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# Comparison of the effect of two methods of counseling (face to face and telephone) on awareness and attitude toward adoption in infertile couples

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## Abstract:

**INTRODUCTION:** Many infertile people have heard about adoption, but little is known about the true meaning of adoption and how it is accepted. Giving the right information about adoption is effective in making the right decision for couples. As a result, there is a need to intervene and provide training to improve community attitudes and increase adoption among infertile people. Therefore, the present study aimed to determine the effect of two counseling methods (face-to-face and telephone) on awareness and attitude toward adoption in infertile couples.

**MATERIALS AND METHODS:** The present study is a randomized quasi-experimental study of two groups in the Milad Infertility Center of Mashhad on 34 (each group of 17 couples) infertile couples with the criteria to enter the study. Couples were randomly assigned to two telephone and face-to-face counseling groups, and each individual's awareness and attitudes toward adoption were completed separately before and after counseling. The average number of face-to-face sessions for face-to-face counseling was three 60-min sessions and six 30-min sessions for telephone counseling.

**RESULTS:** Based on the results of *t*-test, there was a statistically significant difference between the average score of awareness of adoption before and after the intervention (2 weeks after the last counseling session), in infertile couples in face-to-face training group and in telephone training group ( $P < 0.0001$ ). The score of the attitude toward adoption before counseling in the face-to-face counseling group was  $60.55 \pm 5.5$ , which reached  $66.76 \pm 4.7$  after counseling. Based on the results of the T-pair test, this difference was significant ( $P < 0.0001$ ). In addition, in the telephone counseling group, the score of attitude toward adoption increased from  $59.53.7.4$  to  $67.73 \pm 7.5$ , which was a significant difference in terms of *t*-pair test. The mean score of attitudes toward adoption was not statistically significant in the two groups ( $P = 0.653$ ).

**CONCLUSION:** The results of this study showed that both counseling methods (face to face and telephone) increase the level of awareness and attitude of couples about adoption, but neither method was superior to the other.

## Keywords:

Adoption, attitude, awareness, counseling, face-to-face counseling, telephone counseling

## Introduction

Fertility is the ability to have children, reproductive success, and the beginning

of rebirth for the couple, and the opposite is infertility. Infertility is always a treatable and sometimes incurable phenomenon that can inadvertently have multiple consequences

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for the couple.<sup>[1]</sup> Infertility can have serious psychological consequences. For many people, infertility is a major crisis and a cause of psychological stress that can cause emotional stress and a range of negative psychological reactions (including depression, anxiety, worry, anger, shame, jealousy, loneliness, despair, decreased self-esteem, emotional distress, sexual dysfunction, and sexual dysfunction).<sup>[2]</sup> The sense of fatherhood and motherhood is a deep feeling that all human beings have by nature and seek to experience.<sup>[3]</sup> Having a child is associated with many positive values such as emotional benefits, economic and security interests, a sense of worth and survival, and is highly valued in a variety of cultures.<sup>[4-6]</sup> Previous studies in Iran have shown that most couples have a strong desire to have children and often consider it necessary to have at least one child in order to maintain the strength of their lives.<sup>[7]</sup> However, many people around the world suffer from infertility.<sup>[8]</sup> In fact, infertility causes a crisis in various aspects of a couple's life<sup>[5,6]</sup> and can have a significant impact on the couple's emotional functioning.<sup>[6,8]</sup> However, the entry of a child into the cold family can improve the couple's communication and ultimately solve the psychological problems caused by the child's vacuum in their lives.<sup>[9]</sup> Previous studies have shown that adopting a child reduces the psychological effects of infertility in infertile couples.<sup>[10-12]</sup> Child adoption is a path to parental experience for infertile couples who have not benefited from treatment.<sup>[13]</sup> Adoption is a way of caring for children in which a parent-child relationship is established legally, emotionally, and socially between people who have no genetic relationship with each other. The achievement of adopting a child for an infertile couple is the experience of parenting and responding to the disadvantages of infertility, and for children who have been deprived of the family hotspot for various reasons, it is a benefit from the loving embrace of parents and a sense of belonging and emotional security.<sup>[10-13]</sup> Various studies have been conducted on the level of awareness, attitude, and willingness to adopt and the barriers to its adoption.<sup>[10,14-18]</sup> These studies show that although many infertile people have heard about adoption, they are less aware of the true meaning and how to accept it, and less than half (18%–42.6%) of those surveyed were willing to accept adoption.<sup>[14-20]</sup> The most important reason for this reluctance in the study of Bokaie *et al.* is the hope of having children with new medical methods, and in the study of Nwobodo (2012), family and cultural limitations have been reported.<sup>[10,16]</sup> Researchers have found that providing accurate information on the success of treatment and adoption is effective in making the right decision for couples and emphasizing the need for intervention and training to improve community attitudes and increase fertility among infertile individuals.<sup>[15-18]</sup> Due to the fact that psychological interventions based on counseling, by covering the psychological dimensions

of the person, it creates various changes in his attitudes, feelings, and behaviors.<sup>[19,20]</sup> This method can be used to change the attitude of infertile people toward adoption.

Counseling can be done in different ways. For common use, there are various models of counseling such as face-to-face, telephone, video, or internet counseling worldwide.<sup>[21]</sup> Face-to-face counseling is a common way to educate and counsel people in the health system.<sup>[21]</sup> However, face-to-face counseling is more expensive and time consuming than other methods. It is estimated that <10% of people seek psychological face-to-face treatments.<sup>[22]</sup> Lack of desire to be identified and ashamed of admitting one's problem in person is one of the obstacles to these standard treatments. Visiting office hours, commuting problems, and long waiting lists are also structural barriers to face-to-face counseling.<sup>[22]</sup> In the field of infertility treatment in particular, due to the limited centers and their focus in large cities and the problems of transportation for infertile couples, the lack of access to face-to-face counseling to obtain the required information is more pronounced. Therefore, it is necessary to examine the beneficial, low-cost, and available methods with appropriate efficiency for these people.

Over the past decades, technological advances have created a range of options for supporting and communicating with people out of reach.<sup>[23]</sup> Among behavioral intervention methods, telephone interventions are highly accepted.<sup>[24]</sup> Telephone interventions can be used by a wider group because they do not require high skills and literacy.<sup>[23]</sup> Telephone counseling is a great way to get information, suggestions, and support because of the greater and better accessibility and anonymity of the counselor.<sup>[21]</sup> Telephone support is more flexible and affordable. The workforce required in this method is less than other methods, and geographical restrictions do not prevent its use, so that it can be used for individuals or families with chronic diseases, even in remote and rural areas who do not receive full services.<sup>[23]</sup> The British Counseling Center has used this method specifically for people who have had infertility problems.<sup>[25]</sup> However, reports on the benefits and effectiveness of this method vary from study to study.<sup>[24]</sup> It should be noted that this method alone cannot be used for high levels of health care, but must be considered as part of an integrated care system.<sup>[23]</sup> Acceptance of the adopted child is important in ensuring the mental health of infertile couples<sup>[26]</sup> and the support and interaction of husband and wife in solving the problems caused by infertility and acceptance of adoption<sup>[27]</sup> is necessary. Due to the lack of an intervention study similar to the present study on awareness and attitudes toward adoption, the researcher decided to conduct a study to compare the effect of face-to-face counseling and telephone

counseling on awareness and attitudes toward adoption in infertile couples. It is hoped that by changing the level of awareness and attitude of these couples and choosing the most appropriate training and counseling method and tailored to the specific conditions of clients to infertility centers, the ground will be prepared for choosing a better path in their lives.

## Materials and Methods

The present study is a randomized quasi-experimental study of two groups with the aim of comparing the effect of two educational methods of face-to-face counseling and telephone counseling on the awareness and attitude of infertile couples referring to Milad Mashhad Infertility Treatment Center in 2015–2016. The present study is approved by the Ethics Committee of the Vice Chancellor for Research of Mashhad University of Medical Sciences (Ir. mums. rec. 1394.576). To conduct this study, 68 people, including 34 infertile couples who had referred to Mashhad Infertility Treatment Center during the years 1392–1394, were selected by available method. After obtaining permission from the university's ethics committee and obtaining permission from the officials of the Milad Infertility Treatment Center in Mashhad, the researcher referred to this center and sampled it among the clients of the infertility center. A number of samples were selected from the pairs available in the infertility center's waiting room, and a number of other samples were obtained by calling the telephone numbers available at the infertility center's client office. These people had referred to Milad Infertility Center in Mashhad between 201 and 2016. Criteria for entering the study were: at least 5 years after the diagnosis of infertility, a history of *in vitro* fertilisation (IVF) or failed intrauterine insemination (IUI), no live children, at least one couple of 30 years of age. These criteria were considered in accordance with the laws of Iran for the adoption of adopted children.<sup>[28]</sup>

After obtaining written consent, the couples were randomly assigned to two telephone counseling and face-to-face counseling sessions, and each person's awareness-raising and attitudes toward adoption were completed separately. These questionnaires were made available to the research units after confirmation of the content validity and reliability (Cronbach's coefficient of 0.80). Counseling sessions were coordinated based on when it was appropriate for the couple. To provide telephone counseling, the couple used a speakerphone so that the couple could hear the counselor's voice during the counseling session and both of them could engage in counseling.

### Childhood awareness questionnaire

The content validation method was used to confirm the validity of this research tool. Thus, by studying the

latest books and articles in the field of hair, a variety of researches was prepared using the opinion of the supervisors and consultants of this questionnaire and then it was given to 7 professors of Mashhad University of Medical Sciences for evaluation. After making the necessary suggestions and making the necessary corrections, the final tool was used. The internal consistency of this researcher-made tool was determined by the two-half method. In this way, the questionnaire was given to 30 people from the research units and then it was done through SPSS software (IBM, SPSS Inc., Chicago, Illinois, USA) by two-half method. The reliability value was set to 0.85. This researcher-made questionnaire, compiled from the Omolon Child Awareness Questionnaire (2011) and adoption laws in Iran, was designed to assess the awareness of research units on adoption (76.39). This questionnaire includes 11 questions about the rules and process of adoption. Moreover, one question is about the source of this information. The questions are in four parts. The minimum score obtained from this questionnaire is 0 and the maximum is 11. This questionnaire is completed in two stages before and 2 weeks after the last consultation session by the research units.

### Childhood approach questionnaire

The content validation method was used to confirm the validity of this research tool. In this way, by studying the latest books and articles in the field of research and using the opinion of supervisors and consultants, this questionnaire was prepared and then provided to 7 professors of Mashhad University of Medical Sciences for evaluation. After making the necessary suggestions and making the necessary corrections, the final tool was used. The internal consistency of this researcher-made tool was determined by Cronbach's alpha method. In this way, the questionnaire was given to 30 research units and then Cronbach's alpha coefficient was calculated. The reliability of the tool was confirmed with 0.80. This researcher-made questionnaire was taken from the questionnaire of Bagheri *et al.* (2000). In this questionnaire, in addition to correcting and updating the questions of Bagheri *et al.*'s questionnaire, questions were added that are appropriate to the content of the present study and based on scientific texts and the opinion of supervisors and counselors, the attitude toward adoption is more fully assessed. The questionnaire consists of 30 items to measure the attitudes of research units toward adoption. The questionnaire was scored on a three-point Likert scale (I agree [score 1], I have no opinion [score 2], I disagree [score 3]). In questions 1, 6, 12, 14, 15, 23, 24, 28, and 30, the score was the opposite. The minimum score obtained from this questionnaire is 30 and the maximum is 90. If the score obtained is higher than the questionnaire, it indicates a greater attitude towards adoption. This questionnaire was completed by research

units in two stages before and 2 weeks after the last consultation session.

In general, the topics that were arranged according to the scientific sources for the meetings were the same for all couples in the two counseling groups. The average number of face-to-face sessions for face-to-face counseling was three 60-min sessions and six 30-min sessions for telephone counseling. In both groups, this number of sessions was held for each couple over two to 3 weeks, and all sessions were conducted in the presence of a couple. All counseling sessions were conducted by a researcher who was a graduate student of counseling in midwifery and was approved by the supervisors and counselors in terms of the competence of counseling. Face-to-face counseling sessions were held in the mornings at the Milad Infertility Center. For some couples, this time was not appropriate or they did not want to attend the infertility center due to the unpleasant experience of treatment and worrying about meeting acquaintances in this center. As a result, some counseling sessions were held at Mashhad University of Medical Sciences in the evenings after coordination with the officials of the School of Nursing and Midwifery. For telephone counseling, the couple used a speakerphone so that the couple could hear and interact with the counselor during the counseling session. The time for holding telephone counseling sessions was at the request of the clients during the evening and night hours and on days when the clients were present at home and had no other preoccupation. During the telephone consultation, the researcher pointed out the possibility of interrupting the call or causing a problem during the consultation, and asked them to report any problems with the sound quality so that the consultation can be done in the best possible way. The content of counseling sessions: 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 telephone counseling. In the first session, the researcher, after introducing himself and explaining about the counseling program and its goals, examined the history of infertility in couples. It provided information on infertility and its treatment (as needed by couples). Then, we talked about the negative emotions caused by infertility and the acceptance of the consequences of infertility. In the end, the couple was asked to write down their views on life without a child and its consequences, and bring them to the next meeting. In the second session, after reviewing the assignments offered to the couple, they talked about their motivations for having children and all kinds of nonmedical solutions to infertility problems. 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, the couple was asked to ask the

opinion 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 those around them were examined. Challenges related to adoption, such as biological parents, attachment to the child, genetic association, privacy, and disclosure of reality were discussed in accordance with the couple's interests. At the end, the legal issues and the process of accepting the adopted child were explained in general, and the researcher's contact number was provided to provide more required explanations.

The travel expenses of the research units were paid to them for better participation and thanks for their cooperation. The test was completed by the couple 2 weeks after the last counseling session.

### Statistical analysis

Descriptive and analytical statistics were used to analyze the data. After collecting and encoding, the data entered the computer and were analyzed using SPSS software version 16 (IBM, SPSS Inc., Chicago, Illinois, USA). After examining the natural distribution of data through the Kolmogorov–Smirnov test, parametric statistical tests were used for variables with normal distribution, and nonparametric tests were used for variables with abnormal distribution.

## Results

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

**Table 1: Investigating the homogeneity of demographic variables between the two groups**

Variable	Test result
Age	
Man	$P=0.73$ , $t=0.06$
Female	$P=0.94$ , $t=0.33$
Education	
Man	$P=0.74$ , fisher exact test= $0.27$
Female	$P=0.47$ , fisher exact test= $0.38$
Marriage period	$P=1.00$ , $\chi^2=0.00$
Income	$P=0.21$ , $\chi^2=5.32$

The results of independent *t*-test showed that the mean score of awareness of adoption in infertile couples in the face-to-face and telephone counseling group before the intervention was statistically significant and the two groups were not homogeneous in terms of this variable ( $P = 0.021$ ). The effect of this discrepancy was eliminated by entering the Average Intelligence Score Index before the intervention and the group variable in the general linear model. Two weeks after the intervention, the results of the independent *t*-test showed that the mean score of awareness of adoption in the two groups of face-to-face and telephone counseling did not have a statistically significant difference ( $P = 0.464$ ).

Based on the results of paired *t*-test before and after the intervention, there was a statistically significant difference between the mean score of awareness of adoption, both in infertile couples in face-to-face counseling group and in telephone counseling group ( $P = 0.000$ ) [Table 2].

The results of the T-pair test showed that the mean score of the attitude toward adoption before and after counseling in the face-to-face counseling group was significantly different. In addition, the T-pair test showed that in the telephone counseling group, the score of attitude toward adoption before and after counseling was statistically significant.

The results of the independent *t*-test showed that before the intervention, the mean score of attitude toward adoption in infertile couples was not significantly statistically different between face-to-face and telephone counseling groups and the two groups were homogeneous in terms of this variable ( $P = 0.648$ ). The independent *t*-test showed that 2 weeks after the intervention, the mean score of the attitude toward

adoption in the two groups did not have a statistically significant difference ( $P = 0.653$ ) [Table 2].

The mean change in attitudes toward adoption in infertile couples was  $5.0 \pm 6.20$  in the face-to-face counseling group and was  $5.4 \pm 8.20$  in the telephone counseling group [Table 3].

To examine the effect of the type of counseling on bringing couples' attitudes closer to each other, the difference in the couple's attitude scores was considered separately and analyzed through statistical tests. According to the independent *t*-test, the two groups did not have a statistically significant difference in the distance between the couple's attitude score, but in infertile couples' face-to-face counseling group, the average distance between the couple's attitude to adoption after the intervention decreased by 8.7. This distance was significantly different before and after the intervention ( $P = 0.002$ ).

However, in couples with telephone counseling group, the attitude score gap decreased by only 5.6, which was not statistically significant before and after the T-pair test ( $P = 0.058$ ) [Table 4].

## Discussion

The aim of this study was to compare the effect of two counseling methods on awareness and attitude toward adoption in infertile couples. The results of this study showed that the scores before and after the intervention in both telephone and face-to-face telephone counseling groups were significantly different, but this difference between the two groups was not significant. Due to the fact that no research intervention was found in the field of

**Table 2: Mean and standard deviation of the infertility couple's adoption score in the two groups of face-to-face and telephone counseling**

Awareness score of adoption	Group		Independent <i>t</i> -test ( <i>P</i> , <i>t</i> )
	Face-to-face counseling	Telephone counseling	
Before the intervention	4.12±1.80	2.50±2.00	0.02, 2.42
After the intervention	7.82±1.70	7.47±1.00	0.46, 0.74
Paired <i>t</i> -test result ( <i>P</i> , <i>t</i> )	0.000, 8.82	0.000, 11.86	

SD=Standard deviation

**Table 3: Mean and standard deviation of infertile couples' attitudes toward adoption in two groups of face-to-face and telephone counseling**

Attitudes score of adoption	Group		Independent <i>t</i> -test ( <i>P</i> , <i>t</i> )
	Face-to-face counseling	Telephone counseling	
Before the intervention	60.55±5.5	59.53±7.4	0.648, 0.460
After the intervention	66.76±4.7	67.73±4.7	0.653, 0.452
Average change in attitude score after intervention	6.20±5.0	8.20±5.4	0.273, 1.115
Paired <i>t</i> -test result ( <i>P</i> , <i>t</i> )	0.001, -5.082	0.001, -6.242	

SD=Standard deviation

**Table 4: The distance between the couple's (husband and wife) attitude towards adoption in the two groups of face-to-face and telephone counseling**

The distance between the couple's attitude score	Group		Independent t-test (P, t)
	Mean±SD		
	Face-to-face counseling	Telephone counseling	
Before the intervention	60.55±5.5	59.53±7.4	0.648, 0.460
After the intervention	66.76±4.7	67.73±4.7	0.653, 0.452
Changing the distance between the couple's attitude	6.20±5.0	8.20±5.4	0.273, 1.115
Paired t-test result (P, t)	0.001, -5.082	0.001, -6.242	

SD=Standard deviation

awareness and attitude toward adoption, the researchers examined and compared the results of this study with the articles that had the closest method and subject.

In the field of awareness of adoption, the results showed that after the intervention, the average score of awareness of adoption in the two groups of face-to-face and telephone counseling did not have a statistically significant difference. Comparison before and after the intervention showed a statistically significant difference between the mean score of awareness of adoption in infertile couples in face-to-face counseling and telephone counseling. In other words, both types of counseling can increase the couple's awareness of adoption, and no method is superior to the other. In other words, it can be concluded that informing couples increases their level of knowledge and knowledge in this field and reduces their tension and concern in this regard, and on the other hand, if they encounter a stressful event, they can be aware of it.

In terms of attitudes toward adoption, the results showed that counseling was significantly different in both groups than before the intervention. However, the mean score of attitude toward adoption in the two groups did not differ significantly. In other words, both types of counseling can increase the couple's attitude toward adoption, but no method is superior to the other. In fact, other influential categories of family behavior include family beliefs and attitudes toward "acceptance or acceptance of the child by others." Due to the personal and deeply emotional quality of the adoption process, helping families cope with anxiety and even the crisis caused by such conflicts is of particular importance. For this reason, counseling methods can be used.<sup>[19]</sup> Although the difference in scores before and after the intervention was significant, no method was superior to the other. In other words, it can be concluded that these couples prioritize the most important issue, which is accepting adopted children, and obtaining scientific and useful information in any way using knowledgeable people in this field can help them. In other words, reduce the stress and anxiety caused by these decisions for couples.

Furthermore, in this study, the distance between the couple's attitude toward adoption and the adoption score

was measured. The results showed that the two groups did not have a statistically significant difference in terms of reducing the distance between the couple's attitude score. In infertile couples in the face-to-face counseling group, the mean distance between the couple's attitude to adoption decreased after the intervention, which was significantly different before and after the intervention. However, in telephone counseling couples, the distance between the couple's attitude toward adoption was slightly reduced, which was not statistically significant before and after the intervention. The results also showed that the interaction of husband and wife in the counseling process brought their attitudes closer to each other. This can be effective in deciding to solve the problem of infertility. Of course, the closeness of the couple's attitude toward each other in face-to-face counseling became closer than telephone counseling. Campbell *et al.* study also found that a woman's association with her husband in telephone counseling improved the lives of people who survived prostate cancer. In other words, these women felt less tired and depressed and more able to cope with the problems caused by prostate cancer.<sup>[29]</sup> This finding suggests that the presence of a couple together to consult on issues related to both of them promotes their support and empathy, and as they approach each other, it increases their ability to make decisions and deal with their problems. In terms of the impact of counseling, the results of the study by Kilfedder *et al.* are in line with the present study. They stated that the effect of face-to-face counseling, telephone counseling, and book therapy was similar in reducing job stress, although clients were more likely to receive face-to-face counseling.<sup>[27]</sup> In a separate study, Zargar Shoushtari *et al.* showed that telephone counseling was more successful in increasing women's sexual satisfaction than face-to-face counseling.<sup>[20]</sup> This difference in results can be explained by the fact that the subject matter of the consultation is effective in the effectiveness of the consultation method. For example, sexual satisfaction, especially in Iranian culture, is a matter of shame and embarrassment, and it may be easier for people who have been in telephone contact with a counselor to raise their sexual issues. Based on this finding and considering that adoption is one of the solutions to the problem of infertility, it is necessary to intervene to improve the awareness and attitude

of infertile people. These interventions make it more informed to make decisions about life (especially when medical treatment fails). However, no intervention research has been found by researchers.

## Conclusion

The results of this study showed that both face-to-face and telephone counseling methods increase couples' awareness and attitude about adoption, but neither method was superior to the other.

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## Conflicts of interest

There are no conflicts of interest.

## References

1. Ashraf DM, Ali D, Azadeh DM. Effect of infertility on the quality of life, a cross-sectional study. *J Clin Diagn Res* 2014;8:OC13-5.
2. Bokaie M, Simbar M, Yassini AS, Alavi MH. How Infertility Effects on Sexual Function of Infertile Couples. *Advances in nursing and midwifery (faculty of nursing of midwifery quarter. 2016;25(91):47-56.*
3. Fayaz E, Aghamohammadian Sharbaf H, Alipor A, Aliakbari Dehkordi M. The efficacy of adoption skills training on stress reduction and change of coping styles among couples who are applicants for having an adopted child. *Journal of Fundamentals of Mental Health*, 2012; 14(55): 19-210. doi: 10.22038/jfmh.2012.938
4. Bahrami M, Taghipour A, Abbasi Shavazi J. The influence of social network on couples' intention to have the first child. *Int J Reprod Biomed* 2013;11:209-18.
5. Savadzadeh S, Madadzadeh N. Explain psychological infertility patients: A qualitative study. *Journal of illam university of medical sciencise* 2013;21(1)1:16-24.
6. Golshani F, Mirghafourvand M, Hasanpour S, Seiedi Biarag L. The effect of cognitive behavioral therapy on anxiety and depression in Iranian infertile women: A systematic and meta-analytical review, *Iran J Psychiatry Behav Sci* 2020;14:e96715.
7. Kordi M, Fakari FR, Mazloun SR, Khadivzadeh T, Akhlaghi F, Tara M. Comparison of the effect of web-based, simulation-based, and conventional training on the accuracy of visual estimation of postpartum hemorrhage volume on midwifery students: A randomized clinical trial. *J Educ Health Promot* 2016;5:22.
8. Mazaheri MM. Comparison of mental health in couples with fertility and infertile couples. *ZJRMS* 2012;14:72-5.
9. Datta J, Palmer MJ, Tanton C, Gibson LJ, Jones KG, Macdowall W, *et al.* Prevalence of infertility and help seeking among 15 000 women and men, *Human Reproduction*, Volume 31, Issue 9, September 2016, Pages 2108–2118.
10. Bokaie M, Farajkhoda T, Enjezab B, Heidari P, Karimi Zarchi M. Barriers of child adoption in infertile couples: Iranian's views. *Iran J Reprod Med* 2012;10:429-34.
11. Yassini SM, Taghavi Shavazi M, Taghavi Shavazi N. Factors associated with adoption acceptance rate from the view point of infertile couples. *Iran J Reprod Med* 2012;10:413-8.
12. Bevc V, Jerman J, Ovsenik R, Ovsenik M. Experiencing infertility-social work dilemmas in child adoption procedures. *Coll Antropol* 2003;27:445-60.
13. Khanjari Aliabadi A, Seifi Elmi Y. doption study in jurisprudence and Iranian law. *Ghanonyar J Civil Legal Sci* 2017;1 (1):11-33.
14. Omosun AO, Kofoworola O. Knowledge, attitude and practice towards child adoption amongst women attending infertility clinics in Lagos State, Nigeria: Original research. *Afr Prim Health Care Fam Med* 2011;3:1-8.
15. Adewunmi AA, Etti EA, Tayo AO, Rabiou KA, Akindele RA, Ottun TA, *et al.* Factors associated with acceptability of child adoption as a management option for infertility among women in a developing country. *Int J Womens Health* 2012;4:365-72.
16. Nwobodo EI, Isah YA. Knowledge, attitude and practice of child adoption among infertile female patients in Sokoto North-West Nigeria. *Niger Postgrad Med J* 2011;18:272-5.
17. Ezenwankwo FC, Roberts AA, Balogun MR. Acceptability of child adoption in the management of infertility: A survey of women attending fertility clinics in the tertiary facilities in Lagos. *J Clin Sci* 2014;11:35.
18. Bell AV . Beyond (financial) accessibility: Inequalities within the medicalisation of infertility. *Sociol Health Illn.* 2010;32:631-646.
19. Kheirkhah M, Vahedi M, Janani P. The effect of group counseling on coping with infertility infertile women referred to the clinic of Tabriz. *IJOGI* 2014;17:14-7.
20. Zargar Shoushtari S, Afshari P, Abedi P, Tabesh H. The effect of face-to-face with telephone-based counseling on sexual satisfaction among reproductive aged women in Iran. *J Sex Marital Ther* 2015;41:361-7.
21. Rodda S, Lubman D. Ready to change: A scheduled telephone counselling programme for problem gambling. *Australas Psychiatry* 2012;20:338-42.
22. Park EJ. Telehealth technology in case/disease management. *Lippincotts Case Manag* 2006;11:175-82.
23. Narjes A. The Effect of Telephone Support on Nausea during Pregnancy and Marital Satisfaction in Women. *Mashhad, Iran: Mashhad University Medical of Sciences*; 2013.
24. Bartlam B, McLeod J. Infertility counselling: The ISSUE experience of setting up a telephone counselling service. *Patient Educ Couns* 2000;41:313-21.
25. Covington SN, Burns LH. *Infertility Counseling: A Comprehensive Handbook for Clinicians.* Informa Healthcare; 1 edition. Cambridge University Press; 2006.
26. Stammer H, Wischmann T, Verres R. Counseling and couple therapy for infertile couples. *Fam Process* 2002;41:111-22.
27. Kilfedder C, Power K, Karatzias T, McCafferty A, Niven K, Chouliara Z, *et al.* A randomized trial of face-to-face counselling versus telephone counselling versus bibliotherapy for occupational stress. *Psychol Psychother Theory Res Pract* 2010;83:223-42.
28. Salehi S, Bagheri Motlagh N. Comparative study of adoption in the legal system of Iran and France with an approach to the law on protection of orphans approved in 1974. *Jurisprudence Fam Law (Nedaye Sadegh)* 2016;21(64):85-107.
29. Campbell LC, Keefe FJ, Scipio C, McKee DC, Edwards CL, Herman SH, *et al.* Facilitating research participation and improving quality of life for African American prostate cancer survivors and their intimate partners. A pilot study of telephone-based coping skills training. *Cancer* 2007;109:414-24.