

# Linguistic Validation of the Nocturia Quality of Life (N-QOL) Questionnaire in 10 Languages

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## Objective

The objective of the linguistic validation process was to create culturally valid translations which were conceptually and linguistically equivalent to the original Nocturia Quality of Life (N-QOL) instrument.

## Background

### Nocturia Quality of Life (N-QOL):

The Nocturia Quality of Life (N-QOL) questionnaire is a 13-item patient-administered questionnaire originally developed in English (UK) to measure the impact of nocturia on health-related quality of life in patients with lower urinary tract symptoms (LUTS).<sup>1,2</sup>

<sup>1</sup> Abraham L., Hareendran A., Mills I., Martin M., Abrams P., Drake M., Macdonagh R., Noble J. Development And Validation Of A Quality-Of-Life Measure For Men With Nocturia. *Urology* 63: 481–486, 2004.

<sup>2</sup> [http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list\\_uids=15028442&query\\_hl=2&itool=pubmed\\_docsum](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=15028442&query_hl=2&itool=pubmed_docsum)

## Countries and Languages

### Africa:

- South Africa (Afrikaans, English)

### Europe:

- Sweden (Swedish)
- Turkey (Turkish)

### Asia:

- Korea (Korean)
- Taiwan (Chinese)

### North America:

- Canada (English, French)
- USA (English)
- Mexico (Spanish)



## Methods

### Harmonization

- Two professional translators who were native speakers of the target language and were experienced in translating health questionnaires independently translated the N-QOL.
- The two translators compared their translations and together produced a third harmonized translation.

### Back-translation

- The harmonized translation was back-translated into English by a native English-speaking translator.
- A project manager compared the original English to the back-translation and either approved or questioned each item in the back-translation. The project manager discussed concerns with the three translators, who then changed the translation and/or the back-translation, or justified their solution for problem items.

### Review

- A survey research expert compared the original English to the back-translation and either approved or questioned each item. The translation and/or back-translation were revised as necessary.
- In-country representatives reviewed the translation to judge its acceptability. If the local user requested changes, previous steps were repeated until all issues were resolved and all revisions were approved by the survey research expert.

### Cognitive Debriefing

- Five native speakers of each target language residing in the target country were recruited as debriefing subjects. Subjects were selected to be diverse as to age, gender, and educational level.
- Trained bilingual interviewers (English and target language) conducted debriefing interviews to assess the clarity and acceptability of the translations.

### Finalization

The survey research expert made recommendations for approval or re-translation. Harmonization and review were repeated as necessary until the survey research expert, project manager, translators and interviewers were in agreement.

## Results

### Harmonization and Back-translation

During the harmonization and back-translation of the N-QOL, there were translation issues related to the concepts "[to] concentrate" and "preoccupied." The Turkish translation team noted that although "konsantre" is the correct Turkish translation for the English term "concentrate" (Item 1: "...has made it difficult for me to concentrate the next day"), neither the concept nor the term is frequently used in Turkish. Since there is no alternative term available in Turkish, "konsantre" was retained in the questionnaire.

Several translation teams indicated that "preoccupied" (Item 9: "Preoccupied about having to get up at night to urinate") is a relatively difficult word and may be misunderstood by some subjects. However, the decision was made to maintain the concept of "preoccupied" in all translations in order to maintain conceptual equivalence across all translations.

Overall, the harmonization and back-translation processes were completed without the appearance of any significant problems other than those indicated above.

### Cognitive Debriefing

Five in-country, native-speaking subjects were interviewed for each of the 10 translations tested. Subjects (n=50) ranged in age from 18 to 65 years, with a mean age of 39 years. Their academic education ranged from 5 to 24 years, with a mean of 14 years; 62% of the subjects were male.

Overall, the translations were well understood by subjects in all languages. The overall comprehension rate for the NQoL was 94.5%, and the comprehension rate of the questions, instructions and responses (excluding the title, which contained the medical term "nocturia") was 96%. Issues encountered during the interviews include the following:

Subjects in several languages [4 Spanish (Mexico); 2 English (SA); 4 Turkish] did not understand the word "nocturia" in the title of the questionnaire. The term was left unchanged in these languages, since each translation team had provided the correct translation of this medical term.

In item 1 ("...has made it difficult for me to concentrate the next day"), 3 Turkish subjects could not understand the word for "concentrate" ("konsantre"). No change to the Turkish translation was made because there is no other contextually appropriate Turkish word for this concept. Two Korean subjects also had difficulty understanding the concept of "concentrate". In this case, a suitable alternative translation was suggested and a change was made from "다음날 집중을 할 수 없었다" to "다음날 정신을 집중을 할 수 없었다".

In item 9 ("Preoccupied about having to get up at night to urinate"), 1 English (US) subject, 1 English (SA) subject, 2 Afrikaans subjects, and 1 Turkish subject did not know the meaning of the word "preoccupied". The two English versions were left unchanged. The Afrikaans translation was changed after it was determined that "Gepreokkupeer" (preoccupied) is often seen as an outdated Anglicism. A change was made from "Gepreokkupeer" to "Behep". The Turkish translation was changed slightly from "işgal ediyor" to "meşgul ediyor".

In item 13 ("Overall I would rate my quality of life to be..."), 2 Korean subjects did not understand the term "quality of life". Two English (US) and 2 English (SA) subjects did not understand if the question was about life in general or if it was urinary-specific. No changes were made in these languages, as the text was an accurate translation of the original phrase ("quality of life"), and no preferable alternatives exist.

In the Afrikaans translation, the terms "respons" (response) and "matig" (moderately) were not clear to 2 subjects. As a result, "respons" (response) was changed to "antwoord" (answer), and "matig" (moderately) was changed to "redelik" (rather/moderately).

In the Swedish translation, all 5 subjects agreed that the term "varit" (have been) appeared awkward in the translation of item 12 ("Overall, how bothersome has having to get up at night to urinate been during the past 2 weeks"). A change was made from "att ha varit tvungen att" (has having to get up...been) to "att tvingas" (has it been to have to get up) for improved clarity.

Except for these issues, subjects in all target languages demonstrated their understanding of the concepts and the task of selecting a response.

## CONCLUSIONS

Linguistic validation of patient questionnaires will facilitate inter-country comparisons of bladder conditions and the pooling of data in multi-country studies. Although a few items may warrant further testing, the 10 translations of the N-QOL instrument are linguistically and conceptually equivalent to the original UK English questionnaire and generally understood by subjects.