Design and Psychometric Evaluation of the Fathers' Fear of Childbirth Scale: An Explanatory Sequential Mixed Method Study

Seyyedeh Fatemeh Ghaffari  
Mazandaran University of Medical Sciences  https://orcid.org/0000-0001-8508-3260

Zohreh Shahhosseini (✉ zshahhosseini@yahoo.com)  
Sexual and Reproductive Health Research Center, Mazandaran University of Medical Sciences  https://orcid.org/0000-0003-1288-2277

Hamid Sharif Nia  
Mazandaran University of Medical Sciences

Forouzan Elyasi  
Mazandaran University of Medical Sciences

Zohre Mohammadpoorsaravimozafar  
Mazandaran University of Medical Sciences Faculty of Nursing and Midwifery

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Abstract

Background: Fear of childbirth was reported in 13% of fathers that may have consequences for the health of fathers and their families. Given the lack of a valid and reliable questionnaire for measure fathers’ fear of childbirth, this study was designed with the aim of design and develop Fathers’ Fear of Childbirth Scale and evaluate its psychometric properties.

Methods: This methodological study with explanatory sequential mixed method approach was conducted in two phases. In the qualitative phase (or item generation), semi-structured interviews were conducted with twenty fathers, and a literature review was done to generate Fathers’ Fear of Childbirth Scale items pool. In the quantitative phase (or psychometric evaluation), face, content, construct as well as reliability of the Fathers’ Fear of Childbirth Scale were evaluated. For construct validity, exploratory and confirmatory factor analyses were performed with assistance of 433 expectant fathers. Reliability was also evaluated through internal consistency and composite reliability.

Results: The primary Fathers’ Fear of Childbirth Scale contained 32 items which reduced to 17 items after face and content validity. Exploratory factor analysis extracted two factors: Fear of childbirth process (12 items), fear of (five items). These factors explained %50.82 of total variance. Goodness of fit indices within a confirmatory factor analysis was acceptable. Internal consistency and composite reliability indices of all factors were greater than 0.70.

Conclusion: The Fathers’ Fear of Childbirth Scale has a suitable validity and reliability instrument for assessing fear of childbirth in fathers.

1. Background

Pregnancy, childbirth and parenting are process that has different emotional consequences for fathers, including fear of childbirth (1–3). Although it is a common feeling in pregnancy, an intensifying level can be physically and emotionally debilitating (4). Bio-psycho-social factors may lead to fear of childbirth in fathers including: the interventions during labor and their side effects (5), damage to pregnant mother and her child (5, 6), painful labor and delivery (6, 7), inability to support mother (7), lack of respectful behaviors by hospital staff (5, 8), and financial constraints (6).

According to the existing literature, fear of childbirth was reported in 13% of fathers that may have consequences for the health of fathers and their families (8, 9). It is reported that fathers’ fear of childbirth can lead to an increase in: cesarean delivery (10), mental and physical problems in the expectant fathers (6, 11), poor support from the pregnant mother (5), impairment of father-pregnant mother/child relationship (12), and the unpleasant experience of childbirth (8). Therefore, at-risk fathers must be identified and promptly supported by the needed services. Screening the expectant fathers who suffer from fear of childbirth requires a validated instrument.

To the best of our knowledge, a few studies investigated fear of childbirth in fathers and a very few validated instruments have been introduced to detect it (8, 9). A questionnaire with 52 items was designed by Ringler (13) and the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) were two instruments administrated to identify fathers with fear of childbirth (12). Although the original version of the latest instrument with 33 items was designed to measure the fear of childbirth in women (14), but, Bergstrom et al. used this questionnaire for the
expectant fathers by reduction some items (15). Some studies used the Fear of Birth Scale (FOBS) to measure fear of childbirth in fathers (9, 16, 17). This scale also was initially introduced in women to measure the fear of childbirth and there is no exact data yet to prove that this score in men also indicates fear (9).

Now it is stated that a questionnaire should be directly extracted from statements of the target groups in order to assure the suitability and validity. The content of any tool should be culturally appropriate for the target group with which the tool will be used. Given the role of fathers in family health, and since the contributing factors to fear of childbirth in fathers are related to social, cultural and economic contexts and by considering the lack of a valid and reliable questionnaire for fathers' fear of childbirth, this study was designed with the aim of development and psychometric evaluation of Fathers' Fear of Childbirth Scale (FFCS).

2. Methods

This methodological study with an approach of explanatory sequential mixed method was conducted in qualitative and quantitative phases.

2.1. Qualitative phase

In the qualitative phase, necessary data to generate items for the FFCS were collected by interviewing with fathers and a comprehensive existing literature review. Accordingly, in-depth semi-structured interviews were conducted with fathers, who attended with their spouses in birth preparation classes and the prenatal clinics of two health care centers in North of Iran during a purposeful sampling. During face to face interviews, fathers were asked to express their experience about related factors with fear of childbirth. The length of the interviews was 60–90 minutes and the data was saturated after 20 interviews. After transcription of interviews they were analyzed through the conventional four-step content analysis approach proposed by Graneheim and Lundman. Accordingly, each interview was divided into meaningful units, which were condensed and coded. Then the resulting codes were grouped into categories and subcategories (18). Data was managed using the MAXQDA 10 software, and trustworthiness was ensured via Guba and Lincoln's criteria: credibility, dependability, confirmability, and transferability (19).

To review the literature, relevant databases such as: Scopus, Science Direct, Psych Info, Pubmed, Cochrane, were searched using keywords and suitable syntaxes: ["Fear" OR "Tocophobia"] AND ["Childbirth" OR "Delivery" OR "Parturition" OR "Birth"] AND ["Pregnancy" OR "Gestation"] AND ["Father" OR "Men" OR "Couple" OR "Paternal"] AND ["Related Factors" OR "Influence Factors" OR "Contributed Factors"] AND ["Psychometry" OR "Psychometric"] AND ["Scale" OR "Questionnaire" OR "Tool" OR "instrument"]. The inclusion criteria included peer-reviewed articles published in the last 20 years. Finally, an item pool based on a five-point Likert scale from 1 (Not important at all) to 5 (Completely important) was generated.

2.2. Quantitative phase

In the quantitative phase, the face, content, construct, and reliability (Cronbach's alpha, McDonald's omega, and Average Inter-Item Correlation /AIC) of the FFCS were evaluated.

2.2.1. Face validity
Qualitative and quantitative methods were used for a face-validity evaluation. In the qualitative face validity, ten fathers commented on the difficulty, appropriateness, clarity, and essentiality of the items. The items were then amended based on their comments.

In the quantitative face validity, 20 fathers were asked to rate the importance of each item on a five-point scale from 1 ("Not important") to 5 ("Very important"). The impact score of each item was calculated by multiplying its importance score by the number of fathers, who had rated it 4 or 5. Items with impact scores of less than 1.5 were reviewed and edited (20).

### 2.2.2. Content validity

Content validity was evaluated using both qualitative and quantitative methods. For a qualitative content validity, eleven specialists (two gynecologists, six reproductive health and midwifery specialists, three psychiatrists) who were experienced in instrument development were asked to comment on the grammar, wording, item allocation, and scoring of the FFCS items. The scale was amended based on their comments.

Next, content validity ratio (CVR) and content validity index (CVI) of the primary version of the scale were evaluated. Accordingly, (expert group in qualitative content validity review) were invited to rate the essentiality of each FFCS item as being "Essential" (score of 1), "Useful but not essential" (score of 2), or "Not essential" (score of 3). Items with CVR values less than 0.59 were removed (21). For the CVI calculation, the same experts were asked to rate item relevancy. Item CVI (I-CVI) with values more than 0.79 were considered appropriate, between 0.79 and 0.70 revised, and scores below 0.70 were considered unacceptable (20). In addition, an average scale-level CVI (S-CVI/Ave) was evaluated by averaging the I-CVI scores. An S-CVI/Ave of greater than 0.80 was considered acceptable.

### 2.2.3. Item analyze

Prior to the construct validity, thirty fathers were asked to complete the FFCS. Their responses were used for an internal consistency evaluation. Items with an inter-item correlation coefficient of less than 0.30 were removed.

### 2.2.4. Construct validity

Comrey and Lee (1992) offered a rough rating scale for adequate sample sizes in factor analysis: 100 = poor, 200 = fair, 300 = good, 500 = very good, 1,000 or more = excellent (22). Therefore, 433 fathers were recruited to complete the FFCS for exploratory and confirmatory factor analyses. Fathers who their spouses were in the second or the third trimester of a low-risk pregnancy and were able to read and write as well as no history of psychological disorder were recruited.

For the Exploratory Factor Analysis (EFA), a sampling adequacy was assessed via the Kaiser-Meyer-Olkin and Bartlett tests. Then the latent factors of the FFCS were extracted via the maximum-likelihood EFA with a Promax rotation. The number of extractable factors was determined via parallel analysis. The minimum acceptable factor-loading value for the presence of an item in a factor was 0.3 approximately, which was calculated using the bellow equation:

\[ CV = \frac{5.152}{\sqrt{n-2}} \]

Based on the three-indicator rule, each factor had to have at least three items (23). Items with communality values less than 0.2 were removed (24).
With a Confirmatory Factor Analysis (CFA), the extracted factor model was evaluated via maximum likelihood estimation by using the following model fit indices: Incremental Fit Index (IFI), Comparative Fit Index (CFI), Adjusted Goodness of Fit Index (AGFI), Parsimony Normed Fit Index (PNFI), Parsimony Comparative Fit Index (PCFI), Root Mean Score Error of Approximation (RMSEA), and minimum discrepancy function divided by Degrees of Freedom (CMIN/DF).

2.2.5. The normal distribution, outliers, and missing data

Univariate normality was evaluated using skewness (±3) and kurtosis (±8). Multivariate outliers were assessed via the Mahalanobis d-squared test (P < 0.001). Meanwhile, the multivariate normality was assessed via the Mardia coefficient of multivariate kurtosis (<20) (19). Missing data was assessed via multiple imputations, and it was replaced via the mean of participants' scores.

2.2.6. Reliability

The Cronbach's alpha, McDonald's omega, and AIC were calculated, in order to calculate an internal consistency evaluation (25). An acceptable internal consistency involved a coefficient greater than 0.70 and an AIC between 0.20 and 0.40 (23). The data was analyzed using the SPSS-AMOS24 and the SPSS R-menu2.0.

3. Results

3.1. Item generation

Analyzing the interviews resulted in the development of seven main categories, which related to fear of childbirth in fathers. Namely, fear related to: Harm to the mother's health; Mothers’ care; Harm to the child's health; Interpersonal and relational factors; Expenses; Complications of childbirth; Lack of information about childbirth and its stages; and Fathers' role.

The review of literature resulted in six categories: fear of: Maternal-related factors (such as health and safety of the mother, mother's ability, mother's pain, mother's fear and maternal birth control); Paternal-related factors (such as lack of information about childbirth, lack of sufficient ability to support the spouse and to be a good father); Child-related factors (such as health and safety of the child, infant anomaly, childbirth injuries, and hospitalization in neonatal intensive care unit); Health care providers-related factors (such as professional's competence and behavior); Birth process-related factors (such as poor outcome of delivery and instrumental delivery); and Hospital-related factors (such as facilities and equipment).

Based on the results of the conducted interviews and the literature review, 61 items were generated. A further refinement of the items reduced the item number to 37 (Fig. 1). These 37 items were grouped into the following categories: Fear of maternal-related factors (five items), fear of paternal-related factors (15 items), fear of child-related factors (three items), fear of interpersonal and relational related factors (two items), fear of treatment staff-related factors (four items), fear of the birth process related factors (six items), fear of the hospital related factors (two items).

3.2. Face and content validity
Three items were revised in the qualitative face validity and four items were revised in the quantitative face validity, due to impact scores less than 1.5. Content validity resulted in the exclusion of five items due to CVR values less than 0.59. By considering CVI values no item was deleted and the S-CVA/Ave of the FFCS with 32 remaining-item was 0.85.

3.3. Item analysis

The 32-item FFCS was completed by 30 fathers, and the total inter-item correlation was calculated. Nine items with inter-item correlation coefficients less than 0.30 were excluded (Fig. 1).

3.4. Construct validity

In total, 433 fathers (200 fathers for EFA and the other 233 fathers for CFA) completed the FFCS with 23 items for factor analysis. Their mean age was 30.22 ± 2.74. 60.53% of fathers had a university degree. 42.81% of fathers had no children, 38.90% had one child and 18.29% had two or more children. The response rate was 100%.

A maximum likelihood EFA with promax rotation was performed on the data, which was obtained from 200 fathers. The Keiser-Meyer-Olkin test value was 0.91 and the Bartlett’s test value was 2985.98 (P < 0.001). In this step, five items as a result of communality values less than 0.2 were deleted. A parallel analysis resulted in the extraction of two main factors: fear of childbirth process (12 items), fear of hospital (six items). The eigenvalues of these two factors were respectively 5.21 and 3.93, and they explained %50.82 of the total variance of the FFCS (Table 1).
### Table 1
Factors extracted from FFCS

| Factors                     | Items                                                                 | Factor loading | $h^2$  | $\varnothing$ | Variance |
|-----------------------------|-----------------------------------------------------------------------|----------------|--------|--------------|----------|
| Fear of Childbirth Process  | 25. I am afraid that my spouse's health will be endangered due to childbirth. | 0.868          | 0.822  | 5.213        | 28.96    |
|                             | 9. During my spouse's childbirth, I will feel fear.                   | 0.751          | 0.643  |              |          |
|                             | 6. I am afraid that dangerous medical interventions will be needed during childbirth. | 0.748          | 0.561  |              |          |
|                             | 4. As the time of childbirth approaches, my worries increase.         | 0.736          | 0.419  |              |          |
|                             | 22. I'm afraid that my spouse's childbirth will be risky.              | 0.706          | 0.609  |              |          |
|                             | 8. During my spouse's childbirth, I will feel helpless.                | 0.685          | 0.333  |              |          |
|                             | 10. During my spouse's childbirth, I will feel restless.               | 0.673          | 0.512  |              |          |
|                             | 26. I am afraid that my child's health will be endangered due to childbirth. | 0.591          | 0.734  |              |          |
|                             | 3. I worry about the quality of sex with my spouse after childbirth.   | 0.533          | 0.272  |              |          |
|                             | 24. I will feel fear because of my spouse's pain.                     | 0.523          | 0.660  |              |          |
|                             | 15. Because of my spouse's fear of childbirth, I feel fear.            | 0.482          | 0.525  |              |          |
|                             | 17. I am afraid that I am not capable enough to support my spouse during childbirth. | 0.489          | 0.595  |              |          |
| Fear of Hospital            | 31. I am afraid that the hospital staff will not have enough skills to perform a safe childbirth. | 0.997          | 0.883  | 3.936        | 21.86    |
|                             | 32. I am afraid that the hospital will not have enough facilities and equipment for a safe childbirth. | 0.947          | 0.784  |              |          |
|                             | 28. I am afraid that the hospital staff will not take enough care of my spouse. | 0.843          | 0.858  |              |          |
|                             | 29. I'm afraid the hospital staff won't treat me and my spouse respectfully. | 0.762          | 0.879  |              |          |
|                             | 30. I am afraid that my child will be hospitalized in the neonatal intensive care unit after birth. | 0.622          | 0.672  |              |          |
|                             | 27. It will be difficult for me to pay for the hospital.               | 0.609          | 0.289  |              |          |

**Abbreviation:** $\varnothing$: Eigenvalue, $h^2$: communality

The extracted factor structure was evaluated using a CFA and data obtained from 233 fathers. In the first-order confirmatory factor analysis, after modifying the model and drawing the correlation between the measurement
error $e_1$ and $e_5$, $e_7$, $e_9$, $e_{12}$, $e_3$ and $e_9$, $e_7$ and $e_{11}$, $e_8$ and $e_{10}$, and $e_{15}$ and $e_{16}$ has been favorable. The Chi-square test for goodness-of-fit was obtained as the first fitting index [$\chi^2$ (df = 110, N = 233) = 287.67, $p < 0.001$]. To evaluate the fitting of the model, other indices were evaluated (IFI = 0.919, CFI = 0.918, AGFI = 0.824, PNFI = 0.707, PCFI = 0.742, RMSEA = 0.083, CMIN/DF = 2.615) which confirmed the final model perfectly (Table 2 and Fig. 2). At the end of this stage the items of FFCS reached to 17.

After the first-order CFA, a separate assessment of the factors of the fear of the childbirth in fathers and the correlation between its constructs was performed. The second CFA was conducted to confirm the general concept of “tocophobia”. Figure 3 shows the structural model and the second order CFA of the FFCS with the standardized factor loading coefficients. The amount of factor loading obtained for FFCS was more than 0.5 for all the items, being significant at $p < 0.001$.

Internal consistencies of all factors were greater than 0.70, which confirmed the acceptable internal consistency of the factors (Table 3).

### 3.5. Scoring

The 17 items of the FFCS were scored on a five-point scale (I don't agree at all (1), I don't agree (2), I don't have an opinion (3), I agree (4), I completely agree (5)). Therefore, the total score of the scale can range from 17 to 85 (17–35 low, 36–54 moderate, 55 ≤ high).

### 4. Discussion
The purpose of this study was to design and evaluate the psychometric properties of FFCS. The final FFCS, which had the desired validity and reliability, included 17 items and two factors consisting of fear of childbirth process (12 items), fear of hospital (five items) which explained 50.82% of the total variance. In the reliability test, the FFCS showed an acceptable internal consistency. The reliability of the entire FFCS had an alpha of 0.84, and also the omega was excellent and acceptable.

In this study, the most common indicators of model fitness were evaluated, and all factor loads above 0.5 were indicative of a minimum acceptable factor load. Therefore, based on the confirmatory factor analysis, all fitness indicators had a suitable standard level and the model fitness was appropriate.

The first CFA showed that a latent layer was existent, so the secondary order CFA was used and confirmed the FFCS with two subscales and 17 items; The two subscales represent a more general concept called tocophobia. Tocophobia is comprised of the words “tocos” (a Greek word meaning childbirth) and “phobia” (26). Tocophobia is considered by its proponents to be a “non-logical fear of childbirth” (27). The word “tocophobia” as a medical condition was first used by Hofberg and Brockington in 2000 (28). Tocophobia is divided into two types. Primary tocophobia is the destructive fear of childbirth in the first pregnancy that has no previous experience. Another type of tocophobia is secondary tocophobia, which, unlike primary tocophobia, is related to the experience of traumatic childbirth in the past (29). There is comparatively little research on men's experience of tocophobia. Published evidence from India showed that larger proportion (78.40%) of first time expectant fathers suffered from tocophobia primarily related to the health and life of their partner and child, labor and delivery process, professional competency, behavior, insufficient medical treatment, fear of not being treated with respect and dignity, fear of partners’ and own capabilities, fear of exclusion from decision making, financial matter and fear of responsibilities as fathers in varying intensity from low to severe level (30).

The first subscale identified in the exploratory factor analysis was fear of childbirth process. This subscale explained a higher amount of variance than the other subscale. Some fathers have stated that process of labor and childbirth lead to phobia in them (30). From labor-associated fears reported by fathers have been seeing their spouse in pain and agony (31), harm to fetus during child-birth, being in an unfamiliar, awkward (32), episiotomy, the risk of maternal complications and death associated with cesarean section (6, 33), irreversible rupture (5), prolonged labor (34, 35), and fear regarding the child welfare (36). Fathers have also been concerned regarding their ability to provide appropriate support to their spouse during labor and childbirth and how to react to labor-related events (7). In line with this finding, other research that has examined the fear of childbirth in fathers shows that the uppermost fear were related to the health and life of the baby, the health and life of the woman, and the labor and delivery process (5).

Fear of hospital was the second subscale of the FFCS. The hospital may be a very upsetting and fearful environment for many individuals and this may promote phobia in fathers (6). These findings suggest that some of the risk factors for fear of childbirth within the health care system (5). In fact, health care providers have been identified as both a cause of fear and a key factor in reducing the fear of childbirth.

A handful of instruments have been used to investigate the fear of childbirth in fathers. Among them, FFCS seems to be a good instrument for measuring fear of childbirth in fathers. Although the validity and reliability of Ringler's questionnaire were confirmed but, this questionnaire includes 52 items, which arguably too long for fathers to respond to, especially given the busyness of fathers (13).
The W-DEQ is another instrument that used in fathers and included two versions for assessing childbirth fear during pregnancy (version A) and after childbirth (version B) (14, 37). The scales were designed to measure different dimensions of childbirth fear, though it was ideated as a one-dimensional instrument. Wijma et al, estimated the reliability of the questionnaire by split half and using Cronbach's alpha by 0.89 and 0.93, respectively (14). The W-DEQ, is suitable instrument for pregnant women but was not specifically designed for fathers, whereas the FFCS is purposely designed for fathers who their spouses are pregnant.

Among the latest available questionnaire on fear of childbirth is the FOBS, which comes in two forms - a single item and a new version with two items (16, 17). In new version, the two items measuring fear and worry were strongly correlated (= 0.83). The inclusion of two items allows an estimate of the scale's reliability (using Cronbach's alpha), something that is not possible for single-item ratings (16, 38). In new version, the Cronbach alpha value was 0.91, indicating that the scale has very high levels of internal consistency. Mann–Whitney U-tests revealed no statistically significant difference in FOBS scores for the single item (median = 38, mean = 41.00, SD = 21) and the two items (median = 37, mean = 38.20, SD = 24.10) (16). But despite the use of instruments in fathers, there is no accurate data to show that the cut-off rate set for the statistical population of women in men is also indicative of fear (9).

FFCS was designed by reproductive health specialist, psychiatrist and midwifery consultant. The socio-cultural context of Iranian society, which is an important, was only addressed in the FFCS. The other father's fear of childbirth questionnaires have all been designed in other countries, and have only been translated to Persian, whereas the FFCS is made by the indigenous people, although literature view has been used for comprehensiveness.

### 5. Implications

According to a statement from the International Conference on Population and Development (ICPD) on men's participation and responsibility, which is as follows: gender justice should be targeted at all levels of life, including family and social life, and encouraging and empowering men to take responsibility for their reproductive and sexual behavior and their family and social roles. Therefore, today, the role and participation of fathers is emphasized on various aspects of reproductive health, including the childbirth process (39).

On the other hand, the rate of cesarean delivery is increasing, and one of the reasons is the increase in cesarean elective. Studies show that the fear of childbirth in fathers affects the increase in cesarean delivery (10). However, according to research by the Research Group on Available Resources, there are very few studies that manage the fear of childbirth in fathers, and their findings have shown conflicting information about the effectiveness of the intervention (12, 15). One of the main reasons for not doing research in this field is the lack of appropriate instruments for fathers. Therefore, by providing this instrument, we hope that the way will be opened for further intervention studies.

### 6. Limitations

The FFCS is an instrument designed to assess fear of childbirth among fathers. The strengths of this instrument include its development (based on empirical data and existing literature) and its construct validity assessment (via both exploratory and confirmatory factor analyses). One of the limitations of the study is that fathers are reluctant to express fear and it is difficult for them to talk about fear. Although men nowadays are encouraged to
express emotions, preconceptions about women are being emotional and men being unemotional are still pervasive and have an impact on people's experiences and behavior. Fear of childbirth can be affected by various factors. Therefore, a psychometric evaluation of this instrument is recommended in different cultural and clinical contexts.

7. Conclusions

The FFCS is a comprehensive instrument with demonstrated validity and reliability for the assessment of fear of childbirth in fathers. The study has implication for evaluating the fear of childbirth in fathers which, with time has implications for designing interventions and strategies that may result in improving the pleasant experience of pregnancy and childbirth in father in the future.

Abbreviations

FFCS: Father's Fear of Childbirth; W-DEQ: Wijma Delivery Expectancy/Experience Questionnaire; AIC: Average Inter-Item Correlation; CVR: content validity ratio; CVI: content validity index; I-CVI: Item CVI; S-CVI/Ave: average scale-level CVI; EFA: Exploratory Factor Analysis; CFA: Confirmatory Factor Analysis; IFI: Incremental Fit Index; CFI: Comparative Fit Index; AGFI: Adjusted Goodness of Fit Index; PNFI: Parsimony Normed Fit Index; PCFI: Parsimony Comparative Fit Index; RMSEA: Root Mean Score Error of Approximation; CMIN/DF: minimum discrepancy function divided by Degrees of Freedom; FOBS: Fear of Birth Scale; SD: Standard Deviation; ICPD: International Conference on Population and Development.

Declarations

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9.2. Authors' contributions

S.Z, SN. H, E. F, G. SF, and M. Z contributed to the design of the manuscript. SN. H and E. F contributed to the implementation and analysis plan. M. Z helped collect samples. S. Z and G. SF has written the first draft of this article and all authors have critically read the text and contributed with inputs and revisions, and all authors read and approved the final manuscript.

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9.4. Availability of data and materials

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

9.5. Ethics approval and consent to participate
The Ethics Committee of Mazandaran University of Medical Sciences- Iran approved this study (Code: IR.MAZUMS.REC.1398.6677). Prior to participation in the study, the aim of the research was explained to the participants, who were assured that their data would remain confidential. Written informed consent was obtained for the interviews.

9.6. Consent for publication

Not applicable.

9.7. Competing interests

The authors have no conflicts of interest relevant to this article.

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Figures
Figure 1

Items selection process
Figure 2

FFCS construct: modified model of first-order confirmation factor analysis.
Figure 3

FFCS construct: modified model of second-order confirmation factor analysis.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- FathersFearofChildbirthScale.docx