

Validity and Reliability of Marathi Translated Modified Polycystic Ovary Syndrome Questionnaire (MARmPCOSQ)

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ABSTRACT

PCOS is Considered composite disease with wide range of manifestations which affect Quality of life of females, there are various questionnaires to Assess quality of life but mPCOSQ is more valid and reliable tool, but some females in our region don't understand English language for assessment of their quality of life there was need of translation and validation of mPCOSQ in Marathi. A Cross sectional study conducted on 78 women speaking Marathi language. Participants included in study with mean Age 22.9 ± 4.6 and BMI 24.7 ± 2.7 respectively most of them diagnosed with PCOS for ≥ 1 year. All experts rated translated items of the mPCOSQ as clinically relevant with comments on few items that were modified the Content validity index (CVI) for MARmPCOSQ was 0.9. The internal consistency for reliability, the alpha coefficient was 0.92 indicating good reliability. The interclass correlation Coefficient for each item were also acceptable, ranging from 0.921 to 0.978 with p value < 0.001 . which shows that the scale has good Reliability.

Keywords – PCOS, Marathi Translated PCOS, PCOSQ, Polycystic ovary syndrome Questionnaire.

INTRODUCTION

Polycystic ovary syndrome (PCOS) is considered to be a composite disease with a range of manifestations. PCOS is characterized by oligo-ovulation or anovulation, resulting in irregular menstrual cycles. In addition to the Hormonal and reproductive effects, PCOS also impact cardio metabolic and psychological health¹

Most common symptoms are painful and uncomfortable menstruations. usually unpredictable and are associated with characteristics which are culturally defined as unfeminine and undesirable (for instance, hirsutism, obesity, acne and infertility) the disorder is associated with biochemical disturbances which in lead to emotional instability.²

Prevalence of PCOS in India is in range 3.7 to 22.5 %². The exact aetiology and pathogenesis of PCOS are still not clear.³

Specific questionnaire is needed, to access and gather information about medical conditions, medications, education, BMI and menstrual symptoms. The polycystic ovary syndrome health-related QoL questionnaire (PCOSQ)⁴ is the specific measure for assessing health-related QoL in women with PCOS. It encompasses 26 items a seven-point Likert scale.⁴ and have five factors: Emotional disturbances, Hirsutism, Weight difficulties, Infertility and Menstrual difficulties, whereas the menstrual factor could be divided into menstrual symptoms and menstrual predictability. The scale has good

reliability⁶. but it lacks of an acne subscale which lead to decrease validity⁵ It has been found to be sensitive to changes in PCOS symptomatology over time in a treatment trial⁶.

Barnard et al 2007 modified the polycystic ovary syndrome health-related quality of life questionnaire (PCOSQ)⁷, which is a seven-point Likert scale with low score means worse QOL. the modified PCOSQ offers an acceptable patient self-rated outcome measure of HRQOL which has good content and construct validity, reliability and internal consistency and it should be recommended for inclusion in future research trials on PCOS.⁸

The participant should understand the questionnaire for proper assessment and interpretation, some women face difficulty in understanding the English version of the questionnaire so there is need for translating this questionnaire in Marathi which is the regional language of Maharashtra state and spoken predominantly by around 83 million people of Maharashtra.

Aim of our study is to translate and to evaluate the validity and reliability of Marathi translated version of modified PCOSQ in rural population.

METHODOLOGY

Study Design

A cross-sectional was Conducted administering the Questionnaire to 78 women with PCOS.

Ethical approval obtained from the institutional ethical committee and the translation procedure initiated after obtaining permission from Developer of the mPCOSQ via E-mail.

Process of translation

Back-translation approach used for translation, questionnaire was translated in Marathi by one translator and then translated back into the English by another translator who is blinded to the original English questionnaire. Sent to subject expert who has condition specific knowledge and fluency in both English and

Marathi languages. One more step was added to translation in which we compare the original English language version with back-translated version, both versions were compared each item in the both versions is ranked in terms of comparability of language and similarity of interpretability. This process helped us to identify problematic items. Using this Problems identified and revision done for problem items and after obtaining consensus questionnaire implemented to participants in the study⁹.

Participants

Study participants were recruited from community physiotherapy OPD, written informed consent was taken from all participants in study, who fulfil following inclusion criteria 1) female in age group 18-45. 2) Diagnosed with PCOS 3) competent in Marathi language. We excluded who are 1) females undergoing any Hormonal therapy 2) Diagnosed with any other condition which can influence mood and emotional responses.

Measurements

The polycystic ovary syndrome health-related QoL questionnaire (PCOSQ)⁴ is the specific measure for assessing health-related QoL in PCOS. It encompasses 26 items the responses rated on a seven-point Likert scale.⁴ and have five factors: Emotional disturbances, Hirsutism, weight difficulties, Infertility and Menstrual difficulties, whereas the menstrual factor could be divided into menstrual symptoms and menstrual predictability. The scale has good reliability⁶. the PCOS Questionnaire was modified to include acne subscale were presented in same format of other items of scale mPCOSQ, has 30 items and Seven Factors the responses are scored on a seven point Likert scale with low score reflecting worse QOL⁷.

Anthropometric measurement weight height and BMI was calculated.

Procedure

Prior informed consent was taken from the Participants and eligibility Screening done for Inclusion and Exclusion criteria.

Initially Content validity index was drawn by taking the Expert opinion from women's health physiotherapist and Gynaecologist, and also face validity by 30 participants' prior administering the Questionnaire to the participants, Then the questionnaire was Administered to participants 2 times for checking test-retest validity.

Statistical analysis

IBM SPSS Statistics used for statistical analysis, to test the validity of the Marathi translated version of mPCOSQ, face and content validity was used. Reliability analysis of reliability of test-retest as well as internal consistency were conducted out.

Content Validity The content validity index (CVI) of the items was Calculated based on the feedback on our scale by subject experts the relevance of the item was assessed using a four-point Linkert scale: (1) Not relevant, (2) Somewhat relevant, (3) relevant, (4) very relevant. The recommended acceptable lower limit for CVI is 0.80¹⁰.

Face Validity to test validity, to ensure the linguistic and conceptual Correspondence of the translation, & the accuracy, appropriateness, and interpretation of the translated questionnaire, MARmPCOSQ. Was given to 30 participants.

Internal consistency Internal consistency relates to a tool uniformity. Cronbach's alpha coefficient value from 0 to 1 High value means that used tool is more reliable with low predictable errors cronbach's alpha coefficient value of ≥ 0.7 is acceptable value for the tool.

Test- retest reliability Interclass correlation coefficient (ICC) (Value from 0 to 1) evaluate the test-retest reliability that determine the consistency of used tool when

the same tool is applied to same participants at two different times.

RESULT

A Total of 78 Participants included in study with mean Age 22.9 ± 4.6 and BMI 24.7 ± 2.7 respectively most of them diagnosed with PCOS for ≥ 1 year.

Content Validity Ten subject experts women's health Physiotherapists evaluated the MARmPCOSQ the Content validity index (CVI) for MARmPCOSQ which was (0.9) indicated satisfactory validity of the content. All experts rated translated items of the mPCOSQ as relevant clinically relevant & with few comments on modifications of few items that were modified and Final questionnaire drafted.

Face Validity MARmPCOSQ was administered to 30 Participants for Face Validity, it was ensured that the Items in Questionnaire were relevant clinically & culturally easily understandable linguistically and no need of change in words in Questionnaire.

Reliability The internal consistency for reliability measured by Cronbach's alpha coefficient for all the responses. The alpha coefficient was 0.92 indicating good reliability. The interclass co-relation Coefficient for each item were acceptable i.e 0.921 to 0.978 with p value < 0.001 .

Table.1 Interclass Co-Relation Coefficient (ICC) of MARmPCOSQ Subscales. (n=78).

Subscale	ICC	Mean SD 1 st contact	Mean SD re-test
Emotional Disturbances	0.921	33 \pm 2.05	34 \pm 1.05
Weight	0.978	12 \pm 1.5	13 \pm 1.5
Hirsutism	0.923	23 \pm 1.65	24 \pm 1.5
Acne	0.945	12 \pm 1	11 \pm 1
Infertility	0.967	11 \pm 2	10 \pm 2
Menstrual symptoms	0.943	33 \pm 3.2	26 \pm 2.2
Menstrual predictability	0.977	24 \pm 3.4	27 \pm 2.4

DISCUSSION

According to findings in our study MARmPCOSQ in Marathi speaking women the Marathi version of the Questionnaire was culturally Acceptable and understandable by Marathi speaking

women. As expressed by participants the MARmPCOSQ is applicable to all PCOS related concerns. In previous studies Acne domain was introduced as an essential domain for PCOSQ as important factor to be considered for Assessing Quality of life of women with PCOS^{11,12}.

All experts rated translated items of the mPCOSQ as clinically relevant with comments on few items that were modified the Content validity index (CVI) for MARmPCOSQ was 0.9.

The internal consistency for reliability, the alpha coefficient was 0.92 indicating good reliability. The interclass co-relation Coefficient for each item were also acceptable, ranging from 0.921 to 0.978 with p value < 0.001. which shows that the scale has good Reliability.

For accuracy of the Translation One more step was added to translation in which we compare the original English language version with back-translated version both versions were compared each item in the both versions are ranked in terms of comparability of language and similarity of interpretability. This process enables us to identify problematic items. Using this Problems identified and revision done for problem items and after obtaining consensus questionnaire implemented to participants in the study⁹

Although our study was conducted with Adequate sample size to test Reliability of the Questionnaire some limitations to be mentioned, our study conducted in semi-urban setting. Future research can be conducted at Rural community level females.

CONCLUSION

From Our study results we can conclude that the Marathi translated Questionnaire for PCOS MARmPCOSQ is a valid and reliable tool to Assess Quality of life in Marathi-speaking female subjects.

Future scope

More extensive research can be done in future using the translated questionnaire

MARmPCOSQas Language barrier is removed for the rural Marathi-speaking female subjects.

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