Reliability and Validity of the English-, Chinese- and Malay-Language Versions of the World Health Organization Quality of Life (WHOQOL-BREF) Questionnaire in Singapore

Yin Bun Cheung, 1,2 PhD, Khung Keong Yeo, 3,4 MBBS, ABIM, Kok Joon Chong, 5,8 KSC (Honors), Eric YH Khoo, 5,6 MD, FRCP, Hwee Lin Wee, 7,8 PhD

Abstract

Introduction: The World Health Organization Quality of Life (WHOQOL-BREF) questionnaire is a 26-item questionnaire that evaluates 4 domains of quality of life (QoL), namely Physical, Psychological, Social Relationships and Environment. This study aimed to evaluate the validity and reliability of the WHOQOL-BREF among Singapore residents aged 21 and above. Materials and Methods: We recruited participants from the general population by using multistage cluster sampling and participants from 2 hospitals by using convenience sampling. Participants completed either English, Chinese or Malay versions of the WHOQOL-BREF and the EuroQoL 5 Dimension 5 Levels (EQ-5D-5L) questionnaires. Confirmatory factor analysis, known-group validity, internal consistency (Cronbach’s alpha) and test-retest reliability using the intraclass correlation coefficient (ICC) were performed. Results: Data from 1316 participants were analysed (Chinese: 46.9%, Malay: 41.0% and Indian: 11.7%; 57.5% men, mean standard deviation [SD, range] age: 51.9 [15.68, 24 to 90] years); 154 participants took part in the retest in various languages (English: 60, Chinese: 49 and Malay: 45). Tucker-Lewis Index (TLI) was 0.919, 0.913 and 0.909 for the English, Chinese and Malay versions, respectively. Standardised root mean square residual (SRMR) was 0.067, 0.074 and 0.094, respectively. Cronbach’s alpha exceeded 0.7 and ICC exceeded 0.4 for all domains in all language versions. Conclusion: The WHOQOL-BREF is valid and reliable for assessing QoL in Singapore. Model fit is reasonable with room for improvement.

Key words: Health-related quality of life, Linking values, Mapping functions, Patient-reported outcomes, Preference-based measures

1Centre for Quantitative Medicine, Duke-NUS Medical School, Singapore
2Tampere Centre for Child Health Research, University of Tampere and Tampere University Hospital, Finland
3National Heart Centre Singapore, Singapore
4Duke-NUS Medical School, Singapore
5Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore, Singapore
6Division of Endocrinology, University Medicine Cluster, National University Hospital, Singapore
7Department of Pharmacy, Faculty of Science, National University of Singapore, Singapore
8Saw Swee Hock School of Public Health, National University of Singapore, Singapore
Address for Correspondence: Dr Wee Hwee Lin, Department of Pharmacy, Faculty of Science, National University of Singapore, Block S4A, Level 3, 18 Science Drive 4, Singapore 117543.
Email: phawhl@nus.edu.sg