

Translation and Adaptation of Foreign Questionnaire: The First Step Should be Done Before Used

Siti Setiati

Department of Internal Medicine, Faculty of Medicine Universitas Indonesia - Cipto Mangunkusumo Hospital, Jakarta, Indonesia.

Corresponding Author:

Prof. Siti Setiati, MD., PhD. Division of Geriatrics, Department of Internal Medicine, Faculty of Medicine Universitas Indonesia - Cipto Mangunkusumo Hospital. Jl. Diponegoro 71, Jakarta 10430, Indonesia. email: s_setiati@yahoo.com.

Questionnaires have been widely used as tools to obtain information, becoming an efficient way to collect data. However, the investigator should be certain of what is required and how to measure the variables of interest. The language of questionnaires should be at the participants' level of understanding. It is essential to word the questions in a way that can easily be understood by participant and in accordance to their educational level and culture. If the questions are interpreted differently by the participants it will result in wrong answers and responses will thus be biased. Translation of a questionnaire is essential if such instrument is not available in a language understood by the target population.¹

In this issue, two studies conducted by Salim et al.² and Siahaan³ investigated validity and reliability of quality of life measuring instrument among Indonesian language speaking patients. Salim et al.² study used a well-known generic quality of life measuring instrument SF-36 to determine the quality of life in patients with permanent pacemaker.² On the other hand, Siahaan study used instruments for disease-specific quality of life measurement called GERD-QOL in Indonesian GERD patients.³ Both studies recruited patients who visited outpatient clinic in Cipto Mangunkusumo Hospital as their subjects.^{2,3}

As a first step, both of them translated their questionnaires into Indonesian language before testing the questionnaires in their subjects. Translating questionnaire is not only a

mechanical work and should not only be done on the actual word to word basis across languages. It is important to understand the local context, specific issues and cultural meanings which language carries. Translation should not only be concerned with translating meanings, but it should also understand how the language is tied to local realities and literary forms.¹ Therefore, they modified protocol written by Guillemin and Beaton in order to provide well-translated instruments. Protocol of both studies consisted of six essential steps; initial translation, translation synthesis, back-translation, committee review, pretesting, and submission and appraisal of all written reports to the committee.^{2,3}

Back-translation became one of the important step, thus it is highly recommended to be done in questionnaires related to health surveys. Back-translation helps in evaluating the quality of the translation. The source text is translated to another language and then reconverted into the original language. Back-translation to the source language is done by another translator who is unaware of the original language version.¹

Pretesting also plays an essential role in identifying and potentially reducing measurement error that damages statistical estimates at the population level.⁴ Salim et al.² recruited 32 subjects to join their pretest, whereas Siahaan³ recruited 20 subjects. In this step, subjects will be asked what they thought the question was asking about, whether they could repeat the question in their own words, and what came to

their mind when they heard a particular phrase or term. When alternative words or expressions exist for one item or expression, the pre-test respondent should be asked to choose which of the alternatives conforms better to their usual language preference.⁵

After translation process, questionnaire underwent validity and reliability test. Validity test must be done in order to assure the tools measure what it purport to measure.⁶ For investigation validity, Salim et al.² study compared translated SF-36 with other criteria, which has been considered as gold standard, 6 minutes walking test and NT pro BNP. They found that Indonesian version of SF-36 has no significant correlation with 6MWT but has an inverse or negative correlation with NT pro BNP.² In Anasthasya study, validity was measured by looking for correlation between total domain and each domain of the investigated questionnaire. This study found moderate correlation ($r=0.19-0.40$, $p<0.001$).³

Meanwhile, reliability refers to the degree to which the results obtained by a measurement and procedure can be reproduced. Reliability of the questionnaire was measured by internal consistency and repeatability test.⁶ Internal consistency of the questionnaire was tested by Cronbach α and inter-item and inter-domain correlation.² Cronbach α for total SF-36 was 0.789 and for total GERD QOL was 0.882.³ Because those results were higher than 0.7, it can be concluded both of the translated questionnaire were reliable.

Repeatability was also be done in both studies. Repeatability was held by asking patients to fill the same translated questionnaire in 2 different time. The second meeting of Salim study² was held 7 days after the first measurement, whereas the second meeting of Siahaan study was held in 14 days. Both of the studies found similar results. The total translated SF-36 questionnaire was correlated significantly between day 1 and 8 with a strong positive correlation ($r=0.626$; $p=0.003$).² Meanwhile, translated GERD-QOL also had strong correlation between two measurements ($r=0.756-0.936$).³

Finally, in this era of globalization and also 'tsunami of enthusiasm' for evidence-based practice there will be many research instruments development around the world.⁷ Language and culture differences should not be our constraints to utilize these foreign instruments, which can potentially help us improve our daily clinical practice. Studies which provided valid and reliable translated questionnaires, like those two present studies enable us to adopt those instruments wisely based on target populations characteristics.

REFERENCES

1. Kazi AM, Khalid W. Questionnaire designing and validation. *J Pak Med Assoc.* 2012;62(5):514-6.
2. Salim S, Yamin M, Alwi I, Setiati S. Validity and reliability of the Indonesian version of SF-36 quality of life questionnaire on patients with permanent pacemakers. *Acta Med Indones-Indones J Intern Med.* 2017;49(1):16-22.
3. Siahaan LA, Syam AF, Simadibrata M, Setiati S. The validity and reliability test of the Indonesian version of GERD-QOL questionnaire. *Acta Med Indones-Indones J Intern Med.* 2017;49(1):3-9.
4. Survey Research Center Institute for Social Research University of Michigan. *Guidlines for best practice in cross-cultural surveys.* 4th ed. 2016.
5. WHO. Process of translation and adaptation of instruments. [Accessed March 8th 2017] Available from http://www.who.int/substance_abuse/research_tools/translation/en/.
6. Bolarinwa OA. Principles and methods of validity and reliability testing of questionnaires used in social and health science researches. *Niger Postgrad Med J.* 2015;22:195-201.
7. Jennings BM. Evidence-based practice: the road best traveled? [editorial] *Res Nurs Health.* 2000;23:343-5.