual play in assessment? Do our students have enough time to integrate knowledge before someone is breathing over their shoulder for a mark? How conducive are such practices to the cultivation of life-long learning? And is it time to rethink the curriculum beyond the HPCSA minimum standards of education?

Research

Occupational therapy in its origin and roots of how it views reality (ontology) comfortably straddles both nature and social sciences. It seems qualitative research comes naturally because it is in its nature divergent and generates more questions and possibilities. However, part of 'reading the grid' accurately, means when we are operating in the context of the bio-medical model: and we have to 'walk the talk'. Therefore, the first point is that we all know high-level evidence is imperative in research. Already there are several papers presented at this conference that illustrated that studies need not necessarily be large to be significant[57].

Secondly, regarding intra and interdisciplinary collaboration in research. Perhaps a large challenge is moving our often very heavily invested gaze from undergraduate teaching and learning to a more balanced gaze of research to find the time to think strategically, design larger group research protocols, and cultivate interdisciplinary partners in designing interdisciplinary research projects that are contextually responsive to needs in clinical practice. Another investment that will take time is to find ways in higher education and practice to consolidate information about available grants.

Thirdly, we need to enhance our research education and supervision for both students and supervisors. Universities have been under growing pressure to increase the intake and timely graduation of postgraduate students and postgraduate students61. This is important because postgraduates contribute to knowledge and economic and societal capital. However, with this increase in postgraduate students in the past 10 years, ensuing is also a significant disjoint between the number of available supervisors vis-à-vis postgraduate students, with direct secondary effects, such as low, or poor timeous throughput; in turn bearing significant economic and psychological consequences. Academics feel overloaded and overwhelmed. Students feel isolated, and not sufficiently supervised. Both parties feel unheard[62,63].

There is a substantial argument that dyadic supervision only (also known as the master-apprentice supervision model) is no longer sustainable. We need to enact praxis to incorporate alternative

models including cohort supervision. This a supervision model (there are several variations thereof) draws on collectivism, where not all the responsibility is on one supervisor, and where students can tap into an array of collective sources including learning from each other. A cohort supervision model may open possibilities of a community of practice for supervisors also, where skills in supervision e.g. rigorous research methodologies such as systematic and scoping reviews, and meta-analyses, can be exchanged.

Perhaps following the rethinking of our research education and supervision strategies would be to also think strategically about the output of research as process and product. Research matters mostly when it is out there, to be accessed and read. How can we realise publications with all stakeholders? What kind of outputs are important and who are the audiences it needs to reach? Concerning methodology, design research enables us to put forward a product: whether a framework or guidelines for practice or a contextually relevant part of the curriculum.

Fourthly, we need to create a collective research culture. We need to continue striving to bridge the academic-clinical//theory-practice divide in order to contextually respond to the needs of the societies we are serving. Very fruitful collaborations and outcomes have been generated between academia and clinical practice, where the iteration between theory and practice can be 'praxised' through collaborative research workshops, projects, and expanding fieldwork clinical training sites that are not limited to public institutions. Structurally, it could mean that both education and practice departments prioritise regular collective engagement spaces in their calendars, where everyone can share what they are busy with, what they are wondering about and perhaps where students can present their work followed by debate and discussions.

Sixth, praxis in research can be achieved through learning about and innovatively using technology such as telehealth and other digital interventions. Researching the effectiveness of telehealth and the ethical use of digital interventions can provide much-needed evidence on the challenges and opportunities of technologically innovative practice. One example is van Stormbroek et al.'s[64] study on the value of a virtual community of practice for novice occupational therapists enhancing and exchanging knowledge in hand therapy. Furthermore, referring to the 1st OTASA Congress Keynote by Dr Karen Jacobs "Guiding the Way: Navigating Artificial Intelligence in Occupational Therapy", we can only mention the possibilities which are rapidly emerging in the responsible and highly efficient use of generative AI for example, literature review and data analysis.

Practice and Leadership

The NHI Bill has been signed into law. We must put forward our readiness for it and recognise the opportunities to enact praxis through ideating a vision, generating evidence as to why occupational therapy is indispensable, and shaping partnerships through collaboration. We can also enhance partnerships through consciously practising epistemic fluency by for example using ICF language when engaging with a multidisciplinary team. We can do that without sacrificing intellectual confidence and assertiveness[32]. Finally, with regards to leadership, in honouring our praxis roots in humanism and human dignity, Hicks's[65:16-17] model and well-developed theory of leading with dignity, provide exemplary guidelines (10 elements) for cultivating human dignity in all realms of our practice, being clinical practice, education, or managerial and leadership positions:

1) Embracing Identity: Approach individuals as equals, allowing them to express their true selves without fear of negative judgment. Engage without bias, recognizing that attributes such as race, religion, gender, class, sexual orientation, age, and disability are fundamental tenets of various identities.
2) Recognition: Acknowledge and appreciate colleagues and patients for their talents and hard work. Be generous with praise and give credit for their strengths.
3) Acknowledgment: Show people that they have your full attention by actively listening, validating their experiences and replying to their worries.
4) Inclusion: Ensure that everyone feels a sense of belonging, whether being part of a community, a team, organisation or a fellow human being.
5) Safety: Create an environment where people feel psychologically safe, in the sense of feeling free to share ideas and thoughts without reprisal or humiliation. This element supports the importance of open communication channels.
6) Fairness: Treat everyone justly and equally, following for example previously established and agreed-upon rules, guidelines and policies.
7) Independence: Facilitate individuals to exercise autonomy, fostering a sense of agency and cultivating hope and possibility.
8) Understanding: Value others' thoughts and perspectives by creating space to explain their viewpoints and actively listening to understand them. These are also the tenets of honouring epistemic justice66 and affirming a person's humanity through acknowledging his/her/their epistemic virtue53.
9) Benefit of the doubt: Approach people with a baseline posture of unconditional positive regard and as if they are dependable and trustworthy.
10) Personal accountability: Own your actions (we all make mistakes), apologize if you have compromised another person's dignity, and commit to doing better.

CONCLUSION

Human praxis is part of occupational therapy's history and makeup in fusing the synergy between individual and collective action. We have changed contexts because we understand them well in the many various roles we can assume as clinicians; knowledge workers/thinkers (students, researchers); educators/mentors; community facilitators and advocates. How we made that happen – changing contexts, while upholding values of humanism, interdependence including our planet, and promoting human dignity mattered. We will continue to be context-changers in healthcare in the arenas of education, research, and practice and leadership. We can harness deliberate human praxis drawing on our inherent wisdom by using tools such as critical reasoning skills with intent, reading the contexts in which work accurately and applying epistemic fluency aptly, and facilitating the constituents of human praxis as a treatment mode in ideating change for the greater good. Thank you for listening and sharing this day together.

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Drawing on Aristotle's maxim that the whole is greater than the sum of its parts, I therefore thoroughly realise that the honour to stand here today is a culmination from a collective that I am so happy and grateful to be part of. My thinking, speaking, being and doing are made and shaped by many people who is also part of this collective. Firstly my husband and true philosopher King, our children, my mother, sisters and their partners and children and extended family. Secondly my academic colleagues across universities. Thirdly my

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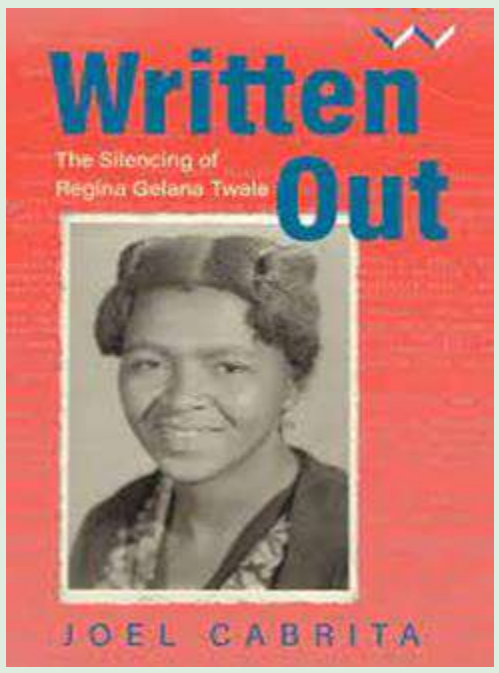
[BOOK REVIEW]

A review of the book Written Out. The Silencing of Regina Gelana Twala. Written by Joel Cabrita. Reviewed by Phumla Motsa



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THE REVIEW

Through the lens of Twala's African identity, this book provides a compelling exploration of her enduring legacy as a literary and political figure in apartheid-era South Africa and colonial Swaziland. Cabrita exposes the deliberate suppression of Twala's work, underscoring the pervasive racial and gender biases that facilitated the exploitation of African intellectual labour by White scholars and politicians. The book traces the captivating journey of a woman from her rural upbringing to her experiences in the bustling city of Johannesburg, encompassing the complexities of love, fertility struggles, and political upheavals.

The story delves into the life of a woman born in the 1920s, offering a glimpse into a bygone era filled with faith, perseverance, and setbacks. Despite facing numerous obstacles, she navigates through life with resilience, pursuing her aspirations in writing, love, and career. Her journey resonates with many African occupational therapists, showcasing the determination of women striving to make a difference in society.

What particularly caught my attention, as an occupational therapist, was the intricate portrayal of beadwork and its cultural significance. Imagining myself conducting an activity analysis on the diverse shapes and sizes of beads highlighted the importance of cultural context in our profession. Reflecting on my own background, where in my first year as an occupational therapy student I was introduced to the concept of "playing with food". Whether it was using painted macaroni as part of an art piece or mixing water and flour for sensory input - as a girl who was taught never to play with food this aspect of occupational therapy was really hard for me, it was unconventional, I was struck by the cultural nuances depicted in the narrative.

Amidst the challenges, moments of tranquillity emerge, such as tending to a garden in Eswatini. Through meticulous storytelling, the author resurrects a life that could have easily faded into obscurity. The societal expectations placed on women, illustrated through the concept of "*kubegetela[1]", underscore the struggles faced by Regina Twala.

Light is shed on Ms Twala's relationship with the Former King of Eswatini, King Sobhuza II and their shared interest in anthropology as a pathway to African emancipation. This dynamic underscores the complexities of power dynamics and personal pursuits intertwined with larger political agendas.

*Kubegetela is a siSwati term that translates to "to comply with" or "to submit to" in English. It refers to the societal expectation or pressure for individuals, particularly women, to conform to certain norms, traditions, or authority figures

The book is recommended reading for occupational therapists working in the community, rural settings and especially if working with service users from the siSwati culture. Overall, it offers a rich tapestry of a woman's life journey, intertwining personal challenges with broader societal narratives. It invites readers to ponder the significance of cultural context in occupational therapy practice and the resilience of individuals amidst adversity – a reality that so many of our clients face when having to accept a permanent disability.

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