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## **Perception of Physiotherapy Educators in Southwest Nigeria on Clinical Education of Undergraduate Physiotherapy Students**

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### **ABSTRACT**

It is widely accepted internationally that clinical education is integral to physiotherapy curricula. Clinical education and the supervisory process it involves are important and distinct parts of health care education. Physiotherapy clinical education appears to be least researched into in Nigeria. The aim of this study was to seek opinions regarding the perceived advantages and disadvantages of the models of clinical education used in south-west, Nigeria. Seventy-four (45 males, 29 females) physiotherapy educators participated in this cross-sectional population-based survey. They were recruited from the three university institutions in South-west Nigeria that run physiotherapy program and their associated teaching hospitals. A self-developed, validated 16 open and 4 close-ended questionnaire was used to solicit information on the opinions of physiotherapy educators on clinical education of undergraduate physiotherapy students in south western Nigeria. Responses to the open-ended questions formed the data set for investigating the perceptions that physiotherapy educators in Nigeria hold of clinical education of their undergraduate students. Data was coded, categorized and conceptualized into themes using content thematic analysis. Participants were aged  $38 \pm 7$  years. Fifty-three (71%) participants had postgraduate qualifications. Twenty-two (29.7%) participants reported that they have received formal training in clinical education prior to this study. Seven themes (which include opportunity to relate theory to practical, increased confidence, improved relationship between academics and clinicians, improved clinicians standard of practice, improved student's competence) were identified on participants' perceived advantages and eight themes (which include lack of remuneration, short period of training, low clinical educator to student ratio, inadequate monitoring of students, unsynchronized teaching between lecturers and clinicians) on their perceived disadvantages of clinical education. Suggested ways for improvement include remuneration of clinical educators, formal training, improved collaboration between lecturers and clinicians, standardized format of clinical education. The perceived advantages of the delivery of clinical education of physiotherapy students in south-west Nigeria are many though there are advantages. Policies that will take into consideration the perceived disadvantages should be structured and put in place by the Nigeria University Commission. This will invariably improve the clinical competence of the students when they become professionals. University authorities should concertedly provide a funding model that will incorporate clinicians as formal, well-remunerated clinical educators of undergraduate physiotherapy students.

Keywords; Physiotherapy education, undergraduate, south western Nigeria

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### **INTRODUCTION**

Clinical education is very central to the training of physiotherapy students and it is essential to the future provision of quality physiotherapy health care (Ernstzen et al, 2009; Canadian Physiotherapy Association, 2005). It is the supervision of clinical training of undergraduates, the delivery, assessment and evaluation of learning experiences in

practical settings. Clinical education is perceived as essential to the development of clinical skills, and attitudes which are being applied holistically on the patient (World Confederation of Physical Therapist, 2011).

The purpose of clinical education is that it provides opportunities for physiotherapy students to integrate knowledge, skills and professional behaviours and apply them in a clinical setting (World Confederation of Physical

Therapist, 2011). Clinical education affords physiotherapy undergraduates the opportunity of experiencing professional and inter-professional socialization, thus enabling the development of behaviours and interpersonal skills that are requisites of the profession (World Confederation of Physical Therapist, 2011). In clinical education, the patient's care is often the most important and the student takes the role of a service provider thus influencing the learning process of the student and enhancing the therapeutic abilities of the student (McMeeken, 2004).

Since physiotherapists are frontline practitioners, it is important that newly qualified physiotherapists can demonstrate general competence and a range of abilities that will allow them to function satisfactorily and safely in their professional role. Basic clinical competence should thus be achieved by the end of the undergraduate education. Teaching and learning activities have to be directed towards the achievement of the outcomes of the physiotherapy training (Ernstzen et al, 2009). Learning in clinical education is dependent on the clinical teacher, the student and the patient (Ernstzen et al, 2009).

The clinical teacher is integral to clinical education and is involved with daily responsibility and an overall provision of quality student clinical learning experiences (Gandy, 1995). Students often believe that the success or failure of their clinical learning experience can be attributed to the clinical educator (Irby, 1991). The clinical educator teaches primarily through interactions and handling of patients and assumes multiple roles, including facilitator, supervisor, role model, and performance evaluator (Scully et al, 1983). The clinical educator provides opportunities for students to experience safe practice. Further, clinical educators significantly contribute to students' understanding of and competence in physiotherapy clinical practice and serve as strong role models that guide students' visions of how they would like to practice in the future (Gandy, 1995).

The outcome of physiotherapy education is partly a reflection of the mode of clinical education delivery in the training and partly a reflection of the quality of clinical educators who help prepare graduates to deliver quality and cost effective services to meet the needs and demands of society within a dynamic health care environment (Gandy, 1995). Physiotherapy education is almost 50 years in Nigeria. The University of Ibadan started the first university-based physiotherapy training in Nigeria in 1964. A five-year degree programme in all the universities where physiotherapy is taught started as a three-year (BSc) course. Three of the seven universities currently offering undergraduate physiotherapy training in Nigeria also offer postgraduate physiotherapy course. Physiotherapy started as a three - year diploma course in the University of Lagos in 1971 but later changed to a four - year B.Sc. course and is now a 5-year B. physiotherapy degree. A 4-year bachelor of Medical rehabilitation (BMR)(PT) degree programme was started at Obafemi Awolowo University, Ile-Ife in 1977. A 5-year (BMR)(PT) degree programme was started at University of Nigeria, Enugu in 1987. In 1990, Bayero University Kano commenced a 4-year degree physiotherapy programme. The BSc physiotherapy training programme was started later on at Nnamdi Azikwe University, Nnewi and the University of

Maiduguri, Maiduguri. The degree programmes in all these seven universities are run in two phases; the preclinical phase and the clinical phase. Clinical education is given by physiotherapy educators to the students at the clinical phase of teaching. The preclinical phase is the beginning of students' training as physiotherapists in a university environment before continuing to the clinical phase in a clinical setting, where they acquire the necessary clinical skills (Nigeria Society of Physiotherapy, 2012). Considering the duration of physiotherapy training in Nigeria, it is essential that perception of the educators who deliver clinical education to undergraduate students be examined. This study investigated the perception of physiotherapy educators to the delivery of clinical education of physiotherapy undergraduates in south-west Nigeria.

## **MATERIALS AND METHODS**

The protocol for this study was approved by the University of Ibadan/ University College Hospital Research Ethics Committee, Ibadan, Nigeria. Permission to carry out the study was obtained from the heads of the all the Department of Physiotherapy of the various Universities involved in the study. Informed consent was obtained from each of the participants who signed the written informed consent form for their participations.

The participants were consenting physiotherapy educators in the three Universities in South-Western Nigeria where physiotherapy is being taught and their associated tertiary health institutions. Seventy-four Physiotherapy educators who have had the opportunity of participating in clinical education for at least a semester in the three academic institutions and their associated tertiary health institutions made the final sample size for this study. These academic training institutions are; University of Ibadan (UI), Ibadan, Nigeria; Obafemi Awolowo University (OAU), Ile-Ife, Nigeria; and University of Lagos (UNILAG), Lagos, Nigeria while the associated tertiary health institutions are; University College Hospital (UCH), Ibadan, Nigeria; Obafemi Awolowo Teaching Hospital Complex (OAUTHC), Ile-Ife, Nigeria and Lagos University Teaching Hospital (LUTH), Lagos, Nigeria.

A self-developed questionnaire was designed to elicit information on the perception of physiotherapy educators in south west Nigeria on clinical education of undergraduate physiotherapy students. The questionnaire was made up of twenty (20) items and divided into three sections, Section A (seven items) obtained information on socio-demographic variables of age, gender, academic qualification, years of experience, institution, rank level and specialization. Section B (nine items) obtained general information on models of clinical education. Section C (four open-ended questions) obtained information on the opinions of physiotherapy educators in south west Nigeria on clinical education of undergraduate physiotherapy students vis-à-vis the perceived advantages and disadvantages. Responses to the open-ended questions formed the data set for investigating the perceptions that physiotherapy educators in Nigeria hold of clinical education of their undergraduate students in this study. The 4 questions were:

Question 1: What are the advantages you perceive in the manner in which clinical education is given to students in your institution?

Question 2: What are the disadvantages you perceive in the manner in which clinical education is given to students in your institution?

Question 3: In what ways can the clinical education of students be improved upon in your institutions?

Question 4: Please make any other comments regarding the clinical education of physiotherapy students in your institution.

The developed questionnaire was assessed for content validity by an expert of four physiotherapy lecturers and two physiotherapy clinicians who are knowledgeable in questionnaire development.

### Data Analysis

Descriptive statistics of mean, standard deviation, frequency was used to summarize age and years of experience. Data was coded, categorized and conceptualized into themes. Content thematic analysis was used to analyse the opinions of the participants. Content analysis of the participants' responses was carried out by two of the authors. Substantive responses relevant to the four questions, and common themes that emerged were identified. Frequency counts and percentages of the number of responses were recorded

## RESULTS

The participants (41 males, 27 females) in this study who were aged  $38 \pm 7$  years were all consenting physiotherapy educators in the three academic institutions training physiotherapist in the South-west Nigeria and their associated teaching hospitals who have had the opportunity of participating in clinical education for at least a semester. One hundred and six copies of the questionnaires were distributed to all the physiotherapy educators. Seventy-four educators gave consent to participate in this study. Majority of the participants have post graduate qualifications. 32.4% of the participants reported to have received formal training on clinical education prior to this study. For each question/item, several category descriptors (themes) emerged.

### Question 1: Opinions on the perceived advantages

Seven themes concerning the physiotherapy educators' opinions on the perceived advantages of provision of clinical education to students were identified from the data analysis. Themes identified in that analysis were as follows:

#### Cooperation:

Few (15.7%) respondents reported that the manner in which clinical education is given to students enhances cooperation between physiotherapy educators and clinicians. The common response of these participants was *"the cooperation between physiotherapy educators and physiotherapy clinicians gives room for smooth running of the clinic."*

#### Opportunity to Relate Theory to Practical:

Eighteen respondents were of the opinion that students have the opportunity to see and handle conditions they have only learnt about in class. The common response was *"students are able to combine theory from their lectures with the practical aspects in the clinic."* One of the respondents from UNILAG/LUTH stated that *"clinical education in my institution provides opportunity to relate theory to practice."* Another response which was from a clinical educator in UI/UCH was that *"enables students to have hands on experience to practicalize things taught in the classroom"*. Another respondent from OAU/OAUTH stated that one of the perceived advantages of the model of clinical education used in his institution was that *"it allows students to grasp what they have been taught in the classroom and practice some hands on technique"*.

#### Increased Confidence and Self-esteem of Students:

Six respondents expressed the view that clinical education received by students increases the confidence and self-esteem of the students. The common response was *"it helps students to be confident in the handling of patient"*. One of the respondents from UNILAG/LUTH stated that one of the advantages of the model of clinical education in use in their institution is that *"it promotes confidence and self-esteem"*. Another respondent from the UI/UCH stated that *"teaches students to be confident in the handling of patients"*. Another from OAU/OAUTH stated that *"it gives students confidence to handle patients with minimum supervision"*.

#### Improved Relationship between Academics and Clinicians:

Four respondents expressed their opinion that the manner of clinical education received by students improves the relationship between the academics and clinicians. The common response states that *"it fosters a mutual relationship between the academics and the clinicians as both are working towards the same goal as regards the students"*. Four respondents are of the opinion that students receive instructions and interact with lecturers and many physiotherapy clinicians. The common response was *"they have interaction with clinicians"*.

#### Improved Clinicians' Standard of Practice:

Few (23%) of the respondent implied that the standards of practice of the clinicians are improved due to a need of constant knowledge update as they would educate students. According to them, *"it improves the clinical standard of practice of the clinicians since they have to constantly update their knowledge in order to educate appropriately"*.

#### Improved Student's Competence and Effectiveness:

Five respondents stated that student effectiveness and competence is increased as a result of the manner in which clinical education is received. The common response was that *"it enhances clinical competence and effectiveness of the student"*. Another respondent stated that *"It gives more time for students to attend to the patients and improve on clinical reasoning/decision making process"*. Eleven Respondents are of the opinion that the manner of clinical education received by students exposes them early to examination, treatment of patients and exposure to a wide range of conditions due to

rotation round different clinical specialty. One of the respondent stated that “students are exposed to examination and treatment of patient very early”. Another response was “students’ rotations round different clinical specialty permit them a wide clinical exposure.”

#### *Adequate Training for Students:*

Three respondents were of the opinion that students have adequate training which gives them good skills and practices. The common response was “It helps the students to have adequate training”. Another respondent from OAU/OAUTH was of the opinion that “group training challenges students to study more”.

#### **Question 2: Perceived Disadvantages**

Respondents answered this question from different points of view which were categorized into nine category descriptors (themes) which are highlighted as follows:

#### *Encourages Laziness among Unserious Students:*

Five respondents were of the opinion that students are not serious with postings. The common response was “students are lazy and just come to clinic to mark attendance and not to gain competence”. Another respondent from UNILAG/LUTH opined that “students are not serious with their postings, there should be a little enforcement of the school and clinicians who signs the students”. A respondent from UI/UCH stated that “it encourages laziness among unserious students”. Another respondent from OAU/OAUTH stated that “since they are not assessed by the clinicians students are not serious”

#### *High Clinical Educator to Student Ratio:*

Twelve Respondents in their opinions stated that less attention is given to students due to the increase in student population to clinical instructors. The common response was “less attention is paid to students due to increasing number of students to clinical instructor, university keep admitting students and hospital management has not been employing physiotherapists”. Some respondents (23) opined that timid students may not benefit so much unless clinicians take deliberate interest to interact with the students.

#### *Insufficient Equipment, Inadequate Time and Staff:*

Seven respondents expressed the view that there is a shortage of equipment and facilities for clinical education. The common response was “dearth of equipment and infrastructure”. Some respondents were of the opinion that students do not have enough time to get maximum clinical education as clinicians do not make themselves available. One of the respondents said “inadequate time due to concurrent commitments”. Another group of respondents were of the opinion that there is shortage of clinicians in the clinic which reduces the effectiveness of clinical education. A respondent stated that there was “shortage of therapist and hence no effectiveness of teaching”.

#### *Lack of Remuneration:*

More than average (52.3%) of both clinicians and lecturers were of the opinion that they were either not given the respect they deserved or they were not remunerated for teaching

students clinically. The common response was “most of the lecturers do not get paid for teaching students clinically”.

#### *Unsynchronized Teaching between Lecturers and Clinicians:*

Majority (78.7%) of the respondent from all the institutions were of the opinion that lack of collaboration between lecturers and clinicians was a major disadvantage. The common response was “academic and clinical teaching are not well synchronized”. A respondent from UI/UCH stated that “there is no proper coordination between the clinician and the lecturers in terms of teaching clinical/ physiotherapy skills”. One respondent was of the opinion that students are not allowed to practically handle critical cases. The response was “due to the critically ill status of the patient in my unit, most students are not allowed to practically handle such patients”.

#### *Short Clinical Training Period and Inadequate Monitoring of Students:*

Twelve respondents expressed the view that training period in each unit is short, leaving a problem of continuity and in-depth teaching. The common response was “period of training under each unit is short so there is problem with continuity and does not allow for in-depth teaching”. Few (11.5%) respondents stated that clinicians’ workload gives little time for adequate student monitoring. The common response was “inadequate monitoring of the students due to excessive workload of the clinicians which may affect their clinical competence over time”.

#### *Non-involvement of Clinicians in Students’ Assessment:*

Majority (80.7%) of the Respondent were of the opinion that clinicians are not involved in students’ overall assessment. The common response was “non-involvement of clinicians in the overall assessment of the students”. Another respondent opined that “clinicians are not allowed to assess students objectively after each posting and give report of students’ progress. It reduces the impact of the clinician on the knowledge acquisition of the students”. Some (44.6%) of the respondents believed there is a need for a standard clinical assessment tool that can be used to assess students after each posting. The common response was “need for well standardized clinical assessment tool for the students at the end of each posting”.

#### *No Standardized Curriculum:*

Six respondents stated that there is no available standardized curriculum for clinical education. The response was “no standard curriculum or guidelines are followed”. Few (26.2%) respondents stated that “end of posting exams are still not standardized and given much weight”.

#### **Question 3: improvement of clinical education**

Respondents answered this question from different points of view which were summed up into seven category descriptors. These descriptors are highlighted as follows:

#### *Reduced Ratio of Students to Clinical Educators:*

About one-tenth (10.9%) of the respondents stated that the clinical education of students can be improved upon by the

reduction of the clinical educator to student ratio. The common response was “*reduce the ratio of students to clinicians*”, it was stated by seven respondents and one of the respondents gave the example of 2:1. Another respondent stated that “*clinical educator ratio physiotherapy students should be improved upon to allow adequate supervision of students in each clinical posting*”. Few (5.4%) of the respondents stated that a reduction in the number of students admitted into the physiotherapy programme would improve the clinical education of the students as this would lessen the number of student a clinical educator has to attend to. Eight of the respondent also stated that an increase in the number of the clinical educators would invariably affect the clinical education of the student positively. One of the respondents indicated that “*Employ more lecturers to enable clinicians to cope with the increasing number of student intake*”. A respondent from university of Lagos stated that “*increase the number of clinical educators so as to conform with the NUC recommendation of 1:6 and enabling clinical educators to pay proper attention to individual student*”

#### *Remunerations of Clinical Educators:*

Majority (78.9%) of the respondents felt that remunerations of clinical educators for the clinical education of students is needful as it is a way of motivating the clinical educators. The common response was “*clinicians should be remunerated for teaching*”.

#### *Formal Training of Clinical Educators:*

Only few (8.1%) of the respondents stated that there is a need for clinical educators to be formally trained. One of the respondents stated that “*encouragement of clinical and academic physiotherapists to take courses in clinical education of students*”.

#### *Increased Duration of Clinical Posting:*

In this study respondents reported that the length of time students spend in various units of clinical placements should be increased as this would improve the clinical education of the students. The most occurring response was “*students should be allowed to spend more time in each unit*”, another respondent stated that “*increase the duration spent in each unit during clinical education*”.

#### *Improved Collaboration between Clinicians and Lecturers:*

Four of the respondent stated that collaboration between clinicians and lecturers is also a way of improving the clinical education of undergraduate physiotherapy students.

#### *Standardized Format for Clinical Education:*

Forty of the respondents stated that the standardization of the method of which clinical education is given to student is also a way of improving their clinical education. One of the respondent stated that “*there should be standardized method of teaching the student rather than by means of personal experience*”.

#### *Clinicians Involvement in Students' Assessment:*

Thirteen of the respondent reported that clinicians' involvement in the assessment of clinical students will

enhance clinical competence of the students. The common response was “*clinicians should be allowed to get involved in the assessment of students clinically*”, A respondent from UCH stated that “*clinicians should be involved when students' clinical capabilities are examined*”. A respondent from OAU/OAUTH stated that “*objective assessment tools should be used in the assessment of students*”.

#### **Question 4: Other comments on the clinical education of physiotherapy students**

This question was generated with the intention to give room for any other comments as regards clinical education of physiotherapy students. Participants were asked to make any other comment as regards the clinical education of undergraduate physiotherapy students. Out of 74 respondents, 34 had no other comments to make. From the responses gathered, the three themes identified to enhance students' clinical learning opportunities were listed as follows:

#### *Harmonization of Physiotherapy Training Programme:*

A respondent suggested “*the harmonization of Physiotherapy training in Nigeria should be included in proposed doctor of Physiotherapy curriculum. This is to ensure that students are given equal learning opportunities and are exposed to the best teaching methods irrespective of the institution attended.*” Another respondent noted that the UCH/UI physiotherapy programme sends her student s on an “*industry*” – based, school coordinated student industrial work experience scheme and suggested that all other institutions offering physiotherapy should emulate them. One respondent said “*communication skills should be given to students before they begin the clinical year and last clinical year*” while three other respondents want clinicians to be involved in assessing students.

#### *Close monitoring of students and enforcement of discipline:*

Three respondents were of the opinions that “*close monitoring of the student more closely by inspecting their logbooks by both clinicians and lecturers, repetition of postings as a disciplinary measure and conducting end of posting clinical test by clinicians.*” Enforcement of discipline was thought by two respondents to enhance clinical education. This according to one of them can be achieved with the assistance of professional bodies while the other respondent pointed out that “*students often go late to the clinic and leave early and that a guide on the time in and out of the clinic should be put in place with a strategy to ensure this.*” One of them gave the reason that “*students play truancy many times because they are not assessed by the clinicians*”.

#### *Admission of students relative to number of clinical educators:*

Three respondents were of the opinion that “*more time is needed for the clinical rotation of students meanwhile*”, another of the respondents opined that “*students must be trained to be proactive and thereby maximise their clinical exposure.*” Also, three respondents agreed that the student/teacher (could be clinicians or lecturers in the clinic) ratio should be reduced for effective clinical teaching. One of these respondents went as far as saying “*this ratio should be taken into consideration when admitting students*”. According

to one of the respondents "There is need for improvement on the part of the clinicians and lecturers" which was also implied by yet another respondent. One respondent suggested that "increased level and frequency of contact between lecturers and students during clinical hours would enhance learning"

## **DISCUSSION**

From the results of this study, the participants had varied responses on the desired clinical educator to physiotherapy students' ratio with 3 and 5 being the most occurring number and forming 48.7% (25.7% for 3 and 23% for 5) of the responses. This survey has provided insights into the perceptions of physiotherapy educators in south-west, Nigeria hold of clinical education of their undergraduate students. All the participants have reported a mix of the advantages and disadvantages in the provision of clinical education to their students. There were quite a number of advantages, disadvantages and suggestions of improvements in the manner in which clinical education is given to students in their various institutions reported by the respondents, some of the advantages include opportunity to relate theory with practical, improved clinical standard of practice, early exposure of the students to examination, treatment of patient and a wide range of conditions and improved clinical educator and student competence and effectiveness.

The disadvantages in the method of delivery of clinical education that were pointed out by participants were numerous, a few of which include non-availability of standardized curriculum and guidelines for the clinical education of the students, which might result in lack of coordination between the clinicians and lecturers in terms of teaching clinical skills. This is emphasized in a study carried out by Jarski et al, (1990) where it was opined that an absence of common philosophy for clinical education may contribute to an inconsistency of approach to clinical supervision. All these support the notion of Ernstzen et al (2009), who reported that the learning needs of students should be determined at the beginning of a clinical placement and teaching and learning activities should be planned accordingly. She stated that one of the forms of the teaching-learning activities is the demonstration of patient management (Ernstzen et al, 2009). Another major disadvantage in method of delivery of clinical education reported by the participants is non- involvement of clinicians in the assessment of the clinical competence of the students which results in lack of seriousness amongst the students. Lack of formal training of the clinical educators in clinical education is another disadvantage noted by the participants. Clinical educators are "senior, qualified, practising physiotherapists whose role is to supervise, facilitate and assess students' learning while they are on placement" (Moore et al, 1997). They play a pivotal role in the education of students yet may be subject to the multi-dimensional pressures exerted from stakeholders (Baldry and Bithell, 2000) that have an interest and differing degrees of power and influence in clinical education. The role of clinical educators includes creating rich learning environment, facilitating self-directed learning and lifelong learning amongst students and promoting the achievements of students' goals. This means that the clinical teacher needs to

be aware of the process of learning and the concept of student centred teaching and should have a solid ground in teaching and assessment skills (Ernstzen et al, 2009).

In a study carried out by Opacich (1995) it was reported that there was a need for a common philosophy of clinical education, encompassing both the process and the product of the clinical education. Part of that need is the preparation of clinical educators in order to prevent educators from teaching whatever they perceive, is right. Experience and Period of time spent on each posting is too short and does not allow for in-depth teaching.

Several factors have been shown to influence the effectiveness of student learning in a clinical environment: the mix of patients seen by students, the supervision they receive, organizational quality, and the number of students simultaneously learning at the site (Dolmans et al, 2002, Durak et al, 2008). Participants in this study reported that the clinical education of undergraduate physiotherapy students can be improved by reducing the ratio of the clinical educator to students and this can be achieved by decreasing the number of students admitted into the university and employing new clinical educators to meet the demand of the student population. This notion is supported by Lekkas et al, (2007), who gave advantages of a reduced clinical educator to student ratio. He reported that students receive individual, guided attention and clinical educators find supervision of students less demanding compared to an increased clinical educator to student ratio. The assessment of clinical competence of the students by the clinicians and not just the lecturers would make the students take their clinical posting seriously which would on the long run improve the students' competence. Wass et al (2001) reported that assessment drives learning and to promote learning, assessment should be educational and formative and students should learn from tests and receive feedback on which to build their knowledge and skills.

Helpful supervisory behaviours include direct guidance on clinical work, linking theory and practice, and offering feedback and role modelling. In students' perceptions, providing observation and constructive feedback are key features of effective clinical learning experiences (Van der Hem-Stokroos et al, 2003). A vital role of the clinical educator is to promote the learning environment of clinical education by organizing programmes and other learning opportunities such as tutorials and seminars. In some cases, the tutors teach students both formally (e.g. seminars) and informally (e.g. 1:1 on the wards).

A supportive environment has been identified as important for the transfer of learning in the clinical context. The learning environment in which learning takes place profoundly affects what is learnt and the students' responses to learning (Kilminster and Jolly, 2000). A positive clinical learning environment, an imperative for the success of education is largely dependant on good co-operation among staff members in the clinical ward (clinicians, clinical educators and other members of the health care team), good atmosphere and students (Papp et al., 2003). The clinical environment is characterised by multiple tensions. Hofman and Donaldson (2004) described three major contextual tensions that affect teaching and learning in the clinical environment: 1) patient census, i.e. the number of patients, the

types of illnesses, and the pace at which patients move through the healthcare system; 2) the pace at which ongoing patient care activities are taking place; and 3) the multiple and conflicting responsibilities of the team, i.e. the challenge of appropriately allocating time to teaching, learning, patient care and other commitments. Financial pressures on clinical teaching institutions and the growing number and types of learners further complicate the clinical training environment (Roth et al., 2001). Given the complexity, conflicting roles and tensions of the clinical setting, the challenge facing clinician-teachers is to create a high quality learning environment for students (Dolmans et al, 2008).

Clinical educators are expected to have a wide range of clinical knowledge, to know patients and the environment in which they practice. They must have the ability to draw on their clinical knowledge and convey it to students in an understandable way (Parsell and Bligh, 2001). The clinical educator should be able to assess students by identifying their strengths, learning needs and previous experiences thus setting overall student objectives and clarifying learning expectations and defining specific learning objectives with the assistance of the students and the academic program (Bennett, 2008). Clinical educators must develop the capacity to evaluate and assess the students' level of progression in regards to the set objectives (Ohman et al, 2005). The students' relationship with the clinical educator plays an important part in the students' clinical and learning experience (Chan, 2001).

The clinical educator has also been called a clinical tutor, clinical supervisor, clinical preceptor and clinical teacher. Each of these labels can be identified with one or more roles that this individual routinely performs (Irby et al, 1992). Clinical educators significantly contribute to students' understanding of and competence in physical therapy clinical practice and serve as strong role models that guide students' visions of how they would like to practice in the future (Gandy, 1995). The clinical educator should remember that the ultimate goal of clinical education is to provide an environment that fosters students' professionalism and encourages the development of an independent problem solver and a reflective and competent practitioner (Bennett, 2008).

In conclusion, this study has provided empirical information on the perception of physiotherapy educators on the clinical education they provide to their students. The perceived advantages of the physiotherapy educators include opportunity to relate theory with practical, improved clinical standard of practice, early exposure of the students to examination, treatment of patient and a wide range of conditions and improved clinical educator and student competence and effectiveness. The disadvantages of the models of clinical education are enormous. Few of these include increased ratio of clinical educator to students, inadequate equipment, reduced number of staffs, unsynchronized teaching between lecturers and clinicians, non-involvement of clinicians in students' assessment. In order to enhance the delivery of clinical education to physiotherapy undergraduates in Nigeria, policy that will take into consideration the perceived disadvantages should be structured and put in place. This will invariably improve the clinical competence of the students when they become

professionals. University authorities should concertedly provide a funding model that will incorporate clinicians as formal, well-remunerated clinical educators of undergraduate physiotherapy students.

This study was limited by the use of only open-ended questions. More in-depth information could have been obtained through a focus group discussion or in-depth face-to-face interview. Further research could be undertaken to further investigate the opinions of the physiotherapy educators using the qualitative approach.

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