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UPESI: Swahili translation of the FAST acronym for stroke awareness campaigns in East Africa

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ABSTRACT

Introduction: Despite stroke being a leading cause of death and disability in sub-Saharan Africa, stroke awareness remains a major hurdle to early stroke response and care in the region. To improve stroke awareness, we endeavoured to borrow a leaf from initiatives in high-income countries, beginning with the translation and dissemination of the acronym, FAST (Face, Arms, Speech, Time) to Swahili.

Methods: We formed a translation group consisting of two stroke physicians, one nurse and two professional translators, all native Swahili speakers. Forward translation of the original document from English to Swahili was done by one Swahili translator; followed by a backward translation by another translator. Clinician reviews and cognitive reviews were then done, and a final translation was developed.

Results: We developed the acronym UPESI, a Swahili translation of the word, FAST. The acronym stands for ***U**so kupooza upande mmoja; **P**ooza mkono/mguu (au kupoteza hisia); ugumu ku-**E**leza/kuongea; **SI**mu upesi* translating to *face drooping, arm/leg paralysis, difficulty* in *speaking/explaining* and *fast to the phone.*

Conclusion: The result of this process is a Swahili translation of the FAST tool for stroke awareness campaigns. The translation will improve communication during stroke campaigns and increase awareness of stroke.

African relevance

- In East Africa, as noted in other non-English-speaking countries, the lack of an effective educational tool using a locally understood language is a major factor contributing to extensive pre-hospital delays in stroke care.
- This manuscript describes the Swahili translation process of an English stroke awareness tool (FAST acronym) for better use in our local setting.
- This is a study done in East Africa and is aimed at improving recognition of stroke signs in this predominantly Swahili-speaking region.

Introduction

Stroke is a leading cause of death and disability in sub-Saharan Africa (SSA) and is associated with a significant economic burden resulting in the impoverishment of patients and families and an overburdened healthcare system equilibrium [1]. Stroke care in SSA is limited; with a myriad of challenges throughout the stroke care continuum including poor access to stroke treatment centres due to long distances, poor road infrastructure and unavailability of ambulances; as well as poor quality of care due to a lack of policies, medications, infrastructure and personnel [2].

Besides infrastructural barriers, stroke care in the region is also markedly limited by lack of stroke awareness and knowledge, as patients and relatives are unaware of signs of a stroke and how fast medical attention should be sought [3–6]. As a result, it is common for patients to arrive days after a stroke, with relatives citing that they did not

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understand the seriousness of the stroke or what to do after the stroke. This results in huge delays in presentation and initiation of appropriate stroke interventions with consequent loss of precious brain tissue with time and resultant poor outcomes that are widespread in the region [7].

To increase the recognition of signs of stroke as well as to emphasize immediate appropriate action after a stroke, the synonym, "FAST", was developed. Even though it does not capture all stroke symptoms, FAST combines three common stroke warning signs and a plan of action into a single message; and has been used successfully in stroke awareness campaigns in English-speaking countries [8]. In non-English-speaking countries, however, the lack of an effective educational tool using a local well-understood language has been cited as a major factor contributing to extensive prehospital delays and associated stroke-related morbidity [8]. This is a major challenge in most regions in SSA where the bulk of the populace is unable to fully understand the FAST acronym due to language barriers.

In response to these challenges, the translation of the FAST tool into Swahili emerges as a pivotal step towards increasing stroke awareness; considering Swahili's prominence regionally. Out of the more than 1500 languages in SSA, Swahili is one of the most commonly spoken ones with over 200 million speakers in more than 14 countries mostly centred in East Africa [9]. Translation of the FAST tool into Swahili therefore allows us to intensify stroke awareness campaigns in a locally understandable language in the region; in a bid to promote timely presentation of stroke patients, as the first step towards restructuring the regional stroke care continuum towards improved stroke care and better outcomes. The framework of this work also provides a template for subsequent translations of the tool into other major African languages for an even wider reach.

Methods

We formed a translation group consisting of two stroke physicians, one nurse and two professional translators, all native Swahili speakers. Forward translation of the original document from English to Swahili was done by one independent professional Swahili translator. The translation group reviewed this translation for equivalence, linguistic accuracy and contextual relevance to bring out the desired nuances in the setting of stroke. The next step was translating the Swahili tool back to English by a different professional translator, equally well-versed in both languages. This helped eliminate any discrepancies and/or ambiguities in the target document as compared to the English version. To fortify the accuracy of the document, clinician reviews were done by five stroke specialists in Kenya and Tanzania; followed by cognitive debriefing to ensure comprehension of the translation by the target audience (general population). Interviewers facilitated a detailed discussion with a randomly selected group of relatives visiting patients admitted in a rural district hospital in Kenya; aimed at assessing the interpretation of each of the items in the acronym; with subsequent revisions to achieve a high level of cognitive match. This translation process is summarized in Fig. 1 below.

Results and discussion

The final translation is provided in Fig. 2. The term FAST can be translated into several terms in Swahili including *haraka, upesi, hima, mbio,* and *unyo*. The word UPESI was chosen as we could identify different phrases translating to the terms of the FAST acronym.

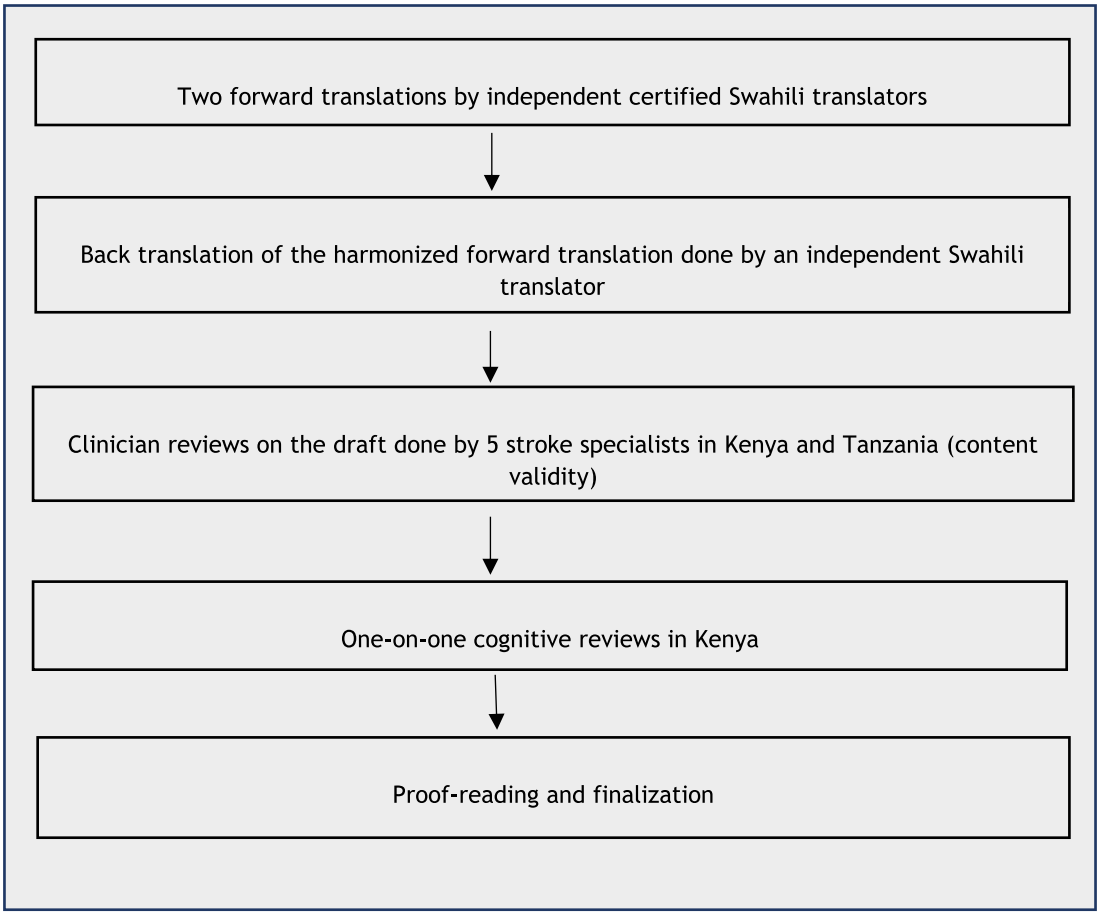

Fig. 1. Translation process of the FAST tool from English to Swahili.

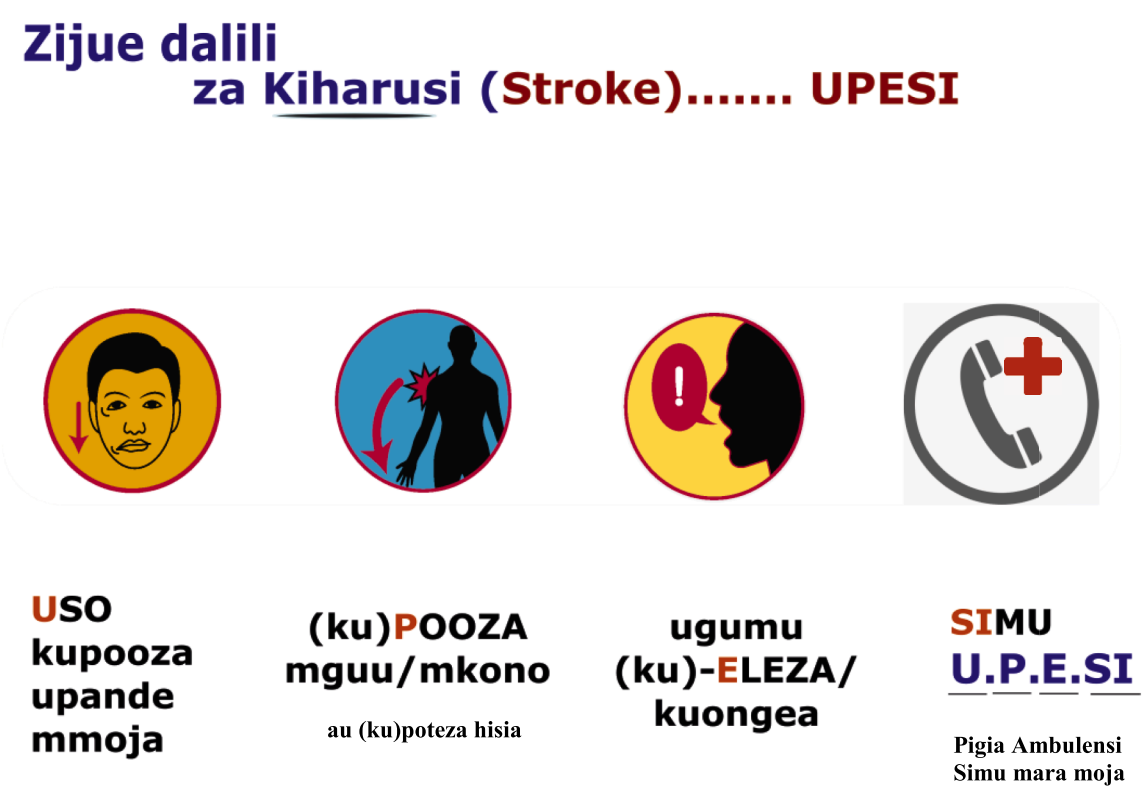

Fig. 2. Graphic presentation of the Swahili translation of the acronym 'FAST'.

Terminology considerations

Uso (meaning face) was chosen as the term for face in place of other terms like *wajihi*. This expressed appropriate cultural resonance and is a lot more universal among native Swahili speakers. For the arm(s) weakness, the phrase arms/legs paralysis was used. *Pooza*, is the Swahili translation of paresis/paralysis. This is further clarified as ***pooza mkono au mguu***, effectively translating as weakness of the upper or lower limbs. This fits in well with our progression of UPESI as the second letter of the acronym. Additionally, we added "*ku-**poteza hisia***" to imply loss of sensation or numbness as this aligns with studies showing that including sensory aspects increases the impact of the acronym [10].

Similarly, we used difficulty in explaining or speech as has been phrased in the original document. *Kunena ngumu* and *kueleza ngumu* were the preferred phrases. Both capture the concept of difficulty in speaking and have the prerequisite E, further feeding into the acronym.

While most Swahili-speaking countries do not have a nationwide medical emergency phone line, we used the ambulance and phone graphics to enhance awareness of the use of currently available emergency services. Regionally, the routinely used emergency number is 112 or 999 all of which connect to police emergency call centres. It is thus not dedicated to medical emergencies. In the event of a medical emergency, the police emergency call centres then contact a medical evacuation to respond to the need. In addition to the police emergency hotline, there exist multiple privately- owned emergency medical response services whose numbers are readily available online. That notwithstanding, ***SI**mu*, the Swahili translation of phone was used to complete the acronym. All four facets of the acronym are accompanied by a visual illustration and brief description to enhance comprehension at a glance (Fig. 2). Swahili terminologies considered for each item of the FAST acronym are summarized in Table 1 below.

Learning points and subsequent dissemination

UPESI, the Swahili FAST translation provides us with an invaluable tool for intensifying much needed stroke awareness campaigns in the Eastern Africa region. To achieve this, we will disseminate the tool extensively through formal presentations in conferences/workshops, local newsletters and social media; with the aim of achieving regional awareness of stroke signs and appropriate action when an acute stroke occurs. This will spur the much-needed attention to stroke in the region; especially in rural areas where a majority of East Africa's population resides and uses Swahili as the first language of communication. This translation of the FAST tool to Swahili also provides an outline for translation of this key tool from English to other local African languages; allowing for even wider utility in stroke awareness efforts in the

Table 1
Terminological considerations during translation and inter-rater reliability for each term in the acronym.

F.A.S.T	U.P.E.SI	Other Swahili terms considerations	Inter-rater reliability
F – Face	U – Uso	Wajihi	0.6317
A – Arm	P – Pooza mkono au mguu		0.5751
S – Speech	E – (ku) Eleza ngumu / (ku)nena ngumu		0.8356
T – Time	SI – Simu		1.0000

continent.

Conclusion

We believe this tool will greatly impact stroke awareness in East Africa given the wide coverage of Swahili language. Further efforts to streamline stroke care in the region are, however, still needed to improve outcomes after stroke.

Dissemination of results

Results from this study will be disseminated through formal presentations in conferences/workshops, local newsletters and social media.

Authors' contribution

Authors contributed as follows to the conception or design of the work; the acquisition, analysis, or interpretation of data for the work; and drafting the work or revising it critically for important intellectual content:

PKW 40 %, EMY, SGM and SSM 20 % each.

All authors approved the version to be published and agreed to be accountable for all aspects of the work

Declaration of competing interest

The authors declared no conflicts of interest.

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