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SWAHILI TRANSLATION AND CROSS-CULTURAL ADAPTATION OF THE START BACK SCREENING TOOL
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ABSTRACT

Objective: **The aim of this study was to translate and culturally adapt the STarT Back Screening Tool into Swahili language.**
Design: **Translation and cultural adaptation of a questionnaire.**
Setting: **Physiotherapy outpatient clinics in Muhimbili National hospital and Jomo Kenyatta University of Agriculture and Technology hospital in Tanzania and Kenya respectively.**
Subjects: **Adults patients presenting with Low back pain.**
Results: **Minor semantic alterations were done in question 5, 6 and 7 during the expert committee review. Pre-testing of the tool and cognitive interview indicated that all questions were well understood.**
Conclusion: **The Swahili version of the STarT Back Screening Tool, has shown to be comprehensible and well adapted to the Swahili speaking population. Future studies should investigate its psychometric properties.**

INTRODUCTION

LBP is the leading cause of years lived with disability in developed and developing countries and the reason for work absenteeism and disability claims in people under 45 years of age (1). It is also amongst the reasons for early retirement in people below 65 years hence reduce wealth creation opportunities compared to their age mates (2). Furthermore, people with LBP lose their social identity due to inability to fulfil traditional and expected social roles in a society (2). Consequences of low back pain are more extreme in the low and middle income countries due to inadequate resources and poor structural adjustments at work places, hence placing the low back pain sufferers in more disadvantaged situations (3,4). According to (3), LBP prevalence is rising in Africa across all age groups. This calls for effective preventive strategies to reduce/alleviate its consequences, since the relationship between economic status and health is well known.

Despite the reported evidence based guidelines for screening, assessment, treatment and management of LBP, there is poor implementation among clinicians(5). For example, although guidelines suggest that, early identification of psychosocial factors in LBP patients prevents chronicity, there have been few easy tools to be used in busy clinical settings. Not only that, but also most of the prognostic tools are developed in English language, hence health care professionals fail to make the most accurate estimation of risk of chronicity among patients with LBP. Thus, poor correlation between clinician's identified prognostic indicators and the patient's profile (6) which results to poor treatment outcome, patient's dissatisfaction and chronification. .

STarT Back Screening Tool is a self -report validated nine items questionnaire originally developed in the Keele University, United Kingdom. The tool is useful in both clinical settings as well as experimental studies to identify LBP patients at risk of developing chronic pain and persistent disability.

SBT classifies LBP patients into low, medium and high risk of developing persistent LBP and provides the treatment pathways to match each subgroup (7).

The aim of this study was to translate and cross culturally adapt SBT into Swahili language and culture to be used in East African context and the Swahili speaking population. Swahili language is mostly spoken in East Africa, and some parts in Africa. Clinical application of Swahili version of SBT will reduce disability among patients reporting LBP, days off work, pain, improve physical and emotional functioning and treatment satisfaction thereby providing stratified care. Thus, reduce healthcare costs to individuals and the public healthcare system.

MATERIALS AND METHODS

This study was conducted according to the guidelines recommended by (8). The Beaton framework includes six stages which are, obtaining permission from the developers of the questionnaire and translation of the questionnaire into target language. Also it includes, synthesis of the translated versions to create a single version, back translation of the synthesized questionnaire, expert meeting to resolve the discrepancies and pretesting of the pre-final version of the questionnaire.

Stage I: Obtaining permission:

Permission to translate the STarT Back Screening Tool, originally developed in the

United Kingdom (9), was sought and obtained from the developers via email correspondence. This study was approved by the Ethics Review Committee of JKUAT University in Kenya, National Institute for Medical Research in Tanzania and the Ethics Review Committee of Muhimbili National hospital in Tanzania. Informed consent was sought and obtained from study participants before pretesting the questionnaire.

Stage II: Translation and Synthesis:

Forward translation of the original English version of STarT Back Screening Tool (SBT) was done by two independent Swahili native speakers in Tanzania, the first translator (T1) was informed on the concept being measured while the second translator (T2) was not aware of the concept being measured. The two translators worked independently to produce the two different Swahili versions of the SBT. Thereafter, translators were contacted via phone by the author to resolve some of the differences in their translation. Finally, both translators reached consensus and resolved their differences. At this stage, T1, 2 version (Combination of T1 and T2) of the SBT in Swahili language was formed.

Stage III: Back translation:

The synthesized Swahili version of the SBT (T1, 2) was translated back to English language by two native English speakers in Kenya and Tanzania who are fluent in both languages. Both translators worked independently and were not aware of the original version of SBT or the concept it measures. The back translated English versions (BT1 and BT2) reflected similar content item with the original English version of SBT. Therefore, the translation process was consistent.

Stage IV: Expert Committee:

The committee was formed by two `Physiotherapists, occupational therapist and a professional translator both with 10 years' working experience in Tanzania. The aim of the meeting was to consolidate and review all translated versions to form pre-final version.

During the meeting some words were difficult to translate (Idiomatic equivalence) thus the committee either agreed with the translators or formed an equivalent word with similar meaning. For instance, in question 5 the word '*Physically active*', the committee agreed with the equivalent expression '*Kushughulisha mwili'* as translated by the language professionals.

Other words included *'Worrying thoughts'* in question 6, its equivalent expression was '*Wasiwasi na hofu'*. Also, the experts discussed the phrase, *I feel that my back pain is terrible* in question 7 and agreed to change it to '*Maumivu makali sana*' literally meaning '*Extremely painful'* to maintain the conceptual equivalence in the question. Thereafter, the experts consolidated all translated versions to form a pre- final version of Swahili SBT.

Stage V: Pretesting and Cognitive interview:

The pre-final version of SBT-Sw was tested in 30 participants with LBP at JKUAT hospital and MNH Physiotherapy outpatient department. This sample included participants with LBP above 18 years, who could read and write Swahili language. After completing the questionnaire, each participant was asked to verbalize their thoughts as well as their responses regarding each item on the questionnaire. The interview mainly focused on the meaning of each item, its relevance and rephrasing the difficult questions. All items in the questionnaire were well understood, hence the adapted questionnaire retained its meaning equivalence in the Swahili culture and language. The pre-final version was proceeded to the final version of the Swahili SBT.

Stage VI: Submission of Documentation to the Developers for Appraisal of the Adaptation process:

Translation and adaptation of the SBT in Swahili language was finalised by sending the reports to the Keele University in United Kingdom. The final Swahili version of SBT was appraised and uploaded to the website https://startback.hfac.keele.ac.uk/wp-content/uploads/2020/01/Swahili-translation-STarTBack.pdf.

RESULTS

During translation and synthesis of the pre final version of the SBT, some minor linguistic differences emerged. The differences were mainly observed between the two forward translations specifically in item 1 (spread down), item 5 (Physical activities), item 6(worrying thoughts), item 7 (it's never going to get any better), item 8(not enjoyed) and item 9 (Bothersome). On the other hand, no differences were observed in the instruction (Thinking about the last two weeks tick your response to the following questions) and response options (disagree/agree). All the linguistic differences were resolved in stage II. At this stage the ambiguous and inappropriate words were replaced and a written report was made.

After back translation (stage III), the expert committee reviewed the pre-final version (T1, 2) of the questionnaire. During the meeting, item 5 was the most challenging, as there is no direct translation of the word *'Physically active'* in Swahili. Its equivalent translation in English could read, *it's not safe for someone with my condition to be active*. The experts reached consensus on all items and no further cross-cultural adaptation was necessary.

The pre-final version of the questionnaire was tested on 30 patients with LBP, female (66.7%) and male (33.3%). The age of the participants in this study ranged from of 18 years to 80 years (mean 49 and Std. Deviation 13.9). Pretesting of the questionnaire showed that all items were well understood except 4 people (13.3%) who suggested that item 5 should be concerning occupational activities instead of physical activities.

Pretesting of the Swahili version of SBT was done in Kenya (10 participants) and Tanzania (20 participants). Participants in both countries demonstrated excellent ability in understanding and responding to each item in the questionnaire. Therefore, the Swahili version of SBT can be considered linguistically valid for Swahili speaking population.

DISCUSSION

Most of the LBP prognostic questionnaires are developed in English language. Translation and cross-cultural adaptation is necessary to ensure equivalence in semantic, idiomatic, experiential and conceptual equivalence between the source and the target questionnaire. The original version of SBT has been translated into several languages such as Arabic, French, German, Dutch, and Spanish among others (7,10–15). The aim of this study was to translate and cross culturally adapt SBT into Swahili according to the international guidelines (8). The response rate was 100%, all items of the questionnaire were well understood with no further alterations during pretesting and cognitive interview. However, during pre-testing and cognitive interview, 13.3% (n=4) of the participants were uncertain about the meaning of the words *'kushughulisha mwili'* (Physically active) in item 5 of the questionnaire and its relation to occupational activities or house chores. Similar situation is reported in the Danish and German translation of SBT (10,15). This may imply that, translation and cross-cultural adaptation

process was sufficient and that, this uncertainty originates from the original English version of the SBT. Therefore, it can be assumed that the Swahili SBT has good face and content validity.

However, despite the excellent ability shown by participants to interpret and respond to all items in the questionnaire, it should be acknowledged that this study did not measure the reliability, validity and responsiveness to change of the Swahili SBT.

The Swahili SBT will be useful during data collection in clinical and experimental studies involving Swahili speaking population, to avoid language selection bias. Thus, patients will be able to respond to this questionnaire without any difficulties. Application of this newly translated questionnaire will support stratified management of Low back pain patients at primary care level in Swahili speaking countries.

Stratified care has shown to be effective in terms of cost and treatment outcome compared to the current practice (6,14). Furthermore, training to clinicians attending Low back pain patients on the effective implementation of the Swahili SBT is suggested to achieve maximum results. Similar training was conducted to Physiotherapists in UK on how to appropriately use and manage patients according to their risk subgroup (6).

CONCLUSION

This study aimed at translating and cross culturally adapt the STarT Back Tool into Swahili. Results show that, majority of the participants understood the Swahili version of the questionnaire in terms of the individual items within the questionnaire, instructions and response options. Hence, we achieved equivalence between the original SBT and its Swahili version. This implies that cross –cultural adaptation of the STarT Back Screening Tool in Swahili language was achieved. Therefore, the Swahili version of the SBT can be fully used in clinical practice and research to classify LBP patients into risk subgroups, once it is fully validated.

REFERENCES

1. Maher C, Underwood M, Buchbinder R. Non-specifi c low back pain. 2017;389.
2. Hartvigsen J, Hancock MJ, Kongsted A, Louw Q, Ferreira ML, Genevay S, et al. Series Low back pain 1 What low back pain is and why we need to pay attention. 2018;6736(18).
3. Louw QA, Morris LD, Grimmer-somers K. The Prevalence of low back pain in Africa : a systematic review. 2007;14:1–14.
4. Buchbinder R, Tulder M Van, Öberg B, Costa LM, Woolf A, Schoene M, et al. Viewpoint Low back pain : a call for action. 2018;391:2384–8.
5. Foster NE, Anema JR, Cherkin D, Chou R, Cohen SP, Gross DP, et al. Prevention and treatment of low back pain : evidence , challenges , and promising directions. 2018;391.
6. Hill JC, Whitehurst DGT, Lewis M, Bryan S, Dunn KM, Foster NE, et al. Comparison of stratified primary care management for low back pain with current best practice (STarT Back): A randomised controlled trial. Lancet [Internet]. 2011;378(9802):1560–71. Available from: http://dx.doi.org/10.1016/S0140-6736(11)60937-9.
7. Hill JC, Betten C, Sandell C, Hill JC, Gutke A, Betten C, et al. Cross-cultural adaptation and validation of the Swedish STarT Back Screening Cross-cultural adaptation and validation of the Swedish STarT Back Screening Tool. 2015;(May 2016).
8. Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the Process of Cross-Cultural Adaptation of Self-Report Measures. 2000;25(24):3186–91.
9. Hill JC, Dunn KM, Lewis M, Mullis R, Main CJ, Foster NE, et al. A primary care back pain screening tool: Identifying patient subgroups for initial treatment. Arthritis Care Res. 2008;59(5):632–41.

10. Aebischer B, Hill JC, Hilfiker R, Karstens S. German Translation and Cross-Cultural Adaptation of the STarT Back Screening Tool. 2015;46:1–14.
11. Bier J, Ostelo RW, Amsterdam VU, Hooff M Van, Maartenskliniek S, Koes BW. Original Research Validity and Reproducibility of the STarT Back Tool (Dutch Version) in Patients With Low Back Pain in Primary Care Settings. 2017;(March).
12. Bruyère O, Demoulin M, Brereton C, Humblet F, Flynn D, Hill JC, et al. Translation validation of a new back pain screening questionnaire (the STarT Back Screening Tool) in French. 2012;1–5.
13. Elsabbagh L, Al-atwi T, Aldossary D, Alshami AM. Cross-cultural adaptation and validation of the STarT Back Tool for Arabic speaking adults with low back pain in Saudi Arabia . Journal of Orthopedic Cross-cultural adaptation and validation of the STarT Back Tool for Arabic speaking adults with low back . J Orthop Sci. 2019;(January).
14. Luan S, Min Y, Li X, Wu S, Hill JC. Cross-cultural Adaptation, Reliability, and Validity of the Chinese Version of the STarT Back Screening Tool in Patients With Low Back Pain. 2014;39(16).
15. Morsø L, Albert H, Kent P, Manniche C, Hill J. Translation and discriminative validation of the STarT Back Screening Tool into Danish. 2011;2166–73.