Validation of a Filipino Translation of a Vision-related Quality of Life Questionnaire

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ABSTRACT

Objectives. This study aims to translate the WHO VF-20 questionnaire into Filipino (Tagalog) and validate the translated questionnaire.

Methods. Patient information such as age, sex, educational background, and employment was recorded. Preoperative uncorrected and best-corrected visual acuities were also obtained. The VF-20 questionnaire was first translated into Filipino by an independent translator. The Filipino version was then back-translated to English by another translator. The original VF-20 questionnaire and back-translated English version were compared and checked for discrepancies. The Filipino questionnaire was then pretested on 60 participants who met the inclusion and exclusion criteria. Cronbach's alpha coefficient was determined.

Results. No major discrepancies in content were noted between the original VF-20 and the back-translated version. Cronbach's alpha coefficient was more than 0.9 for all the 20 items when each item was removed. The translated questionnaire shows high internal consistency (Cronbach's alpha coefficient, 0.9144).

Conclusion. The Filipino version of the WHO VF-20 is a valid tool to assess vision-related quality of life in patients with visual impairment due to cataract. The questionnaire can be used as a tool for clinical evaluation, monitoring response to treatment, and future research studies.

Key Words: questionnaire, quality of life, validation

INTRODUCTION

The majority of people with visual impairment live in developing countries. They are more vulnerable to the impact of visual disability on overall functioning, social and emotional aspects, as well as economic costs. The routine clinical evaluation of patients by ophthalmologists usually focuses only on objective parameters such as visual acuity and visual field tests. However, these may not fully assess the important aspects of the burden of visual impairment from a patient's perspective. Complimenting proper clinical evaluation with subjectively reported outcomes may help clinicians provide a more holistic and tailored management for their patients.

In recent years, there has been an increasing interest in the development and utilization of self-reported outcomes of quality of life and patient satisfaction from various clinical and epidemiologic studies. In particular, vision-related quality of life (VRQoL) can be assessed using questionnaires, which are practical and cost-effective tools for patient evaluation and research. Various studies utilized different VRQoL questionnaires to gauge the impact of certain eye conditions on the quality of life of patients. These include the Indian Vision Functioning Questionnaire (IND-VFQ-33)[1]

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and the National Eye Institute Visual Function Questionnaire (NEI VFQ).[2-4]

The World Health Organization (WHO) has developed the Prevention of Blindness and Deafness Visual Function-20 (VF-20) questionnaire to assess the impact of visual impairment on vision-related quality of life in developing countries.[5] The VF-20 is composed of 20 items on general functioning, psychosocial impact, and visual symptoms. The VF-20 addresses various aspects of visual functioning such as mobility, near and distance vision difficulties, glare and color vision difficulties, social contact and interpersonal relationships, as well as mental well-being and degree of dependency on others. The WHO recommended that the VF-20 must be adapted to the local language and revalidated to make it culturally appropriate.

Most studies on vision-related quality of life are usually from first-world countries. There are only a few VRQoL questionnaires that were developed for low-income settings. Furthermore, there are limited studies available locally that developed or utilized a Filipino language-based and culturally appropriate quality of life questionnaire that takes into account the day-to-day activities and customs peculiar to the Philippine setting. The questionnaire may be used as part of clinical evaluation to help clinicians understand the burden of visual impairment on patients for a more comprehensive assessment and management. This instrument can also be used as a valuable research tool, such as determining which aspects have substantial impact thereby justifying the need for screening and diagnostic methods and for guiding cost-effective management options.

This study aims to translate the VF-20 questionnaire into Filipino and to validate the Filipino version of the questionnaire to assess vision-related quality of life among Filipinos with visual impairment.

MATERIALS AND METHODS

Study Design, Setting, and Duration

This is a translation and validation study conducted among patients with visual impairment due to cataract in Sentro Oftalmologico Jose Rizal, Philippine General Hospital (PGH) from April 1, 2018 to September 30, 2018.

Translation

The original version of the WHO VF-20 questionnaire was translated into Filipino using the forward-backward-forward method. The original VF-20 questionnaire (Table 1) was first translated into Filipino by an independent translator from the Komisyon ng Wikang Filipino, who was proficient in both English and Filipino. The Filipino version was then back-translated to English by another independent translator, who was proficient in both English and Filipino. The original WHO VF-20 questionnaire and back-translated English version were compared by another independent professional. She checked if there were any significant discrepancies between the two questionnaires. Minor changes in some Filipino words used in some items were incorporated into the questionnaire as suggested by the independent professional. The Filipino version was then finalized by the primary investigator.

Validation

Participants from the General Clinic of the Sentro Oftalmologico Jose Rizal, PGH were recruited through convenience sampling using inclusion and exclusion criteria (Table 2). Participants who fulfilled the inclusion criteria were asked to sign an informed consent form. Patient information such as age, sex, educational background, and employment was obtained.

The Filipino version of the VF-20 questionnaire was administered by the primary investigator to 60 participants. The nature and purpose of the questionnaire were explained by the primary investigator to all participants. The participants read each questionnaire item on their own. When patients asked for clarifications regarding certain items, these were verbally addressed by the primary investigator. Participants checked the box per column corresponding to his/her answer on each of the 20 questions. The mean time for the questionnaire to be accomplished was 15 minutes.

Statistical Analysis

Baseline characteristics were analyzed using descriptive statistics. The calculated sample size to check for the validity of a questionnaire was the number of questions multiplied by 3.[6] The VF-20 questionnaire has 20 items; hence the calculated minimum sample size was 60. Cronbach's alpha with a 95% confidence interval was used to determine the internal consistency of the Filipino version of the VF-20 questionnaire. Cronbach's alpha of the entire translated questionnaire was calculated using STATA 14 (StataCorp, Texas, USA). Alpha coefficient was also determined by removing each item to determine if a certain item affected the overall reliability and internal consistency of the Filipino version of the VF-20 questionnaire. A Cronbach's alpha coefficient of more than 0.7 was considered to be highly reliable.

Ethical Considerations

This study was conducted according to the principles of the Declaration of Helsinki and Good Clinical Practice guidelines. This study was approved by the University of the Philippines-Manila Ethics Research Board. There was no conflict of interest deemed by the investigator relevant to the conduct of the study. This study was self-funded.

RESULTS

Baseline characteristics

The Filipino version of the VF-20 questionnaire was pretested on 60 participants. The summary of the baseline characteristics is shown in Table 3.

Table 1. Original version of the WHO VF-20 questionnaire[5]

The first questions are about your overall eyesight. I will read out a choice of five answers and you will choose the one that describes you best.

Questions	1 Very good	2 Good	3 Moderate	4 Bad	5 Very bad
1 Overall, how would you rate your eyesight using both eyes – with glasses or contact lenses if you wear them?					
	1 None	**2 Mild**	**3 Moderate**	**4 Severe**	**5 Extreme**
2 How much pain or discomfort do you have in your eyes (e.g., burning, itching, aching)?					

In the next section, I am going to ask you how much difficulty, if any, you have doing certain activities. I will read out a choice of five answers and you will choose the one that describes you best.

Questions	1 None	2 Mild	3 Moderate	4 Severe	5 Extreme
3 Because of your eyesight, how much difficulty do you have in going down steps or stairs?					
4 How much difficulty do you have in noticing obstacles while you are walking alone (e.g., animals or vehicles)?					
5 How much difficulty do you have in seeing because of glare from bright lights?					
6 Because of your eyesight, how much difficulty do you have in searching for something on a crowded shelf?					
7 How much difficulty do you have in seeing differences in colours?					
8 Because of your eyesight, how much difficulty do you have in recognizing the face of a person standing near you?					
9 How much difficulty do you have in seeing the level in a container when pouring?					
10 Because of your eyesight, how much difficulty do you have in going to activities outside of the house (e.g., sporting events, shopping, religious events)?					
11 Because of your eyesight, how much difficulty do you have in recognizing people you know from a distance of 20 meters?					
12 How much difficulty do you have in seeing close objects (e.g., making out differences in coins or notes, reading newsprint)?					
13 How much difficulty do you have in seeing irregularities in the path when walking (e.g., potholes)?					
14 How much difficulty do you have in seeing when coming inside after being in bright sunlight?					
15 How much difficulty do you have in doing activities that require you to see well close up (e.g., sewing, using hand tools)?					
16 Because of your eyesight, how much difficulty do you have in carrying out your usual work?					

In the next section, I am going to ask you how you feel because of your vision problem. I will read out a choice of five answers and you will choose the one that describes you best

Questions	1 Never	2 Rarely	3 Some-times	4 Often	5 Very often
17 Because of your eyesight, how often have you been hesitant to participate in social functions?					
18 Because of your eyesight, how often have you found that you are ashamed or embarrassed?					
19 Because of your eyesight, how often have you felt that you are a burden on others?					
20 Because of your eyesight, how often do you worry that you may lose your remaining eyesight?					

Table 2. Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
• 50-65 years old male and female patients • Diagnosed with cataract on both eyes • Best-corrected visual acuity worse than or equal to 20/70 both eyes • Able to read and speak in conversational Filipino	• Diagnosed cases of glaucoma, retinal disorders, uveitis, corneal diseases in at least one eye • Underwent ocular surgeries or other invasive procedures • Visual acuity of No Light Perception on one eye • With physical and mental disabilities • With active chronic systemic disease

Table 3. Baseline characteristics of participants

Baseline Characterisitics	N (%) of Participants (N=60)
Sex	
Male	27 (45)
Female	33 (55)
***Age** (years)*	
50–59	27 (45)
60–65	33 (55)
(Mean age: 58.5)	
Educational attainment	
Elementary	24 (40)
High School	24 (40)
College	7 (11.67)
Vocational course	5 (8.33)
Employment status	
Employed	19 (31.67)
Unemployed	41 (68.33)
***Best-corrected visual acuity** (in the better eye)*	
20/70 to 20/200	40 (66.67)
15/200 to Counting Fingers	15 (25)
Hand Movement	5 (8.33)

Validation

The VF-20 was translated into Filipino without significant discrepancies from the original version, as assessed by the independent professional (Table 4). The overall Cronbach's alpha coefficient of the Filipino questionnaire was 0.91, which implies that the translated version has high internal consistency and reliability. When each of the items was removed, each item had an alpha coefficient of either 0.91 or 0.92, indicating high internal consistency (Table 5).

DISCUSSION

Vision-related quality of life questionnaires is valuable tools to understand the difficulties in the day-to-day activities faced by the visually-impaired individual. Numerous questionnaires have been translated and utilized in different countries. Once a questionnaire is translated into the local language, it must be revalidated to make it culturally appropriate and take into account linguistic factors that may compromise the meaning of the items.[7] The VF-20 has been translated, validated, and utilized in several countries such as Bangladesh,[8] Kenya,[9] Ethiopia,[10] and the Philippines.[11] Most studies used the validated local version of the VF-20 in assessing the impact of cataract and cataract surgery on health-related and vision-related quality of life.[8,9,11] In a six-year longitudinal study, vision-related quality of life significantly increased one year after cataract surgery from baseline and remained significantly higher six years postoperatively.[12]

Validity refers to whether an instrument accurately measures what it was designed to measure.[7] It can be assessed using statistical measures of internal consistency, such as Cronbach's alpha. An alpha coefficient of greater than 0.7 implies high internal consistency and reliability of the instrument.[7] In this study, the overall Cronbach's alpha of the translated version is 0.91, which suggests that the Filipino version of the VF-20 has high internal consistency. This also implies that the Filipino version is consistent in measuring the same construct over different administrations and that the items are closely interrelated as a group. Other studies have also reported high alpha scores indicating the high reliability of their versions.[8-10] Polack et al. used the translated VF-20 questionnaire in Bangladesh among visually-impaired patients with cataracts and showed that the questionnaire demonstrated good validity and reliability.[8] In Kenya, the modified VF-20 questionnaire demonstrated good psychometric properties and found that the visual disability had a greater impact on general functioning and psychosocial aspects.[9]

When each of the items was removed, the results of this study showed that each item had an alpha coefficient of either 0.91 or 0.92, indicating high internal consistency. This also implies that each item was highly reliable in assessing the same domain. In other studies, subscale analysis for items on general functioning also showed high internal consistency.[8-10] In a local study wherein the VF-20 was translated into Visayan dialects and validated, the psychosocial subscale has a Cronbach's alpha of 0.61, indicating low reliability.[11]

One limitation of this study includes the possible effect of varying degrees of reading comprehension and fluency in Filipino of each participant in understanding and answering the questionnaire. Some participants asked for clarifications regarding certain items and these were addressed by the primary investigator. This can be a potential source of bias because this may cause the participant to lean towards a particular answer. It is recommended to conduct a study with larger sample size and use the questionnaire to assess the vision-related quality of life of patients with certain ophthalmologic diseases such as glaucoma, retinal disease, corneal disease.

The results of this study show that the Filipino version of the VF-20 is highly reliable in assessing vision-related quality of life among Filipinos.

CONCLUSION

The WHO VF-20 questionnaire is a cross-cultural tool that assesses the impact of visual impairment on general functioning, visual symptoms, and psychosocial aspects.

Table 4. Translated Filipino version of the WHO VF-20 questionnaire

Ang mga unang tanong ay hinggil sa iyong paningin sa pangkalahatan. Babasahin ko ang limang mapagpipiliang sagot at pipili ka ng isang pinakaakmang naglalarawan sa iyo.

Mga tanong	Napaka-husay	Mahusay	Katam-taman	Masama	Napaka-sama
1 Sa pangkalahatan, paano mo susukatin ang iyong paningin gamit ang parehong mata – may salamin o contact lens kung gumagamit ka ng mga ito?					
	Wala	**Hindi gaano**	**Katam-taman**	**Matindi**	**Labis**
2 Gaano kasakít o kahirap ang nararamdaman ng iyong mga mata (halimbawa: humahapdi, kumakati, sumasakit)?					

Sa kasunod na bahagi, tatanungin kita kung gaano kahirap, kung nakaranas ka man ng gayon, sa iyong pagsasagawa ng ilang aktibidad. Babasahin ko ang limang mapagpipiliang sagot at pipili ka ng isang pinakaakmang naglalarawan sa iyo.

	Wala	Hindi gaano	Katam-taman	Matindi	Labis / Hindi magawa
3 Dahil sa iyong paningin, gaano kahirap para sa iyo ang pagbaba ng hagdanan?					
4 Gaano kahirap para sa iyong mapansin ang mga sagabal habang naglalakad ka nang mag-isa (halimbawa: mga hayop o sasakyan)?					
5 Gaano kahirap para sa iyong tumingin dahil sa nakasisilaw na liwanag ng mga ilaw?					
6 Dahil sa iyong paningin, gaano kahirap para sa iyong maghanap ng bagay sa isang punong-punong estante?					
7 Gaano kahirap para sa iyong makita ang pagkakaiba ng mga kulay?					
8 Dahil sa iyong paningin, gaano kahirap para sa iyong makilala ang mukha ng taong nakatayo malapit sa iyo?					
9 Gaano kahirap para sa iyong makita ang dami ng nasa lalagyan kapag nagbubuhos?					
10 Dahil sa iyong paningin, gaano kahirap para sa iyong pumunta sa mga aktibidad sa labas ng bahay (halimbawa: palarô, pamimili/pamamalengke, panrelihiyong pagdiriwang)?					
11 Dahil sa iyong paningin, gaano kahirap para sa iyong mapagsino sa layong 20 metro ang taong kakilala mo?					
12 Gaano kahirap para sa iyong makita ang mga bagay nang malapitan (halimbawa: matukoy ang mga kaibahan ng barya o perang papel, pagbabasa ng diyaryo)?					
13 Gaano kahirap para sa iyong makita ang mga hindi pantay sa daan kapag naglalakad (halimbawa: mga lubak)?					
14 Gaano kahirap para sa iyong makakita kapag gáling sa liwanag ng araw at pumasok sa loob?					
15 Gaano kahirap para sa iyong gumawa ng mga aktibidad na kinakailangang gawin nang malapitan (halimbawa: pananahi, paggamit ng hand tools)?					
16 Dahil sa iyong paningin, gaano kahirap para sa iyong gawin ang iyong karaniwang ginagawa?					

Sa kasunod na bahagi, tatanungin kita kung ano ang iyong nararamdaman dahil sa problema mo sa iyong paningin. Babasahin ko ang limang mapag-pipiliang sagot at pipili ka ng isang pinakaakmang naglalarawan sa iyo.

	Hindi kailanman	Bihira	Minsan	Madalas	Napaka-dalas
17 Dahil sa iyong paningin, gaano kadalas kang nag-aalangan sa pagsali sa mga *social function*?					
18 Dahil sa iyong paningin, gaano kadalas kang nahihiya o napapahiya?					
19 Dahil sa iyong paningin, gaano kadalas mong naramdamang naging pabigat ka sa iba?					
20 Dahil sa iyong paningin, gaano kadalas kang nag-alala na maaaring mawala ang natitira mo pang paningin?					

Table 5. Cronbach's alpha coefficient for each questionnaire item

Question number	Cronbach's alpha	Question number	Cronbach's alpha
1	0.91	11	0.92
2	0.92	12	0.91
3	0.91	13	0.91
4	0.91	14	0.91
5	0.91	15	0.91
6	0.91	16	0.91
7	0.91	17	0.92
8	0.91	18	0.91
9	0.91	19	0.91
10	0.91	20	0.91

The validated Filipino version of the VF-20 is a highly reliable instrument for gauging vision-related quality of life among patients with visual impairment due to cataract. The questionnaire can be a valuable tool during clinical evaluation, monitoring response to interventions, and for clinical and epidemiologic studies.

Statement of Authorship

Both authors contributed in the conceptualization of work, acquisition and analysis of data, drafting and revising and approved the final version submitted.

Author Disclosure

Both authors declared no conflicts of interest.

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