Psychometric properties of the Short Form-8 Health Survey (SF-8) among diabetes and non-diabetes Iranian older people

Shamsedin Namjoo¹, Masoud Mirzaei², Mahshid Foroughan¹, Gholamreza Ghaedamini Harouni³

¹Department of Aging, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran
²Yazd Cardiovascular Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
³Iranian Research Center on Aging, Department of Aging, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran
⁴Social Welfare Management Research Center, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran

Abstract

Background: The current study aimed to evaluate the psychometric properties of the Persian version of the 8-item Short-Form Health Survey (SF-8). For this purpose, we examined a large sample of the older adult in two different groups with and without diabetes using the Yazd Health Study (YaHS) data.

Methods: Using a two-stage cluster random sampling method, 1901 older adults were recruited, according to the World Health Organization (WHO) STEPwise approach to surveillance (STEPS) guidelines. To test the scale’s reliability, the internal consistency and test-retest methods were applied. The convergent validity of the entire questionnaire was evaluated by the average variance extracted (AVE) and composite reliability (CR) for each subscale. An Independent Samples t-test was used to assess the demographic differences between the study groups.

Results: The Cronbach’s alpha coefficient for the subscales of SF-8 were measured to range between 0.85 and 0.79 (physical & mental health). The test-retest reliability coefficient of the physical component summary (PCS) and (0.97) and mental component summary (MCS) (0.98) indicated the appropriate reliability of the SF-8. The CFA-concerned results indicated that the 2-factor model presented a good fit to the data for the explored diabetes and non-diabetes groups, as well as the total research participants [goodness of fit index (GFI) = 0.99, comparative fit index (CFI) = 0.992, normed fit index (NFI) = 0.99, incremental fit index (IFI) = 0.992, root mean square error of approximation (RMSEA) = 0.056]. Values >0.5 and >0.7 for AVE and CR indicated the evidence of the convergent validity of the SF-8.

Conclusion: The present study was the first attempt to confirm the traditional 2-factor structure of SF-8 among a large sample of Iranian older individuals. The obtained results suggested that the Persian version of the SF-8 is a reliable and valid tool for measuring health-related quality of life (HRQoL) among Iranian older adults (including the older adult with & without diabetes).

Introduction

Health-related quality of life (HRQoL) is an aspect of quality of life (QoL). Besides, the HRQoL is a reliable index for assessing the health status of individuals. QoL is defined as the perception of individuals about their position in life, concerning the cultural context and the value system in which they live, and respecting their goals, expectations, standards, and concerns. The QoL is a concept that helps healthcare researchers to explore the health status of different populations and their associated factors. Furthermore, it is beneficial in evaluating the effects of health intervention programs.

Age is a major factor affecting the HRQoL; thus, it is essential to assess HRQoL in aging populations. Currently, population aging is a global phenomenon, encompassing developed and developing countries. Iran, as a developing country, is also experiencing a similar population alternation. Moreover, Iran’s aged population will be two folds higher in the next 3 decades (approximately 25% of the total population). Assessing HRQoL requires developing valid and reliable instruments to reflect a precise picture of the community and healthcare system. A valid tool assists healthcare policymakers and providers to promote their functions in delivering healthcare services to the target populations.

The most recognized tools to evaluate the QoL consist of the 36-Item Short-Form Health Survey (SF-36) and the World Health Organization Quality of Life Brief Version.
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from 1901 older adult (age: >60 years) resident of Yazd. The present study included data gathered at the Yazd Health Study (YaHS) experiment protocol for involving human subjects. The study was approved with the consensus of all members. (5) The SF-8 was translated and back-translated by the research team; eventually, the questionnaire was translated to English. Each item and the entire questionnaire were reviewed and modified by the research team, as well as by professional English language translators back-translated the Persian version of the SF-8.

The translators of the second step were blinded to the original English version of the SF-8. This measure was taken to identify conceptual inconsistencies between the translated and original versions of the questionnaire. (4) Each item and the entire questionnaire were reviewed by the research team; eventually, the questionnaire was approved with the consensus of all members. (5) The SF-8 was implemented on 50 older adults to understand how they interpret the items of the questionnaire. (6) In the last step, all the necessary modifications were applied based on the suggestions obtained from the initial stages, as well as the pilot study on the final version of the questionnaire. Finally, the SF-8 was implemented on the 1901 older adult.

**Short Form Health-Related Quality of Life (SF-8)**

The SF-8 is a short version of the original 36-item Short-Form Health Survey (SF-36). It has 8 domains, including general health, physical functioning, role limitations due to physical problems, bodily pain, vitality, social functioning, mental health, and role limitations due to emotional problems. It is a generic multipurpose short-form quality of life instrument developed by the RAND Corporation and the Medical Outcomes Study (MOS) in the 1980s, with two PCS and mental component summary (MCS) dimensions.

**Ceiling and floor effects**

The range of the measured scores was examined by computing ceiling (the maximum possible score) and floor (the minimum possible score) effects. Ceiling and floor effects are considered to be present if >20% of the respondents report the lowest or highest possible total scores, respectively. The acceptability of the SF-8 items was measured by calculating missing values, as well as ceiling and floor
effects. There were minimal missing items (<5%). No floor and ceiling effects were identified for all the SF-8 subscales.

**Content validity**
The prepared questionnaire was provided to an expert panel (7 members) of different disciplines, including gerontology, social welfare, epidemiology, and health education for reviewing its content validity. They were requested to comment on the relevancy, clarity, and simplicity of the items. To analyze the data respecting the content validity, two indicators, including content validity ratio (CVR) and content validity index (CVI) were used. The CVI of ≥0.79 and CVR of ≥0.75 were considered acceptable for each item.20

**The assessment of internal consistency, reliability, and stability**
To determine the questionnaire’s internal consistency and reliability, Cronbach’s alpha coefficient and test-retest method were employed. Furthermore, the Intra-class correlation coefficient (ICC) of the scale was calculated. Additionally, the questionnaire was tested with a 14-day interval through the completion of the scale by 30 participants. Minimum Cronbach’s alpha coefficient of 0.7 and ICC of 0.6 was considered as acceptable.19

**The construct validity of the questionnaire**
Discriminant validity, convergent validity, and confirmatory factor analysis (CFA) approaches were applied to determine the construct validity of the tool.

**Confirmatory Factor analysis**
The CFA technique was used to examine the construct validity of the SF-8. In addition to presenting a significant factor loading of ≥0.40, the comparative fit index (CFI≥0.90), the Incremental fit index (IFI ≥ 0.90), the root mean square error of estimation (RMSEA ≤ 0.08), and the Goodness of Fit Index (GFI ≥ 0.90) were used to assess the measurement model fit to the data.21

**Discriminant validity**
Previous studies revealed that the QoL of individuals with diabetes is poor, compared to their non-diabetics counterparts.22 Therefore, Known Group Comparison was assessed by comparing the SF-8 scores between the study groups by the Student’s t-tests and Independent Samples t test at P<0.05. Besides, the square root of average variance extracted (AVE) was used for evaluating the discriminant validity of the entire questionnaire.

**Convergent validity:**
AVE and composite reliability (CR) were computed using the completely standardized loading extracted from the CFA. Values >0.5 and >0.7 for AVE and CR indicated the evidence of the convergent validity of the SF-8, respectively. We used the following formula for calculating the AVE and CR.

\[
\text{AVE} = \frac{\sum \lambda_i^2}{n}
\]

\[
\text{CR} = \frac{(\sum \lambda_i^2) - \sum \delta_i}{(\sum \lambda_i^2) + \sum \delta_i}
\]

\(\lambda_i = \) completely standardized loading for the \(i\)th indicator,

\(\delta_i = \) variance of the error term for the \(i\)th indicator,

\(n = \) number of indicators

**External validity**
The only formal approach to establishing the external validity of a scale is to repeat the study in that specific target population.23 Therefore, the SF-8 was used in 8000 subjects, aged 20-70 years for assessing its external validity.

**The normality of the data**
Skewness and kurtosis were used for assessing the normality of the obtained data. Skewness indices ranged from −0.09 to 1.002 and kurtosis indices ranged from −0.02 to 0.4, indicated the normality of the collected data.

**Data analysis**
The achieved data were analyzed in SPSS version 18 (IBM Corp. ARMONK, USA) and AMOS version 18 (IBM SPSS) at P≤0.05.

**Results**
This study included 1901(1205 non-diabetes & 696 diabetes) respondents; of whom, 963 (50.7%) were males. In total, 61.1% of the study subjects reported an educational level of primary school and below, and 87.3% of them were married (Table 1).

An expert panel consisting of academic staff members of the University of Social Welfare and Rehabilitation Sciences and Isfahan University of Medical Sciences assessed the CVI and CVR of the explored tool. The CVI and CVR values were calculated based on the respondents’ answers to the items concerning the relevancy of the questionnaire’s items. A CVI of 0.97 and CVR of 0.98 was considered acceptable for the entire questionnaire (Table 2).

The internal consistency of the scale’s total score (Cronbach’s alpha coefficients, ranging from 0.87 to 0.80 for PCS & MCS subscales in the older adult with diabetes and 0.83–0.78 for the same subscales in the non-diabetes group) and for the entire questionnaire (ranging from 0.84 to 0.79 for PCS & MCS subscales) was considered acceptable. To measure the test-retest reliability of the Persian version of the SF-8, 20 older people were recruited to complete the SF-8 twice with a 14-16-day interval. The test-retest correlation coefficients of the PCS and MCS subscales of the SF-8 were computed as 0.97 and 0.98, respectively (Table 2).

Values >0.5 and >0.7 for AVE and CR indicate the
Table 1. The socio-demographic characteristics of the respondents (N = 1901)

| Variables       | Group                      | n    | %  |
|-----------------|----------------------------|------|----|
| Gender          | Female                     | 938  | 49.3|
|                 | Male                       | 963  | 50.7|
| Educational level | Primary school and less     | 1165 | 61.3|
|                 | Secondary                  | 416  | 21.9|
|                 | Diploma                    | 249  | 13.1|
|                 | Masters and Ph.D.          | 71   | 3.7 |
| Marital status  | Single                     | 20   | 1.1 |
|                 | Married                    | 1660 | 87.3|
|                 | Widow/divorced             | 221  | 11.6|

Table 2. Psychometric properties of the SF–8

| Item | Factor loadings (Beta) | Item-total correlation | Mean | CVR | CVI | Internal consistency | Test-retest reliability | AVE | CR |
|------|------------------------|------------------------|------|-----|-----|----------------------|-------------------------|-----|----|
| VT   | 0.565*                 | 0.55                   | 51.8 | 0.85| 0.92| 0.79                 | 0.98                    | 0.90| 0.88|
| SF   | 0.760*                 | 0.68                   | 36.0 | 1   | 1   | 0.85                 | 0.97                    | 0.82| 0.86|
| RE   | 0.658*                 | 0.58                   | 37.3 | 1   | 0.96|                      |                         |     |     |
| MH   | 0.825*                 | 0.73                   | 36.8 | 1   | 0.98|                      |                         |     |     |
| GH   | 0.656*                 | 0.63                   | 41.8 | 1   | 1   |                      |                         |     |     |
| PF   | 0.840*                 | 0.72                   | 43.1 | 1   | 0.94|                      |                         |     |     |
| RP   | 0.881*                 | 0.76                   | 41.1 | 1   | 0.98|                      |                         |     |     |
| BP   | 0.701*                 | 0.66                   | 48.7 | 1   | 0.98|                      |                         |     |     |

GH, general health; PF, physical functioning; RP, role limitations due to physical problems; BP, bodily pain; VT, vitality; SF, social functioning; MH, mental health; RE, role limitations due to emotional problems; CVR, content validity ratio; CVI, content validity index; AVE, average variance extracted; CR, composite reliability.

*P value <0.001.

Table 3. Goodness-of-fit indices of models for two groups and the total participants

| CI  | RMSEA | IFI  | NFI  | CFI  | GFI  | P value | χ²/df | df  | χ²  | Groups |
|-----|-------|------|------|------|------|---------|-------|-----|-----|--------|
| 0.04-0.07 | 0.056 | 0.992 | 0.992 | 0.992 | 0.992 | 0.001 | 4.4  | 10  | 44.46 | Total  |

Note. GFI, goodness of fit index [good fit: ≥ 0.9]; IFI, incremental fit index [good fit: ≥ 0.9]; NFI, normative fit index [good fit: ≥ 0.9]; RMSEA, root mean square error of approximation [good fit: <0.08; fair fit: 0.08–0.10]; 95% CI, Confidence Interval of RMSEA.

Discussion

This study assessed the psychometric properties of the SF–8. The SF-8 can be used as a short appropriate tool for measuring HRQoL among the Iranian older adult. To the best of our knowledge, this study was the first attempt concerning this questionnaire, i.e., conducted in a large sample size with different groups.

The present research results indicated the desired reliability of the SF-8 by high levels of internal consistency. Moreover, this finding was consistent with those of Lang et al10 (Cronbach’s alpha coefficient: 0.82) and Onagbiye et al11 (Cronbach’s alpha coefficient: 0.87).

The results of the confirmatory factor analysis in the
examined older adult with and without diabetes revealed that the presumed two-dimensional model (Figure 1) of the SF–8 provided an acceptable similar structural validity, i.e., consistent with the results of previous studies. Other investigations suggested that a 3-factor model (physical, mental, and overall health) better fit the data than the traditional 2-factor model. The discrepancies between our study and prior research can be explained by different sample sizes (in the present study, the sample size equaled 1901 subjects, while in the previous study, the sample size consisted of 10885 individuals), target groups, or the heterogeneity of participants in different age groups (the present study was performed on younger older population and the other studies examined the general population).

Since, 8000 people were selected from the same first community (1901 older adult), and by the same sampling method people to generalization of the results to other populations and prevent possible bias, based on the results, it can be claimed that SF–8 had appropriate external validity as well as goodness of fit index.

Based on our results, the calculated convergent validity, discriminant validity, and external validity were acceptable for the SF-8, i.e., not evaluated in the previous studies.

The results of the current study, similar to Lee and Shinkai’s research, signified no significant relationship between the dimensions of SF-8 and gender and level of education in the older adult with diabetes; however, this result was in contrast with those of other studies. A significant relationship was observed between gender and QoL among non-diabetes older individuals, i.e., consistent with some previous studies.

The gender-wise differences in the overall study results can be attributed to culture, environment, and sample size. A large body of literature indicated that the QoL was higher in males, compared to female. Our findings highlighted the ineffectiveness of the literacy level on the scores of the questionnaire, i.e., in line with those of previous investigations.

Table 4. Discriminate validity of SF-8 by using known groups

| Factor       | Diabetes older adult (n = 696) Mean ± SD | Non-diabetes older adult (n = 1205) Mean ± SD | P value | Mean difference | 95% Confidence Interval | Latent correlation | Square root of AVE |
|--------------|-----------------------------------------|---------------------------------------------|---------|-----------------|-------------------------|---------------------|-------------------|
| PCS          | 10.15 ± 3.1                             | 8.52 ± 3.35                                | 0.001   | 1.63            | 1.32–1.93               | 0.44                | 0.77              |
| MCS          | 8.97 ± 2.7                              | 7.49 ± 2.9                                 | 0.001   | 1.47            | 1.2–1.7                 | 0.49                | 0.70              |

Strengths
The present study was the first attempt to evaluate the psychometric properties of the SF-8 in the Iranian older adult. Using a large sample size can be considered among the strengths of the present study. Another strengths of this study was examine the external validity, which was not addressed in previous studies.

Conclusion
Since, the results of the present study showed that the SF-8 scale has good reliability and validity, and also based on the study of external validity and the ability to generalization, it can be claimed that the present scale, regardless of literacy, it will be useful in the Iranian older adult. Therefore, this scale can be used in various studies, including epidemiological studies, clinical studies, and efficacy assessment of health-related interventions, due to its easy to use and low number of items.

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Competing interests
The authors reported no potential conflict of interest.

Ethics approval
This study was approved by the Ethics Committee of the University of Social Welfare and Rehabilitation Sciences (IR. USWR.REC.1398.006) and Shahid Sadoughi University of Medical Sciences (No.17/1/73941). All subjects provided written consent to participate in this study.
informed consent after explaining the confidentiality of their responses.

*Authors' contributions*
SN, MF, MM and GGH designed the study. MM collected survey data. SN, MF, MM and GGH analyzed and presented the statistical results. SN, MF, MM and GGH were major contributors in writing the manuscript. SN, MF and MM edited the manuscript. All authors read and approved the final manuscript.

*References*
1. Phyo AZZ, Ryan J, Gonzalez-Chica DA, Woods RL, Reid CM, Nelson MR, et al. Health-related quality of life and all-cause mortality among older healthy individuals in Australia and the United States: a prospective cohort study. Qual Life Res. 2021;30(4):1037-48. doi: 10.1007/s11136-020-02723-y.
2. Mardare I, Furtunescu FL, Bratu EC. Measuring health related quality of life-methods and tools. Acta Medica Transilvania. 2019;24(2):6-8.
3. Laal Ahangar M, Sajjadi H, Akbari Kamrani AA. Social integration and health-related quality of life of elderly referred to a health center in Sahzevar, Salmand: Iranian Journal of Ageing. 2015;10(2):114-21. [Persian].
4. Klompstra L, Ekdahl AW, Krevs B, Milberg A, Eckerblad J. Factors related to health-related quality of life in older people with multimorbidity and high health care consumption over a two-year period. BMC Geriatr. 2019;19(1):187. doi: 10.1186/s12877-019-1194-z.
5. Yip AP, Nolte J, Loececkhoff CE. Aging across the world: the interplay of demographic, economic, historical, and cultural factors. In: Drolet A, Yoon C, eds. The Aging Consumer. New York: Routledge; 2020. p. 259-78.
6. Khoshbakht Pishkhan M, Mohammad Shahboulaghi F, Kanhekh H, Dalvandi A. Spiritual health in Iranian elderly: a concept analysis by walker and avant's approach. Salmand: Iranian Journal of Ageing. 2019;14(1):96-113. doi: 10.32598/sija.13.10.380. [Persian].
7. Lee MK, Oh J. Health-related quality of life in older adults: its association with health literacy, self-efficacy, social support, and health-promoting behavior. Healthcare (Basel). 2020;8(4):407. doi: 10.3390/healthcare8040407.
8. Pequeno NPF, de Araújo Cabral NL, Marchioni DM, Lima S, de Oliveira Lyra C. Quality of life assessment instruments for adults: a systematic review of population-based studies. Health Qual Life Outcomes. 2020;18(1):208. doi: 10.1186/s12955-020-01347-7.
9. Rezaeipandari H, Morowatisharifabad MA, Mohammadpoorasl A, Shaghaghi A. Cross-cultural adaptation and psychometric validation of the World Health Organization quality of life-old module (WHOQOL-OLD) for Persian-speaking populations. Health Qual Life Outcomes. 2020;18(1):67. doi: 10.1186/s12955-020-01316-0.
10. Lang L, Zhang L, Zhang P, Li Q, Bian J, Guo Y. Evaluating the reliability and validity of SF-8 with a large representative sample of urban Chinese. Health Qual Life Outcomes. 2018;16(1):55. doi: 10.1186/s12955-018-0880-4.
11. Onagbeye SO, Moss SJ, Cameron M. Validity and reliability of the Setswana translation of the Short Form-8 health-related quality of life health survey in adults. Health SA. 2018;23:1092. doi: 10.4102/hsag.v23i0.1092.
12. Roberts B, Browne J, Ockea KF, Oyok T, Sondorp E. The reliability and validity of the SF-8 with a conflict-affected population in northern Uganda. Health Qual Life Outcomes. 2008;6:108. doi: 10.1186/1477-7525-6-108.
13. Turner-Bowker DM, Bayliss MS, Ware JE Jr, Kosinski M. Usefulness of the SF-8 Health Survey for comparing the impact of migraine and other conditions. Qual Life Res. 2003;12(8):1003-12. doi: 10.1023/a:1026179517081.
14. Darvishpour Kakhaki A, Abed Saeidi ZH, Yaghmaei F, Alavi Majd H. Instrument development to measure diabetic clients quality of life (DCQOL). Iran J Endocrinol Metab. 2005;7(2):149-55. [Persian].
15. Heshmati R. Psychometric properties of the Seattle Angina Questionnaire (SAQ): scale for assessing health-related quality of life in patients with coronary artery disease. J Res Behav Sci. 2016;14(3):271-80. [Persian].
16. Tomás JM, Galiana L, Fernández I. The SF-8 Spanish version for health-related quality of life assessment: psychometric study with IRT and CFA models. Span J Psychol. 2018;21:E1. doi: 10.1017/sj/p.2018.4.
17. Mirzaei M, Salehi-Abargouei A, Mirzaei M, Mohsenpoor MA. Cohort Profile: The Yadz Health Study (YaHS): a population-based study of adults aged 20-70 years (study design and baseline population data). Int J Epidemiol. 2018;47(3):697-698. doi: 10.1093/ije/dyx231.
18. Lefante J Jr, Harmon GN, Ashby KM, Barnard D, Webber LS. Use of the SF-8 to assess health-related quality of life for a chronically ill, low-income population participating in the Central Louisiana Medication Access Program (CMA P). Qual Life Res. 2005;14(3):665-73. doi: 10.1007/s11136-004-0784-0.
19. Namjoo S, Allaliverdipour H, Shaghaghi A, Pakpour AH. Psychometric properties of Jacelon's Attributed Dignity Scale with Iranian older people. Nurs Ethics. 2020;27(2):372-80. doi: 10.1177/0969733019845125.
20. Feizi A, Heidari Z. Persian version of the brief Older People's Quality of Life questionnaire (OPQOL-brief): the evaluation of the psychometric properties. Health Qual Life Outcomes. 2020;18(1):327. doi: 10.1186/s12955-020-01586-8.
21. Wang YA, Rhetmtulla M. Power analysis for parameter estimation in structural equation modeling: a discussion and tutorial. Adv Methods Pract Psychol Sci. 2021;4(1):2515245920918253. doi: 10.1177/2515245920918253.
22. Daneshvar S, Khodamoradi A, Ghazanfari Z, Montazeri A. Quality of life in diabetic patients: a comparative study. Payesh (Health Monitor). 2018;17(5):541-50. [Persian].
23. Dekkers OM, von Elm E, Algra A, Romijn JA, Vandenbroucke JP. How to assess the external validity of therapeutic trials: a conceptual approach. Int J Epidemiol. 2010;39(1):89-94. doi: 10.1093/ije/dyp174.
24. Campolina AG, Pinheiro MM, Ciconelli RM, Ferraz MB. Quality of life among the Brazilian adult population using the generic SF-8 questionnaire. Cad Saude Publica. 2011;27(6):1121-31. doi: 10.1590/s0102-311x2011000600009.
25. Lee Y, Shinaki S. A comparison of correlates of self-rated health and functional disability of older persons in the Far East: Japan and Korea. Arch Gerontol Geriatr. 2003;37(1):63-76. doi: 10.1016/s0167-4943(03)00021-9.
26. Zare F, Ameri H, Madadizadeh F, Reza Aghaei...
M. Health-related quality of life and its associated factors in patients with type 2 diabetes mellitus. SAGE Open Med. 2020;8:2050312120965314. doi: 10.1177/2050312120965314.

27. Schunk M, Reitmeir P, Schipf S, Völzke H, Meisinger C, Ladwig KH, et al. Health-related quality of life in women and men with type 2 diabetes: a comparison across treatment groups. J Diabetes Complications. 2015;29(2):203-11. doi: 10.1016/j.jdiacomp.2014.11.010.

28. Kamradt M, Krisam J, Kiel M, Qreini M, Besier W, Szecsenyi J, et al. Health-related quality of life in primary care: which aspects matter in multimorbid patients with type 2 diabetes in a community setting? PLoS One. 2017;12(1):e0170883. doi: 10.1371/journal.pone.0170883.

29. Alshayban D, Joseph R. Health-related quality of life among patients with type 2 diabetes mellitus in Eastern province, Saudi Arabia: a cross-sectional study. PLoS One. 2020;15(1):e0227573. doi: 10.1371/journal.pone.0227573.

30. Ware J, Kosinski M, Dewey J, Gandek B. How to Score and Interpret Single-Item Health Status Measures: A Manual for Users of the SF-8 Health Survey. Boston, MA: Health Assessment Lab; 2001.