

Comparing the Childbearing Motivations of Fertile and Infertile Women in Mashhad, Iran

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ARTICLE INFO	ABSTRACT
<p><i>Article type:</i> Original article</p> <hr/> <p><i>Article History:</i> Received: 06-Jan-2018 Accepted: 07-Apr-2018</p> <hr/> <p><i>Key words:</i> Childbearing Counselling Infertility Motivation Treatment of infertility</p>	<p>Background & aim: Despite the importance of motivation for having a child in the process of infertility treatment, there are few studies in this field. This study aimed to investigate the childbearing motivations of infertile women and comparing the results with those of fertile women.</p> <p>Methods: This descriptive cross-sectional study was conducted on 308 women, including 96 infertile women referring to Milad Infertility Center of Mashhad, Iran, in 2015 selected by convenient sampling technique and 212 fertile women of reproductive ages selected from different healthcare settings. The childbearing motivations of participants was gathered through the Childbearing Motivation Questionnaire in two groups and compared using Mann-Whitney U test, and independent t-test. Data analysis was performed applying SPSS (version 16).</p> <p>Results: The mean scores of positive childbearing motivations (PCM) in infertile and fertile women were 99.5 ± 9.7 and 93.61 ± 14.05 out of 112, respectively. The mean of all subscales of PCM, with the exception of "instrumental values of children," of infertile women were significantly higher than fertile women ($p=0.000$).</p> <p>Also, The mean scores of negative childbearing motivations (NCM) in infertile and fertile women were 44.7 ± 10.1 and 52.80 ± 9.26 out of 84, respectively. The mean of all subscales of NCM scores of infertile women were significantly lower than fertile women ($p=0.000$).</p> <p>Conclusion: The findings showed that infertile women had high PCM and low NCM and the experience of parenthood was very important for the infertile couples. It is suggested to offer the appropriate duration and type of treatment based on clients' needs and their childbearing motivation in the counselling and treatment of infertile couples.</p>

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Introduction

Motivation is an inner factor and a power that pushes a person into the target or specific behavior (1). Fertility motivation is a combination of positive and negative motivations which can lead to giving birth to a child or avoiding pregnancy by affecting the couple's decision (2). Fertility motivation with making a conscious desire for childbearing affects the desired number of children and even the interval between marriage and childbirth (3-5).

Numerous personal and social factors may affect fertility motivation over all periods of life (6-7). Previous studies in Iran reflect a high tendency of couples to have children; accordingly, great pieces of evidence are suggestive of the necessity of having at least one child to maintain the stability of marital life (6).

Based on the statistics, 13-15% of people are infertile worldwide (8). In Iran, more than 20.2% of couples are suffering from infertility

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despite their desire to have a baby (9). The desire to have a child is associated with a number of factors, such as emotional benefits, economic and security resources, feel valued, and survival (6).

In a previous study the reasons for having a child include "identity" and "parenthood" among infertile women and "happiness", "parenthood", and "well-being among infertile men (15). It is notable which, having a child is highly valued in a number of cultures, which is the reason why infertility makes a crisis in various aspects of a couple's life (10, 11). Studies on attitudes towards fertility show that the infertile patients consider having children as a very important factor for the strength, warmth, and joy of life (11, 12). Therefore, it is of great importance both for men and women to play the role of parents (13).

Although the overall motivation of patients using assisted reproductive techniques is to give birth to a child, certain motivators can be the source of this general motivation (2). Previous studies show that medical treatment is the first decision for over 80% of infertile couples, immediately after the diagnosis of infertility. Other options, such as complementary therapies, adoption, and life without children, are not considered thoroughly (14). Although these options are simpler solutions for any couples, they may lose the opportunity of using an appropriate strategy given the ignorance of their basic motivations (2, 14).

For example, a couple for whom the genetic link to the child is very important, and they hope to continue their generation, in vitro fertilization (IVF) is the best therapeutic option. However, if having a genetic link is less important than experiencing a pregnancy and childbirth for a couple, they can benefit from treatments with egg or embryo donation. When fostering children is important for an infertile couple, adoption can be a good choice to solve their problem (2).

On the other hand, there are few studies that show whether the infertile women's childbearing motivation is similar to that of other members of society or not. In a study performed by Balen et al. (1995), the desire to items and negative motivation entailing 4 subcategories in 21 items. This questionnaire is

have a child was mainly related to sense of identity and parenthood among infertile women as well as happiness, parenthood, and well-being among infertile men (15).

Miller et al. (2008) in the US showed that after dividing fertility motivations into two positive and negative subsets, infertile men and women had higher positive motivation level and lower negative motivation level, compared to a similar group of fertile patients. Each of the positive and negative childbearing motivations has few sub-scales which the differences between these sub-scales was significant between the two groups in their study (2).

The recognition of the needs and motives of infertile women who seek infertility treatments can be helpful in providing high-quality counselling services and facilitate solving many reproduction-related problems (16). Despite the importance of childbearing in the Iranian society, this country has a notable infertility rate (17). Given the significance of assessing this issue in the cultural context of Iran, this study aimed to investigate childbearing motivation among the infertile women referring to the Infertility Clinic of Milad Hospital in Mashhad, Iran, and compare it with the fertile women.

Materials and Methods

This descriptive cross-sectional study was carried out on 308 fertile and infertile women in 2015. Participants consisted of 96 infertile women who referred to the Milad Infertility Center of Mashhad and selected by convenient sampling technique. The inclusion criteria for the infertile group were primary or secondary infertility diagnosis, up to one living child, and consent to participate in this research.

To compare childbearing motivation between the fertile and infertile women, 212 fertile women who completed the Child Bearing Questionnaire (CBQ) in another study in 2015-2016 were chosen. The fertile cases were within the age range of 15-50 years with no diagnosis of infertility and had up to one child. Research tools consisted of a demographic form and CBQ (Miller, 1994). The CBQ has two dimensions, namely positive motivation including 5 subcategories in 28 rated on a four-point Likert scale, ranging from completely disagree (score 1) to strongly agree

(score 4). Each participant had two scores in this questionnaire; one indicated the positive

motivation, and the other one represented the negative motivation.

Table 1. Subscales of positive and negative childbearing motivation questionnaire

Positive motivation		Negative motivation	
Joy of pregnancy, birth, and infancy	6 items	Discomfort of pregnancy and childbirth	2 items
Traditional parenthood	6 items	Fear and worry of parenthood	6 items
Satisfaction of childrearing	6 items	Parental stress	4 items
Feeling needed and connected	5 items	Challenges of child care	9 items
Instrumental values of children	5 items		

The participants were divided into four groups based on their obtained scores in the two dimensions. In this regard, those in the first group had the highest positive motivation and a low negative motivation defined as pro-natalist. The second group with participants who had a low positive motivation and a high negative motivation titled as anti-natalist. Furthermore, the participants in the third group had both high positive and negative motivations named as ambivalent. Finally, the fourth group consisted of participants with low positive and negative motivations titled as undifferentiated (18).

The content validity of the translated version of the questionnaire was approved by seven professors of midwifery, reproductive health, and nursing disciplines in Mashhad University of Medical Sciences, Mashhad, Iran. The Cronbach's alpha coefficient was used to confirm the internal consistency of this instrument. The reliability of the tools was confirmed with alpha coefficients of 0.94 and 0.91 for positive and negative childbearing motivations, respectively.

The study was performed after obtaining research approval from the Ethics Committee with the code R.MUMS.REC.1394.576 and making the necessary coordination with Milad Infertility Center. In line with ethical consideration, the eligible women were informed about the purpose of the study. Furthermore, written informed consent was obtained from all participants.

Data analysis was performed using the SPSS software (version 16). The demographic data were presented as mean, standard deviation, and frequency. To test the normal distribution, Kolmogorov-Smirnov test and Shapiro-Wilk were run. If the distribution of data was normal, parametric methods would be used; otherwise, non-parametric statistical methods would be

employed. The comparison of the childbearing motivation scores between the two groups was accomplished using the Mann-Whitney U test and independent t-test. Additionally, the qualitative data were analyzed by means of the Chi-square test. A p-value less than 0.05 was considered statistically significant. The effects of non-homogeneous variables in the two groups were investigated by general linear model.

Results

The mean age of the infertile women was about three years more than that of the fertile women. In terms of the employment status, 63.2% and 78.6% of the fertile and infertile women were housewives, respectively. Furthermore, 27.8% and 69.5% of the fertile and infertile subjects had no living child, respectively.

The results of the Mann-Whitney U and Chi-square tests showed a statistically significant difference between the two groups in terms of age, education level, child number, and the number of siblings.

The mean positive childbearing motivation score of the infertile women was obtained as 99.5 ± 9.758 (range: 58-112). The general linear model was used to analyze the differences in childbearing motivation between two groups considering the effects of intervening variables. The results indicated a significant direct correlation between the number of siblings and positive childbearing motivation scores. However, variables, such as age, number of children, and number of siblings, were in reverse correlation with negative childbearing motivation. After adjusting for the intervening variables, the general linear model showed that the two groups had significant differences considering positive ($p < 0.05$) and negative childbearing motivations ($p < 0.05$).

The highest scores among the items of positive childbearing motivations were related to the items of "Giving my husband the satisfaction of fatherhood" and "Experiencing the especial love and close relationship that a child provides". On the other hand, the lowest score was obtained for "Having a child who will carry on my family traditions" and "Having my family and friends admire me with my baby".

The mean score of the negative childbearing motivation of the infertile women was

44.7±10.1 (range: 24-68). The highest score regarding the negative childbearing motivation was related to the items of "Worrying about the health and safety of my child", while the lowest score was assigned to "Straining our relationship with a baby", and "Having a child who is a burden to me and my husband".

Table 2 shows the results of independent t-test and Mann-Whitney U test to compare the mean scores of positive and negative childbearing motivations and their sub-scales.

Table 2. Comparison of the mean scores of positive and negative childbearing motivation dimension and their subscales between fertile and infertile groups

	Fertile	Infertile	Mann-Whitney U test and independent t-test	
	n=212	n=96	p	Z
Positive childbearing motivation	93.61±14.05	99.47±9.74	0.000	U=7337.00
-Joy	21.10±3.88	22.80±2.10	0.000	U=6800.00
-Traditional parenthood	18.69±3.99	20.09±3.41	0.003	U=7947.00
-Satisfaction	21.74±3.04	22.81±1.89	0.000	U=7423.50
-Needed and connected	16.96±3.10	17.75±2.70	0.047	U=8714.50
-Instrumental	12.25±2.92	12.82±2.74	0.084	U=8838.00
Negative childbearing motivation	52.80±9.26	44.74±10.09	0.000	T=6.854
-Discomfort	5.44±1.55	4.65±1.78	0.000	U=6920.00
-Fear of parenthood	15.04±3.02	13.89±3.98	0.018	U=8371.50
-Negative child care	22.82±4.34	18.75±4.92	0.000	U=4726.00
-Stress	8.11±2.42	5.90±2.13	0.000	U=4286.50

There was a statistically significant difference between the two groups regarding the mean of positive ($p<0.001$) and negative ($p<0.001$) motivation global scores. The mean scores of four sub-scales of positive motivations were different between two groups and only the mean scores of a sub-scale titled as "Instrumental values of children" was not different. Based on the results, the mean score of positive motivation was higher in the infertile women than that of the fertile group. Furthermore, the infertile women had a lower mean negative motivation score, compared to the fertile group.

The comparison of the items of positive and negative motivations by means of Mann-Whitney U test showed that among the 28 items of positive motivation, the scores of 10 items were not significantly different between the two groups. Some of these items included "Having my child be a success in life", "Feeling needed and more useful through my child", and "Having

my child provide me with support and companionship later in my life".

There was a significant difference between the two groups in terms of four sub-scales of positive motivations (in all cases $p<0.001$). In this regard, the infertile women had higher scores in the following items: "Giving my husband satisfaction of fatherhood", "Childbirth is a pleasure for me", "Devoting myself and much of my time to raising children and being a mother", "Fulfilling my potential with having a child", and "Playing with my child".

Among the 21 items of negative childbearing motivation dimension, there were no significant differences between the two groups in terms of six items. In other words, the fertile and infertile women had similar scores regarding these items. Some of these items included "Taking care of a sick baby" and "Experiencing the pain of childbirth". Furthermore, 15 items of negative childbearing motivation were significantly

different between the two groups ($p < 0.001$). The infertile women scored lower than the fertile women in items, such as "Having a child

who takes away my freedom to do other things", "Straining our relationship with a baby", and "Experiencing the discomfort of pregnancy".

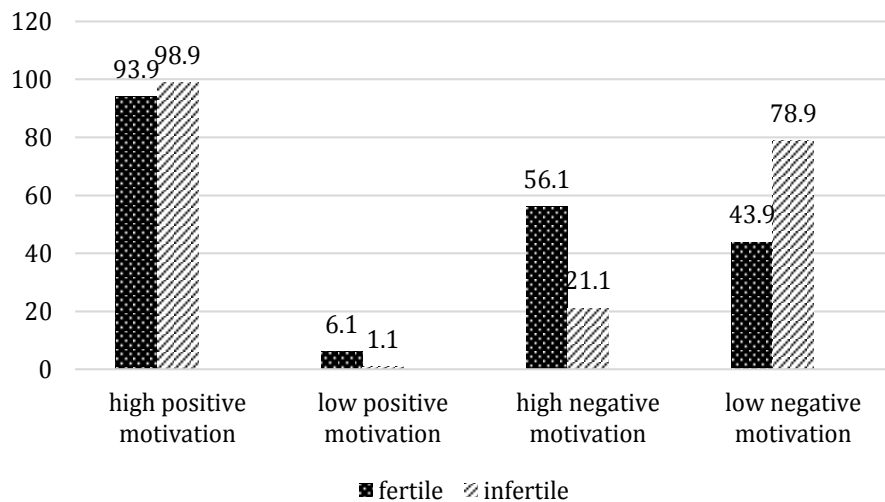


Figure 1. Relative frequency of upper and lower surfaces of positive and negative childbearing motivation dimensions among fertile and infertile groups

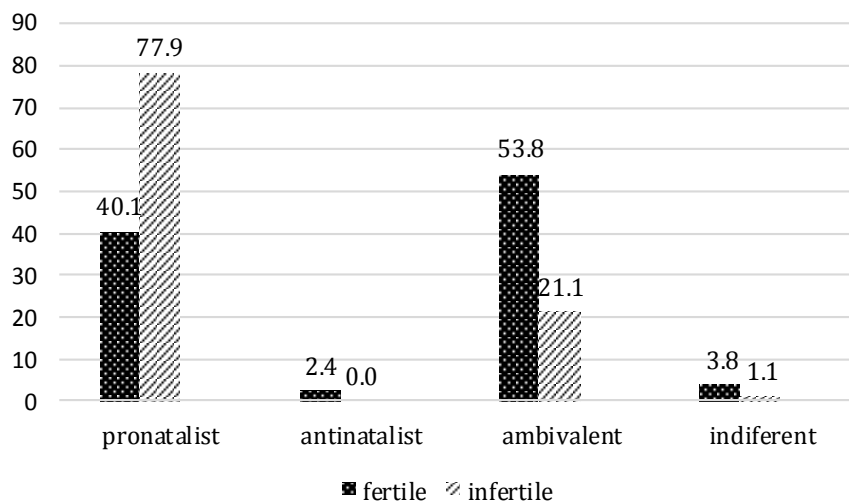


Figure 2. Relative frequency of child-friendliness in fertile and infertile group

The positive and negative motivation dimensions were divided based on the median score, into those above the median and those below the median to facilitate the comparison of the two groups. The results of the Chi-square test showed that the positive childbearing motivation score of the majority of the participants in both groups was above the median. However, the difference between the

two groups was not statistically significant in this regard ($p = 0.072$).

However, a significant difference was observed between the two groups in terms of negative motivation. Compared to the infertile group, the negative childbearing motivation score of most of the subjects in the fertile group was above the median ($p < 0.001$). Therefore, the majority of the fertile women had a high level of

negative motivation, while most of the infertile women had low negative motivation for childbearing (Figure 1).

As Figure 2 illustrates, a high percentage of infertile women (40%) obtained the highest positive motivation score and the lowest negative motivation score in comparison with the other group, which is congruent with the definition of pronatalist. Furthermore, about 53% of the infertile women obtained high scores in both positive and negative motivation dimensions which is in line with the definition of ambivalence.

Discussion

This study aimed to investigate the childbearing motivation of women seeking fertility treatment with assisted reproductive techniques and also compare the results with that of fertile women. The findings showed that infertile women had high positive motivations and low negative motivations for childbearing. Top-scored items among the infertile women (i.e., "Giving my husband the satisfaction of fatherhood" and "Experiencing the especial love and close relationship that provide with a child") showed that the experience of parenthood was very important for the infertile couples. This result is in line with that obtained by Balen et al. (1995) showing that the underlying desires including identity and parenthood, as well as happiness, parenthood and well-being could distinguish infertile women and men from the control group (15).

On the other hand, the lowest-scored item was "A child who will carry on my family tradition". These findings suggested that the need for having a child does not necessarily have to be met through a genetically-related child. In this regard, the need of the infertile patients could be satisfied with egg, sperm, or embryo donation and even adoption without having to repeatedly experience the difficulty of medical treatment and IVF.

The findings also showed that in almost all subscales, infertile women had higher positive motivation scores and lower negative motivation scores than the fertile women. The results of this study were in line with those reported by Miller (2). Miller (2008) demonstrated that all positive motivation subscales were significantly different between

the two study groups (2). In the current study, the scores of two subscales, including "needed and connected" and "Instrumental values of children", were relatively similar. These two subscales indicated parents' willingness to have a child in order to be provided with some benefits. Furthermore, the two groups showed a significant difference in the four sub-scales of "Joy of pregnancy, birth, and infancy", "satisfaction of childrearing", "traditional parenthood" and "Needed and connected", which included items such as religious beliefs about children and the need for a child to strengthen the life. Scores related to the subscales of negative motivation in the infertile group were significantly lower than those obtained by the fertile group. This finding indicated that the infertile women were less worried about the areas related to the discomforts of pregnancy and childbirth, health, morals, safety, and upbringing of a child, challenges that children may create for parents (e.g., limitation of their freedom), and toleration of the hardship of having children. Moreover, they were less worried about the effect of having a child on their marital relationship and personal health.

In the study by Miller (2), among the subscales related to negative motivation, "Negative of child care" was significantly different between the two groups.

The findings of the present study suggested that although fertile and infertile women were different in terms of positive and negative motivations, this difference was greater in negative motivation. In the current study, both fertile and infertile groups had a high positive childbearing motivation. This was justified due to the great value of childbearing in the Iranian society (17).

Nilfrooshan et al. (2006) also mentioned that the infertile patients consider having children as a very important factor for the strength, warmth, and joy of life (10, 12). Similarly, in another study, Nilfrooshan et al. (2006) found that infertile people gave great importance to the role of parents and considered it as the most important role of men and women (13).

Considering negative motivation, it should be noted that the majority of the fertile women had high negative childbearing motivation. On the

other hand, the infertile women obtained a significantly low negative motivation score. This could suggest that the infertile patients paid less attention to the negative points of childbearing and its associated difficulties due to the bitter experience of infertility and its consequent problems (17, 19). The significant high negative childbearing motivation in this study was consistent with the findings of the previous studies performed in Mashhad city. In the study of Khadivzadeh and Rahmanian (2018), the attitudes towards childbearing in women and men on the verge of marriage were not so favorable (20). The other study showed that both negative and positive childbearing motivations are high in newly married couples, and these two variables were significantly correlated together.

Based on the definitions of pronatalist, antinatalist, indifferent and ambivalent (18), most of the infertile women were in the category of pronatalist, and the rest by a far difference were in the category of ambivalent, and then indifferent. However, given that the samples were selected from the applicants of assisted reproductive techniques, it was justified that none of them were against childbearing. On the other hand, regarding the fertile women, most of the subjects were categorized in ambivalent group, followed by pronatalist, and then the other two groups.

In this study, anti-natalists group was the smallest in the both fertile and infertile groups, which indicated the high value of childbearing in the Iranian society.

Conclusion

The results of this study showed the difference in childbearing motivation between fertile and infertile women. The motivation of the infertile women for undergoing the infertility treatments was not limited to giving birth to a child. The analysis of the subscales of childbearing motivation in infertile women suggested that there could be some specific appropriate treatments for each infertile couple given the fact that different needs require different follow-up infertility treatments. Consequently, identical therapies and similar treatments for all infertile people should be avoided. It is suggested to perform appropriate counselling considering each infertile couples'

motivation to propose helpful and proper methods tailoring to their conditions.

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Conflicts of interest

None declared.

References

1. Miller W, Severy L, Pasta D. A framework for modelling fertility motivation in couples. *Population Studies*. 2004; 58(2):193-205.
2. Miller WB, Millstein SG, Pasta DJ. The measurement of childbearing motivation in couples considering the use of assisted reproductive technology. *Biodemography and Social Biology*. 2008; 54(1): 8-32.
3. Khadivzadeh T, Hadizadeh Talasaz Z, Shakeri MT. Predicting factors affecting the delay in first childbearing among young married women using the Bandura's social learning theory. *Journal of Hayat*. 2017; 23(3):226-242. (Persian)
4. 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):1-3. (Persian)
5. Avidime S, Ameh N, Adesiyun AG, Ozed-Williams C, Isaac N, Aliyu Y, et al. Knowledge and attitude towards child adoption among women in Zaria, northern Nigeria. *Nigerian Medical Journal*. 2013; 54(4):261.
6. Khadivzadeh T, Latifnejad RL, Bahrami M, Taghipour A, Shavazi JA. The influence of social network on couples' intention to have the first child. *Iranian Journal of Reproductive Medicine*. 2013; 11(3):209-218.
7. Khadivzade T, Arghavani E. Religious beliefs and fertility preferences among engaged couples, referring to premarital counseling centers of Mashhad, Iran. *Journal of Midwifery and Reproductive Health*. 2014; 2(4):238-245.
8. Mohsenian R. Comparison of mental health ratings of fertile and infertile couples. *Zahedan Journal of Research in Medical Sciences*. 2012; 14(1):72-75.

9. Shocking Facts infertile couples in the population. Supreme Council of the Cultural Revolution. Available at: URL: <http://sccr.ir>; 2015. (Persian)
10. Savadzadeh S, Madadzadeh N. Explanation of emotional feelings of women with infertility: a qualitative study. *Journal of Ilam University of Medical Sciences*. 2013; 21(1):16-24. (Persian)
11. Nilfroushan P, Ahmadi SA, Abedi M, Ahmadi S. Studying the effect of cognitive-behavioral counseling, based on interacting cognitive subsystems approach on attitude towards infertility of infertile couples. *Journal of Family Research*. 2006; 2(5):21-33. (Persian)
12. 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.
13. Nilforooshan P, Ahmadi SA, Abedi MR, Ahmadi SM. Attitude towards infertility and its relation to depression and anxiety in infertile couples. *Journal of Reproduction & Infertility*. 2006; 6(5):546-552.
14. van Balen F, Verdurmen J, Ketting E. Choices and motivations of infertile couples. *Patient Education and Counseling*. 1997; 31(1):19-27.
15. Van Balen F, Trimbos-Kemper TC. Involuntarily childless couples: their desire to have children and their motives. *Journal of Psychosomatic Obstetrics & Gynecology*. 1995; 16(3):137-144.
16. Rahmati R, Khadivzadeh T, Esmaily H, Bahrami HR. Evaluation of the performance of the health care workers in giving consultation about the fertility promotion. *Journal of Midwifery and Reproductive Health*. 2017; 5(2):911-918.
17. Ardekani ZB, Akhondi MM, Kamali K, Khalaf ZF, Eskandari S, Ghorbani B. Mental health status of patients attending avicenna infertility clinic. *Journal of Reproduction & Infertility*. 2010; 11(4):319-324.
18. Miller WB, Trent M, Chung SE. Ambivalent childbearing motivations: predicting condom use by urban, African-American, female youth. *Journal of Pediatric and Adolescent Gynecology*. 2014; 27(3):151-160.
19. Ramezanzadeh F, Noorbala AA, Afzali M, Abedinia N, Rahimi A, Shariet M, et al. Effectiveness of psychiatric and counseling interventions on fertility rate in infertile couples. *Tehran University Medical Journal TUMS Publications*. 2007; 65(8):57-63. (Persian)
20. Khadivzadeh T, Rahmanian SA, Esmaily H. Young women and men's attitude towards childbearing. *Journal of Midwifery and Reproductive Health*. 2018; 6(3):1336-1347.
21. Khadivzadeh T, Arghavani E, Shokrollahi P, Ghazanfarpour M, Kareshki H. Factorial structure of the Persian version of Childbearing Questionnaire in first time engaged couples in Iran. *Journal of Obstetrics and Gynaecology*. 2018; 38(4):470-475.