

# Sexual and Reproductive Health Instrument for Temporary Marriage Wives: Development and Psychometric Properties

## Abstract

**Background:** This study was conducted with the aim to identify their reproductive health needs, and design the sexual and reproductive health needs questionnaire for Temporary Marriage (TM) wives and assess its psychometric properties. **Materials and Methods:** This study evaluated the psychometric properties of the Sexual and Reproductive Health Needs Questionnaire for Iranian TM wives in Persian. The initial items of the questionnaire were extracted based on a qualitative study. Then the face, content, and construct validity, and reliability of the questionnaire were assessed in a cross-sectional study. To evaluate the content construct validity, and reliability of the questionnaire, Content Validity Ratio (CVR) and Content Validity Index (CVI), Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), Cronbach's alpha coefficients, and intraclass correlation coefficient were used, respectively. **Results:** The initial instrument contained 44 items and was prepared based on the results. CVI and CVR for all items were, respectively, higher than 0.79 and 64%, except one item that was eliminated. In face and content validity assessment was provided the instrument with 43 items. To evaluate construct validity, EFA was performed and eight hidden factors were extracted, which explained 64.895% of the total variance of the variables. Furthermore, to examine model fitness in CFA, goodness-of-fit indices were used in SmartPLS software. The results showed a good model fit. The convergent and divergent validity, and the reliability of the scale ranged from strong to excellent (above 0.7). **Conclusion:** The results showed that the Sexual and Reproductive Health Instrument with 43 items for Iranian temporary marriage wives was a valid and reliable measure.

**Keywords:** Iran, psychometrics, reproductive health, temporary marriage

## Introduction

Temporary Marriage (TM) is the legal and legitimate form of marriage in *Shia* Islam to let a man and a woman become married in a fixed period. The religious and cultural standards regarding temporary marriage are conflicting and due to the negative attitude of the society (stigma), individuals are forced to hide TM, which causes them to endure problems such as reduced Quality Of Life (QOL) and social interactions and loss of opportunities (job and educational opportunities and permanent marriage), and many reproductive health problems, including increased risk of STI/HIV, miscarriage, and domestic violence.<sup>[1,2]</sup> This group of vulnerable women receives less support and attention even with a health-oriented approach and is neglected at the society level. Despite their many reproductive health problems, TM-wives have been neglected in both research,

and planning and policies. In this way, TM-wives have complicated the outlook of women's reproductive health in Iran.<sup>[1,3]</sup>

Most studies on TM-wives have been in the legal and legitimate dimensions, not based on reproductive health. Therefore, considering that specific questionnaires related to reproductive health needs of temporary marriage women were not found not only in Iran, but also in other countries. Since the reproductive-sexual health needs of TM wives are different from women in permanent- wives and are influenced by the complex factors of the values, cultural and religious system of Iranian society, it is felt necessary to design a suitable tool to assess the needs of TM-wives, to identify their health needs. The reproductive health problems of these women required the design of a tool for needs assessment. In fact, gathering and analyzing information that leads to the identification of the needs

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**How to cite this article:** Valizadeh F, Abbassinia H, Motaghi Z, Chaman R. Sexual and reproductive health instrument for temporary marriage wives: Development and psychometric properties. *Iran J Nurs Midwifery Res* 2026;31:17-20.

**Submitted:** 28-May-2022. **Revised:** 13-Jul-2025. **Accepted:** 05-Sep-2025. **Published:** 02-Jan-2026.

## Access this article online

**Website:** <https://journals.iww.com/ijnmr>

**DOI:** 10.4103/ijnmr.ijnmr\_165\_22

## Quick Response Code:



of them to set priorities and decide on how to plan to maintain and improve their reproductive health seemed necessary. The first step of needs assessment for this group of vulnerable women is the collection of information that is accepted by the relevant tool questionnaire.

The current research will be conducted to design and determine the psychometric characteristics of the appropriate tool to identify the needs and challenges of reproductive and sexual health of women with temporary marriages in Iran, For Provide a suitable health service

## Materials and Methods

This study was as conducted using the exploratory sequential mixed method from December 2019 to January 2022 and the basis for preparing the items was the results of the qualitative part of the study. The first, in qualitative study of exploratory sequential mixed method study, conventional content analysis was used from December 2019 to October 2020. Using purposive sampling and snowball sampling methods, 40 participants were selected with maximum diversity and interviewed in the privileged areas of northern province and Shahroud, Southern of Tehran, Iran. Finally, data analysis produced codes, categories, and themes according to steps proposed by Zhung and Wildemuth.<sup>[4]</sup> A systemic review research was done to complete the items using a deductive approach. For the evaluation of quantitative articles, qualitative articles and the related questionnaires, the Newcastle-Ottawa Scale (NOS), Critical Appraisal Skills Program (CASP) checklist, and Terwee criteria were used, respectively.<sup>[5-7]</sup> According to Waltz's theory, the basic items of the tool were extracted using the results.<sup>[6]</sup> The primary tool (44-item) was then designed with the research team's approval. The items of the tool were scored on a five-point Likert scale ranging from strongly agree to strongly disagree psychometric properties of this tool were used to assess face, content, construct, convergent, and divergent validity, and reliability. To determine the qualitative and quantitative face validity of this tool, 10 TM-wives were asked to fill the questionnaire. The item impact score (IIS) was calculated for each item, and scores greater than 1.5 were considered acceptable (Item impact score = frequency (%) × (percent) importance) content validity ↑ assessment, 16 items were modified by experts in reproductive and sexual health ( $n = 10$ ), and item allocation and scaling were conducted according to their responses. The quantitative content validity included Content Validity Ratio (CVR) and Content Validity Index (CVI). The CVI for each item was higher than 0.79. The S-CVI/Ave and SCVI/UA were 0.98 and 0.94, respectively. The CVR was then used to assess the necessity of the items; acceptable CVR score was that determined by Lawshe (1975). At this point, one item was removed (CVR <0.62), bringing the total number of items from 44 to 43. For the elimination of chance effect, modified Kappa was calculated for each item (good = 0.60–0.74).<sup>[7,8]</sup>

To determine the construct validity of the tool, (EFA) and (CFA) were performed. EFA includes Bartlett's specificity test and Kaiser-Meyer-Olkin (KMO) test for assessing the proportionality of the factor analysis model and adequacy of sampling, respectively) EFA was applied with varimax rotation and factor loading  $\geq 0.4$  was considered acceptable. EFA was conducted using SPSS software (version 26; IBM Corp., Armonk, NY, USA). To examine model fitness in CFA, the goodness-of-fit indices of Standardized Root Mean Square Residual (SRMR), Normed Fit Index (NFI), and Goodness of Fit (GOF) were used in SmartPLS<sup>®</sup> software (SmartPLS GmbH, Oststeinbek, Germany). The present study was conducted with a cross-sectional and questionnaire-based design.<sup>[8]</sup> Convergent and divergent validity assessment, Average Variance Extracted (AVE) and Composite Reliability (CR) were estimated to assess the convergent validity and Divergent Validity (Fornell and Larcker, 1981) of the extracted factors.

For the assessment of reliability, Cronbach's alpha was used to assess internal consistency and values greater than 0.7 were considered acceptable. The stability of this questionnaire was evaluated using Intraclass Correlation Coefficient (ICC).<sup>[6-9]</sup>

## Ethical considerations

The present study was a part of a PhD thesis that was approved by the ethical committee of Shahroud University of Medical Sciences, Iran, (Ethical code: IR.SHMU.REC.1398.139 dated 2019.2.1). Informed written consent for participation in the research along with permission to record the interviews was obtained.

## Results

To perform EFA of construct validity, this questionnaire was distributed among 215 TM-wives (5 times the number of items), and the reproductive health needs of 200 of them were assessed (15 missing data). Demographic findings included the mean (SD) age of participants was 32.5 (4.5) years, The mean (SD) education 13.2 (2.5) years, and employment percentage of the TM-wives (49%), but more than 80% of them had financial problems. Kaiser-Meyer-Olkin (KMO) test and Bartlett confirmed the adequacy of sample size's test of sphericity (KMO = 0.91 and  $\chi^2 = 4871.940$ ;  $p < 0.001$ ). The results showed that the correlation between items was large enough to enable EFA. EFA with varimax rotation recognized eight factors loading  $\geq 0.4$  that explained 65.41% of the total variance. To perform CFA, after modification of the model, model fit indices of SRMR, NFI, and GOF were calculated and these values confirmed the good fit of the final model [Table 1, Figure 1].

In Convergent and divergent validity assessment composite Reliability (CR) and AVE (average extraction variance) are all in the normal range [Table 2]. Based on the opinion of Fornell and Larcker, divergent validity of the extracted factors was acceptable.

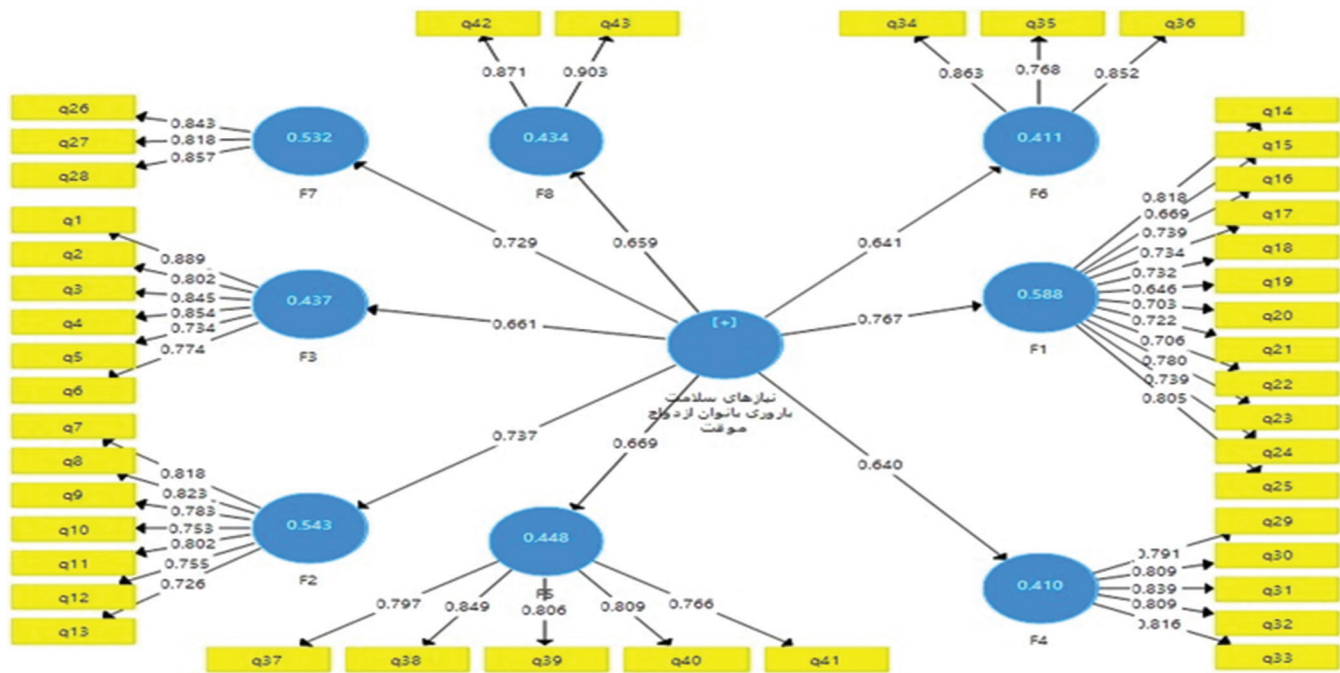


Figure 1: Model of order confirmatory factor analysis and defined loading factors of model (N = 200)

Table 1: Fit indices of the CFA of the questionnaire

Fit index	Observed	Agreement	Results
GOF*	0.57	<0.25	Good fit
NFI**	0.78	<0.25	Good fit
SRMR***	0.08	>0.08	Good fit

\*Goodness of fit, \*\*Normed fit index, \*\*\*Standardized root mean square residual

Table 2: The indices reliability of this questionnaire (n=200)

Factors	AVE**	CR*	Cronbach's alpha	ICC***
Needing spouse's participation	0.54	0.93	0.84	0.90
Sexual health self-care	0.61	0.92	0.81	0.89
Reproductive health self-care	0.67	0.93	0.87	0.85
Health services promotion	0.66	0.91	0.78	0.86
Mental health services improvement	0.65	0.90	0.79	0.90
Premarital counseling improvement	0.71	0.88	-0.83	0.91
Spouse's financial support	0.68	0.87	0.77	0.93
Legal support improvement	0.79	0.88	-0.77	0.82

\*Composite reliability, \*\*Average variance extracted, \*\*\*Intraclass correlation coefficient

Reliability was assessed using Cronbach's alpha coefficient among 200 subjects; it was 0.875 for the whole instrument and above 0.7 for each dimension level, which was acceptable. The time stability of the questionnaire and its subscales were measured using ICC and exceeded the acceptable threshold (range: from 0.700 to 0.900) ( $p < 0.001$ ) [Table 2].

## Discussion

Women's sexual and reproductive health needs and literacy are new topics of interest, and many studies have identified health needs as important in women's reproductive health.<sup>[9]</sup> This is the first study to develop a tool that measures the sexual and reproductive health needs of TM-wives and evaluate its psychometric properties. The original instrument was designed based on data obtained from a qualitative study on TM-wives, comprehensive literature review, and professional opinions on sexual and reproductive health needs. The topics that distinguish the recent study and questionnaire from other questionnaires in the field of sexual reproductive health include: Need to men's participation in parenting and responsibility for shared children in temporary marriages and action to legally register father-child relationship, need to male participation and financial support in reproductive care, and so on, the need to legalize and define limits and boundaries of temporary marriages. Also need to health-providers were educated, to gain the trust of TM-wives to receive educational-counseling services.

The results showed that this questionnaire is a valid instrument for measuring the sexual and reproductive health needs of TM-wives. Moreover, the multidimensional structure of the designed questionnaire is one of its strengths. The questionnaire consists of 43 questions, is created in eight dimensions that explained 65.41% of the total variance, and has acceptable reliability. It can be used as a tool to measure sexual and reproductive health needs in TM-wives.

Khani *et al.*<sup>[10]</sup> and Merghati-Khoei *et al.*<sup>[11]</sup> have translated questionnaires to assess sexual and reproductive health needs,

but these questionnaires were only for permanently married women. Other researchers have also designed several tools to assess reproductive health needs in some aspects of specific groups, for example, Ghiasi's study on adolescents married women or adolescents, Shahhosine and Alipour's study on girls, and Mousavi's study on the Iranian Youth Reproductive Health Questionnaire.<sup>[12-15]</sup> However, based on the literature reviews, tools for assessing the overall sexual health needs of TM-wives have not previously been available and this questionnaire is suitable for TM-wives. The limitations of this study were difficulty identifying TM-wives due to stigma and their unwillingness to participate in the study.

## Conclusion

The results showed that the Sexual and Reproductive Health Instrument for TM-Wives was a valid and reliable measure. Furthermore, a variety of factors influence this group of women's reproductive health needs, and by understanding them and implementing appropriate interventions, their reproductive health can be improved.

## Acknowledgments

The authors would like to thank Shahroud Medical Sciences University for Financial support PHD-thesis research project (Grant No: 98119) and gratitude to all participants in study.

## Financial support and sponsorship

Shahroud University of Medical Sciences

## Conflicts of interest

Nothing to declare.

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