

# Translation, Reliability, and Validity Test of Odia Version of Menopause-Specific Quality of Life Questionnaire among Postmenopausal Women for Menopausal Symptoms

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## INTRODUCTION

Menopause is a biological process and every woman has to experience it in their adulthood. Although it is natural, before and after of their last menstrual flow, many women go through mild-to-severe menopausal symptoms, which may negatively influenced their quality of life (QOL).<sup>[1]</sup> Various types of menopausal QOL and symptoms questionnaires have been formed to evaluate the different traits of menopausal experience.<sup>[2,3]</sup> The Menopause-specific QOL (MENQOL) questionnaire is a popular and commonly accepted tool in epidemiological studies on menopause.<sup>[4]</sup>

The MENQOL questionnaire was developed in 1996 to assess the health-related QOL in the menopausal

### ABSTRACT

**Introduction:** The Menopause-specific Quality of Life (MENQOL) questionnaire was developed in 1996 to assess the health-related quality of life (QOL) in the menopausal transition and it addresses the degree to which menopausal symptoms had bothered women. The objective of this study was to translate the MENQOL questionnaire in the Odia- regional language of India and validate it for usage in the Odia-speaking menopausal women. **Methods:** The original English questionnaire MENQOL with 1-month recall period was translated by the researchers. According to instructions by Mapi Research Trust, the questionnaire was forward and backward translated, followed by participant testing and proofreading. Validity and reliability were evaluated by the following tests: internal consistency (reliability), stability (test-retest reliability) with Cronbach's alpha correlations, Pearson's correlation coefficients, and content validity index. **Results:** A total of 80 postmenopausal women participated in the study. The ICC score and Cronbach's alpha value of all the four domains such as vasomotor, psychosocial, physical, and sexual of both MENQOL English and Odia (MENQOL-E and MENQOL-O) versions recommended excellent homogeneity. The internal consistency using the Cronbach's alpha showed high reliability (0.993) between the MENQOL-E and MENQOL-O questionnaires. **Conclusion:** The MENQOL-O questionnaire will be used at the individual to community health-care settings to measure QOL and those identified with lower menopause-related QOL, they may get support and care.

**KEYWORDS:** Menopausal women, Menopause-specific Quality of Life, quality of life, regional language, validation

transition and it addresses the degree to which menopausal symptoms had bothered women. This instrument has been developed based on the experiences of women going through their early postmenopausal years.<sup>[5]</sup> Extensive literature search to assess the existing menopausal symptoms by conducting both quantitative and qualitative interviews with postmenopausal

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women are important for the content identification of the MENQOL questionnaire. This validated and self-administered questionnaire is commonly used to segregating between women according to their QOL and evaluates timely variations in QOL.<sup>[5]</sup> A total of 29 questions are there in the MENQOL questionnaire in the Likert-scale design. Every element measures the effect of one of four domains of menopausal symptoms, as experienced in the last month. The domains are Vasomotor (items 1–3), psychosocial (items 4–10), physical (items 11–26), and sexual (items 27–29). This tool has been translated, validated, and used in different countries and subgroups of menopausal women from its initial publication and its extensive use allows comparison of the menopausal experience of women globally.<sup>[3,6-8]</sup>

Researchers use the MENQOL questionnaire to observe the changes in QOL due to menopausal symptoms over time in clinical as well as community settings and before and after any interventional therapy to enhance the QOL of menopausal women.<sup>[3]</sup> In India, there are many regional languages, followed by the citizens and maximum people have difficulties in clear reading, writing, and understanding of the English language. The MENQOL questionnaire is till now not translated in any regional language of India. In Odisha, Odia, is the regional language, and for this language issue, the functionality of MENQOL is limited in this state. The prevalence of menopausal symptoms among Odia women is high such as joint and muscular discomfort (90.4%), hot flushes (72.8%) which may affect their QOL.<sup>[9]</sup> Stress is one of the major concerns among menopausal women and almost all women complain stress during their menopausal phase of life.<sup>[10]</sup> As per our knowledge, few studies have done for the assessment of menopausal QOL by using the MENQOL questionnaire. Hence, the study was conducted with the objective to translate and validate the MENQOL in this regional language (Odia) for the benefit of the Odia-speaking population.

## METHODS

In this study, purposive sampling was used for the selection of study participants from the gynecology outpatient department (OPD) of a tertiary care hospital. Postmenopausal women of 40–60 years of age, and individuals and who can speak, read, and understand both the English and Odia language were included in the study after taking informed consent. Women taking hormonal therapy and women with terminal illness or chronic diseases were excluded from the study.

## Procedure

Approval was taken from the “Mapi Research Trust” by doing signature in the agreement for questionnaire translation in the Odia language (a regional language of India) and also validate this study for the postmenopausal women of Odisha. In the present study, the Linguistic Validation Guidance instructions of the Trust were followed by the researchers.<sup>[11]</sup> The complete translational procedure depended on the following stages, which were described below [Figure 1].

### Step 1: Forward translation

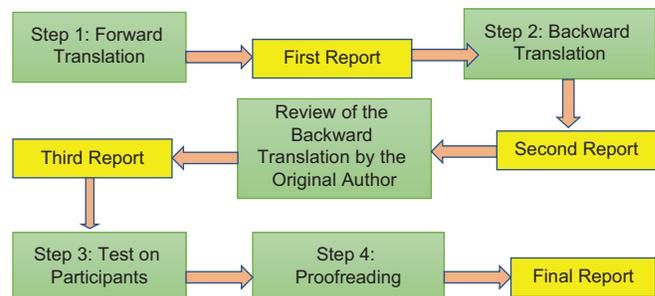
In the process of validation, forward translation of the questionnaire was the foremost step taken by the researcher. Minimum three forward translations were made from the original language (English) to the desired language (Odia) without changing the meaning of the original questionnaire by three independent, bilingual, professional translators well versed in Odia language. They were permitting identification of flaws and different interpretations of items which were not clear in the original questionnaire. Then, all the experts and researchers discussed and agreed on the initial version of the forward translation.

### Step 2: Backward translation

The language experts without having any medical background and also not aware about the concept of the questionnaire, had done the backward translation into English from the desired language (Report 2) translation questionnaire and differences between both translations were evaluated by the experts. After that, Dr. Jacqueline E. Lewis, original author of MENQOL, reviewed the backward translation questionnaire and gave her opinion, which we had taken into consideration and developed a correct version of the instrument.

### Step 3: Test on participants

The researcher had done the pilot testing of the Odia-translated MENQOL questionnaire with 15 postmenopausal women having some menopausal symptoms. The respondents were healthy, not aware about the original questionnaire and well versed with



**Figure 1:** Process of the linguistic validation of the MENQOL. MENQOL: Menopause Specific Quality of Life

the Odia language. They were randomly identified from attending gynecology OPD. The researchers asked to the participants about any difficulty to understand the questionnaire and verify their interpretation of all the items through a face-to-face interview. Majority of them understood that item 9 (Being impatient with other people) and 10 (feelings of wanting to be alone) were almost the same meaning. They were more confused to interpret the physical domain of the questionnaire. The researchers were modified the final translation on the basis of participants' suggestions.

#### Step 4: Proofreading

At last, the researchers finalized the questionnaire and checked the linguistic mistakes by professional Odia language experts. Final decisions were taken by the experts for completing the translational questionnaire and it should be accomplished similarity between the original and target version of the questionnaire in the areas such as semantic, idiomatic, conceptual, and experiential.<sup>[12]</sup> Then for getting the final approval, the modified copy sent to Mapi Research Trust.

#### Validity and reliability

This cross-sectional study was conducted with 80 postmenopausal women, who visited the Gynecology OPD of IMS and SUM Hospital. This study was approved by Institutional Ethics Committee and written informed consent was taken from all the participants. Those who were suffering from any illness, or any serious disease, and unwilling for participation were excluded from the study.

Face validity was done by querying to every participants "are you thinking this question is appropriate to your condition" and the reply should "Yes" or "No" to assess face validity.<sup>[13]</sup>

Content validity of the MENQOL Odia (MENQOL-O) version was reviewed by nine professional expertise from the field of health, research, and literature. They were asked to rate each item of the questionnaire in terms of relevance, clarity, simplicity, and ambiguity on the four-point scale. Content validity index (CVI) was evaluated at both item level CVI (I-CVI) and scale level scale level CVI (S-CVI).

I-CVI was calculated as the number of professionals assigning a rating 3 or 4 to the relevancy of the item, divided by the total number of professionals. S-CVI was calculated by using the average calculation method (S-CVI/Ave). I-CVI of the item should be at least 0.78 (Lynn 1986), and S-CVI/Ave should  $\geq 0.90$ .<sup>[14]</sup>

Internal consistency (Intraclass Correlation [ICC]) and stability (test-retest reliability) were assessed by

calculating Cronbach's alpha correlation to validate a translated questionnaire. The stability was calculated by 80 postmenopausal women, who were asked to fulfilled MENQOL-1 month recall-English original version once, and after 2 weeks, the same participants completed the MENQOL-1 month recall-Odia version.

#### Statistical analysis

Data were analyzed by SPSS for Windows version 20.0 (IBM Corp., Armonk, N.Y., USA). Apart from interclass correlation, test-retest reliability and CVI, Pearson's correlation was applied to evaluate the correlation between MENQOL-E and MENQOL-O. Construct validity was estimated by associating the average values of MENQOL-E and MENQOL-O.

## RESULTS

In the present study, 80 postmenopausal women in the age group of 40–60 years were interviewed to validate the MENQOL-Odia 1-month recall questionnaire.

The mean age of the participants was  $51.63 \pm 2.17$  years ranging from 48 to 56 years and the mean age of attainment of menopause was  $49.14 \pm 2.02$  years, ranging from 46 to 54 years. All the respondents had education up to 12<sup>th</sup> and majority 42.5% among them were graduate. There were 2–8 members in their family and the average of family members was  $4.02 \pm 1.53$  persons. According to Modified BG Prasad Socioeconomic Classification Scale (2020), 66.3% of postmenopausal women belonged to upper socioeconomic status [Table 1].<sup>[15]</sup>

In this study, 72.5% of women attained their menopause naturally and 27.5% were getting surgical menopause [Figure 2].

MENQOL-E was taken on day 1, and after 14 days, MENQOL-O was asked to the participants. The result found that high positive correlation between the MENQOL-E and MENQOL-O questionnaire ( $r = 0.987$ ) [Graph 1].

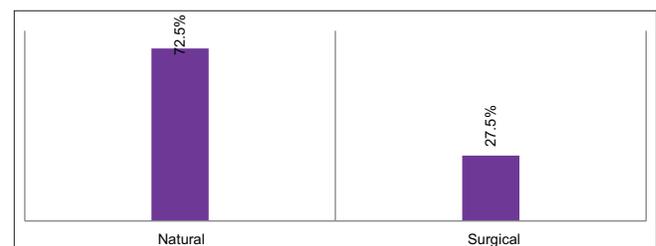
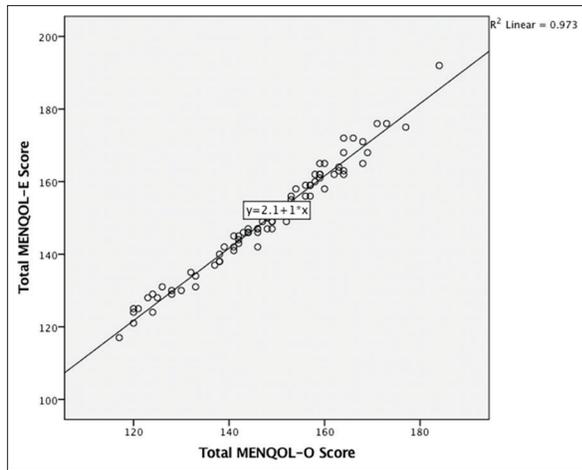


Figure 2: Types of menopause



**Graph 1:** Test-retest reliability between MENQOL-E and MENQOL-O. MENQOL: Menopause-Specific Quality of Life, MENQOL-E: MENQOL-English, MENQOL-O: MENQOL Odia

**Test-retest reliability between Menopause-specific Quality of Life-English and Odia version**

Test-retest reliability of the MENQOL-E and MENQOL-O versions was evaluated by Intraclass Correlation Coefficient (ICC). The values of ICC range from 0 to 1 and the interpretations were like 1 - perfect reliability, 0.99–0.90 - very high correlation, 0.89–0.70 - high correlation, 0.69–0.50 - moderate correlation, and below 0.49 - low correlation.<sup>[16]</sup>

**Internal consistency between Menopause-specific Quality of Life-English and Odia version**

Internal consistency can measure the reliability of the test items, which were designed to evaluate between the same construct. A high degree of internal consistency implies that the assessable items of an identical construct produce related scores. Cronbach’s alpha is one of the popularly used measure and the scores range from 0 to 1 where scores above 0.7 specify acceptable internal consistency.

The Intraclass Correlation Coefficient (ICC) value is 0.90 that suggested high correlation and Cronbach’s alpha value is 0.9 that suggested excellent homogeneity between the MENQOL English and Odia versions questionnaire [Table 2].

The MENQOL questionnaire divided into four domains, those were vasomotor, psychosocial, physical, and sexual domains. The ICC score and Cronbach’s alpha value of all the four domains of both MENQOL-E and MENQOL-O versions recommended excellent homogeneity [Table 3].

To analyze the S-CVI by using the mean computation method (S-CVI/Ave). In our study, only two items were needed revision and rest other items of the MENQOL-Odia scale were appropriate as per the content validity criteria by the subject experts [Table 4].

**Table 1: Sociodemographic characteristics of participants (n=80)**

Variables	Mean±SD/n (%)
Age of the participants	51.63±2.17
Education	
Higher secondary	17 (21.3)
Graduation	34 (42.5)
And above	29 (36.3)
Number of family members	4.02±1.53
Socioeconomic status	
Upper	53 (66.3)
Upper-middle	27 (33.8)
Menopause age	49.14±2.02

SD: Standard deviation

**Table 2: Intraclass correlation coefficient of test-retest reliability of the Menopause-specific Quality of Life English and Odia versions score**

Items	ICC	Cronbach’s α
MENQOL 1	0.996	0.983
MENQOL 2	0.968	0.984
MENQOL 3	0.938	0.968
MENQOL 4	0.995	0.990
MENQOL 5	0.875	0.934
MENQOL 6	0.922	0.960
MENQOL 7	0.853	0.921
MENQOL 8	0.943	0.971
MENQOL 9	0.983	0.991
MENQOL 10	0.993	0.996
MENQOL 11	0.965	0.982
MENQOL 12	0.983	0.991
MENQOL 13	0.980	0.990
MENQOL 14	0.992	0.996
MENQOL 15	0.982	0.991
MENQOL 16	0.823	0.903
MENQOL 17	0.900	0.947
MENQOL 18	0.977	0.988
MENQOL 19	0.996	0.998
MENQOL 20	0.991	0.995
MENQOL 21	0.936	0.967
MENQOL 22	0.992	0.996
MENQOL 23	0.996	0.998
MENQOL 24	0.969	0.984
MENQOL 25	0.985	0.993
MENQOL 26	0.986	0.993
MENQOL 27	0.978	0.989
MENQOL 28	0.954	0.977
MENQOL 29	0.983	0.991

MENQOL: Menopause-specific Quality of Life, ICC: Interclass correlation

**DISCUSSION**

The purpose of this cross-sectional study was to validate the translational MENQOL-O 1 month recall questionnaire for the benefit of the postmenopausal

**Table 3: Domain-wise analysis of menopause-specific quality of life English and Odia versions**

Domains	ICC	Cronbach's $\alpha$
Vasomotor (Q1-Q3)	0.986	0.993
Psychosocial (Q4-Q10)	0.982	0.991
Physical (Q11-Q26)	0.986	0.993
Sexual (Q27-Q29)	0.987	0.994
Total score	0.987	0.993

ICC: Interclass correlation

**Table 4: Calculation of item level content validity index and scale level content validity index**

Items	Relevant	Not relevant	I-CVIs	Interpretation
Q1	9	0	1	Applicable
Q2	9	0	1	Applicable
Q3	9	0	1	Applicable
Q4	9	0	1	Applicable
Q5	9	0	1	Applicable
Q6	9	0	1	Applicable
Q7	8	1	0.75	Need revision
Q8	9	0	1	Appropriate
Q9	9	0	1	Appropriate
Q10	8	1	0.75	Need revision
Q11	9	0	1	Applicable
Q12	9	0	1	Applicable
Q13	9	0	1	Applicable
Q14	9	0	1	Applicable
Q15	9	0	1	Applicable
Q16	9	0	1	Applicable
Q17	9	0	1	Applicable
Q18	9	0	1	Applicable
Q19	9	0	1	Applicable
Q20	9	0	1	Applicable
Q21	9	0	1	Applicable
Q22	9	0	1	Applicable
Q23	9	0	1	Applicable
Q24	9	0	1	Applicable
Q25	9	0	1	Applicable
Q26	9	0	1	Applicable
Q27	9	0	1	Applicable
Q28	9	0	1	Applicable
Q29	9	0	1	Applicable

I-CVIs: Item content validity indexes

women of Odisha. The result of the study found that the translated MENQOL-O questionnaire is a valid and reliable tool for assessing the QOL of Odia menopausal women. In all domains, the internal consistency was high and both the English and Odia instruments were related to each item in terms of reliability and validity. The findings of the MENQOL-O translated questionnaire were almost equal to some other translational studies.<sup>[17,18]</sup>

The MENQOL questionnaire translated in various languages and for academic purpose the form was

freely used. The questionnaire had validated in Chinese, Iranian, Serbian, and French-Canadian populations and had shown acceptability, validity, and reliability.<sup>[19]</sup> As per our knowledge, the MENQOL questionnaire was never before translated in a regional language of India. Internal consistency, face and CVI, test-retest reliability of the MENQOL-O questionnaire were high and also equivalent to MENQOL-E. The test-retest reliability calculated by ICC ranging from 0.80 to 0.90 above, which implies a high correlation between the responses to the MENQOL questionnaire to the same participants in English and Odia. A study was conducted by Malik *et al.* to translate and validate the Menopause Rating Scale (MRS) in the Hindi language found a strong correlation between the MRS-E and MRS-H tools with a high value, which is similar to our study.<sup>[20]</sup> The Odia translated version was validated in the present study with similar values for the menopausal symptoms as compared to the MENQOL-E version. The value of I-CVI for 29 items ranged from 0.80 to 1.00 and S-CVI/Ave of 0.96 found outstanding content validity similar to another study,<sup>[21]</sup> in which consistency was checked with a short time interval.

MENQOL questionnaire measures the QOL and two versions of questionnaire retesting may be considered as a limitation of the study because the reliability of the MENQOL questionnaire over time was complex as the two forms used in two separate occasions. Although the reliability testing was consistent and acceptable of both the forms, which may not biased our results significantly.

## CONCLUSION

The MENQOL is a medical instrument but it does not measure the menopausal symptoms only, rather it notes the manifestation of the symptoms and evaluate their effect by questioning how bothersome those symptoms are to their quality of life. MENQOL-O is an accurate and consistent questionnaire for assessing the QOL of Odia menopausal women. MENQOL is a self-administered questionnaire, so it will be more helpful to the Odia-speaking patients as well as the health-care personnel. The recommendations of using MENQOL-O questionnaire to measure quality of life at the individual to community level by the health care personnel and to provide support and care to women with lower menopause related quality of life.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

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