Iran J Psychiatry Behav Sci. ; In Press(In Press): e141364 https://doi.org/10.5812/ijpbs-141364

Published Online: 2025 April 9 **Research Article**

The Relationship Between Social Determinants of Health and Attitudes Towards Childbearing with the Mediation of Social Support Among Women of Reproductive Age: A Path Analysis

Fereshte Ghahremani [1], Mahbobeh Ahmadi Doulabi [2,*], Zohreh Mahmoodi [3], Malihe Nasiri [4]

[1] Student Research Committee, Department of Midwifery, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran
[2] Department of Midwifery and Reproductive Health, Midwifery and Reproductive Health Research Center, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran
[3] Department of Midwifery, Social Determinants of Health Research Center, Alborz University of Medical Sciences, Karaj, Iran
[4] Department of Biostatistics, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran

[*] ***Corresponding Author:*** Department of Midwifery and Reproductive Health, Midwifery and Reproductive Health Research Center, School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran. Email: mah1372@yahoo.com

Received: 30 September, 2023; **Revised:** 25 March, 2025; **Accepted:** 25 March, 2025

Abstract

Background: Attitudes towards childbearing are influenced by various biological, psychological, and social factors.

Objectives: This study aims to investigate the impact of social determinants of health on attitudes towards childbearing, mediated by social support among women of reproductive age.

Methods: This descriptive-analytical study was conducted on 500 women who were referred to health centers affiliated with Shahid Beheshti University of Medical Sciences in Tehran, using a multistage random sampling method in 2022 - 2023. Data were collected using Soderberg's Attitudes Toward Fertility and Childbearing Scale, the Demographic and Midwifery Questionnaire, Ghodratnama's Socio-economic Status Questionnaire, the Multidimensional Scale of Perceived Social Support, the Depression-Anxiety-Stress Scale (DASS)-21 Scale, Spanier's Marital Compatibility Questionnaire, and the Fear of Childbirth Scale. The data were analyzed using SPSS 26 and LISREL 8.8, applying the statistical method of path analysis. Stepwise regression tests were used to examine the relationship between independent variables (demographic variables) and dependent variables while controlling for contextual and confounding variables.

Results: Based on the results of the path analysis, the levels of depression, anxiety, and stress as measured by the DASS-21 had only a direct effect (β = -0.25); fear of childbirth (β = -0.06), socio-economic status (β = 0.057), and social support (β = 0.19) had only an indirect effect; and marital compatibility (β = 0.257), education (β = -0.16), and women's employment (β = -0.13) had both direct and indirect effects on attitudes towards childbearing. Notably, marital compatibility (β = 0.257) had the most substantial positive influence on attitudes towards childbearing. The model proposed in the study showed a good fit (P-value = 0.001; GFI = 0.99; RMSEA = 0.033).

Conclusions: Based on the findings, social support plays a significant role as a mediating factor in improving attitudes towards childbearing. Therefore, relevant organizations should recognize their responsibility in implementing laws and policies aimed at enhancing social support, particularly for employed women.

Keywords: Attitude, Reproductive Behavior, Social Determinants of Health, Social Support, Structural Model

1. Background

Having children is one of the most important demographic components that plays a decisive role in the economic and social development of societies (1). Iran's significant fertility decline, exceeding 50%, stands out among Muslim nations and other countries (2). This decline in fertility poses challenges such as a shrinking labor force and an aging population, with adverse effects on investment and the economy (3). Decisions

and behaviors related to fertility are strongly influenced by individuals' attitudes towards and desires for childbearing (4). Numerous studies have indicated that couples' reproductive intentions and desires are influenced by various biological, psychological, and social factors, including infertility, timing of marriage, family's socio-economic status, employment, and women's educational attainment (5). Couples' values and perspectives on childbearing, marital interactions, government support, social norms, and the influence of social networks can all impact their reproductive attitudes and behaviors (6). Studies have highlighted the significant impact of couples' health on their intention to have children (7). Today, the concept of health encompasses a broader perspective, with increasing attention being paid to the social determinants of health, which greatly influence individuals' health status either independently or through interrelated influences (8). The social determinants of health refer to the conditions in which people are born, grow, live, and work. The conceptual framework provided by the Commission on Social Determinants of Health (CSDH) of the World Health Organization (WHO) categorizes these factors into two groups (Figure 1) (9). The first group consists of the structural social determinants of health, such as education, income, gender, and ethnicity (race). These factors contribute to the creation of social class and have a significant impact on health outcomes. The second group comprises the intermediate social determinants of health, which indicate that the effects of structural determinants are not direct but work through these intermediate determinants. Intermediate determinants include living conditions, working conditions, psychosocial factors, behavioral factors, and social support (8, 9). The socio-economic index consists of three factors, namely education, occupation, and income. This determinant can directly and indirectly affect people's well-being and health by providing vital skills and knowledge (10). According to the study conducted by Lam, changes in the position of women through employment, higher education, participation in family decision-making, and participation in social activities can significantly reduce the fertility rate (11). By contrast, another study found that German men and women with higher levels of education tended to have more children (12). Régnier-Loilier et al. found that women with higher education had more self-confidence and self-efficacy, which consequently enabled them to better cope with external pressures and take on the parental role (13). Stress, depression, and anxiety are among the psychological factors that influence overall well-being as mediating determinants of health (9). The increased number of children leads to heightened mental and psychological pressure, giving rise to a concept known as the hypothesis of maternal role incompatibility or work-family conflict, as described by some sociologists (14). Conflicting roles, multiple responsibilities, and added pressure associated with motherhood can place working women in a challenging position, potentially leading to psychological disorders such as anxiety, fatigue, depression, and negative attitudes towards childbearing. By contrast, women who only assume traditional roles may have a more favorable mental health status (15). Another psychological factor related to the determinants of health is the fear of childbirth. Pregnancy is a significant change in a woman's life and brings with it the new responsibility of child care, which can lead to emotional conflict. Some women experience increased anxiety and develop a fear of childbirth caused by these changes (16). Taheri et al. identified fear of childbirth pain and potential harm to the fetus as the most prevalent causes of fear and anxiety among expectant mothers (17). Social support plays a critical role as a mediating factor in health. It encompasses love, companionship, care, respect, attention, and support that individuals receive from family members, friends, and significant others (18). In their study, Dehle and Landers found a positive and significant relationship between social support, particularly from family members, and mental health (19). Individuals who perceive high levels of support from parents, relatives, and friends are more likely to want to have children and to fulfill their intentions (20). In contrast, some studies have shown that the supportive role of the family may not have a significant effect on couples' fertility intentions and may even have the opposite effect (21, 22). Many studies have recognized the mediating role of social support in this context (23). Marital compatibility is another important factor in mental health and well-being. It provides the basis for several important decisions in a couple's relationship, including the decision and inclination to have children (24). In other words, higher levels of marital compatibility have been found to positively influence the transition from childlessness or having one child and make women hold positive attitudes towards childbearing (25). Considering that the process of fertility transition and the significant fertility decline in Iran involve multiple factors, it is important to understand that attitudes towards childbearing are influenced by various social determinants of health. A deep understanding of these determinants can help reproductive health counselors provide more appropriate recommendations and methods to couples. By providing and improving the overall health of

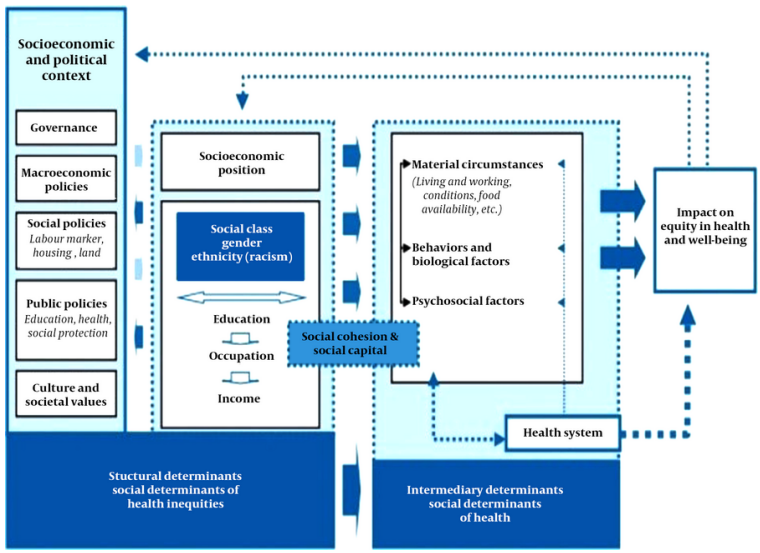

Figure 1. The final model of the conceptual framework of the World Health Organization (WHO)'s Commission on Social Determinants of Health (CSDH) (9)

society, they can help promote positive attitudes towards childbearing among women.

2. Objectives

This study was designed to develop and test a communication model that examines the impact of social determinants of health on attitudes towards childbearing, with social support as the mediating factor. The model is based on the WHO's framework.

3. Methods

This cross-sectional study was conducted over a 6-month period from the beginning of October 2022 to the end of March 2023. The study was initiated after approval by the Ethics Committee of Shahid Beheshti University of Medical Sciences, with the assigned number IR.SBMU.PHARMACY.REC.1400.208.

3.1. Sample Size and Characteristics of the Participants

In the path analysis model, each path is considered a parameter in the model that needs to be estimated. According to the mentioned reference (26), between 20 to 30 samples should be considered for each path. In this conceptual model (Figure 2), we have 17 paths, and approximately 29 samples were considered for each path ($29 \times 17 \backsim 500$).

3.2. Inclusion Criteria

The study included women of reproductive age (15 - 49 years old), who were married, Iranian, had minimal literacy skills, and no known mental illness according to both their health records and self-reports.

Exclusion criteria: Women who refused to continue their participation and those who did not complete the questionnaire completely were excluded from the study.

3.3. Data Collection Tool

Data were collected using 7 questionnaires, including the Demographic and Fertility Questionnaire, Ghodratnama Socio-economic Status Questionnaire, Standard Depression-Anxiety-Stress Scale (DASS), Spanier's Marital Compatibility Questionnaire, the Childbirth Fear Questionnaire, the Perceived Social Support Questionnaire, and the Attitudes to Fertility and Childbearing Scale. The Demographic and Fertility Questionnaire was employed to collect women's personal information and fertility-related data. It included variables such as age, age at marriage, duration of marriage, age of spouse, number of children, ethnicity, and obstetrics issues including abortion, stillbirth, contraceptive methods, and access to contraceptive methods. Socio-economic status was assessed using the questionnaire developed by Ghodratnama et al. This questionnaire consists of five

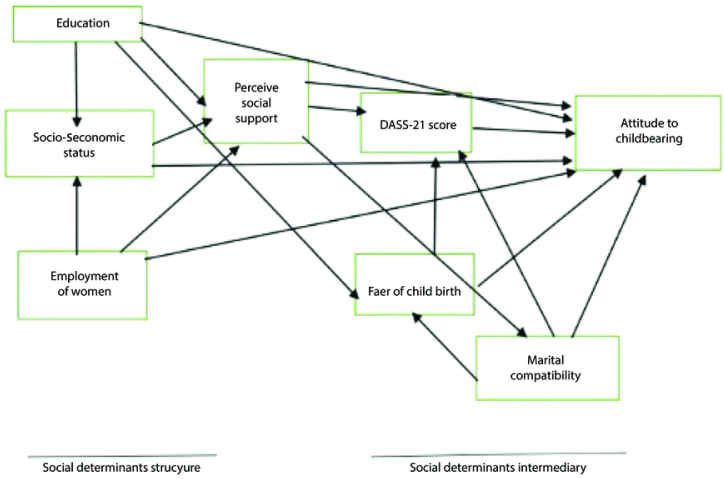

Figure 2. Conceptual model of social determinants of health with attitudes towards childbearing

main questions that assess the four dimensions of income, economic class, housing status, and education. The questionnaire utilizes a 5-point Likert scale, ranging from 1 (very low) to 5 (very high). In fact, in this questionnaire, a higher score indicates a higher socio-economic level of the family. The construct validity of the questionnaire was assessed by Ghodratnama et al. through factor analysis, with a Kaiser-Meyer-Olkin value (KMO) of 0.752. Additionally, the reliability of the questionnaire was assessed using Cronbach's alpha method, with a coefficient of 0.72 (27). The DASS-21 consists of 21 questions, with 7 questions measuring each of the symptoms of stress, anxiety, and depression. The questionnaire is structured using a Likert scale, ranging from 0 ("does not apply to me at all") to 3 ("applies to me very much, or most of the time"). The lowest and highest scores are zero and 3, respectively. In each section related to anxiety, depression, and stress, a score of 1 - 7 indicates a mild level, 8 - 14 a moderate level, and 15 - 21 a severe level of anxiety, depression, and stress. The scale was originally developed by Lovibond and Lovibond in 1995, and its validity was reported to be 0.77 (28). Sahebi et al. reported the correlation coefficient of this scale as 0.7 using Beck's test, as 0.67 by Zung anxiety test, and as 0.49 using the perceived stress test; they also measured its internal consistency with a Cronbach's alpha of 0.77 for the depression subscale, 0.79 for the anxiety subscale, and 0.78 for the stress subscale (29). The Multidimensional Scale of Perceived Social Support (MSPSS) was used to measure social support. The questionnaire was developed by Zimet et al. in 1988 to measure an individual's perceived social support from three primary sources: Family, friends, and significant others. The scale consists of 12 questions that are scored on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), with 12 and 84 as the minimum and maximum scores, respectively. A score of 13 - 48 indicates low social support, 49 - 68 an average level of social support, and 69 - 84 a high level of social support (30). Several studies have demonstrated satisfactory psychometric properties for the MSPSS, particularly in young adults in the United States and Europe (31). Zimet et al. found internal reliabilities of 0.93 for the total score and 0.91, 0.89, and 0.91 for the subscales of family, friends, and significant others in a sample of urban adolescents in the United States (30). In this study, Spanier's Marital Compatibility Questionnaire was used to measure marital compatibility. Graham Spanier developed this questionnaire in 1976 to assess marital compatibility and the overall quality of the marital relationship. This 32-item questionnaire was designed based on a Likert scale to measure marital compatibility in four dimensions: Mutual agreement, affection expression, marital satisfaction, and mutual dependence. The total score is the sum of the scores of the 32 questions and ranges from zero to 151. According to Spanier, individuals who score below 101 on the scale are considered to have problems and are categorized as incompatible. Spanier has reported an internal consistency coefficient of 0.92 and high criterion validity for this valuable scale (32). The validity and

reliability of the questionnaire have been investigated in several studies (33, 34). In the study by Hollist and Miller in 2005, the reliability of the questionnaire was assessed to range from 0.8 to 0.9 using Cronbach's alpha method (34). The Fear of Childbirth Scale was developed by Stoll et al. This questionnaire consists of 10 questions, based on a Likert scale, and the assigned scores for each item range from 1 to 5. High fear was defined as a high score and a standard deviation above the mean, whereas low fear of childbirth was defined as a score that was less than one and a standard deviation below the mean. Fear of childbirth was measured using a multidimensional approach that captures three distinct dimensions, including fear of complications, fear of pain, and fear of physical changes. The alpha coefficient obtained from the tool for each of the three areas was greater than 0.7 (35). Furthermore, face validity and construct validity methods were used to evaluate the validity of the test (35, 36). The Attitudes to Fertility and Childbearing Scale (AFCS) was originally developed by Soderberg et al. This 27-item questionnaire is divided into three subscales: "Importance of fertility for the future", "childbearing as an obstacle in the present", and "social identity". Participants rate their responses on a 5-point Likert scale, with 5 and 1 indicating "strongly agree" and "strongly disagree", respectively. A higher score indicates stronger positive attitudes towards fertility and childbearing (37). The psychometric properties of the Persian version of the scale were evaluated by Baezzat et al. During the psychometric evaluation in Iran, the questionnaire consisted of 23 questions and included four subscales: "Children as a pillar of life", "children as an obstacle", "postponing fertility to the future", and "fertility after fulfilling the precondition". The scoring range for this questionnaire was from a minimum score of 23 to a maximum score of 115 (38). The reliability of the tools used in this study was assessed using the test-retest method for external reliability. For this purpose, 15 eligible women completed the questionnaires on two occasions with an interval of 14 days. The correlation coefficients of the Ghodratnama Socio-economic Status Questionnaire, the Standard DASS, the Multidimensional Scale of Perceived Social Support, Spanier's Marital Compatibility Questionnaire, the Childbirth Fear Questionnaire, and The Attitudes toward Fertility and Childbearing Scale were 0.82, 0.90, 0.91, 0.92, 0.7, and 0.73, respectively. Moreover, the internal correlation coefficient (Cronbach's alpha) was used for the internal reliability of the questionnaires, which ranges from zero to one.

3.4. Methodology

Sampling was performed using a multi-stage random sampling method. The researchers allocated a quota based on the population of the comprehensive health centers covered by Shahid Beheshti University of Medical Sciences. By choosing the random sampling method, the researchers attempted to reduce selection bias. After identifying eligible individuals within these centers, the study objectives were explained to them, and written consent was obtained from those who were willing to participate in the study. The participants were then given the questionnaires to complete. Data were collected through face-to-face interactions. The researchers personally distributed and collected the questionnaires from the women, ensuring that the participants fully understood the questions and provided accurate responses. Whenever a question seemed vague, some additional explanations were also provided. It should be noted that these explanations were provided to avoid any kind of ambiguity and/or bias.

3.5. Conceptual Model Design

To develop a model based on the WHO's conceptual framework of social determinants of health, a systematic review of published articles in both English and Persian languages was conducted to identify factors associated with women's attitudes towards childbearing. Therefore, articles published between 2010 and 2022 were searched in various databases, including Iranian databases such as Magiran and SID, and English-language databases such as Scopus, PubMed, Embase, and Web of Science using appropriate search strategies. Additionally, the Google Scholar search engine was utilized. The bibliographic search took place simultaneously in these databases by two researchers with expertise in the method and subject studied, in different locations, to avoid bias in the screening of articles to be analyzed. Based on the literature review, a conceptual model was developed to explore the relationship between social determinants of health and attitudes towards childbearing. In this study, the fit of the conceptual model was examined to determine the concurrent association of socio-economic status, education, occupation, perceived social support, marital compatibility, DASS21 score, and fear of childbirth with attitudes towards childbearing (Figure 2). Indices such as the χ^2/df (chi-square to degree of freedom ratio), root mean square error of approximation (RMSEA), Normed Fit Index (NFI), Goodness of Fit Index (GFI), Incremental Fit Index (IFI), and Comparative Fit Index (CFI) were used in this study to assess the model's fit.

3.6. Data Analysis

The data obtained were analyzed by path analysis using SPSS-26 and Lisrel-8.8. The Kolmogorov-Smirnov test was used to prove the normality (P = 0.630). For demographic analysis, means ± standard deviations or frequencies were reported for continuous or categorical variables. Pearson correlation was used to determine the primary relationship between the research variables. We used a stepwise multiple regression model to control confounding factors such as age, ethnicity, education, etc. After adjusting for the possible impact of confounding factors, path analysis was conducted for a better understanding of the possible relationship between socio-economic status, education, employment of women, perceived social support, marital compatibility, DASS21 score, and fear of childbirth with women's attitudes towards childbearing. A P-value ($P < 0.05$) was considered statistically significant.

4. Results

In this study, the mean age of the participants was 32.68 ± 8.23 years, the mean age at marriage was 22.76 ± 4.84 years, and the mean duration of their marriage was 9.94 ± 7.59 years. Most of the women had a bachelor's degree (32.2%), and the majority of their husbands had a diploma or lower level of education (42.2%). In this study, 40.6% of the participants were employed.

The mean, standard deviation, maximum, and minimum statistics of the main variables are presented in Table 1. First, the normal distribution of the data was tested using the Kolmogorov-Smirnov test to perform the pathway analysis. Bivariate analysis was conducted to examine the correlation between various variables (Table 2). As shown in Table 2, attitudes towards childbearing had a significant negative correlation with DASS-21 score ($r = -0.28$, $P < 0.001$), fear of childbirth ($r = -0.18$, $P < 0.001$), and years of education ($r = -0.196$, $P < 0.001$), and a significant positive correlation with marital compatibility ($r = 0.23$, $P < 0.001$). However, socio-economic status and social support were not significantly associated with attitudes towards childbearing ($P > 0.05$).

The fit indices for the conceptual model (Figure 2) were assessed using path analysis. As shown in Figure 3, the direct paths from social support, fear of childbirth, and socio-economic status to attitudes towards childbearing were removed from the model, because their *t*-values were less than 1.96 ($P > 0.05$) (27). The effects of socio-economic status, education, employment of women, perceived social support, marital compatibility, DASS-21 score, and fear of childbirth were examined (Figure 3). According to the path diagram, DASS-21 score had a direct, significant negative impact on attitudes towards childbearing with a standardized coefficient of -0.25 (*t*-value: -5.54, $P < 0.001$). This suggests that poor mental health decreases attitudes towards childbearing (Table 3 and Figure 3).

Fear of childbirth had an indirect negative impact on attitudes towards childbearing through the mediating role of the DASS-21 score. The standardized coefficient between fear of childbirth and DASS-21 score was 0.24 (*t*-value 6.09, $P < 0.001$), indicating that higher levels of fear of childbirth significantly increase the DASS-21 score (Table 3 and Figure 3). The indirect effect of fear of childbirth on attitudes towards childbearing through DASS-21 score was -0.06, meaning that fear of childbirth indirectly decreases attitudes towards childbearing by increasing the DASS-21 score (Table 3 and Figure 3).

Marital compatibility had a direct significant positive impact on attitudes towards childbearing, as indicated by a standardized coefficient of 0.18 (*t*-value = 3.90, $P < 0.001$). This suggests that higher levels of marital compatibility significantly increase attitudes towards childbearing (Table 3 and Figure 3). Marital compatibility indirectly impacted attitudes towards childbearing through fear of childbirth and DASS-21 score. The indirect effect of marital compatibility on attitudes towards childbearing via fear of childbirth and DASS-21 score was 0.077, suggesting that marital compatibility indirectly increases attitudes towards childbearing by decreasing fear of childbirth and DASS-21 score (Table 3 and Figure 3).

Social support played a mediating role between the structural and intermediate determinants, by improving attitudes towards childbearing. Social support had an indirect positive effect on attitudes towards childbearing. The standardized coefficient between social support and marital compatibility was 0.54 (*t*-value = 14.36, $P < 0.001$), showing that higher social support significantly improves marital compatibility. Marital compatibility then positively influenced attitudes towards childbearing, with a standardized coefficient of 0.257 (*t*-value = 5.45, $P < 0.001$) (Table 3 and Figure 3). The standardized coefficient between social support and DASS-21 score was -0.22 (*t*-value = -4.74, $P < 0.001$), showing that higher social support significantly decreases the DASS-21 score. The indirect effect of social support on attitudes towards childbearing via marital compatibility and DASS-21 score was 0.19 (*t*-value = 4.97, $P < 0.001$), suggesting that social support increases attitudes towards childbearing by increasing marital

Table 1. Distribution of Factors Scores [a]

Variables	Mean ± SD	Min-Max	Mean Based on 100 [b]
Attitudes to childbearing (23 - 115)	72.02 ± 19.62	23 - 114	53.28
Children as a pillar of life sub-scale (7 - 35)	27.45 ± 6.92	7 - 35	73.03
Children as an obstacle sub-scale (7 - 35)	18.62 ± 7.33	7 - 35	41.5
Postponing fertility to the future sub-scale (5 - 25)	15.75 ± 5.13	5 - 25	53.75
Fertility after fulfilling the precondition sub-scale (4 - 20)	10.19 ± 3.07	4 - 19	38.68
Years of education	13.94 ± 4.48	7 - 18	63.09
Socio-economic status (6 - 30)	11.7 ± 3.2	6 - 21	23.75
DASS-21 score (0 - 63)	17.22 ± 11.3	0 - 52	27.33
Depression sub-scale (0 - 21)	5.03 ± 4.39	0 - 21	23.95
Anxiety sub-scale (0 - 21)	4.49 ± 3.68	0 - 10	21.38
Stress sub-scale (0 - 21)	7.70 ± 4.67	0 - 21	36.66
Perceived social support (12 - 84)	58.25 ± 15.27	12 - 84	64.23
Family sub-scale (4 - 28)	20.73 ± 5.81	4 - 28	69.70
Friends sub-scale (4 - 28)	16.45 ± 7.05	4 - 28	51.87
Significant others sub-scale (4 - 28)	21.06 ± 6.08	4 - 28	71.08
Marital compatibility (0 - 151)	103.26 ± 33.49	10 - 144	66.61
Marital satisfaction sub-scale (0 - 39)	276.23 ± 01	5 - 37	69.25
Mutual dependence sub-scale (0 - 20)	12.4 ± 0175	0 - 20	60.05
Mutual agreement sub-scale (0 - 75)	56.13 ± 39.81	5 - 70	75.18
Affection expression sub-scale (0 - 17)	11.3 ± 76.57	0 - 17	69.17
Fear of child birth (10 - 50)	28.56 ± 11.79	10 - 50	46.4
Fear of complications sub-scale (3 - 15)	8.3 ± 68.73	3 - 15	47.33
Fear of pain sub-scale (5 - 25)	14.6 ± 26.35	5 - 25	46.3
Fear of physical changes sub-scale (2 - 10)	5.2 ± 62.62	2 - 10	45.25

Abbreviation: DASS, Depression-Anxiety-Stress Scale.

[a] Values are reported as scales, subscales, minimum and maximum scores of standard questionnaires.

[b] (Mean - min score of standard questionnaire) ÷ (max score of standard questionnaire-min score of standard questionnaire) × 100

Table 2. Correlations Among Attitudes Towards Childbearing and Years of Education, Socio-economic Status, Depression-Anxiety-Stress Scale-21 Score, Perceived Social Support, Marital Compatibility and Fear of Childbirth [a]

Variables	Attitudes to Childbearing	Socio-economic Status	Years of Education	DASS-21 Score	Perceive Social Support	Marital Compatibility	Fear of Childbirth
Attitudes to childbearing	1	-	-	-	-	-	-
Socio-economic status	-0.18	1					
Years of education	-0.196 [b]	0.13 [b]	1				
DASS-21 score	-0.28 [b]	-0.15 [b]	-0.11 [b]	1			
Perceive social support	0.024	0.35 [b]	0.23 [b]	-0.37 [b]	1		
Marital compatibility	0.23 [b]	0.24 [b]	0.17 [b]	-0.42 [b]	0.54 [b]	1	
Fear of child birth	-0.18 [b]	-0.02	0.06 [b]	0.29 [b]	-0.05	-0.18 [b]	1

Abbreviation: DASS, Depression-Anxiety-Stress Scale.

[a] Pearson analysis.

[b] $P < 0.05$.

compatibility and decreasing DASS-21 score (Table 3 and Figure 3).

Socio-economic status had an indirect effect on attitudes towards childbearing through the mediating role of social support. The standardized coefficient between socio-economic status and social support was 0.3 (t-value = 7, $P < 0.001$), showing that high levels of socio-economic status significantly improve social support. The indirect effect of socio-economic status on attitudes towards childbearing via social support was 0.057 (t-value = 7.06, $P < 0.001$), suggesting that socio-economic status increases attitudes towards childbearing by increasing social support (Table 3 and Figure 3).

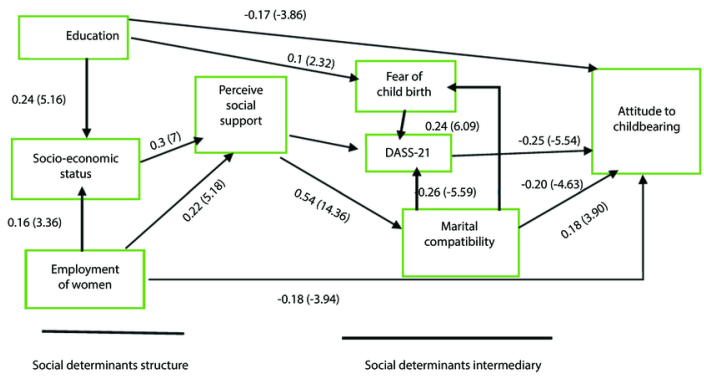

Figure 3. Full empirical model for effects of socio-economic status, education, employment, perceived social support, Depression-Anxiety-Stress Scale (DASS)-21, Marital Compatibility and Fear of Childbirth Index on Attitudes Towards Childbearing [in β[a] (*t*-value)[b]]. [a] Standardized coefficient; [b] significance coefficients.

Table 3. Path Coefficients for Prediction Variables of Attitudes to Childbearing

Predictor Variables	Effect (Standardized Coefficients)			*t*-Value [a]	Model Coefficient (Unstandardized Coefficients)	95% CI
	Direct	Indirect	Total			
Socio-economic status	-	0.057	0.057	7.06	0.25	0.19 to 0.31
t-value	-	7.06	-	-		
P-value	-	< 0.001	< 0.001	-		
Education	-0.17	0.0076	-0.16	-3.64	-0.77	-1.16 to -0.38
t-value	-3.86	1.62	--	-		
P-value	< 0.001	0.105	< 0.001	-		
Occupation	-0.18	0.05	-0.13	-2.80	-7.20	-10.76 to -3.64
t-value	-3.94	4.63				
P-value	< 0.001	< 0.001	0.005			
DASS-21 score	-0.25	-	- 0.25	-5.54	-0.43	-0.58 to -0.28
t-value	-5.54	-		-		
P-value	< 0.001	-	< 0.001	-		
Perceive social support	-	0.19	0.19	4.97	0.35	0.21 to 0.49
t-value	-	4.97	-	-		
P-value	-	< 0.001	< 0.001	-		
Marital compatibility	0.18	0.077	0.257	5.45	0.15	0.076 to 0.224
t-value	3.90	2.61	-	-		
P-value	< 0.001	< 0.001	< 0.001	-		
Fear of child birth	-	-0.06	-0.06	-4.10	-0.10	-0.06 to -0.14
t-value	-	-4.10	-	-		
P-value	-	< 0.001	< 0.001	-		

Abbreviation: DASS, Depression-Anxiety-Stress Scale.

[a] A *t*-value less than -1.96 signifies a significantly negative relationship between the independent and dependent variables, implying that as the independent variable increases, the dependent variable decreases, with the result being unlikely due to chance. Conversely, a *t*-value greater than 1.96 indicates a significantly positive relationship.

Education had a significant negative impact on attitudes towards childbearing, with a standardized coefficient of -0.16 (*t*-value -3.64, P < 0.001). This demonstrates that higher levels of education significantly decrease attitudes towards childbearing. Education had an indirect effect on attitudes towards childbearing through the mediating role of fear of childbirth and socio-economic status. The standardized

Table 4. Goodness of Fit Indices for the Model (N = 500)

Variable	χ^2	df	χ^2/df	RMSEA	GFI	NFI	CFI	IFI	P-Value
Model Index	18.33	12	1.52	0.033	0.99	0.98	0.99	0.99	< 0. 001

Abbreviations: χ^2, chi-square; df, degree of freedom; χ^2/df, chi square/degree of freedom; RMSEA, root mean square error of approximation; GFI, Goodness of Fit Index; NFI, Normed Fit Index; CFI, Comparative Fit Index; IFI, Incremental Fit Index.

coefficient between fear of childbirth and education was 0.1 (*t*-value = 2.32, P = 0.02), showing that high levels of education significantly increase fear of childbirth. The standardized coefficient between education and socio-economic status was 0.24 (*t*-value = 5.16, P < 0.001), showing that high levels of education significantly improve socio-economic status (Table 3 and Figure 3).

Employment of women had a significant negative impact on attitudes towards childbearing, with a standardized coefficient of -0.13 (*t*-value = -2.80, P = 0.005), indicating that employment of women significantly decreases attitudes towards childbearing. Employment of women had an indirect effect on attitudes towards childbearing through the mediating role of socio-economic status and social support. The standardized coefficient between employment and socio-economic status was 0.16 (*t*-value = 3.36, P < 0.001), showing that employment of women significantly improves socio-economic status. The standardized coefficient between social support and employment was 0.22 (*t*-value = 5.18, P < 0.001), showing that employment of women significantly improves social support (Table 3 and Figure 3).

Considering that the χ^2/df was less than 3, RMSEA was less than 0.08, and GFI, CFI, NFI, and IFI were greater than 0.90, the model had a good and appropriate fit (26) (Table 4). Thus, the hypothesis that proposed a causal relationship between the structural and intermediate determinants of health and women's attitudes towards childbearing, through the mediating role of social support, was confirmed.

5. Discussion

Based on the results of the path analysis model, among the variables examined, marital compatibility had the most significant positive impact on attitudes towards childbearing. This finding was consistent with the results of many other studies, such as Lainiala (39). These positive attitudes may be due to the fact that their type of relationship is well suited for raising children. Compatible couples have a greater desire to pursue joint ventures, such as starting a family and having children together (40, 41). Contrary to these findings, some studies present contrasting results, suggesting that incompatible couples may choose to have children as a means of improving and adjusting their relationship (24).

In the present study, marital compatibility had an indirect effect on attitudes towards childbearing through its impact on the DASS-21 score and fear of childbirth. Studies have indicated that incompatibility and dissatisfaction within the marital relationship can disrupt the psychological and emotional balance of family members, leading to problems in social relationships and a higher likelihood of moral deviations among couples. These negative consequences may, in turn, influence their attitudes towards childbearing (42-44). In light of these findings, it is crucial to educate and involve spouses in the process of reducing fear and anxiety and creating positive attitudes towards childbearing, as they are the closest individuals to the expectant mother (45).

Another variable that had a positive effect on attitudes towards childbearing was the social support women received. This variable played a mediating role between the structural and intermediate determinants by improving attitudes towards childbearing. In this study, women's perceived social support was influenced by their level of literacy, occupation, and socio-economic status. This finding aligns with the study conducted by Tiwari et al. As women's literacy increases and they assume more significant roles in society, it is natural for them to accept greater and broader responsibilities. Thus, the level of social support naturally increases in them (46). A study conducted in England found that women who had a wide network of supportive family members had their first child at an earlier age. Indeed, interactions within such networks, particularly with significant and supportive individuals such as family members and close friends, can influence their fertility intentions by potentially altering their attitudes (47). Other studies have also shown that perceived spousal support and spousal involvement in household and childcare responsibilities, compared to other network members, have a stronger influence on women's fertility intentions (48, 49).

In this study, perceived social support had a significant and direct relationship with both mental health and marital adjustment. Perceived social support is known to be an effective modifier of coping and adaptation to stressful situations throughout life (50, 51). According to Ahmad and Khan, women who receive high levels of social support experience greater satisfaction with their lives. They feel loved, cared for, and valued by others, and perceive themselves as respected and dignified individuals (52).

Of the variables examined, the DASS-21 score had the most significant negative impact on attitudes towards childbearing. Studies have indicated that women with poor mental health often have negative attitudes towards childbearing, including fears related to pregnancy or childbirth (53). It is plausible that as women's mental health improves, their overall quality of life improves, which in turn may positively influence their attitudes towards childbearing (54).

In this study, women's education and employment had a negative impact on their attitudes towards childbearing. Several studies have indeed demonstrated the negative influence of women's education and employment on attitudes towards childbearing (55, 56). Both men and women consider factors such as a certain level of education, a stable job, and a good income to be important when deciding whether to become a parent. These factors may lead individuals to delay childbearing in order to accomplish other priorities in their lives (56). Additionally, education increases the likelihood that women will achieve their desired careers to some degree. This increases the opportunity cost of childbearing, which in turn encourages women to limit the number of births (57, 58). However, a study has shown that women with higher education and those who are employed, despite having a higher desire to have children, may face challenges in translating their desire into actual childbearing behavior. Factors such as academic commitments and other obligations may interfere with their ability to fulfill their desire for childbearing (59). In some countries, the existence of facilities, support systems, social security and support, and laws to help women during pregnancy and childcare alleviate the concerns for women who are studying or working, allowing them to balance their responsibilities without undue worry about having children. These women perceive education and employment as integral parts of their daily lives and do not see them as barriers to making other life choices (60).

In this study, fear of childbirth is one of the reasons for the negative impact of education on attitudes towards childbearing. This result was in line with a study conducted in Sweden (61). Laursen et al. concluded that a low level of education, lack of social support, being a housewife, and younger maternal age were significantly associated with increased fear of vaginal birth (62). However, some studies have found that individuals with higher levels of education tend to engage in more health-related information seeking. Too much information about childbirth can lead to fear (63). Typically, individuals with higher levels of education also tend to have higher socio-economic status, providing them with greater access to the internet and social networks. However, it is important to note that this increased access does not necessarily guarantee accurate or reliable information. Therefore, providing an authentic and scientifically based education is particularly important for this group of individuals (63, 64).

In the path analysis, fear of childbirth affected the DASS-21 score, and increasing its score decreased attitudes towards childbearing. Mirabi et al. found that the challenges associated with childbirth and pregnancy, as well as the fear of physical harm during pregnancy, contributed to women's negative attitudes towards childbearing (65). Fear of pain increases the sensation of pain by generating tension, and catastrophizing pain is associated with increased pain, anxiety, distress, and disability (66). Pregnancy should receive increased attention as a potentially stressful situation. Given the adverse effects of anxiety on both the mother and the fetus, it is crucial to implement a scientific and precise plan to reduce and manage anxiety during pregnancy (65).

5.1. Conclusions

Based on the results of the study, social support was a mediating factor between structural and intermediate factors of health, which increased positive attitudes towards childbearing. The results suggest that population policies could be more effective by implementing programs as social support for women that promote compatibility between the mother's role and active participation in activities outside their homes, such as education, employment, and social engagements. This not only contributes to the mental health and well-being of both partners in a relationship, but also creates a positive environment that motivates women to consider having children.

5.2. Limitations

Because of the complex nature of the factors that influence attitudes towards having children, it was not

feasible to examine all of them in this study. Instead, the study focused on exploring the causal relationships among a selected set of factors.

Acknowledgements

This article is extracted from a research project approved by the Faculty of Nursing and Midwifery at Shahid Beheshti University of Medical Sciences. We would like to express our sincere gratitude and appreciation to the esteemed officials of the Midwifery and Reproductive Health Research Center, Faculty of Nursing and Midwifery at Shahid Beheshti University of Medical Sciences, and all the participants who took part in this research.

Footnotes

Authors' Contribution: F. Gh. and M. A. D. conceived and designed the study. Z. M. and F. Gh. acquired the clinical data. M. N. interpreted the clinical data. Z. M. drafted the manuscript. M. A. D. revised it critically for important intellectual content. M. N. and F. Gh. performed the statistical analysis. F. Gh. provided administrative, technical, and material support. Z. M. and M. A. D. supervised the study. All authors read and approved the final manuscript.

Conflict of Interests Statement: The authors declare no conflict of interest.

Data Availability: The dataset utilized in the study can be obtained upon request from the corresponding author during submission or following publication. The data is not publicly accessible due to privacy and ethical considerations.

Ethical Approval: IR.SBMU.PHARMACY.REC.1400.208 .

Funding/Support: This study did not receive any grant, and all costs were covered from a personal budget.

Informed Consent: This cross-sectional study was conducted after written consent was obtained.

References

1. Jahanbakhshi A, Niknami M, Pakseresht S, Roushan ZA, Shirzad Chenari S. Childbearing Tendency and Related Factors Among Married Women in Rasht City, north of Iran. *J Holistic Nurs Midwifery*. 2023;**33**(3):230-7. https://doi.org/10.32598/jhnm.33.3.2496.
2. Vahidnia F. Case study: Fertility decline in Iran. *Population Environ*. 2007;**28**(4-5):259-66. https://doi.org/10.1007/s11111-007-0050-9.
3. Bloom D, Boersch-Supan A, McGee P, Seike A. Population Aging: Facts, Challenges, and Responses. *Benefits Compens Int*. 2011;**41**.
4. Mitchell D, Gray E. Declining fertility. *J Sociol*. 2007;**43**(1):23-44. https://doi.org/10.1177/1440783307073933.
5. De Rose A, Guagnano G. Having Children in Europe: The Role of Social Capital. *Revi Euro Stud*. 2023;**15**(1). https://doi.org/10.5539/res.v15n1p24.
6. Yu X, Liang J. Social norms and fertility intentions: Evidence from China. *Front Psychol*. 2022;**13**:947134. [PubMed ID: 36467244]. [PubMed Central ID: PMC9714480]. https://doi.org/10.3389/fpsyg.2022.947134.
7. Geue K, Richter D, Schmidt R, Sender A, Siedentopf F, Brahler E, et al. The desire for children and fertility issues among young German cancer survivors. *J Adolesc Health*. 2014;**54**(5):527-35. [PubMed ID: 24315429]. https://doi.org/10.1016/j.jadohealth.2013.10.005.
8. Marmot M. Closing the health gap in a generation: the work of the Commission on Social Determinants of Health and its recommendations. *Glob Health Promot*. 2009;**Suppl 1**:23-7. [PubMed ID: 19477825]. https://doi.org/10.1177/1757975909103742.
9. Solar O, Irwin A. *A conceptual framework for action on the social determinants of health. Social Determinants of Health Discussion Paper 2 (Policy and Practice)*. Geneva, Switzerland: World Health Organization; 2010. Available from: https://iris.who.int/bitstream/handle/10665/44489/9789241500852_eng.pdf.
10. Davis RR, Hofferth SL, Shenassa ED. Gestational weight gain and risk of infant death in the United States. *Am J Public Health*. 2014;**104 Suppl 1**(Suppl 1):S90-5. [PubMed ID: 24354832]. [PubMed Central ID: PMC4011101]. https://doi.org/10.2105/AJPH.2013.301425.
11. Lam G. *How does gender equity affect fertility in Hong Kong? [dissertation]*. Hong Kong: Hong Kong University of Science and Technology; 2007.
12. Testa MR. On the positive correlation between education and fertility intentions in Europe: Individual- and country-level evidence. *Adv Life Course Res*. 2014;**21**:28-42. [PubMed ID: 26047540]. [PubMed Central ID: PMC4477715]. https://doi.org/10.1016/j.alcr.2014.01.005.
13. Régnier-Loilier A, Vignoli D, Dutreuilh C. Fertility Intentions and Obstacles to their Realization in France and Italy. *Population*. 2011;**66**(2). https://doi.org/10.3917/pope.1102.0361.
14. Edwards ME. Education and occupations: reexamining the conventional wisdom about later first births among American mothers. *Socio Forum*. 2002;**17**(3):423-43. https://doi.org/10.1023/a:1019679023616.
15. Sonmez GA, Argan M, Sabirli TN, Sevil T. A different leisure activity for Turkish women: Invitation Day. *World Leisure J*. 2011;**52**(2):94-103. https://doi.org/10.1080/04419057.2010.9674634.
16. Szeverenyi P, Poka R, Hetey M, Torok Z. Contents of childbirth-related fear among couples wishing the partner's presence at delivery. *J Psychosom Obstet Gynaecol*. 1998;**19**(1):38-43. [PubMed ID: 9575467]. https://doi.org/10.3109/01674829809044219.
17. Taheri Z, Mazaheri MA, Khorsandi M, Hassanzadeh A, Amiri M. Effect of Educational Intervention on Self-efficacy for Choosing Delivery Method among Pregnant Women in 2013. *Int J Prev Med*. 2014;**5**(10):1247-54. [PubMed ID: 25400882]. [PubMed Central ID: PMC4223943].
18. Hamren K, Chungkham HS, Hyde M. Religion, spirituality, social support and quality of life: Measurement and predictors CASP-12(v2) amongst older Ethiopians living in Addis Ababa. *Aging Ment Health*. 2015;**19**(7):610-21. [PubMed ID: 25175073]. https://doi.org/10.1080/13607863.2014.952709.
19. Dehle C, Landers JE. You Can't Always Get What You Want, But Can You Get What You Need? Personality Traits and Social Support in Marriage. *J Social Clin Psychol*. 2005;**24**(7):1051-76. https://doi.org/10.1521/jscp.2005.24.7.1051.

20. Kuhnt A, Trappe H. Easier said than done: Childbearing intentions and their realization in a short-term perspective. *Rostock: Max Planck Inst Demo Res*. 2013. https://doi.org/10.4054/mpidr-wp-2013-018.
21. Salles A, Rossier C, Brachet S. Understanding the long term effects of family policies on fertility: The diffusion of different family models in France and Germany. *Demo Res*. 2010;**22**:1057-96. https://doi.org/10.4054/DemRes.2010.22.34.
22. Harknett K, Billari FC, Medalia C. Do Family Support Environments Influence Fertility? Evidence from 20 European Countries. *Euro J Population*. 2014;**30**(1):1-33. https://doi.org/10.1007/s10680-013-9308-3.
23. Yu M, Qiu T, Liu C, Cui Q, Wu H. The mediating role of perceived social support between anxiety symptoms and life satisfaction in pregnant women: A cross-sectional study. *Health Qual Life Outcomes*. 2020;**18**(1):223. [PubMed ID: 32650793]. [PubMed Central ID: PMC7348126]. https://doi.org/10.1186/s12955-020-01479-w.
24. Rijken A, Knijn T. Couples' decisions on having a first child. *Demo Res*. 2009;**21**:765-802. https://doi.org/10.4054/DemRes.2009.21.26.
25. Ghahremani F, Ahmadi Doulabi M, Eslami M, Shekarriz-Foumani R. Correlation Between Number and Gender Composition of Children and Marital Satisfaction in Women Presenting to Health Centers in Tehran-Iran, 2015. *Iranian J Psychiat Behav Sci*. 2017;**11**(2). https://doi.org/10.5812/ijpbs.9598.
26. Neter J, Kutner MH, Nachtsheim CJ, Wasserman W. Applied linear statistical models. *McGraw-Hill*. 1996.
27. Ghodratnama A, Heidarinejad S, Davoodi I. [The Relationship between Socio – Economic Status and the Rate of Physical Activity in Shahid Chamran University Students of Ahwaz]. *Sport Manag J*. 2013;**5**(16):5-20. FA. https://doi.org/10.22059/jsm.2013.30410.
28. Lovibond SH, Lovibond PF. *Manual for the Depression Anxiety Stress Scales*. Sydney: Psychology Foundation; 1995. https://doi.org/10.1037/t01004-000.
29. Sahebi A, Asghari M, Salari R. [Validation of depression anxiety and stress scale (DASS-21) for an Iranian population]. *Iran J Psychiat*. 2005;**4**(1). FA.
30. Zimet GD, Dahlem NW, Zimet SG, Farley GK. The Multidimensional Scale of Perceived Social Support. *J Personality Assess*. 1988;**52**(1):30-41. https://doi.org/10.1207/s15327752jpa5201_2.
31. Edwards LM. Measuring Perceived Social Support in Mexican American Youth: Psychometric Properties of the Multidimensional Scale of Perceived Social Support. *Hispanic J Behav Sci*. 2004;**26**(2):187-94. https://doi.org/10.1177/0739986304264374.
32. Spanier GB. Measuring Dyadic Adjustment: New Scales for Assessing the Quality of Marriage and Similar Dyads. *J Marriage Family*. 1976;**38**(1). https://doi.org/10.2307/350547.
33. Carey MP, Spector IP, Lantinga LJ, Krauss DJ. Reliability of the Dyadic Adjustment Scale. *Psychol Assess*. 1993;**5**(2):238-40. https://doi.org/10.1037/1040-3590.5.2.238.
34. Hollist CS, Miller RB. Perceptions of Attachment Style and Marital Quality in Midlife Marriage*. *Family Relations*. 2004;**54**(1):46-57. https://doi.org/10.1111/j.0197-6664.2005.00005.x.
35. Stoll K, Hall W, Janssen P, Carty E. Why are young Canadians afraid of birth? A survey study of childbirth fear and birth preferences among Canadian University students. *Midwifery*. 2014;**30**(2):220-6. [PubMed ID: 23968778]. https://doi.org/10.1016/j.midw.2013.07.017.
36. Stoll K, Hauck Y, Downe S, Edmonds J, Gross MM, Malott A, et al. Cross-cultural development and psychometric evaluation of a measure to assess fear of childbirth prior to pregnancy. *Sex Reprod Healthc*. 2016;**8**:49-54. [PubMed ID: 27179378]. https://doi.org/10.1016/j.srhc.2016.02.004.
37. Soderberg M, Lundgren I, Christensson K, Hildingsson I. Attitudes toward fertility and childbearing scale: an assessment of a new instrument for women who are not yet mothers in Sweden. *BMC Pregnancy Childbirth*. 2013;**13**:197. [PubMed ID: 24165014]. [PubMed Central ID: PMC4231394]. https://doi.org/10.1186/1471-2393-13-197.
38. Baezzat F, Ahmadi Ghozlojeh A, Marzbani Y, Karimi A, Azarnioshan B. [A Study of Psychometric Properties of Persian Version of Attitudes Toward Fertility and Childbearing Scale]. *Nurs Midwifery J*. 2017;**15**(1):37-47. FA.
39. Lainiala L. The Impact of Relationship Quality on Childbearing in Finland. *Finnish Yearbook Population Res*. 2011;**1**:31-47. https://doi.org/10.23979/fypr.45064.
40. Ghahremani F, Ahmadi Doulabi M, Eslami M. The correlation between marital satisfaction and childbearing characteristics in women in Tehran. *Int J Adolesc Med Health*. 2019;**33**(5). [PubMed ID: 31352430]. https://doi.org/10.1515/ijamh-2019-0018.
41. Waite LJ, Lillard LA. Children and Marital Disruption. *Am J Sociol*. 1991;**96**(4):930-53. https://doi.org/10.1086/229613.
42. Kearney AL, White KM. Examining the psychosocial determinants of women's decisions to delay childbearing. *Hum Reprod*. 2016;**31**(8):1776-87. [PubMed ID: 27240695]. https://doi.org/10.1093/humrep/dew124.
43. Saisto T, Salmela-Aro K, Nurmi JE, Halmesmaki E. Psychosocial characteristics of women and their partners fearing vaginal childbirth. *BJOG*. 2001;**108**(5):492-8. [PubMed ID: 11368135]. https://doi.org/10.1111/j.1471-0528.2001.00122.x.
44. Pazzagli C, Laghezza L, Capurso M, Sommella C, Lelli F, Mazzeschi C. Antecedents and consequences of fear of childbirth in nulliparous and parous women. *Infant Ment Health J*. 2015;**36**(1):62-74. [PubMed ID: 25451995]. https://doi.org/10.1002/imhj.21483.
45. Fisher C, Hauck Y, Fenwick J. How social context impacts on women's fears of childbirth: a Western Australian example. *Soc Sci Med*. 2006;**63**(1):64-75. [PubMed ID: 16476516]. https://doi.org/10.1016/j.socscimed.2005.11.065.
46. Tiwari A, Fong DY, Chan KL, Leung WC, Parker B, Ho PC. Identifying intimate partner violence: Comparing the Chinese Abuse Assessment Screen with the Chinese Revised Conflict Tactics Scales. *BJOG*. 2007;**114**(9):1065-71. [PubMed ID: 17617187]. [PubMed Central ID: PMC1974837]. https://doi.org/10.1111/j.1471-0528.2007.01441.x.
47. Mathews P, Sear R. Does the kin orientation of a British woman's social network influence her entry into motherhood? *Demographic Res*. 2013;**28**:313-40. https://doi.org/10.4054/DemRes.2013.28.11.
48. Mills M, Begall K, Mencarini L, Tanturri ML. Gender equity and fertility intentions in Italy and the Netherlands. *Demographic Res*. 2008;**18**:1-26. https://doi.org/10.4054/DemRes.2008.18.1.
49. de Laat J, Sevilla-Sanz A. The Fertility and Women's Labor Force Participation puzzle in OECD Countries: The Role of Men's Home Production. *Feminist Economics*. 2011;**17**(2):87-119. https://doi.org/10.1080/13545701.2011.573484.
50. Harandi TF, Taghinasab MM, Nayeri TD. The correlation of social support with mental health: A meta-analysis. *Electron Physic*. 2017;**9**(9):5212-22. [PubMed ID: 29038699]. [PubMed Central ID: PMC5633215]. https://doi.org/10.19082/5212.
51. Clara IP, Cox BJ, Enns MW, Murray LT, Torgrudc LJ. Confirmatory factor analysis of the multidimensional scale of perceived social support in clinically distressed and student samples. *J Pers Assess*. 2003;**81**(3):265-70. [PubMed ID: 14638451]. https://doi.org/10.1207/S15327752JPA8103_09.
52. Ahmad M, Khan A. Social Support and Marital Adjustment in Married Working Women. *Edu Sustainability Soc*. 2018;**1**(2):5-7. https://doi.org/10.26480/ess.02.2018.05.07.
53. Haines HM, Rubertsson C, Pallant JF, Hildingsson I. The influence of women's fear, attitudes and beliefs of childbirth on mode and experience of birth. *BMC Pregnancy Childbirth*. 2012;**12**:55. [PubMed ID: 22727217]. [PubMed Central ID: PMC3449179]. https://doi.org/10.1186/1471-2393-12-55.

54. Dotlic J, Radovanovic S, Rancic B, Milosevic B, Nicevic S, Kurtagic I, et al. Mental health aspect of quality of life in the menopausal transition. *J Psychosom Obstet Gynaecol*. 2021;**42**(1):40-9. [PubMed ID: 32131666]. https://doi.org/10.1080/0167482X.2020.1734789.
55. Safdari-Dehcheshmeh F, Noroozi M, Taleghani F, Memar S. Factors Influencing the Delay in Childbearing: A Narrative Review. *Iran J Nurs Midwifery Res*. 2023;**28**(1):10-9. [PubMed ID: 37250942]. [PubMed Central ID: PMC10215553]. https://doi.org/10.4103/ijnmr.ijnmr_65_22.
56. Ranjbar F, Shirzad M, Kamali K, Akhondi MM, Ghoodjani A, Behjati Ardakani Z, et al. Fertility behaviour of Iranian women: a community-based, cross-sectional study. *Arch Iran Med*. 2015;**18**(1):2-5. [PubMed ID: 25556378].
57. Reshadat S, Zanganeh A, Saeidi S, Gilan NR, Bavandpour E, Ghasemi SR. [Factors associated with total fertility rate (TFR) In Kermanshah-2011]. *J Kermanshah Uni Med Sci*. 2015;**18**(11). FA.
58. Araban M, Karimy M, Armoon B, Zamani-Alavijeh F. Factors related to childbearing intentions among women: a cross-sectional study in health centers, Saveh, Iran. *J Egypt Public Health Assoc*. 2020;**95**(1):6. [PubMed ID: 32813137]. [PubMed Central ID: PMC7364678]. https://doi.org/10.1186/s42506-020-0035-4.
59. Bandehelahi K, Khoshravesh S, Barati M, Tapak L. Psychological and Sociodemographic Predictors of Fertility Intention among Childbearing-Aged Women in Hamadan, West of Iran: An Application of the BASNEF Model. *Korean J Fam Med*. 2019;**40**(3):182-7. [PubMed ID: 30636384]. [PubMed Central ID: PMC6536910]. https://doi.org/10.4082/kjfm.18.0008.
60. Hayford SR, Agadjanian V. From desires to behavior: Moderating factors in a fertility transition. *Demogr Res*. 2012;**26**:511-42. [PubMed ID: 23626485]. [PubMed Central ID: PMC3634800]. https://doi.org/10.4054/DemRes.2012.26.20.
61. Hildingsson I, Johansson M, Fenwick J, Haines H, Rubertsson C. Childbirth fear in expectant fathers: Findings from a regional Swedish cohort study. *Midwifery*. 2014;**30**(2):242-7. [PubMed ID: 23455031]. https://doi.org/10.1016/j.midw.2013.01.001.
62. Laursen M, Hedegaard M, Johansen C; Danish National Birth Cohort. Fear of childbirth: predictors and temporal changes among nulliparous women in the Danish National Birth Cohort. *BJOG*. 2008;**115**(3):354-60. [PubMed ID: 18190372]. https://doi.org/10.1111/j.1471-0528.2007.01583.x.
63. Sercekus P, Okumus H. Fears associated with childbirth among nulliparous women in Turkey. *Midwifery*. 2009;**25**(2):155-62. [PubMed ID: 17600599]. https://doi.org/10.1016/j.midw.2007.02.005.
64. Sercekus P, Vardar O, Ozkan S. Fear of childbirth among pregnant women and their partners in Turkey. *Sex Reprod Healthc*. 2020;**24**:100501. [PubMed ID: 32066117]. https://doi.org/10.1016/j.srhc.2020.100501.
65. Mirabi S, Mirzaei H, Hassani Darmian GR. [A Phenomenological Study on Married Women Awareness of Childbearing]. *J Appl Sociol*. 2020;**31**(3):1-20. FA. https://doi.org/10.22108/jas.2019.116833.1683.
66. Flink IK, Mroczek MZ, Sullivan MJ, Linton SJ. Pain in childbirth and postpartum recovery: the role of catastrophizing. *Eur J Pain*. 2009;**13**(3):312-6. [PubMed ID: 18515162]. https://doi.org/10.1016/j.ejpain.2008.04.010.