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Translation and cultural adaptation of the FertiQoL questionnaire into Luganda: A comprehensive report

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Abstract

The FertiQoL questionnaire is globally recognized to assess quality of life (QoL) among infertile individuals. To make this tool accessible to Luganda-speaking populations in Uganda, it was necessary to translate the questionnaire into Luganda, ensuring cultural relevance and linguistic accuracy. The translation process followed a rigorous forward-backward translation methodology. Two separate translations were performed by native Luganda speakers. The unified version was translated back into English to find discrepancies. Experts validated the translated questionnaire, showing high agreement on most items, confirming its cultural and linguistic suitability. The translated questionnaire was pilot tested on 20 infertile patients at St. Francis Nsambya Hospital to assess the clarity and comprehensibility. The pilot study indicated that most items were understood, with no significant difficulties reported. However, four items required minor modifications. The Luganda FertiQoL questionnaire effectively measures the quality of life in individuals experiencing infertility in Uganda. *(Afr J Reprod Health 2025; 29 [5]: 29-35).*

Keywords: FertiQoL, Translation, Cultural Adaptation, Luganda Language, Quality of Life, Infertility, Uganda

Résumé

Le questionnaire FertiQoL est mondialement reconnu pour évaluer la qualité de vie (QdV) des personnes infertiles. Afin de rendre cet outil accessible aux populations lugandaphones en Ouganda, il a été nécessaire de le traduire en luganda, garantissant ainsi sa pertinence culturelle et sa précision linguistique. Le processus de traduction a suivi une méthodologie rigoureuse de traduction aller-retour. Deux traductions distinctes ont été réalisées par des locuteurs natifs du luganda. La version unifiée a été retraduite en anglais afin d'identifier les divergences. Des experts ont validé le questionnaire traduit, montrant une forte concordance sur la plupart des items, confirmant ainsi sa pertinence culturelle et linguistique. Le questionnaire traduit a été testé auprès de 20 patients infertiles à l'hôpital St. Francis Nsambya afin d'évaluer sa clarté et sa compréhensibilité. L'étude pilote a montré que la plupart des items étaient compris, sans difficulté majeure signalée. Cependant, quatre items ont nécessité des modifications mineures. Le questionnaire FertiQoL en luganda mesure efficacement la qualité de vie des personnes souffrant d'infertilité en Ouganda. *(Afr J Reprod Health 2025; 29 [5]: 29-35).*

Mots-clés: FertiQoL, traduction, adaptation culturelle, langue luganda, qualité de vie, infertilité, Ouganda

Introduction

Infertility is a growing health concern in Sub-Saharan Africa. Available data reveals that the prevalence of primary and secondary infertility in Africa is 1.9% and 10%, respectively.[1,2] In Uganda, over 5 million people face infertility, mostly treated in urban private facilities.[3] Infertility causes psychological distress, emotional stress, cognitive responses, and financial difficulties for both partners, negatively impacting their psychosocial well-being.[4] Common reactions to infertility include sadness, depression, anger, frustration, loss of self-esteem, and a general loss of control.[5] These reactions significantly decrease the quality of life, comparable to the impact of chronic illnesses.[6] Such impacts can be assessed using a fertility-specific Quality of Life (QoL) questionnaire like the FertiQoL.[7] The FertiQoL questionnaire, developed in 2011 by experts from the European Society of

Human Reproduction and Embryology (ESHRE) and the American Society of Reproductive Medicine (ASRM), serves as a comprehensive tool for evaluating quality of life (QoL) in individuals dealing with infertility. Since then, FertiQoL has established itself as the benchmark for evaluating QoL in both theoretical and clinical contexts of infertility.[7]

The FertiQoL has undergone translation and validation in multiple countries, consistently exhibiting robust psychometric properties across diverse cultural contexts.[8] To employ the FertiQoL in assessing the QoL of infertile individuals and couples in Uganda, the questionnaire needed to be translated into the local language. Before using a validated questionnaire in a non-native language, it must first be translated and validated to account for cross-cultural differences in survey response patterns.[9] This process involves translating the questionnaire into the local language and ensuring its reliability and validity in a representative sample of the local population. Differences in understanding and responding to specific aspects of the questionnaire may arise due to individual religious beliefs, cultural heritage, lifestyle, social environment, and national policies. [9]

To ensure this tool is useful for Luganda-speaking populations in Uganda, the questionnaire was translated from English into Luganda. This language was selected because it is the most widely spoken in central Uganda and the country overall. The Baganda, who speak Luganda, are Uganda's largest tribe, comprising 17% of the population.[10] This translation aimed to ensure that the tool could be effectively used in both clinical and research settings to assess and address infertility-related QoL issues. This study presents the first native Luganda version of the FertiQoL questionnaire, which can be utilized for clinical work or research in central Uganda.

Methods

Preparation

Permissions and approvals

The translation process began with obtaining permission from the developers of the FertiQoL questionnaire. Dr. MD from Uganda Martyrs University coordinated this effort, securing authorization to translate the questionnaire in collaboration with fertility experts Dr. AK and Dr. DZ. The Regulatory Ethics Committee of St Francis Hospital Nsambya granted ethical approval for the pilot study of the translated questionnaire, reference number, SFHN-2023-80.

Translation team

The translation team comprised linguistic professionals fluent in both English and Luganda. DK (MUSPH) and IN (MUWRP), both native Luganda speakers with translation expertise, conducted the forward translation. The backward translation was carried out by SM (MUSPH) and JM (MUWRP), who were not part of the forward translation, thereby maintaining objectivity throughout.

Translation process

Translation method

Backward-translation was integrated alongside explanatory notes to improve transparency in translation choices and ensure the questionnaire maintained both fidelity to the source and cultural appropriateness for the target audience.[11] This method involved the following steps:

1. Forward translation into Luganda

DK (MUSPH) and IN (MUWRP), both native Luganda speakers fluent in English, individually translated the English FertiQoL version into Luganda (See supplementary file 1 and supplementary file 2).

2. Reconciliation of the Luganda translations

The separate Luganda translations were reconciled into a single forward translation through a process coordinated by the PI, at a meeting with the two forward translators. The reconciliation process focused on retaining the meaning and context of the English version while ensuring the Luganda version was culturally appropriate, utilizing the criteria listed below. The reconciliation document is available in Supplementary File 3.

The criteria used for reconciliation were as follows:

- No changes were made if the translations in the English and Luganda versions were identical.
- The sentence with the closest meaning to the original was chosen.

3. Backward translation into English

After reviewing the reconciled forward translation, SM (MUSPH) and JM (MUWRP), both native Luganda speakers fluent in English, conducted two separate backward translations. This step was crucial to identify any meaning changes from the initial translation. The backward-translators did not see the original English FertiQoL questionnaire but knew it was health-related and assessed the quality of life for infertile individuals. The PI and the two translators discussed questions and concerns raised regarding the backward translations. The backward translations are available in supplementary file 4 and supplementary file 5.

Cultural adaptation

Throughout the translation process, cultural adaptation was a priority. The translation team made sure the language was accurate and culturally relevant. This involved modifying certain terms and references to better fit the cultural context of the Luganda-speaking population, ensuring the questionnaire would be both understandable and meaningful to the target audience.

Content validation

The draft translation underwent content validation by three experts fluent in English and Luganda, including clinical reproductive medicine specialists and a nurse from the Nsambya Hospital Fertility Clinic. These experts were: Dr. AK , Dr. DZ, Dr. GT, and Ms AA.

For each item of the translated FertiQoL, adequacy, clarity, coherence, and relevance were evaluated using a structured template developed by Escobar-Pérez and Cuervo-Martínez. Except for two questions 10 and 17 listed below, the validation process resulted in a high percentage of agreement among the experts, indicating that the translated questionnaire met the necessary standards for content validity. The content validation document is available in supplementary file 6.

- **Question 10**: "Weesambibwa abantu olw'obuzibu bw'obutazaala?" received 83.3% agreement. One expert suggested modifying the wording to better capture the full dimension of the intended concept.
- **Question 17**: "Obuzibu bwo obw'obutazaala bukuleetera okuwulira ng'oli wansi ku bantu abalina abaana?" received 89% agreement and was also revised for greater clarity.

The remaining items achieved full agreement and were retained without further modification, confirming their appropriateness for the target population.

Pilot testing

Pilot Site

St. Francis Nsambya Hospital is a teaching hospital with a bed capacity of 361 beds, located approximately 5 km southeast of Kampala's central business district. The hospital offers both inpatient and outpatient services. The fertility clinic is managed by two fertility specialists, including a clinical embryologist and a consultant in reproductive medicine. The clinic reviews approximately 85 to 95 infertile patients annually.

Procedure

The pilot study took place over three days in March 2023. The translated FertiQoL questionnaire was administered orally by the PI and two research assistants fluent in both English and Luganda. Participants were informed about the study, and written consent was obtained. The research assistants or PI read the translated FertiQoL questions to the participants, recording their responses. Participants were asked to assess the clarity of each item and identify any wording that was confusing or required rephrasing. Feedback was recorded, and the interviews, lasting 30-40 minutes each, provided valuable insights into the clarity and cultural appropriateness of the translated questionnaire.

Results

Participants

The aim was to eliminate ambiguous words and phrases, assess the understandability of the sentences, and evaluate the preliminary feasibility of the questionnaire. The pilot testing involved 20 participants (16 identified as female and 4 identified as male) from the Fertility Clinic at St. Francis Nsambya Hospital in Kampala, Uganda. Participants were purposively sampled to represent diverse ages, education levels, and infertility experiences. The mean age was 39 years (range 27 to 47 years), with participants having various levels of education and durations of infertility. Ten participants had at least a primary education, while 7 had a secondary education, and 3 had a tertiary education. Seventeen participants had primary infertility, and three had secondary infertility. The average duration of infertility was 6.9 years. All participants were Ugandans, and their native language was Luganda. Table 1 provides a summary of the participant characteristics.

Pilot study feedback and item review

Most items were understandable, and no question was deemed difficult to respond to, except for four items that confused some participants:

- Item 4 ("Owulila nga osobola okubeera wo no buzibu bwo obw'obutazaala?") and Item 18 ("Otatagaanyizibwa n'obukoowu olw'obuzibu bw'obutazaala?") were commented on by participants 15 and 8, respectively. The participants noted that there was no issue with the wording but found it confusing to be asked if they would be able to cope with fertility problems or if fertility problems would cause them fatigue. However, after an explanation that clarified the possibility, they understood, and therefore, no modifications were made to these items.
- Item A ("Ogerageranya otya obulamu bwo?") was found confusing by participant 4. On review by the team it was agreed that the item needed modification, which was made. It was modified to "Obulamu bwo oyinza kubwogerako otya?".
- Item 15 ("Obuzibu bwo obw' 'obutazaala bunywezezza omukwano gwo eri omwagalwa wo?") was found confusing by participant 19. The participant was confused about fertility problems strengthening a partner's commitment, expecting it to drive them away. We clarified that in some cases, such problems have strengthened commitment, which she understood. Thus, no changes were made to this item.

Despite these instances, the overall feedback was positive, and most participants found the questionnaire understandable. Many participants reported that the questionnaire elicited feelings of sadness, which is common in discussions of infertility.

Modifications

Only minor changes were made to the four identified items to enhance clarity and cultural relevance, based on feedback received. These adjustments were aimed at ensuring that the questionnaire would be fully comprehensible and applicable in the Luganda-speaking context. The alterations are detailed in supplementary file 7, which includes the English version of each item, the original Luganda translation, participant feedback, and the final Luganda version. Furthermore, the final Luganda version is available in supplementary file 8, and the English FertiQoL version is available is supplementary file 9.

Discussion

The translation of the FertiQoL questionnaire into Luganda was a meticulous and structured process aimed at ensuring that the instrument was both linguistically and culturally appropriate for the target population. This discussion reflects on the translation process, the pilot study results, and the subsequent content validation to underscore the validity and reliability of the translated questionnaire.

Translation process

The FertiQoL questionnaire was translated using a rigorous two-arm method with forward and backward phases.

Table 1: Demographic characteristics of the participants used in the pilot study

PARTICIPANT ID	AGE (years)	GENDER	EDUCATION LEVEL	DURATION OF INFERTILITY	PRESENCE OF A CHILD
01	27	Female	Primary	03	No
02	39	Female	Secondary	03	No
03	47	Female	Primary	20	No
04	37	Male	Primary	05	No
05	39	Female	Secondary	10	No
06	47	Male	Tertiary	19	No
07	46	Female	Primary	07	No
08	38	Female	Tertiary	06	No
09	35	Female	Primary	10	No
10	39	Female	Secondary	06	No
11	32	Male	Primary	02	Yes
12	37	Female	Secondary	05	No
13	39	Female	Secondary	03	No
14	44	Female	Secondary	10	No
15	37	Female	Primary	07	No
16	43	Female	Primary	02	No
17	45	Female	Secondary	1.5	Yes
18	36	Male	Tertiary	10	No
19	36	Female	Primary	01	Yes
20	29	Female	Primary	08	No

Two native Luganda speakers fluent in English independently handled the forward translation. The independence of the two translators ensured that the nuances of the language were captured from different perspectives, thereby minimizing individual biases that might affect the translation quality. Following this, the two versions of the translated questionnaire were reconciled through a collaborative discussion led by the Principal Investigator (PI) and fertility experts. This collaborative approach ensured that the reconciled version was a true linguistic translation and contextually appropriate for the Luganda-speaking population. The backward translation was essential. Two translators, unaware of the original English questionnaire, retranslated the reconciled Luganda version into English. This step identified discrepancies from the forward translation. The PI and fertility experts reviewed these to ensure the final version retained the original meaning and intent, making it suitable for the target population.

Content validation

Following the pilot study, the draft translation underwent a comprehensive content validation process. Three experts, including reproductive medicine specialists and a nurse from Nsambya Hospital Fertility Clinic, reviewed the questionnaire for clarity, coherence, and relevance. They used Escobar-Pérez and Cuervo-Martínez's template to categorize each item into four levels: "does not meet the criterion," "low level," "moderate level," and "high level."

The experts' reviews led to a high percentage of agreement on most items, indicating that the translated questionnaire generally met the necessary standards for content validity. However, two items, Questions 10 and 17, were highlighted for requiring modifications. These modifications were necessary to ensure that the translated questionnaire could accurately and comprehensively measure the intended constructs within the cultural context of the Luganda-speaking population.

Pilot study results

The pilot study involved 20 infertile patients, consisting of 16 females and 4 males, at St. Francis Nsambya Hospital. The primary objectives of the pilot study were to identify any ambiguous words

or phrases, assess the overall understandability of the questionnaire. Most of the items on the translated questionnaire were deemed understandable by the participants, with no question considered difficult to answer. However, four items were noted as confusing by some participants. Specifically, Items 4 and 18 were commented on by participants 15 and 8, respectively. Additionally, Items A and 15 were flagged by participants 4 and 19 as confusing. These observations were critical as they highlighted specific areas where the language used in the translation might not fully resonate with the participants' understanding or cultural context. The majority found the questionnaire to be understandable, though it did evoke feelings of sadness, which is a common emotional response in discussions of infertility. This emotional response does not necessarily indicate a flaw in the translation but rather underscores the sensitive nature of the subject matter addressed by the FertiQoL questionnaire.

Limitations

The small sample size in the pilot study, may not comprehensively represent the diversity of the Luganda-speaking population. Additionally, cultural differences that were challenging to address in the translation process may still influence how certain items are interpreted by different individuals.

Future recommendations

Further research should test the translated questionnaire with larger, diverse Luganda-speaking samples to confirm its reliability and validity across subgroups. Additionally, adaptations of the FertiQoL questionnaire into other Ugandan languages could be considered to broaden its applicability.

Conclusion

The FertiQoL questionnaire's translation and content validation into Luganda were accomplished successfully, resulting in a culturally and linguistically suitable tool for evaluating the quality of life among infertile individuals in Uganda. By adopting a meticulous and systematic translation process, coupled with extensive pilot testing and expert review, the Luganda version of the FertiQoL questionnaire shows promise, but further validation in a larger sample is needed before it can be confidently recommended for clinical and research use. This endeavor underscores the critical importance of cultural sensitivity and rigorous validation when adapting health-related quality of life measures for use in diverse populations.

Data availability

The translation materials and pilot data set for the study are available in the supplement files. Supplementary materials for this article are accessible at the Open Science Framework repository:https://osf.io/3du5b/?view_only=72ff24642d614b08a10eee66f46274cd.

Conflict of interest

The authors have no competing interests to declare.

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Contribution of authors

DM conceptualized, developed the study, conducted literature review, conducted analysis, interpreted results, prepared the tables, drafted the manuscript. AK conceived, conceptualized, developed the study, conducted analysis, interpreted results, reviewed the draft and finalised the manuscript. GT, RNB, and DZ were involved in designing the study, data analysis, interpreting results and substantial review the manuscript. All co-authors contributed to the redrafting and finalizing of the article.

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