



infusion or 5 g every 4 hours by intramuscular injection. Maintenance doses should only be given provided that urine output, reflexes and respiration rate are all satisfactory. The preferred way of administration is by intravenous infusion if monitoring of the drip can be done adequately, otherwise by intramuscular injection.

The definitions used in the study for moderate and severe pre-eclampsia are very cumbersome for the clinician. At the collaborators meeting it was suggested that a reasonable working definition of moderate to severe pre-eclampsia be defined as a diastolic blood pressure ≥ 110 mmHg once, or 100 mmHg persisting after rest, plus proteinuria $\geq 2+$ or

pre-eclampsia with evidence of organ damage (low platelets, rising liver enzymes, deteriorating renal function) or symptoms of severe pre-eclampsia.

Eclampsia is a rare and not entirely preventable condition. The appropriate use of $MgSO_4$ may contribute to improved maternal outcome in women with moderate to severe pre-eclampsia, but the long-term effects on babies need to be investigated further.

1. The Magpie Trial Collaborative Group. Do women with pre-eclampsia, and their babies, benefit from magnesium sulphate? The Magpie Trial: a randomised placebo-controlled trial. *Lancet* 2002; **359**: 1877-1890.
2. The Eclampsia Trial Collaborative Group. Which anticonvulsant for women with eclampsia? Evidence from the Collaborative Eclampsia Trial. *Lancet* 1995; **345**: 1455-1463.

ISSUES IN MEDICINE

The pitfalls of translation — a case study based on the translation of the EQ-5D into Xhosa

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There is an evident need for standardised, internationally recognised instruments to measure health-related outcomes that are also locally applicable. The European Quality of Life 5-Dimensions (EQ-5D) is a widely used measure of health-related quality of life (HRQoL) that was translated into Xhosa. This communication outlines some of the different cultural and linguistic issues that had to be addressed during the translation process.

The translation guidelines provided by the EuroQol group were followed. This involved both forward and backward translations by Xhosa speakers, with consensus meetings after each. Thereafter, lay panel respondent testing of the consensus version was performed.

Eventually a credible Xhosa version of the EQ-5D was produced. Concepts which proved surprisingly difficult to transfer across the languages and cultures included 'mobility', 'confined to bed' and the choice of word to denote 'male'.

The translation process prompted lengthy discussion and proved more challenging than initially anticipated. Despite the rigorous process followed, later additions had to be made to the questionnaire after field testing. It would appear that extreme caution should be exercised when using a questionnaire in a culture and language different from the one in which it was originally developed and validated. If this is not done, the validity of cross-cultural research projects may be open to question.

There is an increasing amount of collaborative and contract research taking place, with the South African arm constituting one of several international country sites. Of necessity the

outcome measures are standardised, and the majority of these outcome measures are developed in Europe or North America and then translated for use in other language and cultural groups.

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An outcome measure of importance that is often incorporated into research is HRQoL, which can encompass physical and emotional health, functional ability and life satisfaction. The EQ-5D is a generic single index measure that is widely used to measure HRQoL.^{1,2} It is a short questionnaire,



which has been validated in several European countries and across a variety of conditions.³ Translations that have been produced using the EuroQol standard translation protocol are officially recognised by the EuroQol group and there are several non-European language versions.^{4,5}

The purpose of this communication is to highlight a few of the linguistic and cultural problems encountered during the translation and field testing of the Xhosa version of the EQ-5D.

What was done

Translation

Forward and back translations were performed by Xhosa speakers who were equally fluent in English. The first Xhosa version was developed by the forward translators and the project managers during a consensus meeting. The back translators presented the English translation to a similar consensus meeting and the subsequent modifications were incorporated into a draft that was tested on nine native Xhosa-speaking subjects. After discussion, alterations to certain words and phrases were made accordingly and the final version was produced. The EuroQol group gave guidance and advice at each stage.

What was found

Developing a semantically and conceptually correct translation is a lengthy procedure requiring many hours of thought and discussion. For a translation to be semantically equivalent, it has to convey the same meaning and achieve a similar effect on respondents as the original.⁶ The EuroQol group subsequently accepted the final version as the official Xhosa version of the EQ-5D. However, during the translation process a number of words stimulated intense debate. Some of the words discussed extensively throughout the process of translation included the following.

Mobility: Ukuhamba

'Mobility' was surprisingly difficult to translate. There were several options for the translation of this word. One was discarded as it meant 'movement of any object' and could also include vibration of a stationary object. The forward translation panel then agreed on the word 'ukuhamba-hamba'. However, this word was back translated as 'casual sex'. Translators in Zimbabwe encountered a similar problem during the Shona translation.⁵ It was therefore decided to use 'ukuhamba', literally meaning, 'to walk' but incorporating the concept of moving from one place to another.

I am confined to bed: Ndingumlwelwe obophel el eke ebhedini

The translation of 'confined to bed' raised several issues, both

semantic and cultural, as the underlying assumption of the question is that all people sleep in beds. The idiomatic phrase 'ukulala ngendlu', which literally means, 'lying in the house', and other phrases which had the connotation of punishment or of being in a moribund state were rejected. The chosen word 'ndingumlwelwe' had to be amended after field testing as those with chronic illness, such as diabetes, applied this word to themselves. The final phrase was chosen as it includes the sense of being unable to move from one's sleeping place either due to temporary illness or permanent disability.

Male: Indoda

In the Xhosa culture there is clear distinction between boys and men. A male graduates from boyhood to manhood through cultural initiation. There is therefore no generic word for male that encompasses all ages. An uninitiated youth would therefore not refer to himself as 'indoda'. Ultimately the word referring to mature males was chosen by the translators. It was tested on the lay panel where it was found that within the context of the questionnaire it would be understood.

Conclusion

At first glance the EQ-5D is not a complicated instrument. However, concepts which appeared to be simple proved to be difficult to translate accurately. It is evident that to produce a valid translation of a questionnaire across different linguistic and cultural contexts, a translation protocol such as that provided by the EuroQol group must be strictly followed. An enormous amount of public and private money is invested in medical research and there is an ethical obligation to ensure that the results reflect the objective situation. It is recommended that more time, effort and funding be invested by researchers to ensure that cross-cultural questionnaire-based outcome measures are indeed valid. A hastily undertaken translation that involves only one forward translation could invalidate otherwise carefully planned research.

The assistance of the following persons is gratefully acknowledged: Professor Herdman (EuroQol linguist), Dr K Dikeni, Professor Kaschula, Dr A Nyamende, Miriam Ganiso, Theresa Lorenzo, Mrs U Mariotti and the lay panel respondents, Darryn Lifson and Lungile Mkhabela.

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