Journal of Midwifery & Reproductive Health

JMRH.mums.ac.ir

The Effect of Midwife's Premarital Counseling on Women's Attitude towards Fertility and Childbearing: A Quasi-experimental Study

Afsaneh Gasemi (PhD)[1], Samira Shahbazzadegan (PhD)[2*], Mohammad Ali Mohammadi (PhD)[3], Pouran Akhavan Akbari (PhD)[4]

[1] MSc Student, Department of Midwifery, School of Nursing and Midwifery, Ardabil University of Medical Sciences, Ardabil, Iran
[2] Associate Professor of Reproductive Health, Department of Midwifery, School of Nursing and Midwifery, Ardabil University of Medical Sciences, Ardabil, Iran
[3] Assistant Professor of Nursing, Department of Nursing, School of Nursing and Midwifery Ardabil University of Medical Sciences, Ardabil, Iran
[4] Assistant Professor of Reproductive Health, Department of Midwifery, School of Nursing and Midwifery, Ardabil University of Medical Sciences, Ardabil, Iran

ARTICLE INFO

Article type:
Original article

Article History:
Received: 14-Dec-2023
Accepted: 22-Nov-2023

Key words:
Reproductive Behavior
Marriage
Counseling
Fertility Attitude
Population Growth

ABSTRACT

Background & aim: Considering fertility rate declining trend in Iran, several solutions have been proposed to increase the population, one of which is premarital counseling.This research aimed to evaluate the effect of premarital counseling on women's attitude toward fertility and childbearing.

Methods: This Quasi-experimental study with one-group pretest-posttest design was conducted in Ardabil from March to May 2023. The study population consisted of women referred to the premarital counseling center. 111 participants entered the study by convenience sampling based on inclusion criteria. The counselling sessions were organized as 90-minute face-to-face sessions held by an experienced counselor midwife. Data were collected by a demographic questionnaire and the Attitudes to Fertility and Childbearing Scale (AFCS). The questionnaire was completed before and two weeks after the counseling. Data were analyzed by SPSS software version 15 using statistical tests including chi-square, and paired t-test.

Results: The average age of the women was 23.09±7.12 years, and that of their future husbands was 28.18±6.12 years. The total score of attitudes toward fertility and childbearing increased significantly from 63.55±6.10 before counseling to 67.19±8.40 after counseling (p=0.001).

Conclusion: Premarital counseling improved attitude towards fertility and childbearing. Counseling in a field by midwives affects the awareness of couples about fertility and could help the population growth and the health of future generations.

▶ *Please cite this paper as*:
Gasemi A, Shahbazzadegan S, Ali Mohammadi M, Akhavan Akbari P. The Effect of Midwife's Premarital Counseling on Women's Attitude towards Fertility and Childbearing: A Quasi-experimental Study. Journal of Midwifery and Reproductive Health. 2025; 13(2): 4757-4764. DOI: 10.22038/JMRH.2023.74931.2202

Introduction

One of the serious challenges that societies are facing around the world is the desire of couples to have fewer children and delay fertility (1). The world fertility rate has decreased from more than five children per woman in 1960 to 2.5 children in 2013 (2). In the recent years, fertility behavior in Iran has also changed, and many Iranian families prefer to have fewer children than their parents now. According to statistics, 24 out of 31 provinces in Iran have fertility lower than the replacement rate (1.7 instead of 2.1 births per woman) (3). Iran currently has the lowest fertility rate in the Middle East (4).

* *Corresponding author*: Samira Shahbazzadegan, Associate Professor of Reproductive Health, Department of Midwifery, School of Nursing and Midwifery, Ardabil University of Medical Sciences, Ardabil, Iran. Tel: 09120697499, Email: samirashahbazzadegan2000@yahoo.com

Studies have shown different factors affecting the fertility rate in Iran. Postponing marriage and tendency to have a single child are the main factors that reduce the fertility rate in Iran (5-7). Having a child can be considered a social fullfilment, which, has attitudinal, semantic and inter-subjective aspects in addition to the behavioral dimension. In fact, people's fertility attitudes are considered as one of the most important determinants of fertility behavior. Therefore, fertility behaviors are largely a reflection of childbearing attitudes (8). The combination of knowledge, feelings, and readiness to act toward a certain thing is called a person's attitude toward that thing (9). Fertility attitude is a person's internal desire and readiness to have a child from a social and biological point of view among families. In this regard, more effective interventions by knowing the factors must be developed to form a positive attitude toward fertility and childbearing (10). Studies emphasized the effectiveness of fertility counseling in improving the quality of the population (3, 4 and 6). Socio-economic factors including women's participation in economic issues, increasing the level of education and providing more health services the women attitude toward childbearing (11-12), empowering women in personal, family social levels, as well as religious beliefs have been proposed as the main factors affecting fertility in Iran (6). Attitude toward fertility and childbearing is a critical aspect of reproductive health that can significantly influence a person's decision to have children and reproductive process (3). It is influenced by sociocultural, economic, and psychological factors and can affect, fertility rate, childbearing time, reproductive health outcomes, and family dynamics (4). Understanding the factors affecting attitudes toward fertility and childbearing is important for developing interventions in reproductive health (5).

Premarital counseling is very important in preventing family problems and creating a healthy and stable family (13). One of the main aspects of this counseling is dealing with issues related to fertility and having children (14). Premarital counseling can help couples make informed decisions and plan for their future family by providing accurate and comprehensive information about their fertility and childbearing (7). A key goal of this counseling is to explain the various factors affecting their fertility, such as age, health, lifestyle, and environmental conditions. By understanding these factors, couples can optimize their fertility and increase their chances, when they are ready to start a family (7). Also, premarital fertility and childbearing counseling can help couples to discuss and address any fears or concerns about parenthood (14).

Knowledge about the influencing factors of childbearing can be used to develop more effective premarital counseling programs that promote positive attitudes toward these issues and improve reproductive health outcomes (1). Educational interventions and the implementation of family planning programs started in the early 1980s in Iran and caused a rapid decline in the fertility rate after 1985. Now that the population growth rate is lower than the replacement limit, the need for education to increase the fertility rate becomes more and more apparent. Considering that throughout history, the decision to have children has been left to couples, especially women (5).

There are contradictory results on the effectiveness of premarital counseling on fertility and childbearing issues, particularly women's attitude. Khadivzadeh et al (2021) and Mazloumi et al. (2016) (16) showed that fertility and childbearing counseling promoted the desire to have a child, while Haerimehrizi et al. (2017) and Chan et al. (2014) pointed out no effect of counseling on the desire for fertility (18). Considering the decrease in the fertility rate in Iran along with economic, social, cultural and health changes, further research on women's attitude toward childbearing and studying the role of counseling in changing the attitude of women is essntial. Therefore, conducting research that measures the effectiveness of counseling on women's attitudes toward fertility and childbearing is important. Since attitudes can guide behavior, knowledge about people's attitudes allows healthcare providers to predict the health behaviors. Based on this, the present study was conducted to determinine the effect of midwife's premarital counseling on women's attitude towards fertility and childbearing.

Materials and Methods

This Quasi-experimental study with one-group pretest-posttest design was conducted in Ardabil from March to May 2023. The study population was women who referred to the premarital counseling center. The sample size was calculated approximately 111 women using the following formula; based on an average attitude score of 24.66±5.54 from previous studies (19), and considering the effect size of 1.5, power of 80%, and alpha of 5%.

$$n = \frac{\left(Z_{\frac{\alpha}{2}} + Z_{1-\beta}\right)^2 s2}{d^2} = \frac{(1.96 + 0.85)^2 5.54^2}{1.5^2} = 111$$

The inclusion criteria were women with age of 18-45 years old, getting married for the first time and being able to read and write in Farsi. The exclusion criteria were incomplete filing of the questionnaire and unwillingness to continue the study. Sampling was performed using a convenience sampling method.

The data collection tool was a two-part questionnaire including demographic information (age, education, job, income, childbearing tendency, desire to have children, intensity of desire to have a child, number of children, child gender preference) and the Attitudes to Fertility and Childbearing Scale (AFCS). The AFCS questionnaire is a useful and standardized tool for understanding people's attitudes toward fertility and childbearing (20). It is a self-report tool with 20 questions, which are arranged in the form of a five-point Likert scale (completely agree to completely disagree). The score range of this tool is (20-100). This tool has three components as follows: a) the first field, "the importance of children for the future", includes six questions (1-6). The range of scores in this area was 6-30. b) The second field, "Childbearing as a hindrance at present": contains 10 questions (9-18) and their scores range was 10-50. c) The third field "social identity": contains 4 questions (7-8-19-20). The range of scores in this area was 4-20. Söderberg et al (2013) have confirmed the validity and reliability of the tool (20). This instrument has also been psychometrically evaluated in Iran by Kurd Zangeneh et al (2019) the validity of the instrument in the Iranian version was confirmed by the content validity technique and its reliability was also reported using Cronbach's alpha 0.88 (21). In the present study, validity of the instrument was confirmed by the content validity technique and the reliability of the tool was obtained at 0.87 by Cronbach alpha.

To collect data, a written letter of introduction was presented to the authorities of the premarital counseling center, and then the researcher started sampling. Ardabil has only one premarital counseling center. Thus, the researcher referred to the premarital counseling center every day for six weeks. At first, the study objectives and methods were explained for participants and written informed consent was obtained. They were assured that their information would remain confidential. Then, women were asked to complete the demographic questionnaire as well as the Attitudes to Fertility and Childbearing Scale (AFCS). Thereafter, an experienced counselor offered counselling to the participants using face-to-face approach with questions and answers to discuss different aspects of fertility and childbearing according to the content that met the Ministry of Health recomendation (Table 1. In this study, a trained midwife counselor did counselling for all participants.

Table 1. The content of premarital counseling session

Content	Duration (minutes)
Introduction, greeting, and attracting the attention of the participants	10
Introduce male and female sexual organs	10
Marital intimacy	10
Preparation of a pleasant marital relationship	10
Establishing healthy and pleasant sex-sexual response cycle	20
Function of reproductive organs and menstrual hygiene	5
The benefits of early and more childbearing, the importance of trying to conceive and having children at a younger age	10
Giving correct information to women about a healthy lifestyle and its effect on fertility	10
preparation for pregnancy and parenthood	5

The duration of the sessions was 90 minutes. The researcher succeeded in achieving her

estimated sample in 18 sessions.The number of participants in each session was varied between five and eight.

Two weeks after counseling, participants were agin asked to fill AFCS.

Data were analyzed using SPSS software version 15. Demographic data was analyzed descriptively (frequency, mean, and standard deviation). The Kolmogorov–Smirnov statistic test was used to check the normality of data distribution. Chi-square was used for categorical variables. For comparison befor and after intervention, paired t-test was used. The $P < 0.05$ was considered significant.

Results

The study was conducted with 111 women referred to the premarital counseling center, and all participants completed the study protocol. The demographic data of the participants is shown in Table 2. The average age of women was 23.09±7.12 and their future husbands' was 28.18±6.12 years.

The score of the AFCS questionnaire before and after childbearing marriage counseling was compared by T-test based on Table 3. The differences of 16 statements out of 20 were significant. This means that childbearing counseling changed the participant's attitude.

According to Table 4, the effect of childbearing counseling was significant in "The Importance of children for the future" and "Childbearing as a hindrance at present" domains, while in the domain of "Social Identity" was not significant.

Table 2. Demographic information of the couples

Variable	Female N (%)	Future husband N (%)	Total N (%)
Education			
Primary	7(6.3)	6(5.4)	13(5.8)
Midschool	22(19.8)	14(12.6)	36(16.2)
Highschool	44(39.6)	46(41.4)	90(40.5)
University	38(34.2)	45(40.5)	83(37.4)
Income			
Low	40(36)	3(2.7)	43(19.4)
medium	56(50.5)	63(56.8)	119(53.6)
high	15(13.5)	45(40.5)	60(27.0)
Job			
Unemployed	78(70.2)	3(2.7)	81(36.5)
Free job	28(25.2)	90(81.5)	118(53.2)
Governmental	5(4.5)	18(16.2)	23(10.4)

In Table 5, the childbearing tendency consists of desire to have children, the intensity of desire to have a child, and the number of children scores were compared before and after childbearing marriage counseling. Childbearing marriage counseling significantly increased intensity of desire to have a child. Despite a change in the desire to have children among 5 participants, the effect of childbearing marriage counseling on desire to have children was not significant. Gender preference of the child in 28 (25.2%) participants were girl, 28 (25.2%) were boy, and 55(49.5%) participants reported that the gender of the child was not different.

There was no correlation between the scores of the AFCS questionnaire with demographic data.

Table 3. Comparison score of the AFCS questionnaire before and after childbearing counseling

Row	Statements	Before Mean±SD	After Mean±SD	P*
1	I look forward to one day becoming a mother	3.85±0.99	4.40±0.66	0.001
2	Having children is an essential part of life	4.00±1.02	4.34±0.69	0.007
3	I find it hard to imagine living a life without children	3.61±1.19	4.19±0.71	0.001
4	I can imagine being pregnant and giving birth	3.56±1.03	4.25±0.71	0.001
5	Having a child is a way for me to add new elements to life	4.00±0.83	4.11±0.73	0.269

Row	Statements	Before Mean±SD	After Mean±SD	P*
6	I talk to my friends about having children in the future	3.44±1.20	4.05±0.73	0.001
7	It is important for me to be fertile	4.05±0.91	3.91±0.68	0.195
8	It is important for me to be able to get pregnant anytime	4.00±0.92	3.54±0.81	0.001
9	Having children could limit my life right now	2.98±1.07	2.79±0.75	0.133
10	An unplanned pregnancy would hinder me in my current life	3.12±1.13	2.68±0.80	0.002
11	Childbearing does not fit into my life right now	2.98±1.10	2.36±0.76	0.001
12	Taking responsibility for a child does not fit into my current life	2.95±1.03	2.20±0.68	0.001
13	Having children could limit my leisure time activities	2.90±1.11	2.17±0.72	0.001
14	I do not want to take responsibility as a mother now	3.23±1.18	2.08±0.78	0.001
15	Having children would limit my career	2.71±1.11	2.09±0.67	0.001
16	Being a mother would take too much of my own time	2.92±1.18	2.00±0.74	0.001
17	Having children would limit my study opportunities	2.87±1.16	2.12±0.66	0.001
18	Having children would limit my socializing with my friends	2.43±1.04	2.36±0.71	0.553
19	Being fertile is important for my identity as a woman	3.74±1.17	4.00±0.70	0.044
20	Becoming a mother is important for my identity as a woman	3.78±1.09	4.24±0.66	0.001
	Total	**3.19±0.96**	**3.35±0.50**	**0.001**

*Paired t-test

Table 4. The comparison of components score AFCS questionnaire before and after childbearing counseling

Components	Before Mean ± SD	After Mean ± SD	p*
Importance of fertility for the future	22.48±4.44	25.32±3.07	0.001
Childbearing as a hindrance at present	29.12±7.21	26.90±3.97	0.004
Social Identity	15.71±1.68	15.58±3.17	0.690
Total attitude toward fertility	**63.55±6.10**	**67.19±8.40**	**0.001**

*Paired t-test

Table 5. Comparison the score of childbearing tendency before and after premarital counseling

Childbearing tendency	Before intervention N (%)/ Mean±SD	After intervention N (%)/Mean±SD	P-Value
Desire to have children			
Yes	98(88.3)	103(92.8)	
No	13(11.7)	8(7.2)	0.18+
gender preference			
girl	28 (25.2%)	28 (25.2%)	1
boy	28 (25.2%)	28 (25.2%)	
Not different	55(49.5%)	55(49.5%)	
Intensity of desire to have a child	6.03±3.22	7.48±2.43	0.001++
Number of children	1.07±0.25	1.11±0.32	0.25++

+chi-square ++ paired t-test

Discussion

The results of this study indicate that premarital counseling towards fertility and childbearing improved women's attitudes in the domains of 'importance of fertility for the future' and 'childbearing as a hindrance at present'. According to Khadivzadeh et al (2021) study, counseling has an important place in education in promoting awareness and attitude toward healthy fertility (15). Khodakarmi et al. (2020) (19), and Mazloumi et al. (2016) (16) showed a positive relationship between the desire to have a child after similar counseling with our study which was in line with our results. For instance,, Haerimehrizi et al. (2017) reported no effect of counseling on fertility desire, citing economic issues as the primary reason for reluctance to have children (17). Even, Chan et al. (2014) reported a negative effect of counseling on the desire for fertility, despite their awareness of infertility problems (18). The desire of human beings to have a child is inherent. In the same way, the fertility of couples is usually not to the

extent of their biological ability. There is a huge difference in terms of the size of the family, between developing and developed countries. Various cultural, social, economic factors and common norms in the society play an effective role in different societies in different ways (22). Therefore, childbearing education may have different results in different societies.

According to the results, counseling did not change attitudes toward fertility and childbearing scores in the "Social Identity" domain. This result is in accordance with Dorahaki et al (2023), who declared that "women don't summarize their identity as in the past in the family, the motherhood role and having children" (23), so that even counseling cannot change it. In our study intensity of desire to have a child was significantly increased after counseling. Nafisi et al. (2017) observed a positive relationship between the intensity of the desire to have children and the desired number of children (24), and this attitude was seen more among husbands than among women. Also, the results of Khairollahi et al. (2017) indicated a significant relationship between the desired numbers of children in the future after the intervention (25). However, Mahmoudian et al. (2014) in the survey research reported a negative relationship in the number of desired children in the future (26), which was inconsistent with our results. Islamlou et al. (2014) reported the lack of positive intervention in fertility promotion policies in Iran (27). According to the results of Moodi et al. (2013) no significant relationship was observed between the awareness score and the couple's attitude after the intervention (23) the low quality of the classes that authors mentioned in the limitations of the study might be the reason for this. However, Rahmati et al. (2020) observed a positive relationship between the awareness level and attitude toward fertility after the intervention (28). Abulfotouh et al. (2013) stated that couples did not show any desire for fertility after the intervention (29). Ozjan and Topatnep (2023) observed a positive relationship between the levels of attitude toward fertility after the intervention (30), which was consistent with the results of the present study. The variable results of these consultations can be caused by the difference in the content of the class and shows that these programs need to be fundamentally modified and the most important principle in improving the quality of these classes is the selection of comprehensive educational content based on educational needs assessment and considering the couples problems before marriage.

Participants in this study did not declare any gender preference, but practically although a societal preference for male children was observed (26, 31).

One of the limitations of the study was the reluctance of some women to fill out the questionnaire due to the fear of information disclosure. To solve this problem, participants were assured that the information would remain confidential. Since this study was conducted in the marriage counseling center of Ardabil, therefore, caution should be exercised in generalizing the findings to other settings.

Conclusion

Participating in premarital counseling sessions improved women's attitudes toward fertility and childbearing. Counseling in the field by midwives affects the awareness of couples about fertility and helps the population growth and the health of future generations. Considering the effectiveness of these counselling approach in changing women's attitudes, it is suggested to increase the frequency and hours of its sessions.

Declarations

Acknowledgements

The present study was the master's thesis of a midwifery student. We hereby appreciate all the people involved in this study.

Conflicts of interest

The authors declared no conflict of interest.

Funding

No funding.

Ethical approval

At the beginning of the study, the objectives of the study were explained to the participants and an informed consent form was obtained. Participants were assured that there is no obligation to participate in the study. Also, they were informed that the questionnaires are anonymous, the information related to the

questionnaires are confidential and the results will be published only as a group.

Authors' contribution

SSh, MM, AG, and PA participated in the design of the study, analysis, and draft of the manuscript. AG carried out the data collection; MM interpreted the data; SSh drafted the manuscript. All authors read and approved the final manuscript.

References

1. Mills M, Rindfuss RR, McDonald P, Te Velde E. Why do people postpone parenthood? Reasons and social policy incentives. Human Reproduction Update. 2011; 17(6): 848-860.
2. Pantazis A, Clark SJ. A parsimonious characterization of change in global age-specific and total fertility rates. PloS one. 2018; 1 3(1): 1-19.
3. Irani M, Khadivzadeh T. The relationship between childbearing motivations with fertility preferences and actual child number in reproductive-age women in Mashhad, Iran. Journal of Education and Health Promotion. 2018; 7(1): 1-7.
4. Moeeni M, Pourreza A, Torabi F, Heydari H, Mahmoudi M. Analysis of economic determinants of fertility in Iran: a multilevel approach. International Journal of Health Policy and Management. 2014; 3(3): 135.
5. Abbasi Shavazi M, Razeghi Nasrabad H. Patterns and Factors affecting between marriage and first birth in Iran. Demography Society. 2010; 5(9): 75-105.
6. Khadivzadeh T, Latifnejad Roudsari R, Bahrami M, Taghipour A, Abbasi Shavazi J. Caring for my family integrity: Fertile couples' first childbearing experience in the urban society of Mashhad, Iran. Human Fertility. 2015; 18(1): 60-69.
7. Khadivzadeh T, Talasaz ZH, Shakeri MT. Predicting factors affecting the delay in first childbearing among young married women using the Bandura's social learning theory. Hayat. 2017; 23(3): 226-242.
8. Sadeghi R. Analysis of socio -cultural context of women's fertility decline in Iran. Journal of Sociocultural Strategy. 2016; 5: 217-246.
9. Perloff RM. The Dynamics of Persuasion: Communication and Attitudes in the 21st Century. 6th ed, Routledge Communication Series, Taylor& Francis Group, New York and London, 2016.
10. Pezeshki MZ, Zeighami B, Miller WB. Measuring the childbearing motivation of couples referred to the Shiraz Health Center for premarital examinations. Journal of Biosocial Science. 2005; 37(1): 37-53.
11. Sharma S, Kc B, Khatri A. Factors influencing male participation in reproductive health: a qualitative study. Journal of Multidisciplinary Healthcare. 2018; 11(60): 601-608.
12. Sedlander E, Bingenheimer JB, Thiongo M, Gichangi P, Rimal RN, Edberg M, Munar W. "They destroy the reproductive system": exploring the belief that modern contraceptive use causes infertility. Studies in Family Planning. 2018; 49(4): 345-365.
13. Khadivzadeh T, Arghavani E, Shakeri MT. Attitude toward governmental incentives on childbearing and its relationship with fertility preferences in couples attending premarital counseling clinic in health centers in Mashhad. Journal of Mazandaran University of Medical Sciences. 2015; 24(120): 1-13.
14. Al-Qahtani FS, Alfahad MI, Alshahrani AMM, Almalih HS, Al-Malki ASQ, Alshehri TK, et al. Perception of premarital counseling among King Khalid University students. Journal of Family Medicine and Primary Care. 2019; 8(8): 2607.
15. Khadivzadeh T, Rahmati R, Esmaily H. Effect of education on knowledge of fertility counseling and attitudes toward fertility control. Journal of Education and Health Promotion. 2021; 10: 319.
16. Mazloomi M, Eslami H, Zadeh MD, Arabi M. Survey the Effect of Pre-marriage Counseling on Knowledge and Attitudes Couple in Yazd. Tolooe Behdasht. 2016; 15(2): 105-113.
17. Haerimehrizi AA, Tavousi M, Sadighi J, Motlagh ME, Eslami M, Naghizadeh F, Montazeri A. Reasons for fertility desire and disinterest among Iranian married adults: A population-based study. Payesh. 2017; 16(5): 637.
18. Chan CHY, Chan THY, Peterson BD, Lampic C, Tam MYJ. Intentions and attitudes towards parenthood and fertility awareness among Chinese university students in Hong Kong: a comparison with Western samples. Human Reproduction. 2014; 30(2): 364-372.
19. Khodakarami B, Naseritazehgeshlag M, Parsa P, Mohammadi U. Effect of Group Counseling on Attitude About" Child as a Pillar of Life" in Women Referring to Hamadan City Comprehensive Health Centers. Avicenna Journal of Nursing and Midwifery Care. 2020; 28(1): 27-35.
20. Söderberg 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 and Childbirth. 2013; 13(1): 1-8.
21. Kordzanganeh J, Mohamadian H. Psychometric assessment of the validity of the Iranian version of attitude toward fertility and childbearing inventory in women without a history of pregnancy in the South of Iran. Journal of School of Public Health & Institute of Public Health Research. 2019; 17(1): 83-94.
22. Moodi M, Miri MR, Sharifirad GR. The effect of instruction on knowledge and attitude of couples attending pre-marriage counseling classesJournal of Education and Health Promotion. 2013; 2(30): 52.
23. Darahki A, Akhwan Aramaki M, Ahmadnia Sh. The Relationship between Reflexivity Gender Identity and Women's Fertility: A Study among Married Women in Urban Areas of Kashan County, Iran. Iranian Demographic Society. 2023; 17(34): 113-144.
24. Nafisi N, Zarghami Shiri M. Examining the willingness to have children on during marriage and some related factors in Iran. Population Magazine. 2017; 22(91): 1-9.
25. Kheirollahi F, Sharifshad F, Sarraf P, Mohammadsalehi N, Mohammadbeigi A. Evaluation the Correlation Between general health status and happiness with family child number in high school girls. Journal of Urmia Nursing and Midwifery. 2017; 14(11): 934-941.
26. Mahmoudian H, Mahmoudiani-Gilan S. A comparative study of the attitudes of men and women towards desired number of children (A case study of individuals attended for the pre-marriage medical test in Kermanshah city). Womens Strategic Studies. 2014; 16(63): 97.
27. Farrokh-Eslamlou H R, Vahabzadeh Z, Moeini R, Moghaddam Tabrizi F. Pre-marriage couples fertility attitude following recent childbearing persuasive policies in Iran. Nursing and Midwifery Journal. 2014; 11(10): 836-846.
28. Rahmati R, Khadivzadeh T, Esmaily H. Improving the level of awareness and attitude toward fertility and fertility counseling skills of health staff with both face-to-face and virtual training methods. Journal of Education and Health Promotion. 2020; 29(9): 1-8.
29. Abolfotouh MA, Alabdrabalnabi AA, Albacker RB, Al-Jughaiman UA, Hassan SN. Knowledge, attitude, and practices of infertility among Saudi couples. International Journal of General Medicine. 2013: 563-573.
30. Özcan E, Topatan S. Examining engaged couples' opinions and attitudes towards fertility awareness, family planning and parenting in terms of gender. Journal of Human Behavior in the Social Environment. 2023; 33(7): 1006-1017.
31. Shahbazzadegan, S. A Study on the Sex Ratio in Ardabil, Iran during the Last Decade. Journal of Midwifery and Reproductive Health. 2023; 11(1): 3638-3643.