Original Article

Cross Cultural Adaptation of the Menopause Specific Questionnaire into the Persian Language

Ghazanfarpour M, Kaviani M[1], Rezaiee M[2], Ghaderi E[3], Zandvakili F[2]

Department of Midwifery, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, [1]Nursing and Midwifery College, Shiraz University of Medical Sciences, Shiraz, [2]Department of Gynecology, School of Medicine, [3]Kurdistan Research Center for Social Determinants of Health, Kurdistan University of Medical Sciences, Sanandaj, Iran

Address for correspondence:
Dr. Farnaz Zandvakili,
Department of Gynecology, School of Medicine, Kurdistan University of Medical Sciences, Pasdaran Ave, Sanandaj, Iran.
E-mail: dr.fzandvakili@gmail.com

Abstract

Background: The menopause-specific quality-of-life (MENQOL) was developed as a specific tool to measure the health-related quality-of-life in menopausal women. Recently, it has been translated into about 15 languages. **Aim:** This study was performed to develop the Persian version of the MENQOL questionnaire from the original English language version. **Subjects and Methods:** This was a cross-sectional study that evaluated 300 menopausal women attending five primary health-care centers in Shiraz. The "forward-backward" procedure was applied to translate the questionnaire from English to Persian by two independent translators and then back translated into English and was checked to ensure the correct translation. Then, participants were interviewed and the questionnaire filled out. **Results:** Over all Cronbach's alpha was 0.9 and in subscales of vasomotor, psychosocial, physical and sexual were 0.8, 0.7, 0.8 and 0.3, respectively. However, the major items were acceptable (Cronbach's alpha > 0.7), but internal consistency in sexual item was poor (Cronbach's alpha = 0.3). The result of internal consistency was acceptable in subgroups of age, disease, education, marital status and smoking habit. **Conclusions:** The Persian MENQOL questionnaire demonstrates good internal consistency in vasomotor, physical and psychosocial domains, but not sexual. Therefore we suggest that, the items: "Vaginal dryness during intercourse" and "weight gain" should be deleted in Persian version of the MENQOL. This questionnaire can be used in Persian language and Iranian culture in different subgroups of age, marital status and educational level as well as in individuals with hypertension and diabetes.

Keywords: Menopause, Menopause-specific quality-of-life, Quality-of-life

Introduction

Menopause is a stage of life, which every woman passes through. A woman is said to have reached menopause after having not for at least 12 months.[1] It is estimated that by 2030, 1.2 billion will be peri- or post-menopausal and since then, it will increase by 4.7 million a year.[2] The menopause is accompanied by hot flushes, mood changes, sleep disturbances and other symptoms occurring during menopause in 85% menopausal women.[3] It is due to permanent changes in the hormonal system that affect ovaries.[4] It requires no medical treatment, but treatment can be effective for relieving the signs and symptoms. Frequency and severity of the symptoms experienced during menopause affect the quality-of-life (QOL) in post-menopausal women.[5]

Evaluation of women's health is important because they are responsible to the children and husbands,[6] but menopausal women are one of the most ignored groups and there are few research conducted on their QOL.[7] QOL is one of the important factors in evaluating health and therapeutic problems. It can be changed due to diseases or natural event like menopause.[8] Therefore, development of tools, which can be used in evaluating QOL in these women is very important.

The menopause-specific quality-of-life (MENQOL) questionnaire was developed by Hilditch *et al*.,[9] and to date has been translated into about 15 languages.[10] This questionnaire has been used in several interventional and observational studies.[11-15] The MENQOL was modified by Lewis *et al*.,[10]

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and this involved the development of an intervention version of the questionnaire. This questionnaire is simple and was developed on a sample of women between 47 and 62 years of age. It has become a useful instrument world-wide a valid useful measure of QOL in studies of menopausal women.[16]

The MENQOL questionnaire has not been translated to the Persian language and hence was not useful in Iranian culture. This study therefore, aimed to develop the Persian version of MENQOL questionnaire and to establish the validity of the MENQOL domains in a population with a wide age range.

Subjects and Methods

Assessing tool

A self-developed demographic questionnaire assessed demographic data of participants such as age, level of education (illiterate, primary, intermediate, high school, diploma, or collage degree), marital status (single, married, divorced or widowed), smoking (smoker or non-smoker), diseases (hypertension, diabetes, respiratory and heart diseases). The MENQOL, which was developed by Hilditch *et al*.[9] It consists of 29 items in four dimension; vasomotor (3 items; question 1-3), psychosocial (7 items; question 4-10), physical (16 items; question 11-26) and sexual (3 items; question 27-29). The participants were asked to note their experience of the problem; If "no," she marked no and went to the next item, if "yes," she indicates how bothered she was by the item on a 7-point Likert scale ranging from 0: Not at all bothered to 6: Extremely bothered. For analyses, the item scores were converted to the score ranging from 1 to 8 in the following manner: No symptom = 1, have symptom, but not bothered = 2 through to extremely bothered = 8.

The "forward-backward" procedure was applied to translate the questionnaire from English to Persian by two independent translators and then back translated into English and was checked to ensure the correct translation. Areas that needed correction were implemented for example in ambiguity of expressions of some words. Hence, the final Persian version was assessed for content validity by three experts in gynecology and midwifery. The Persian version was administered to 20 women referred to a health center and were asked to make a note about vague questions. According to their notes, the vague questions were changed and the final version of Persian version of MENQOL was prepared. Correlation of Test-retest reliability was calculated as 0.75 in these women.

Then participants (300 women) were interviewed 1 time and the questionnaire filled out once. After giving instruction and an example to participants, they were asked to indicate whether they experienced the item within the past month (educated women filled out the questionnaire themselves while those with low level education were interview administered). Each questionnaire was rechecked by the researcher to ensure no missing data.

Study design and sample

This was a cross-sectional study conducted among a random sample of 300 menopausal women attending 5 primary health-care centers for varied reasons during 2 month in Shiraz. The inclusion criterion was women with menopause (were determinate by history). Menopause is defined as women with an intact uterus and ovaries with > 12 months amenorrhea. The exclusion criteria were hysterectomy or ovariectomy.

We prepared a list of total health centers in Shiraz (42 centers) and categorized them into 5 different areas (for covering different socio-economic status). Then, we selected 5 health centers by the simple random sampling and the participants were selected equal proportion in convenience manner from each health center. The sampling was performed in the middle of weeks every week until the sampling completed. This study was approved by ethics committee of Shiraz University of Medical Sciences. Before the interview, all participants signed an informed consent form. An inclusion criterion was natural menopause status and an exclusion criterion was hysterectomy.

Sample size

Adequate sample size for validity assessment study can be vary from 100 individual to 400[17] and 300 women were evaluated in this study.

Statistical analysis

Data was entered in and analyzed using the SPSS software (Chicago IL, USA) version 11.5. Analysis was performed after reversing the score and the total score of each domain was calculated for each subject through summing up the points of the responses to the question.[10] Cronbach's alpha coefficient[18] was used as the index of internal consistency for each subscale and subgroup. Then convergent validity and discrepancy was calculated. Spearman correlation coefficient (r_s) was used to assess the convergence and discrepancy validity. Scaling success rate was calculated in manner: Number of item in the subscale with Cronbach's alpha > 0.4 divided to all number of items in that subscale multiplication to 100.

Results

There were 300 women with a mean (standard deviation) age of 55.3 (5.6) years (range: 39-76). 2.3% (7/300) were single and 78.7% (236/300) were married. Of all, 42.3% (127/300) were illiterate, 46.3% (139/300) high school and 11.3% (34/300) had diploma or college degree. 16.7% (50/300) women were smoker, 34% (102/300) had hypertension, 17.7% (53/300) diabetes, 54.7% (164/300) musculoskeletal problems, 12.3% (37/300) pulmonary diseases and 20.7% (62/300) heart diseases.

Internal consistency (Cronbach's alpha) of each subscale of MENQOL questionnaire by marital status, age, smoking, education, having hypertension and diabetes was illustrated in Tables 1a and b. Over all Cronbach's alpha was 0.9 and

in subscales of vasomotor, psychosocial, physical and sexual were 0.8, 0.7, 0.8 and 0.3, respectively. However, the major items were acceptable (Cronbach's alpha > 0.7), but internal consistency in sexual item was poor (Cronbach's alpha = 0.3). The result of internal consistency was acceptable in subgroups of age, disease, education, marital status and smoking habit.

Result of convergent validity assessed by Spearman correlation coefficient (r_s) was shown in Table 2. In the physical domain two lower correlation belong to weight gain (r_s = 0.28) and felling bloated (r_s = 0.401) and in the sexual domain the lowest correlation belong to vaginal dryness during the intercourse (r_s = 0.385). The success rate was high (range: 93.7-100%) except for sexual subscale (67%). Then, the sexual domain needs to be revised and The Persian MENQOL was developed in 27 items [Appendix I].

Discussion

The MENQOL questionnaire is being used widely for assessing QOL in menopausal women because of its simplicity. It is the 1st time that the validity of Persian version MENQOL questionnaire was assessed in a large sample and different subgroup of age (pre- and post- menopausal), marital status, education level, smoking habit, hypertension and diabetes. This study contains 300 participants, however, such number of participants for assessing the validity was greater than other studies,[9,10] but it was difficult to doing re-test and it was a limitation of the study.

The results supported the validity of the physical, psychosocial, domains of the MENQOL in a wide range menopausal women but sexual domain did not have acceptable internal consistency in Iranian culture.

The MENQOL was developed on women 47-62 years of age (early post-menopausal period).[9] The sample of our study contains a wide range of menopausal women from 39 to 76 years old. Kulasingam *et al*.,[16] demonstrated acceptable validity of the MENQOL physical, psychosocial and sexual domains as QOL measures in elderly women. Then, the MENQOL questionnaire can be used in a wide-age range of menopausal women.

The sexual domain did not have acceptable validity. However, other study showed the good internal consistency in the sexual domain [Table 3]. This situation may be due to the cultural issue, attitude toward sexual activity in menopausal duration[16,19] or the direct question about sexual domain. Kulasingam *et al*.,[16] assessed the validity of the sexual domain indirectly with marital status in their study and they suggested using the direct question in the sexual domain in further studies. However, it seems that this domain needs to be revised or deleted in the Persian version MENQOL and will be

Table 1a: Internal consistency (Cronbach's alpha) of each subscale of MENQOL questionnaire by demographic characteristics

Item	Question	Cronbach's alpha	Marital status			Age		Education		
			Single (*N*=7)	Married (*N*=236)	Other (*N*=57)	<54 years (*N*=130)	>54 years (*N*=170)	Un-literature (*N*=127)	High school (*N*=139)	Diploma or college (*N*=34)
Vasomotor	3	0.8	0.6	0.891	0.916	0.914	0.872	0.89	0.918	0.791
Psychosocial	7	0.7	0.928	0.778	0.773	0.803	0.763	0.729	0.806	0.841
Physical	16	0.8	0.892	0.891	0.886	0.906	0.878	0.889	0.891	0.872
Sexual	3	0.3	-	0.303	0.516	0.389	0.332	0.361	0.333	0.41

MENQOL: Menopause-specific quality-of-life

Table 1b: Internal consistency (Cronbach's alpha) of each subscale of MENQOL questionnaire by smoking, hypertension and diabetes

Item	Question	Hypertension		Diabetes		Smoking	
		Yes (*N*=102)	No (*N*=198)	Yes (*N*=53)	No (*N*=247)	Smoker (*N*=50)	Non-smoker (*N*=250)
Vasomotor	3	0.919	0.883	0.912	0.892	0.911	0.89
Psychosocial	7	0.745	0.8	0.687	0.796	0.89	0.885
Physical	16	0.863	0.847	0.836	0.898	0.894	0.887
Sexual	3	0.482	0.258	0.467	0.312	0.204	0.375

MENQOL: Menopause-specific quality-of-life

Table 2: Convergent validity and discrepancy for MENQOL questionnaire

Item	No. of item per scale	Convergent validity (Range of correlation)	Scaling success	Scaling success rate	Internal consistency	Discrepancy
Vasomotor	3	0.88-0.897	3/3	100	0.895	0.066-0.451
Psychosocial	7	0.423-0.731	7/7	100	0.782	0.153-0.676
Physical	16	0.28-0.837	15/16	93.7	0.888	0.22-0.652
Sexual	3	0.385-0.91	2/3	67	0.351	0.118-0.588

MENQOL: Menopause-specific quality-of-life

Table 3: The result of domain internal consistency of MENQOL questionnaire in Hilditch, Lewis and our studies

Item	Hilditch *et al.*	Lewis *et al.*	Our study
No. of participants	88	70	300
Age of participants (range)	47-62	45-60	39-76
Vasomotor	0.82	0.88	0.895
Physical	0.87	0.89	0.888
Psychosocial	0.81	0.82	0.782
Sexual	0.89	0.86	0.351

MENQOL: Menopause-specific quality-of-life

studied in future research. According to contingency validity and success rate of the sexual domain, this domain needs to be revised in Persian MENQO. We suggest the item "vaginal dryness during intercourse" be deleted in Persian version of the MENQOL. This issue can be generalized to item "weight gain" in the physical domain.

Other domains had acceptable validity same as Hilditch *et al*.,[9] and Lewis *et al*.,[10] studies [Table 3]. Therefore internal consistency of vasomotor, physical and psychosocial domains of Persian version MENQOL is similar to English version. The good internal consistency was constant in the subgroup of age (pre- and post-menopausal), marital status and education level, smoking habit, hypertension and diabetes. This result indicated that this version can be used in a wide range of menopausal women such as; peri-/post-menopausal, different educational, marital status and patients with hypertension and diabetes. Other studies didn't compare interval consistency in the subgroups; therefore, we had no chance to compare our result with others.

Conclusion

The Persian MENQOL questionnaire demonstrates good internal consistency in domain vasomotor, physical and psychosocial, but not sexual. Therefore, we suggest the item "vaginal dryness during intercourse" and "weight gain" be deleted in Persian version of the MENQOL. This questionnaire can be used in Persian language and Iranian culture in several subgroups of age, marital status, educational level and having hypertension and diabetes.

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Appendix I

The persian menopause-specific quality of life questionnaire								
Item	**No symptom**	**Having symptom**						
		Not at-all bothered					**Extremely bothered**	
		0	**1**	**2**	**3**	**4**	**5**	**6**
Hot flushes or flashes	☐	0	1	2	3	4	5	6
Night sweats	☐	0	1	2	3	4	5	6
Sweating	☐	0	1	2	3	4	5	6
Being dissatisfied with my personal life	☐	0	1	2	3	4	5	6
Feeling anxious or nervous	☐	0	1	2	3	4	5	6
Experiencing poor memory	☐	0	1	2	3	4	5	6
Accomplishing less than I used to	☐	0	1	2	3	4	5	6
Feeling depressed down or blue	☐	0	1	2	3	4	5	6
Being impatient with other people	☐	0	1	2	3	4	5	6
Feeling of wanting to be alone	☐	0	1	2	3	4	5	6
Flatulence (wind) or gas pain	☐	0	1	2	3	4	5	6
Aching in muscles and joints	☐	0	1	2	3	4	5	6
Feeling tired or worn out	☐	0	1	2	3	4	5	6
Difficulty sleeping	☐	0	1	2	3	4	5	6
Aches in back of neck or head	☐	0	1	2	3	4	5	6
Decrease in physical strength	☐	0	1	2	3	4	5	6
Decrease in stamina	☐	0	1	2	3	4	5	6
Feeling a lack of energy	☐	0	1	2	3	4	5	6
Drying skin	☐	0	1	2	3	4	5	6
Increased facial hair	☐	0	1	2	3	4	5	6
Changes in appearance, texture or tone of skin	☐	0	1	2	3	4	5	6
Feeling bloated	☐	0	1	2	3	4	5	6
Low backache	☐	0	1	2	3	4	5	6
Frequent urination	☐	0	1	2	3	4	5	6
Involuntary urination when laughing or coughing	☐	0	1	2	3	4	5	6
Decrease your sexual desire	☐	0	1	2	3	4	5	6
Avoiding intimacy	☐	0	1	2	3	4	5	6

Instruction for use

Persian MENQOL questionnaire is developed to be self-administered in high educated women or to be an interview in low educated women. It is appropriate for Persian language women who live in Iran. The window period for reliability assessment can be 1 week to 1 month according to other studies.[9,10] It can be used in menopausal women in a wide range of age (peri-/post-menopausal).

The domains are: Vasomotor; 3 items (1-3), Psychosocial; 7 items (4-10), Physical; 15 (11-25) and sexual; 2 items (26 and 27).

For completing the questionnaire, if the woman has not the symptom, she tick "no "and if she has the symptom she indicates how bothered she is from the symptom in scoring 0-6.

For analyses, convert the item scores to the score ranging from 1 to 8 in the following manner:

The questionnaire score becomes "1" for "no," "2" for "yes," "not bothered" through to "8" for "yes," "extremely bothered."

The mean score can be calculated in each domain.