ORIGINAL ARTICLE

Filipino Translation and Validation of the University of Washington – Quality of Life Questionnaire (Version 4) for Patients with Head and Neck Tumors in the Philippine General Hospital

Christelle Anne M. Almanon, MD,[1] Rodney B. Dofitas, MD,[1] Marie Carmela M. Lapitan, MD,[2] Eljohn C. Yee, MD,[3] Jennifer Angela B. Almelor-Alzaga, MD[3] and Adovich S. Rivera, MD[4]

[1]Division of Surgical Oncology, Head and Neck, Breast, Skin and Soft Tissue, and Esophagogastric Surgery, Department of Surgery, Philippine General Hospital, University of the Philippines Manila
[2]Division of Urology, Department of Surgery, Philippine General Hospital, University of the Philippines Manila
[3]Department of Otolaryngology, Head and Neck Surgery, Philippine General Hospital, University of the Philippines Manila
[4]Feinberg School of Medicine, Northwestern University

ABSTRACT

Objectives. This study aims to develop a Filipino translation of the University of Washington Quality of Life Questionnaire (UW-QOL) version 4, and determine its internal consistency and test-retest reliability.

Methods. This was a cross sectional mixed methods study comprised of two parts. The first part consisted of Filipino translation of the UW-QOL version 4 questionnaire. The second part validated the internal consistency and test-retest reliability through statistical analysis.

Results. The Cronbach's coefficient was high (0.88) which denotes good internal consistency. Pearson's correlation coefficient was obtained to determine the test-retest reliability of the translated questionnaire. A p value of <0.05 indicates that the questionnaire has good test-retest reliability. The p value was high in most of the items of the questionnaire.

Conclusion. The internal consistency of the translated questionnaire is high and comparable to other translations of the same questionnaire. The test-retest reliability is low owing to the interventions done between the test and retest.

Keywords: quality of life, surveys and questionnaire, head and neck tumors

INTRODUCTION

The World Health Organization defined quality of life (QOL) as the "individual's perception of their position in life in the context of the culture and value systems in which they live and in their relation to their goals, expectations, standards and concerns".[1] Health related QOL evaluation determines the influence of the patient's disease and treatment in his psychosocial well being and functional status. Treatment outcomes perceived by the patient based on health related QOL may vary significantly from the standpoint of clinicians. This principle has reshaped treatment protocols, guided management decision making processes, and identified secondary outcomes in research.[2] Conventionally, the success of treatment of a disease entity is measured by recurrence rate, disease specific survival rate and overall survival rate. In recent years, quality of life has become one of the main indicators of therapeutic success in patients.[3]

eISSN 2094-9278 (Online)
Published: November 24, 2023
https://doi.org/10.47895/amp.vi0.5662

Corresponding author: Christelle Anne M. Almanon, MD
Division of Surgical Oncology, Head and Neck, Breast, Skin and Soft Tissue, and Esophagogastric Surgery
Department of Surgery
Philippine General Hospital
University of the Philippines Manila
Taft Avenue, Ermita, Manila 1000, Philippines
Email: cmalmanon@alumni.up.edu.ph
ORCiD: https://orcid.org/0000-0001-8536-5575

According to Global Cancer Statistics, head and neck cancer is the sixth most common cancer worldwide.[4] The International Agency for Research on Cancer published that ten in 100,000 patients die from head and neck cancers specifically lip, oral cavity, esophagus, larynx and nasopharynx.[5] Most patients with oral cavity malignancies are diagnosed at a locally advanced stage. Consequently, extensive surgical resection is required. The resulting loss of functions including swallowing, speech, taste and smell have significant impact in the QOL of patients.[6] Impediments to QOL reported by patients with head and neck malignancies include physical symptoms (dysphagia, mucositis, loss of tase), functional limitations (pain, voice impairment, dental status), and psychosocial problems (disfigurement, social isolation, depression). In this sense, QOL becomes central not only in deciding between treatment options, but also in rehabilitation and education.[7]

The most common way to measure health related QOL is by patient completed questionnaires. A great number of QOL questionnaires are available in the English language including the University of Washington Quality of Life (UW-QOL) questionnaire. Since QOL questionnaires are self administered and the target population of this study are Filipinos, it is imperative that the questionnaire be translated in Filipino to facilitate comprehension of the items and generate an accurate reflection of patient QOL. This study validated the Filipino Translation of the University of Washington Quality of Life Questionnaire v4. It tested for internal consistency using Cronbach's coefficient and test-retest reliability using Pearson's correlation coefficient.

METHODS

This was a cross sectional mixed methods study which comprised of two parts, Filipino translation of the UW-QOL version 4 questionnaire, and determination of reliability through statistical analysis. This study was reviewed thoroughly and endorsed favorably by the University of the Philippines Manila Review Ethics Board (UPM-REB).

Study Population

Patients seen and/or admitted under the adult services of Philippine General Hospital (PGH) with the following conditions irrespective of stage, histopathology, surgical resection technique, and reconstruction were included in the study: 1) malignant tumors in the thyroid, oral cavity, oropharynx, hypopharynx, nasopharynx, larynx, salivary glands, and sinonasal cavity; 2) benign oral and maxillofacial lesions; 3) primary skin and soft tissue tumors in the head and neck extending to the nasal and oral cavity. Patients with decreased consciousness or sensorium making them unable to answer the questionnaire were not included in the study.

Sample size and recruitment

Eligible head and neck patients handled by the GS1 Division were identified through an ISIS search by the study investigators using a password protected computer within the hospital premises. In addition, eligible patients handled by the divisions of Otorhinolaryngology, Medical Oncology, Radiation Oncology, Endocrinology, Plastic Surgery and Dentistry were identified through ward census, individual fellow census, and patient decking logbooks in the Cancer Institute (CI). These patients were included in the study patient database (Appendix A) encoded by the study investigators.

Contact information of these patients were extracted from the Registry of Admissions and Discharges (RADISH) and Open Medical Record System (openMRS) by the study investigators using a password protected computer within hospital premises. These patients were contacted via call, text, messenger or email for initial appraisal for participation in the study.

Filipino Translation

Independent forward translation from English to Filipino was done by two bilingual translators who speak Filipino as their first language. These two independent translations were synthesized into one Filipino version of the questionnaire or version 1 by the forward translators. Backward translation of version 1 was done by a bilingual (Filipino and English) translator. Comparison of the backward translation with the original English questionnaire was done by an expert committee (two forward translators, a backward translator, and primary investigator). Edits at this step generated version 2.

Pilot Testing

Ten head and neck patients treated in PGH from the patient database underwent pilot testing. Convenience sampling was employed based on follow up schedule and admission dates for adjuvant therapy. A detailed instruction on the conduct of the study was given to these ten patients. They signed the informed consent form, answered the questionnaire, and participated in the face-to-face discussion on scheduled follow up and admission dates. Once consent to participate in the study was given, the patients were asked to answer version 2 of the questionnaire. Subsequently, they were interviewed regarding the following: (1) Difficulty in understanding the questions (2) Difficulty in understanding the choices (3) If there were questions that seemed redundant and (4) If there are ways that could improve the questionnaire. Explanation of the study and questionnaire, and administration of post questionnaire feedback were facilitated by study investigators. The answers to the questionnaire and interview were used by the expert panel including the investigators to generate version 3 (Appendix B).

Internal Consistency

One hundred head and neck patients from the patient database underwent validation testing using version 3 of the questionnaire. They were contacted via call, text, messenger and/or email for initial appraisal for participation in the study by the investigators. Explanation of the study was facilitated by the study investigators.

Those patients who had scheduled follow up or elective admission dates were asked to sign the informed consent form and answer the questionnaire on those dates. This was accomplished on the day of consult or admission prior to the scheduled procedures and/or therapies. Informed consent form and questionnaire were sent electronically via private online survey, email or online messenger for those patients who had no scheduled follow up or admission dates. These documents were sent back to the primary investigator through email or online messenger. Those patients who did not have email addresses or online messengers were called by the primary investigator where verbal consent was obtained and the questionnaire was answered by dictation. Audio and video calls were recorded for documentation with patient consent. The protocol and informed consent form of the study were reviewed and approved by the UPMREB. All patients who were included in the study gave their informed consent.

Cronbach's alpha coefficient was obtained to determine the internal consistency of version 3. Data was encoded in Microsoft Excel and using the Kuder and Richardson Formula 20, the Cronbach's coefficient was computed. A score of 0.70 denotes adequate consistency.

Test-Retest Reliability

The first 10 male and first 10 female patients who responded were asked to return after 2 weeks to re-answer the questionnaires. Data gathered from these 20 patients were used to measure the Pearson's r and scatterplot. Pearson's correlation coefficient was obtained to determine the test-retest reliability of version 3. Data was encoded in Microsoft Excel and using the "Correlation Function", the Pearson's correlation coefficient was computed. Using the "Chart Wizard Function", a scatterplot was made.

RESULTS

Study Population

A total of 100 patients with head and neck tumors were included in the study. Table 1 shows the characteristics of the population in terms of age, sex, educational attainment, employment, and diagnosis. The mean age of the population was 47.33 years old with a roughly equal male to female ratio. Majority of the patients were high school graduates (54%) who were mostly employed (64%) prior to their treatment. Almost half of the patients had a thyroid malignancy (46%) followed by nasopharyngeal cancer (18%). All of the respondents were able to answer the Filipino translation of the UW-QOL version 4 completely.

Table 1. Characteristics of the study population (N=100)

***Age** (mean [SD])*	47.33 [13.34]
***Sex** (%)*	
Male	46
Female	54
***Occupation** (%)*	
Employed	64
Self-employed	31
Unemployed	5
***Educational attainment** (%)*	
College course	28
Vocational course	12
High school	54
Grade school	6
***Diagnosis** (%)*	
Larynx	7
Lip	2
Maxillofacial	9
Pharynx	19
Oral cavity	8
Salivary gland	4
Sinonasal	5
Thyroid	46

Figure 1 illustrates the distribution of responses per item of the questionnaire. Each item corresponds to a specific symptom. Each response to a questionnaire item is scored by 100, 75, 70, 50, 30, 25 and 0 depending on the severity of the symptom with 100 as the least severe and 0 as the most severe. Based on the results of the questionnaire, the top three complaints of patients with head and neck tumors include anxiety, limitation of activity, and change in appearance.

Filipino translation of the UW-QOL version 4

After generation of version 2 of the questionnaire, pilot testing was conducted on ten patients. They were asked the following question to evaluate version 2: 1) Difficulty in understanding the questions, 2) Difficulty in understanding the choices, 3) If there were questions that seemed redundant, and 4) If there are ways that could improve the questionnaire. Their comments and recommendations were incorporated to make version 3.

Generally, respondents understood the questions save for specific items. Item 2 on Appearance or "Itsura" evaluates the impact of physical dysmorphism causing social anxiety and limitation of activity. The options ranged from having no change in appearance, having slight change in appearance but remaining active, having significant change in appearance limiting activity, and being unable to go out due to change in appearance. The issue regarding the question stems from the COVID-19 situation,the resulting government- imposed quarantine, and social phobia of going outside their homes and interacting with other people. During the interview, it had to be clarified that choosing not to go out and interact had to be rooted on the head and neck tumor, and not in

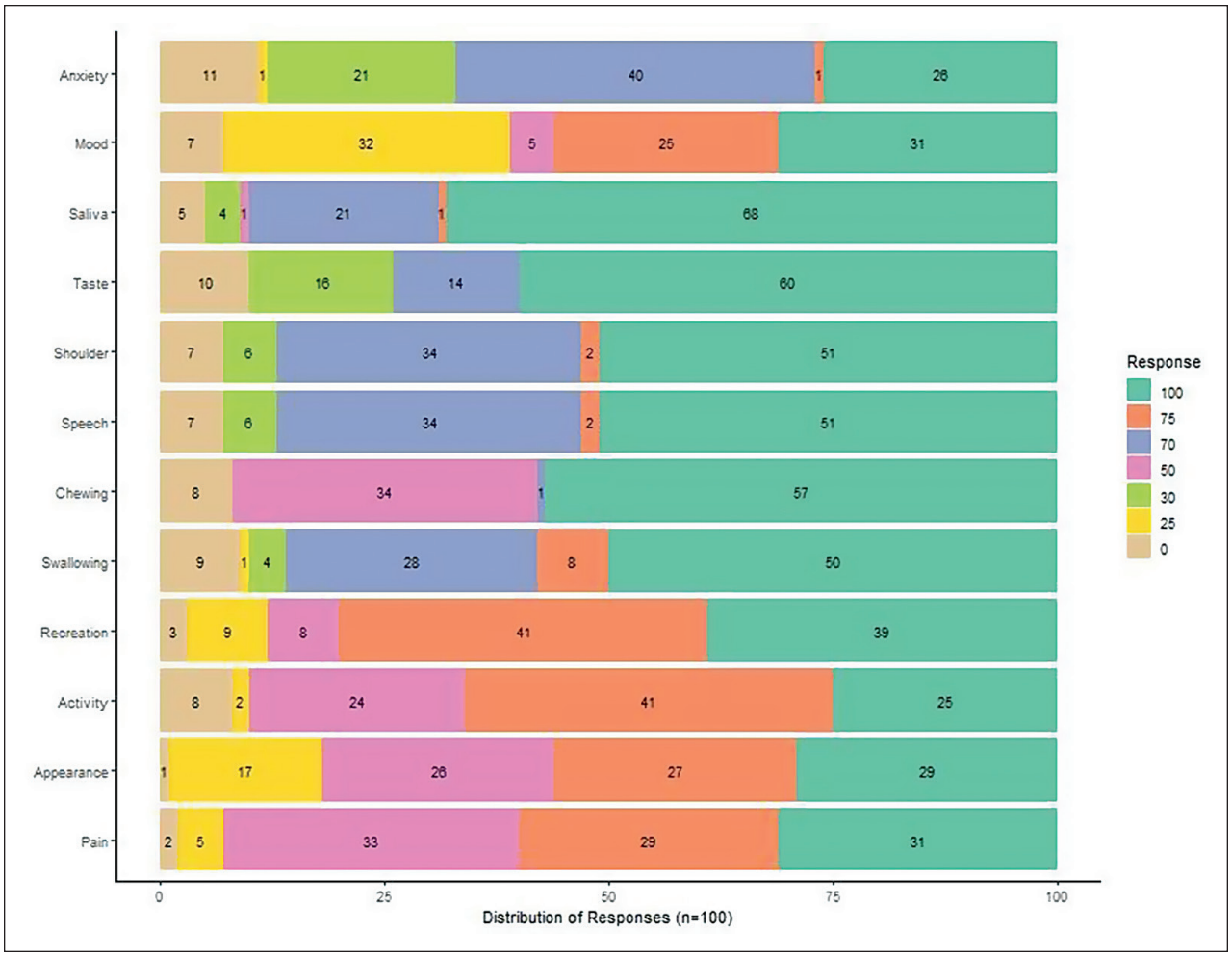

Figure 1. Distribution of responses per questionnaire item.

the COVID-19 situation. The investigators had to state that respondents should answer the question as if COVID-19 was absent.

A similar issue was pointed out in item 4 on Recreation or "Paglilibang" which evaluates the involvement in recreational activities since developing the head and neck tumor. The options ranged from having no limitation to outdoor and indoor recreational activities to gradually staying indoors to having no enjoyable activities.

On both items, the qualifiers "if without a pandemic" or "kung walang pandemya", and "because of the tumor" or "dahil sa bukol / dahil nahihiya sa bukol" were added to the question and/or options.

Generally, respondents understood the choices save for specific items. Item 1 on Pain or "Kirot " evaluates the pain control among patients with head and neck tumors. The choices ranged from feeling no pain, feeling pain controlled by regular on-the-counter medications, feeling pain controlled by medications necessitating yellow prescription, and feeling uncontrolled pain. Four out of ten respondents were able to differentiate between "katamtamang kirot na kailangan ng regular na gamot halimbawa paracetamol" at "katamtamang kirot na kailangan ng iniresetang gamot halimbawa morpina". During the post questionnaire interview, respondents were asked about their history of pain medications and the requirements for obtaining these in the pharmacy. The patients started pain control with medications such as paracetamol, celecoxib, and tramadol. Those that were uncontrolled by these medications were placed on oral morphine obtained through use of a yellow prescription.

During modification of version 2 of the translated questionnaire, the first option was clarified by placing examples of on-the-counter common medications that were given during the interview like paracetamol, celecoxib and tramadol. The second option was differentiated by stating the use of yellow prescription to buy these medications, and gave oral morphine as an example.

Item 2 on Appearance or "Itsura" had the following options: having no change in appearance, having slight change in appearance but remaining active, having significant change in appearance limiting activity, and being unable to go out due to change in appearance. The respondents had difficulty

relating change in appearance with the degree of limitation of activity stated in the options. During the interview, investigators had to clarify that limitation of activity had to do with being self conscious due to the change in appearance. The respondents also characterized limitation of activity due to change in appearance as being unable to interact with other people to pursue their planned activities.

During modification of version 2 of the translated questionnaire, the concept of being self conscious ("nahihiya sa itsura") was highlighted in the options to show limitation of activity resulting from change of physical appearance. Moreover, "actively limiting interaction and activities due to change in physical appearance" or "nililimitahan ko ang aking mga gawain at pakikihalubilo sa iba" was added as a qualifier in the options.

Item 10 on Saliva or "Laway" evaluates the consistency and amount of saliva in patients with head and neck tumors. The choices ranged from having normal volume and consistency of saliva to having no saliva, with each choice implying less and less amount of saliva. The question and choices are easily understandable, however, two out of the ten pilot testing respondents remarked that they had too much saliva. They chose to leave the item blank and wrote that they had too much saliva on the side of the item.

During modification of version 2 of the translated questionnaire, the expert panel including the primary investigator resolved to have a separate set of options evaluating having too much saliva but with scoring parallel to the set of choices implying too little saliva. For instance, having slightly more saliva and having slightly less saliva would have different tick boxes but have the same score (70).

There were no questions that seemed redundant to the respondents. The respondents also offered no comments that could improve the questionnaire apart from the clarifications in certain items mentioned previously.

Reliability of the Filipino translation of the UW-QOL version 4

Cronbach's alpha coefficient was obtained to determine the internal consistency of the translated questionnaire. A questionnaire with Cronbach's coefficient of 0.7 has adequate consistency. The Cronbach's coefficient was high (0.88) which denotes good internal consistency.

Pearson's correlation coefficient was obtained to determine the test-retest reliability of the translated questionnaire. A p value of <0.05 indicates that the questionnaire has good test-retest reliability. The p value was high in most of the items of the questionnaire as shown in Table 2.

Table 2. Test-retest reliability based on Pearson's correlation coefficient

Question Number	Pearson's correlation coefficient (95% CI)	P value
1	0.30 (-0.18 to 0.66)	0.212579
2	0.19 (-0.29 to 0.59)	0.444745
3	0.29 (0.36 to 0.88)	0.229724
4	0.70 (-0.01 to 0.75)	0.000816
5	0.44 (0.13 to 0.81)	0.057083
6	0.55 (0.26 to 0.85)	0.014024
7	0.64 (-0.13 to 0.69)	0.003276
8	0.34 (0.05 to 0.77)	0.153479
9	0.49 (-0.12 to 0.7)	0.031551
10	0.36 (0.33 to 0.87)	0.133124
11	0.68 (-0.3 to 0.58)	0.001306
12	0.18 (0.17 to 0.82)	0.467687
13	0.58 (-0.34 to 0.56)	0.008933
14	0.14 (-0.34 to 0.56)	0.567343
15	0.14 (-0.33 to 0.56)	0.554101

DISCUSSION

There is no single gold standard for QOL questionnaires because each one is limited to its addressed issues, wording and language, and scoring systems.[3] The UW-QOL questionnaire is one of the most commonly used tools to reflect QOL of patients. Hassan and Weymuller offered the following advantages of UW-QOL: "It is brief and self administered. It is multifactorial. It is specific for head and neck concerns. It allows no input from the health provider". In addition to cancers originating from the nasal cavity, oral cavity, pharynx, larynx and salivary glands, the UW-QOL has found a niche in evaluating symptoms related to thyroid cancer and its treatment.[8-11] Originally intended for patients with head and neck malignancies, the questionnaire has expanded its use in benign oral and maxillofacial tumors.[12,13] These entities produce the same symptoms as head and neck primary cancers. Consequently, there is also a need to evaluate the burden on the functionality of patients bearing these conditions.

The most recent version of the questionnaire, version 4 made in 2012, is composed of 3 parts: symptom specific domains, global QOL items, and importance rating. The first part has twelve symptoms specific domains namely pain, appearance, activity, recreation, swallowing, speech, shoulder, taste, saliva, mood and anxiety. Response options are scaled from 0 (worst) to 100 (best). The second part is comprised of three global questions: one comparing QOL before and after tumor development, one about health related QOL, and one about overall QOL. The last part is focused on identifying the three most important symptom specific domains of the patient.[14]

Translating a questionnaire follows four steps: forward translation, backward translation, expert committee review and pilot testing.[15] During forward translation, two bilingual translators should translate the questionnaire to their native tongue independently. One translator should be aware of the objectives of the study whereas the other translator should be uninformed. A joint discussion should occur between the two translators to discuss the differences between their

translations. Like in forward translation, backward translation should be done by two bilingual translators whose native tongue is the original language of the questionnaire. This identifies imprecise phrasings and safeguards accuracy of the forward translation. Next, an expert committee should review and discuss all versions of the questionnaire. It usually consists of an individual familiar with the specific area of study, methodologist, forward translators, backward translators, and ideally, authors of the original questionnaire.[16] The pre-final version produced by the expert committee should undergo pilot testing in a small sample of planned respondents with a minimum number of ten.[15] After completion of the questionnaire, the investigator should interview each respondent regarding their understanding of each item and their corresponding response.[16]

In validating questionnaires, there are no absolute rules concerning sample size. A basic tenet states that respondent-to-item ratio must be at least 5:1. However, it is encouraged to use as large a sample as possible.[17]

Questionnaires must be tested in terms of reliability and validity to ensure that it measures its intended outcomes regardless of the responder.[14] Validity is a measure of how much the questionnaire gauges what it is intended to measure. Content validity refers to the degree of adherence of the items in the questionnaire to the construct it aims to evaluate. This is evaluated by the content validity ratio (CVR) per item with values ranging from -1 to +1. A positive value indicates that at least half of the expert panel deem the item essential to the questionnaire.[14] Construct validity refers to the extent conclusions can be made from the questionnaire. This is measured using correlation matrices, most notably Campbell and Fiske's multitrait multimethod matrix (MTMM),[14] or factor analysis.[17]

Reliability refers to the consistency of survey results despite varied population. Parameters for reliability include internal consistency, test-retest reliability and inter-rater reliability.[18] Internal consistency determines if the items in the survey or questionnaire point to the same construct. Statistically, it is denoted by the Cronbach's alpha. A Cronbach's alpha of 0 signifies no consistency whereas 1 means perfect consistency. A questionnaire with Cronbach's alpha of 0.7 has adequate consistency.[16,19,20] Test-retest reliability refers to the consistency of respondent answers despite repeated administration of the same test applicable for longitudinal studies. This can be evaluated using the Pearson's product moment correlation coefficient (Pearson's *r*).[16,19] Inter-rater reliability measures the consistency of investigator observations using the same questionnaire on the same examinee. This can be estimated using Cohen's kappa statistic.[18] A value of 0.93 to 1 indicates excellent agreement among raters.[16]

Internal consistency of the translated questionnaire was high with a Cronbach's alpha coefficient of 0.88. This is comparable with other UW-QOL version 4 translations in other languages such as Spanish (0.84)[21], Brazilian Portugese (0.744)[22], Turkish (0.757)[23], Moroccan Arabic (0.829)[24], Greek (0.83)[25], and Chinese (0.88)[26].

Test-retest reliability of the Filipino translated questionnaire was low for most items which indicates that the tool has poor consistency on repeat measurement. One limitation of the study was that it was performed during the COVID-19 pandemic and patients came for face- to- face consults only if they are scheduled for procedures, operations, chemotherapy and radiotherapy. The initial test was administered during the first day of scheduled consults and admissions for these scheduled interventions. Most retests were given within two weeks after this specific intervention. As a result, their symptoms changed depending on the effect of the intervention they underwent. Consequently, testretest reliability of the translated questionnaire was affected. For instance, a patient included in the study would be admitted for a planned laryngectomy. The test would be administered on the first day of the admission prior to the operation, and the retest would be done after being discharged from the operation two weeks later at the outpatient clinic. Understandably, symptoms felt before and after the operation would change substantially resulting in a great fluctuation between the consistency of the test scores, and yielding a high p value of Pearson's correlation coefficient and a low test-retest reliability score. Other translations[21-26] of the questionnaire showed better test-retest reliability scores because no treatment was done in the two-week interim between the tests.

CONCLUSION

The internal consistency of the translated questionnaire is high and comparable to other translations of the same questionnaire. The test-retest reliability is low owing to the therapeutic interventions done between the test and retest. The authors recommend that further validation studies be done, and particularly suggest that test and retest be performed within a one- to two- week period with no surgery, chemotherapy or radiotherapy performed during the interval.

Acknowledgments

The authors would like to acknowledge the contribution and expertise of Moreal Camba and Mesandel Arguelles in the translation process of the questionnaire.

Statement of Authorship

All authors contributed in the conceptualization of work, acquisition and analysis of data, drafting and revising, and final approval of the version to be published.

Author Disclosure

All authors declared no conflicts of interest.

Funding Source

The study was funded by the authors.

REFERENCES

1. WHO Expert Committee on Medical Rehabilitation. World Health Organ Tech Rep Ser. 1969; 419:1-23.
2. Rogers SN, Semple C, Babb M, Humphris G. Quality of life considerations in head and neck cancer: United Kingdon National Multidisciplinary Guidelines. J Laryngol Otol. 2016 May; 130(S 2):S49–S52. doi: 10.1017/S0022215116000438.
3. Depprich R, Naujoks C, Lind D, Ommerborn M, Meyer U, Kubler NR, et al. Evaluation of the quality of life of patients with maxillo-facial defects after prosthodontic therapy with obturator prosthesis. Int J Oral Maxillofac Surg. 2011Jan; 40(1):71–9. doi: 10.1016/j.ijom.2010.09.019.
4. Parkin DM, Bray F, Ferlay J, Pisani P. Global cancer statistics, 2002. CA Cancer J Clin. 2005 Mar-Apr; 55(2):74–108. doi: 10.3322/canjclin.55.2.74.
5. Torre LA, Bray F, Siegel RL, Ferlay J, Loreley-Tieulent J, Jemal A. Global cancer statistics, 2012. CA Cancer J Clin. 2015 Mar; 65(2):87-108. doi: 10.3322/caac.21262.
6. Dzebo S, Mahmutovic J, Erkocevic H. Quality of life of patients with oral cavity cancer. Mater Sociomed. 2017 Mar; 29(1):30-34. doi: 10.5455/msm.2017.29.30-34.
7. Ojo B, Genden EM, Teng MS, Milbury K, Misiukiewicz KJ, Badr H. A systematic review of head and neck cancer quality of life assessment instruments. Oral Oncol. 2012 Oct; 48(10): 923-937. doi: 10.1016/j.oraloncology.2012.03.025.
8. Vega-Vazquez MA, Gonzalez-Rodriguez L, Santiago-Rodriguez EJ, Garces-Dominguez A, Shum L-M, Tirado-Gomez M, et al. Quality of life in patients with differentiated thyroid cancer at the general endocrinology clinics of the University Hospital of Puerto Rico. Bol Asoc Med PR. 2015 Jan-Mar; 107(1):25-31.
9. Giusti M, Melle G, Fenocchio M, Mortara L, Cecoli F, Caorsi V, et al. Five-year longitudinal evaluation of the quality of life in a cohort of patients with differentiated thyroid carcinoma. J Zhejiang Univ Sci B. 2011 Mar; 12(3):163-173. doi: 10.1631/jzus.B1000382.
10. D'cruz AK, Yueh B, Das AK, Mcdowell JA, Chaukar DA, Ernest AW. Validation of the University of Washington quality of life questionnaires for head and neck cancer patients in India. Indian J Cancer. 2007 Oct-Dec; 44(4): 147-154. doi: 10.4103/0019-509x.39377.
11. Almeida JP, Vartanian JG, Kowalski LP. Clinical predictors of quality of life in patients with initial differentiated thyroid cancers. Arch Otolaryngol Head Neck Surg, 2009 Apr; 135(4): 342-346. doi: 10.1001/archoto.2009.16.
12. Sayela N, Owibingre SS, Kalyanyama BM, Sohal KS. Health-related quality of life in patients surgically treated for benign oral and maxillofacial tumors and tumor-like lesions at Muhimbili National Hospital, Tanzania. EJMO. 2020; 4(3):227-233. doi: 10.14744/ejmo.2020.42784
13. Anggraini S. Quality of life for patients with ameloblastoma after mandibular resection (a systematic review). Int J Oral Maxillofac Surg. 2015 Oct; 44 Suppl 1:E187. doi: 10.1016/j.ijom.2015.08.016
14. Lowe D, Rogers S, University of Washing Quality of Life Questionnaire (UW-QOL v4): Guidance for scoring and presentation [Internet]. 2012 [cited 2021 Jul]. Available from: http://www.hancsupport.com/sites/default/ files/assets/pages/UW-QOL-update_2012.pdf
15. World Health Organization, Process of translation and adaptation of instruments [Internet]. 2013 [cited 2021 Jul]. Available from: https://www.who.int/ substance_abuse/research_tools/translation/en/
16. Tsang S, Royse CF, Terkawi AS. Guidelines for developing, translating and validating a questionnaire in perioperative and pain medicine. Saudi J Anaesth. 2017 May; 11(Suppl 1):S80–S89. doi: 10.4103/sja.SJA_203_17.
17. Chen X, Qiu Z, Gu M, Su Y, Liu L, Liu Y, et al. Translation and validation of the Chinese version of the quality of life radiation therapy instrument and the head and neck module (QOL-RTI/H&N). Health Qual Life Outcomes. 2014 Apr 14;12:51. doi: 10.1186/1477-7525-12-51.
18. Schultz K, Whitney DJ. Measurement Theory in Action: Case Studies and Exercises. Thousand Oaks, CA: Sage; 2005.
19. Streiner DL. Starting at the beginning: An introduction to coefficient alpha and internal consistency. J Pers Assess. 2003 Feb;80(1):99–103. doi: 10.1207/S15327752JPA8001_18.
20. Beaudart C, Edwards M, Moss C, Reginster J, Moon R, Parsons C, et al. English translation and validation of the SarQol, a quality of life questionnaire specific for sarcopenia. Age Ageing. 2017 Mar. 46(2):271-276. doi: 10.1093/ageing/afw192.
21. Nazar G, Garmendia ML, Royer M, McDowell JA, Weymuller EA, Yueh B. Spanish validation of the University of Washington Quality of Life Questionnaire for head and neck cancer patients. Otolaryngol Head Neck Surg. 2010 Dec; 143(6):801-7, 807.e1-2. doi: 10.1016/j.otohns.2010.08.008.
22. Vartanian JG, Carvalho AL, Yueh B, Furia CLB, Toyota J, McDowell JA, et al. Brazilian-Portuguese validation of the University of Washington Quality of Life Questionnaire for patients with head and neck cancer. Head Neck. 2006 Dec;28(12):1115-21. doi: 10.1002/hed.20464.
23. Senkal HA, Hayran M, Karakaya E, Yueh B, Weymuller EA, Hoşal AŞ, et al. The validity and reliability of the Turkish version of the University of Washington Quality of Life Questionnaire for patients with head and neck cancer. Am J Otolaryngol. 2012 Jul-Aug;33(4):417-26. doi: 10.1016/j.amjoto.2011.10.014.
24. Adnane C, Oubahmane T, Adouly T, Elhani L, Rouadi S, Abada RL, et al. Cross-cultural and Moroccan validation of the University of Washington Quality of Life Questionnaire for Patients with Head and Neck Cancer. Ann Otol Rhinol Laryngol. 2016 Feb; 125(2):151-9. doi: 10.1177/0003489415601687.
25. Linardoutsos G, Rapidis AD, Lowe D, Bramis I, Rogers SN. Development of the Greek version of the University of Washington Quality of Life Questionnaire for patients with head and neck cancer. J Craniomaxillofac Surg. 2014 Jul;42(5):601-7. doi: 10.1016/j.jcms.2013.08.001.
26. Lee Y, Lai Y, Yueh B, Chu P, Chen Y, Chen S, et al. Validation of the University of Washington Quality of Life Chinese version (UW-QOL-C) for head and neck cancer patients in Taiwan. J Formos Med Assoc. 2017 Apr; 116(4): 249-256. doi: 10.1016/j.jfma.2017.01.002.

APPENDICES

Appendix A. Patient database form

Patient Number	Age	Sex	Educational attainment	Occupation	Contact details (Cellphone number and/or email address)	Diagnosis	Chemo or Radio therapy	Operations
1								
2								

Appendix B. Filipino translation of the UW-QOL version 4

Mga Tanong tungkol sa Kalidad ng Buhay mula sa University of Washington bersiyon 4

*Ang mga tanong na ito ay tungkol sa iyong kalusugan at kalidad ng buhay sa **nagdaang pitong araw**. Mangyaring sagutan lahat ng tanong sa pamamagitan ng pag-tsek ng isang kahon sa bawat tanong.*

1. **Kirot**. (I-tsek ang isang kahon: ☐)
   - ☐ Wala akong nadaramang kirot.
   - ☐ Mayroong banayad na kirot na nakokontrol ng walang gamot.
   - ☐ Mayroong katamtamang kirot na nakokontrol ng regular na gamot para sa kirot (halimbawa tramadol, paracetamol, celecoxib)
   - ☐ Mayroong matinding kirot na nakokontrol ng gamot na kailangan ng espesyal na reseta o "yellow prescription" (halimbawa morpina)
   - ☐ Mayroong matinding kirot na di kontrolado ng gamot.

2. **Itsura**. (I-tsek ang isang kahon: ☐)
   - ☐ Walang pagbabago sa aking itsura.
   - ☐ Kaunti lang ang pagbabago sa aking itsura at di ako nababahala dito.
   - ☐ Nababahala ako sa aking itsura pero kaya kong makipaghalubilo sa iba at di ko nililimitahan ang aking mga gawain.
   - ☐ Nararamdaman ko na malaki ang ipinagbago ko at nililimitahan nito ang aking gawain at pakikihalubilo sa iba dahil nahihiya ako sa aking itsura.
   - ☐ Ayokong makita ng ibang tao dahil sa aking itsura. (0)

3. **Gawain**. (I-tsek ang isang kahon: ☐)
   - ☐ Kasing-aktibo pa rin ako gaya ng dati.
   - ☐ May mga pagkakataong di ko magawa ang dating bilis, pero di madalas.
   - ☐ Madalas akong pagod at bumagal ang aking mga gawain pero lumalabas pa rin ako.
   - ☐ Hindi ako lumalabas dahil wala akong lakas.
   - ☐ Palagi akong nakahiga o nakaupo at hindi umaalis ng bahay.

4. **Paglilibang kung walang pandemya** (I-tsek ang isang kahon: ☐)
   - ☐ Kung walang pandemya, walang limitasyon sa paglilibang sa bahay look at labas ng bahay.
   - ☐ May ilang bagay na di ko magawa upang makapag-libang dahil sa bukol pero nagsasaya ako sa buhay at makakalabas ng bahay kung walang pandemya.
   - ☐ Kung walang pandemya, gugustuhin ko sana lumabas ng bahay pero di ko magawa dahil sa bukol.
   - ☐ May mga matinding limitasyon sa mga kaya kong gawin sa paglilibang gawa ng bukol kaya madalas ay nasa bahay ako at nanonood lang ng TV.
   - ☐ Wala akong magawang mapagkakalibangan dahil sa bukol.

5. **Paglunok**. (I-tsek ang isang kahon: ☐)
   - ☐ Nakakalunok ako nang mabuti gaya ng dati.
   - ☐ Hirap o hindi ko malunok ang ilang solidong o buong pagkain.
   - ☐ Likidong pagkain lamang ang nalulunok ko.
   - ☐ Hindi ko kayang lumunok dahil "parang hindi tama ang aking paglunok" at nababulunan ako.

6. **Pagnguya**. (I-tsek ang isang kahon: ☐)
   - ☐ Kaya kong ngumuya nang mabuti gaya ng dati.
   - ☐ Hirap akong nguyain ang ilang solidong o buong pagkain.
   - ☐ Hindi ko manguya kahit malalambot na solidong pagkain.

7. **Pagsasalita**. (I-tsek ang isang kahon: ☐)
   - ☐ Ang aking pagsasalita ay tulad pa rin ng dati.
   - ☐ Nahihirapan akong bigkasin ang ilang salita pero naiintindihan naman ako sa telepono at ng mga di ko kakilala.
   - ☐ Pamilya at mga kaibigan ko lang ang nakakaintindi sa akin.
   - ☐ Hindi ako maintindihan.

8. **Balikat**. (I-tsek ang isang kahon: ☐)
   - ☐ Wala akong problema sa aking balikat.
   - ☐ Matigas ang aking balikat pero di naman nito naaapektuhan ang aking gawain o ang aking lakas.
   - ☐ Dahil sa kirot o panghihina ng aking balikat ay nagpalit ako ng trabaho / libangan.
   - ☐ Hindi ako makapagtrabaho o makapaglibang dahil sa mga problema sa aking balikat.

9. **Panlasa**. (I-tsek ang isang kahon: ☐)
   - ☐ Kaya kong malasahan ang pagkain nang normal.
   - ☐ Kaya kong malasahan karamihan ng pagkain nang normal.
   - ☐ Kaya kong malasahan ang ilang pagkain.
   - ☐ Hindi ko malasahan ang anumang pagkain.

10. **Laway**. (I-tsek ang isang kahon: ☐)
   - ☐ Normal ang dami ng aking laway.
   - ☐ Madami o kakaunti ang aking laway kaysa normal
   - ☐ Sobrang dami o kaunti ang aking laway kaysa normal.
   - ☐ Umaawas na sa bibig nag laway o wala akong laway.

11. **Kalagayan o Pakiramdam**. (I-tsek ang isang kahon: ☐)
   - ☐ Mainam ang pakiramdam ko at di apektado ng aking bukol.
   - ☐ Mabuti ang ko sa pangkalahatan at minsan lang apektado ng aking bukol.
   - ☐ Hindi ako wala sa kondisyon o kaya ay may depresyon dahil sa aking kanser bukol.
   - ☐ Bahagya ang aking depresyon dahil sa aking bukol.
   - ☐ Matindi ang aking depresyon dahil sa aking bukol.

12. **Bagabag**. (I-tsek ang isang kahon: ☐)
   - ☐ Hindi ako nababagabag sa aking bukol.
   - ☐ Bahagya akong nababagabag sa aking bukol.
   - ☐ Nababagabag ako sa aking bukol.
   - ☐ Labis akong nababagabag sa aking bukol.

Aling mga isyu ang pinakamahahalaga sa iyo sa nakaraang 7 araw? (I-tsek ☐ **hanggang 3 kahon**.)
- ☐ Panlasa
- ☐ Laway
- ☐ Kondisyon
- ☐ Bagabag
- ☐ Kirot
- ☐ Itsura
- ☐ Gawain
- ☐ Paglilibang
- ☐ Paglunok
- ☐ Pagnguya

MGA PANGKALAHATANG TANONG

Kompara sa nagdaang buwan bago ka nagkaroon ng bukol,paano mo titimbangin ang iyong kalidad ng buhay kaugnay ng kalusugan? (I-tsek ang isang kahon: ☐)
- ☐ Pinakamabuti
- ☐ Lubhang mabuti
- ☐ Mabuti
- ☐ Katamtaman
- ☐ Masama
- ☐ Lubhang masama

Sa pangkalahatan, masasabi mo bang ang iyong **kalidad ng buhay kaugnay ng kalusugan** sa nagdaang 7 araw ay naging: (I-tsek ang isang kahon: ☐)
- ☐ Pinakamabuti
- ☐ Lubhang mabuti
- ☐ Mabuti
- ☐ Katamtaman
- ☐ Masama
- ☐ Lubhang masama

Kabilang sa pangkalahatang kalidad ng buhay hindi lang ang pisikal at pangkaisipang kalusugan, kundi gayundin ang iba pang dahilan, tulad ng pamilya, mga kaibigan, espiritwalidad, o pansariling libangan na mahalaga sa iyong kasiyahan sa buhay. Isinasaalang-alang lahat sa buhay mo na nakaaambag sa personal mong kagalingan, timbangin ang iyong **pangkalahatang kalidad ng buhay** sa nagdaang 7 araw. (I-tsek ang isang kahon: ☐)
- ☐ Pinakamabuti
- ☐ Lubhang mabuti
- ☐ Mabuti
- ☐ Katamtaman
- ☐ Masama
- ☐ Lubhang masama

Mangyaring ilarawan ang iba pang isyu (medikal o di-medikal) na mahalaga sa iyong kalidad ng buhay at hindi lubusang natugunan ng aming mga tanong (maaari kang magdagdag ng ilang papel kung kailangan).