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Comparative study of the effect of two counseling methods on fertility motivation in infertile couples

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Abstract:

BACKGROUND: Reproductive motivation is a complex issue that has cultural, behavioral, and ideological roots and changes in the context of population transfer and economic and social development. Reproductive motivations include positive and negative motivations that can be influenced by education. Training can be done in different ways. It seems that face-to-face training increases learning. On the other hand, face-to-face training increases participants' cooperation and desire for educational topics. Therefore, the aim of this study was to compare and determine the effect of two counseling methods on the fertility motivation of infertile couples.

MATERIALS AND METHODS : This intervention study was performed on 68 men and women with infertility referring to Milad Infertility Center in Mashhad in 2016–2017. Subjects were randomly assigned to two methods of counseling. Participants completed written consent to participate in the study. Infertile couples were included in the study if they met the inclusion criteria. The fertility motivation questionnaire was completed by the participants at the beginning of the study before the consultation and 2 weeks after the consultation. The collected data were analyzed by SPSS Software Version 16.

RESULTS: According to the independent *t*-test, there was no statistically significant difference between the mean scores of positive fertility motivation in the two groups of face-to-face and telephone counseling before the intervention. Independent *t*-test showed that 2 weeks after the intervention, there was no significant difference between the two groups in terms of this variable ($P = 0.283$). There was no statistically significant difference between the mean scores of positive fertility motivation in the face-to-face counseling group before and after the intervention. Further, in the telephone counseling group, there was no significant difference between the mean scores of positive fertility motivation in the two stages before and after the intervention. According to the independent *t*-test, there was a statistically significant difference between the mean scores of negative fertility motivation in the two groups of face-to-face and telephone counseling before the intervention ($P = 0.025$). However, this test showed that there was no significant difference between the two groups in terms of this variable 2 weeks after the intervention.

CONCLUSION: The results of this study showed that face-to-face and telephone counseling did not have a significant effect on fertility motivations of infertile couples. In other words, the mean scores of positive and negative fertility motivations before and after counseling remained unchanged in both groups and the two groups did not differ in this regard. In other words, the issue of fertility motivation in infertile women can be affected by different characteristics such as social, family, cultural, and economic conditions of individuals. If infertile people do not make having a child a necessity in their lives and cope with it more easily, no counseling can change their motivation. On the other hand, if infertile women consider having a child as an essential part of their married life and the health of their married life, counseling can have the greatest effect on them.

Keywords:

Counseling, education, face-to-face counseling, fertility motivation, telephone counseling

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Introduction

Iran is one of the countries which has experienced a sharp decline in fertility in the world. The decrease of more than 50% fertility has not only made this country unique among Muslim countries, but such a record also cannot be seen anywhere else.[1]

Reproductive motivation is a complex issue that has cultural, behavioral, and ideological roots and changes in the context of population transfer and economic and social development.[2] Recent studies show that fertility is influenced by both individual choice and values, culture, and social norms. According to Miller *et al.*, fertility motivations include positive and negative motivations. Positive fertility motivations actually include each person's personal reasons for wanting a child and include the joy of pregnancy, birth and childhood, the traditional view, satisfaction with parenting, the feeling of need and survival, and the instrumental use of the child. Negative fertility motivation includes reasons for not wanting a child such as fear of parenthood, parental stress, and child care challenges.[3] Miller *et al.*'s study in the United States found that positive fertility motivation was associated with greater desire to have children, more desired children, and fewer desired intervals between births. In their study, negative fertility motivations were inversely related to the desire to have children and the desired number of children. On the other hand, infertility can be one of the effective factors on the fertility motivation of couples. In their study of infertility motivation in infertile individuals, Miller *et al.* stated that the likelihood of adoptive adoption is related to individuals' motivations for fertility and childbearing.[4] The fertility motivation of infertile people, despite its great importance in the course of infertility treatment, has been less studied. According to them, every person has motivations such as continuity of generation, experience of pregnancy and breastfeeding, raising a useful human being, filling the vacuum of loneliness, and things like that to pursue infertility treatment and having children. According to Miller *et al.*, different treatments for infertility, depending on a person's fertility motivation, can be beneficial to some and undesirable to others. For example, in people for whom genetic contact with the baby and the experience of pregnancy and childbirth are very important, IVF (In Vitro Fertilization) may be a good option. Donated eggs or sperm, on the other hand, can be used for other people who are less likely to have a genetic connection to the baby. Finally, adoption is a good choice for couples who are not interested in genetic connection or getting pregnant as much as they want to raise a child, and their most important motivation is to raise a child or fill their own loneliness.[1-4] The effectiveness of health education programs depends to a large extent on the correct use of health education methods. Currently, the most common educational approach in health education programs is face-to-face training. Based on the principles of health education, face-to-face method has a greater impact on the client compared to other methods. However, in many situations, due to limited resources, equipment, and workforce, it is not possible to use face-to-face training, which should use other methods such as telephone training.[2,5-7] Using the telephone to provide care not only reduces costs and facilitates access to care but also improves the relationship between the patient and caregivers and removes barriers to place and time.[8] The value of telephone counseling seems to be lower than face-to-face counseling; however, with this technology, very useful care interventions can be performed in a short period of time.[9] In general, communication technology is rapidly changing the field of healthcare, and the provision of telemedicine health services has attracted the interest of health professionals and clients and patients. Providing telecommunication health services is a broad concept that means using telecommunication and communication technology and computers to provide services to customers and not limiting the provision of services in clinics or offices or other specific places. The use of these technologies in the fields of medicine and treatment, nursing, social work, psychology, nutrition, etc., is being used and expanding. It is agreed that the treatment and the management of chronic diseases require the use of technology to provide remote health services. Telephone counseling is expected to save on anticipated costs, increase patient comfort, and increase self-care. Using these services will change health services from being physician-centered to patient-centered and from hospital-centered to community-oriented. As a result, the home becomes a place to provide health care to patients.[10] The results of Khadivzadeh *et al*.'s study showed a significant relationship between positive motivations and no relationship between negative fertility motivations and fertility preferences of individuals. In other words, with the increase of positive fertility motivations in couples, the desire to have children and the desired number of children in them increased while the desired distance between marriage and the birth of the first child decreased.[3] On the other hand, the study of Alishah *et al*. showed that women's fertility is directly related to the positive dimension of childbearing motivations and inversely related to the negative dimension of childbearing motivations.[11] As a result, one way to increase women's empowerment is to increase their awareness. One of the most important issues to be aware of is infertility and related issues. According to the above issues and also due to the fact that no study was found that compared the effect of educational programs on fertility motivation of infertile women, researchers were asked to conduct a study in this field. As a result, the present study was conducted

to determine and compare the effect of two counseling methods on fertility motivation in infertile couples.

Materials and Methods

The present study was a two-group educational intervention study, with the aim of comparing the effect of two educational methods of face-to-face counseling and telephone counseling on fertility motivation of infertile couples referred to Milad Infertility Treatment Center in Mashhad in 2015–2016. This study is the result of the student thesis of the Master of Counseling in Midwifery approved by the Vice Chancellor for Research of Mashhad University of Medical Sciences (Ir.mums.rec. 1394.576). The number of participants in this study was 68 infertile couples who were selected by available sampling method. Inclusion criteria were having written consent to participate in the research, ability to read and write, having the physical ability to participate in research, having infertility for 5 years, have a history of unsuccessful IVF or IUI (Intrauterine Insemination), having lack of biological child, and being at least 30 years old by one of the spouses. Exclusion criteria were not participating in counseling programs, dissatisfaction with the continuation of research, and getting pregnant during research. The researcher first referred to Milad Infertility Center in Mashhad after conducting the project in the Research Ethics Committee of Mashhad University of Medical Sciences and obtaining the necessary permits for sampling. Individuals with eligibility were then asked to participate in the present study if possible. After obtaining written consent from the participants, the objectives of the research and the steps of the work were explained to the participants. The couple then completed the questionnaires of demographic and fertility characteristics and fertility motivation. Then, they were randomly divided into two groups of face-to-face and telephone training. Counseling sessions were coordinated based on when it was appropriate for the couple. To conduct telephone counseling, the couple used a speakerphone so that they could hear the counselor's voice during the couple's counseling and both could interact in the counseling. In general, the topics set for the sessions according to scientific sources were the same for all couples in the two counseling groups. The average number of sessions for face-to-face counseling was three 60-min sessions and for telephone counseling was six 30-min sessions. In both groups, this number of sessions was held for each couple over 2–3 weeks. All sessions were conducted in the presence of both couples. All counseling sessions were conducted by a researcher who was a graduate student in counseling in midwifery and had been approved by counselors and counselors in terms of counseling competence. Face-to-face counseling sessions were held at the Milad Infertility Center in the morning. Due to the fact that this time was not suitable for some couples or due to the unpleasant experience of treatment and the fear of meeting acquaintances in this center, they did not want to attend the infertility center, after coordination with the officials of the School of Nursing and Midwifery. Some counseling sessions were held in the evening at the Faculty of Nursing and Midwifery of Mashhad University of Medical Sciences. For telephone counseling, the couple used a speakerphone with a speaker so that they could hear and interact with the counselor during counseling. The time of holding telephone counseling sessions was at the request of the clients in the evening and at night and on the days when the clients were present at home and had no other occupation. During the telephone counseling, the researcher pointed out the possibility of disconnecting or having a problem during the counseling and asked them to report it if there was a problem with the sound quality so that the counseling could be done in the best possible way.

The content of the sessions was the same in both groups. Only in the telephone group, each face-to-face counseling session was held in two sessions in the telephone counseling session.

In the first session, the researcher, after introducing himself/herself and explaining about the counseling program and its goals, examined the couple's infertility history. Necessary information about infertility and its treatments were provided to the couple. Then, we talked about the negative emotions caused by infertility and the acceptance of infertility losses. Finally, the couple was asked to write down their views on childless life and its consequences and bring it with them to the next meeting.

In the second session, after reviewing the homework offered to the couple, they talked about their motivations for having children and various nonmedical solutions to the infertility problem. Adoption was cited as a solution to the infertility problem. The couple talked about their information about adoption. General information about adoption was provided. At the end of the session, couples were asked to seek the views of influential people such as parents or people who have adopted children about the advantages and disadvantages of adoption.

In the third session, the couple's own views on adoption and the importance of the views of others were examined. Challenges related to adoption such as biological parents, attachment to the child, genetic connection, privacy, and disclosure of facts were discussed according to the interests of the couple. At the end, the legal issues and the process of adopting the adopted child were explained, in general, and the researcher's contact number was provided to them to provide the necessary explanations.

The Miller Reproductive Motivation Questionnaire (1994) is designed to measure people's motivation to have children(4). This questionnaire has two components: positive fertility motivation and negative fertility motivation. Positive fertility motivation has five subscales which are joy of pregnancy, birth and having a child (six questions), traditional view of fertility (six questions), satisfaction with parenting and parenting (six questions), need for communication and survival (five questions), and instrumental use of the child (five questions). Negative fertility motivation has four subscales, which are dissatisfaction with childbearing (two questions), fear of parenthood (six questions), parenting stress (four questions), and child care challenges (nine questions). To score the fertility motivation questionnaire based on the questionnaire guide, the Likert four-point scale was used (strongly disagree = score 1, strongly agree = score 4). Each participant gets two points from this questionnaire. One of the scores indicates positive motivation, and the other scores indicate his/her negative motivation. The minimum score of positive fertility motivations is 28 and the maximum is 112. The higher the score of this questionnaire, the more positive motivation he/she has for having children. The minimum score of negative fertility motivations is 21 and the maximum is 84. The higher the score of this questionnaire, the more negative the motivation for having children. This questionnaire was completed by the research units in two stages before and 2 weeks after the last consultation session. This questionnaire was developed in 1994 by Miller. The validity of the Miller Reproductive Motivation Questionnaire in Iran in the Khadivzadeh's study was confirmed by content validity method (3, 4). In the study of Khadivzadeh *et al*., the reliability of the instrument was confirmed for positive motivation with an alpha coefficient of 0.91 and for negative motivation with an alpha coefficient of 0.94.[3] In the present study, Cronbach's alpha coefficient was used to confirm the internal consistency of the questionnaire for the answers provided by 30 research units. The reliability of the questionnaire was confirmed by $\alpha = 0.92$ for positive motivation and $\alpha = 0.77$ for negative motivation.

It should be noted that the travel expenses of the research units were paid to them for better participation and thanks to their cooperation. Posttest was completed by the couple 2 weeks after the last counseling session. The research units were also assured that all their information would be kept confidential, that they could be excluded from the study at any time, and that there would be no change in the course of their treatment. The obtained information was then coded and entered into SPSS Software Version 16 (IBM, SPSS Inc., Chicago, Illinois, USA). First, the normality of the data was evaluated using Kolmogorov–Smirnov test. Then, for the variables that had normal distribution, parametric statistical tests were used, and for the variables that had abnormal distribution, nonparametric tests were used. A significant value of $P < 0.05$ was considered.

Results

The results of this study showed that the age range of women was 24–42 years and the age range of men was 29–60 years. The results of Mann–Whitney and Chi-square tests showed that demographic characteristics such as age, education, income, and duration of marriage were not significantly different between the two groups [Table 1]. Further, based on the statistical tests, the duration and cause of infertility and IVF and IUI treatments were homogeneous in the two groups. To compare the knowledge score and attitude toward adoption in the two groups, each couple was considered as a unit of research, and in the statistical analysis, the average score of the couple was used.

Reproductive motivation has two parts: positive motivation and negative motivation, each of which is examined separately.

Positive motivation

According to the independent *t*-test, there was no statistically significant difference between the mean scores of positive fertility motivation in the two groups of face-to-face and telephone counseling before the intervention. Independent *t*-test showed that 2 weeks after the intervention, there was no significant difference between the two groups in terms of this variable ($P = 0.283$). There was no statistically significant difference between the mean scores of positive fertility motivation in the face-to-face counseling group before and after the intervention. In addition, in the telephone counseling group, there was no significant difference between the mean score of positive fertility motivation in the two stages before and after the intervention [Table 1].

The mean variable of positive fertility motivation score before the intervention and the group variable entered the general linear model. The mean score variable of positive fertility motivation score was recognized as an intervener at the beginning of the study. The difference between the two groups was not significant [Table 2].

Negative fertility motivation

According to the independent *t*-test, there was a statistically significant difference between the mean scores of negative fertility motivation in face-to-face and telephone counseling groups before the intervention ($P = 0.025$), but this test showed 2 weeks later. There is no significant difference between the two groups in terms of this variable. There

was no statistically significant difference between the mean scores of negative fertility motivation in the face-to-face counseling group before and after the intervention (P = 0.220). Further, in the telephone counseling group, there was no significant difference between the mean score of negative fertility motivation in the two stages before and after the intervention (P = 0.412) [Table 3].

The mean variable of negative fertility motivation score before the intervention and the variable of the studied groups entered the general linear model. Negative fertility motivation score variable was recognized as an intervention at the beginning of the study. By eliminating the effect of the intervention, the mean score of negative fertility motivation after the intervention in the face-to-face counseling group was 0.381 points lower than the telephone counseling group. This difference between the two groups was not significant [Table 4].

Discussion

The results of the present study showed that face-to-face and telephone counseling did not have a significant effect on the fertility motivations of infertile couples. In other words, the mean scores of positive and negative fertility motivations before and after counseling remained unchanged in both groups, and the two groups did not differ in this regard.

In the literature review by the researcher, no intervention was found to change the fertility motives of infertile people. The only relevant study was the 2008 study by Miller *et al*., which described descriptive motives of infertile individuals and compared them with fertile individuals.[4] In the present study, the positive fertility motivation score of infertile couples was high (about 101 out of 112) and their negative fertility motivation score was low (about 42–47 out of 84), which indicates the strong motivation of these people to have children and fertility.

Miller *et al.*'s study also confirmed the results of the present study that positive fertility motivation in infertile people was more than in fertile people while negative fertility motivation in infertile people was less than in fertile people.[4]

The reason for the ineffectiveness of face-to-face and telephone counseling with infertile couples on their fertility motivations can be the following: The researcher's purpose in presenting fertility motivations in counseling was to clarify the needs and motivations of each couple to pursue treatment for themselves and their spouses; In other words, couples can understand that having a biological child is not the only way to meet these needs. Revealing the motivation of fertility and childbearing for infertile people and their spouses has affected their attitude toward infertility and

Table 1: Mean and standard deviation of positive fertility motivation score in two groups of face-to-face and telephone counseling

Positive fertility motivation score	Group (mean±SD)		Independent *t*-test result
	Face-to-face counseling	Telephone counseling	
Before the intervention	101.44±13.9	101.21±7.7	P=0.932, t=0.086
After the intervention	98.41±11.2	101.35±11.2	P=0.283, t=1.083
Score differences before and after the intervention	−3.029±10.1878	0.147±8.287	P=0.180, t=1.354
Paired t-test result	P=0.144, t=1.624	P=0.918, t=0.103	

SD=Standard deviation

Table 2: Results of analysis of covariance, the effect of counseling on the mean score of positive fertility motivation by controlling the variable of positive fertility motivation score before intervention

Variable	*B*	SE	*t*	*P*
Face-to-face counseling group	−3.088	2.124	−1.454	0.151
Telephone counseling group	0			
Positive fertility motivation score before intervention	0.625	0.095	6.546	0.000

SE=Standard error

Table 3: Mean and standard deviation of negative fertility motivation score in two groups of face-to-face and telephone counseling

Negative fertility motivation score	Group (mean±SD)		Independent *t*-test result
	Face-to-face counseling	Telephone counseling	
Before the intervention	48.18±12.5	42.26±8.3	P=0.025, t=2.299
After the intervention	46.09±9.9	42.91±7.9	P=0.149, t=1.459
Score differences before and after the intervention	−2.088±9.730	0.647±4.545	P=0.142, t=1.485
Paired *t*-test result	P=0.220, t=1.254	P=0.412, t=0.830	

SD=Standard deviation

Table 4: Results of analysis of covariance, the effect of counseling on the mean score of negative fertility motivation by controlling the variable score of negative fertility motivation before intervention

Variable	*B*	SE	*t*	*P*
Face-to-face counseling group	−0.381	1.603	−0.238	0.151
Telephone counseling group	0			
Negative fertility motivation score before intervention	0.602	0.074	8.151	0.000

SE=Standard error

adoption, but their fertility motivations have remained the same during counseling.[12] In addition, the study of Kilfedder *et al*., with the aim of comparing the effect of three methods of face-to-face counseling, telephone counseling, and book therapy on job stress, showed that none of the treatments was superior to other methods. Although all intervention methods were acceptable to the participants, they preferred face-to-face counseling over the other two methods, and participants felt a greater perceived benefit in face-to-face and telephone counseling than book therapy.[13] The study of Zargar Shoushtari *et al*., with the aim of comparing the effect of face-to-face counseling and telephone counseling on sexual satisfaction of women of childbearing age, showed that the score of sexual satisfaction in the group of face-to-face counseling and telephone counseling increased after the intervention. However, the biggest score reduction was related to the telephone counseling group. As a result, researchers concluded that telephone counseling is an effective and practical way to solve sexual problems.[14] The results were contrary to the results of the present study. One of the reasons for this discrepancy is the difference in the type of variable under study and also the research community.

In other words, the issue of fertility motivation in infertile women can be affected by different characteristics such as social, family, cultural, and economic conditions of individuals. This study was performed on a small community of infertile couples in Mashhad, and only two educational methods were examined. For this purpose, it is recommended to conduct similar studies with higher sample size and by comparing different types of educational methods and counseling in other cultures to increase the generalizability of the results.

Conclusion

The results of this study showed that face-to-face and telephone counseling did not have a significant effect on fertility motivations of infertile couples. In other words, the mean scores of positive and negative fertility motivations before and after counseling remained unchanged in both groups, and the two groups did not differ in this regard. Both types of counseling can change a person's fertility motivation. For this reason, psychological counseling for infertile couples can be one of the necessary stimuli to improve psychological problems. This can lead to positive changes in the treatment process for infertile couples.

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Conflicts of interest

There are no conflicts of interest.

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