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A comparative study of the effect of face-to-face counseling and telephone counseling on attitudes toward infertility in infertile couples

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Abstract:

BACKGROUND: Couples' attitudes toward infertility are related to different dimensions of infertility. Counseling can change attitudes toward infertility in infertile couples. Therefore, this study was conducted to determine and compare the effect of face-to-face counseling and telephone counseling on infertility attitudes in infertile couples.

MATERIALS AND METHODS: This two-group intervention study was performed on 34 infertile couples who were randomly assigned to face-to-face and telephone counseling groups. The couple attended counseling sessions as scheduled by the researcher. An Infertility Attitude Questionnaire was completed by all participants at the beginning and end of the study. Data were analyzed using SPSS software version 16.

RESULTS: The results of independent *t* test showed that after the intervention, the mean score of attitude toward infertility in the face-to-face counseling group was significantly higher than the telephone counseling group. Based on paired *t* test, the mean score of infertility attitude in the face-to-face counseling group was significantly increased two weeks after the intervention compared to before. The mean score of infertility attitude in the telephone counseling group was significantly increased two weeks after the intervention compared to before. According to the results of independent *t* test, the attitude score toward infertility was not statistically significant between the two groups.

CONCLUSION: The results of the present study showed that with counseling, the mean score of infertility attitude in infertile couples in both groups had increased. In other words, counseling can change attitudes toward infertility in infertile people.

Keywords:

Counseling, education, face to face counseling, infertile couples, infertility attitude, telephone counseling

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Introduction

Reproduction is a human ability, but a limited number of couples do not have this ability and are infertile. Infertility is a biological, psychological, and social phenomenon that puts the couple's lives in crisis. The World Health Organization (WHO) has identified infertility as a reproductive health problem worldwide that threatens the mental health of infertile couples and predisposes them to disorders such as frustration, stress, anger, depression, isolation, anxiety, guilt, sexual and marital problems, and lack of self-confidence.[1] According to the presented statistics, the prevalence of infertility in Iran was 20.2 and its global average was 12%–15%, among which, the overall prevalence of mental disorders in

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these people was reported between 25 and 60, which is a significant statistic.[2]

What is presented as the beliefs and attitudes of couples toward infertility include cognitive structures, worldviews, hypotheses, logic, features, and explanations that are related to different dimensions of infertility. These beliefs originate from three sources of beliefs and attitudes of homogeneity, individual beliefs and common beliefs of couples.[3–7] Diamond *et al*.[8] considered attitudes toward infertility in four areas: infertility problem; beliefs about gender; the concept and value of the child, and parental role; and beliefs about treatment methods. Pasch *et al*.[9] Also believe that the views of each spouse can be defined in the following cases: the importance of the child, the process of infertility treatment, expressing feelings about infertility, and the effect of infertility on the individual. In a meta-analytic study, Greil reported that the experience of infertility in the context of society, focus on sexual role, family structure, and marital relationship, fertility technology, control over life, relative attitudes and relationships are predictable.[10,11]

Various psychological aspects of infertility such as grief, stress, weakening of marital relationships, and sexual problems in infertile people have been repeatedly studied. It is appropriate to study the beliefs, perceptions, and attitudes that accompany and perhaps reinforce these issues. Educating these people can be a step towards improving problems. There are several ways to advise and educate a client; face-to-face counseling is one of the most powerful ways to influence the learner. In this way, the counselor can provide the opportunity for active learning while providing desirable patterns tailored to individual characteristics. Another method of counseling is telephone counseling, which is very popular due to the possibility of access to people at any time and place. The aim of this study was to compare the effect of face-to-face and telephone counseling on attitudes toward infertility in infertile couples referred to Mashhad Infertility Treatment Center in 2016.

Material and Method

Study design and setting

The present study was a two-group intervention study that was performed on 34 infertile couples who were referred to Mashhad Infertility Treatment Center during the years 2014 to 2016.

Study participants and sampling

Cohen's table was used to determine the sample size, considering that no similar study was found on the knowledge and attitude of infertile couples. According to this table, to compare the two groups with 80% power and the effect of one and $\alpha = 0.05$, a sample size of 17 couples in each group was estimated. Inclusion criteria were: written consent of the couple to participate in the study; at least five years have passed since the diagnosis of infertility; at least one couple over 30 years old; no living child currently present; having not accepted an adopted child in the past; lack of experience of a major stressful event during the last 6 months; lack of psychiatric problems; possibility of accessing a mobile phone or speakerphone. Exclusion criteria include: absence of each couple in more than one consultation session; unwillingness to continue participating in the study.

Data collection tool and technique

In this study, demographic and fertility questionnaires and attitudes toward infertility were used to collect information.

Questionnaire of personal characteristics and fertility of the research unit: This questionnaire was considered based on the review of related studies, and the opinion of supervisors and advisors to measure contextual, intervening, and mediating variables. The questionnaire, which was prepared separately for men and women in terms of writing some sentences, included six questions related to personal characteristics and 11 questions related to fertility characteristics. Personal characteristics included age, education, occupation, religion, duration of marriage, number of siblings, number of sibling children, and family income. Fertility characteristics included duration of infertility, cause of infertility, history of infertility treatment, parental pressure to treat infertility, presence of adopted child among relatives, suggestion of adoption by others, and willingness or unwillingness to adopt. This questionnaire was completed by the research units upon entering the research.

Infertility Attitude Questionnaire: Infertility Attitude Questionnaire by Nilforooshan *et al*. was used to assess the attitude of infertile couples toward their infertility problem.[12] The questionnaire consists of 51 options with a five-point Likert scale. The options range from strongly agree to strongly disagree on a scale of 1–5. In questions 3, 5, 10, 18, 19, 23, and 47, the scoring is the opposite. The minimum score in this test is 51 and the maximum is 225. The higher the score of this questionnaire, the more positive attitude towards infertility. This questionnaire was completed by the research units in two stages before and two weeks after the last consultation session.

The researcher's skill in providing adoption education to infertile couples was confirmed after studying the relevant scientific sources and passing the necessary training courses under the supervision of mentors and counselors. After obtaining permission from the University Ethics Committee and obtaining permission

from the officials of Milad Infertility Treatment Center in Mashhad, the researcher referred to this center. Sampling was performed from clients referred to the infertility center in two ways. 34 couples of the sample were obtained through the telephone numbers of people who had previously referred to the infertility center. In this way, the registry of people referring to the infertility center who had previously been treated for IVF or IUI was provided to the researcher through a nurse. The researcher used the infertility center phone to contact people whose IVF or IUI treatment had failed, and after introducing themselves and giving a brief description of the research, and the goals and methods of work (if they met the inclusion criteria), invited them to participate in the study with their spouses. In the following days, the researcher contacted the people who had expressed their initial consent to follow up on their spouse's consent, and if the couple agreed, they made the necessary coordination to complete the forms and begin the consultation. Among these couples, the individuals who were placed in the face-to-face counseling group were given an informed consent form and a pre-test at the time of the first appointment before the counseling session began, which they completed. Among the people in the telephone counseling group, some completed the pre-test questionnaire in person at the infertility center. Questionnaires for other couples in the telephone counseling group who did not go to the infertility center were sent by courier, and after returning the completed questionnaires, the necessary coordination was done to conduct telephone counseling. In this group, if they did not have an iPhone, they would lend an iPhone. In this way, the clients of 2016 and before were contacted. Due to non-response of some numbers, lack of entry conditions or unwillingness of people to participate in the study, the desired number of samples were selected from the clients of 2014–2016.

Questionnaires were prepared in two separate forms for men and women. Pre-test forms were used to assess the needs and better shape the special counseling sessions for each couple. In this way, according to the main framework of the content of the training sessions, the issues that were most needed were discussed with each couple. After each couple was placed in a counseling group, counseling sessions were coordinated based on when the couple announced and was appropriate for them. Face-to-face counseling sessions were held at Milad Infertility Center in the morning. Due to the inadequacy of time for some couples or the unpleasant experience of treatment and the worry of meeting acquaintances at the center, a number of meetings were held in the evenings at the college, after coordination with the officials of the School of Nursing and Midwifery. For telephone counseling, the couple used a speakerphone so that they could hear and interact during the counseling session.

The time of 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 interruption of communication or 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 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-minute sessions. The average number of sessions for a telephone consultation was six 30-minute sessions. Due to the many differences between the issues and problems raised among infertile couples, the number of sessions in face-to-face counseling was between two to four (average three) sessions, and each session lasted between 60 and 90 minutes. The number of sessions in telephone training was between three and six (average four) sessions and each session was between 30 and 60 minutes. In both groups, this number of sessions was held for each couple for two to three weeks, and all sessions were conducted in the presence of both couples. In the face-to-face counseling group, post-test questionnaires were provided to the participants in the last session, and the researcher asked them to complete the questionnaires and send them to him/her when contacted. In the telephone counseling group, two weeks after the last counseling session, post-test questionnaires were sent to them and the couple returned them after completing the questionnaires.

The researcher referred people to medical centers or specialized counseling during the consultation and if necessary.

After collecting the data, the forms were coded and entered into the computer. After ensuring the accuracy of data entry, data analysis was performed by SPSS software version 16.

Ethical consideration

This study was performed after the approval of the research plan in the research department of Mashhad University of Medical Sciences. Written informed consent was obtained from all participants. All research units were assured that their information would be kept confidential. The research units were also assured that if they do not want to cooperate, they can withdraw at any stage of the research.

Results

First, Kolmogorov–Smirnov test was used to evaluate the normality of the data. All the studied variables in women

and men of the two groups had a normal distribution. The age range for women was 24–42 years and the age range for men was 29–60 years. In both groups, the majority of women were educated in middle school and high school. In both groups, the majority of women were housewives. In both groups, the majority of men were self-employed. In both groups, the highest frequency of infertility was related to male factor.

The results of independent *t* test showed that the mean score of infertility attitude of infertile couples before the intervention was not statistically significant in the two groups of face-to-face and telephone counseling, and the two groups were homogeneous in terms of this variable. This test showed that after the intervention, the mean score of attitude toward infertility in the face-to-face counseling group was significantly higher than the telephone counseling group [Table 1]. Based on paired *t* test, the mean score of infertility attitude in face-to-face counseling group was significantly increased two weeks after the intervention compared to before. Also, the mean score of infertility attitude in the telephone counseling group, two weeks after the intervention was significantly higher than before. According to the results of independent *t* test between the two groups, there was no statistically significant difference in the change in attitudes toward infertility [Table 1].

The mean score of attitude toward infertility before the intervention and the group variable entered the general linear model. The mean score of attitude toward infertility at the beginning of the study was identified as an interventionist, which by removing its effect, the mean score of attitude toward infertility after the intervention in the face-to-face counseling group was 151.6 points higher than the telephone counseling group. This difference was not significant between the two groups [Table 2].

The results of independent *t* test showed that before the intervention, the mean score of female infertility attitude in the two groups of face-to-face and telephone counseling was not statistically significant, and women in the two groups were homogeneous in terms of this variable (P = 0.380). Also, this test showed that after the intervention, there was no statistically significant difference between the attitudes toward infertility in women of the two groups (P = 0.419). The results of independent *t* test showed that before the intervention, the mean score of attitude towards infertile men in the two groups of face-to-face and telephone counseling was not statistically significant, and men in the two groups were homogeneous in terms of this variable (P = 0.078). This test showed that after the intervention, the mean score of attitude toward infertility in men in the face-to-face counseling group was significantly higher than the telephone counseling group (P = 0.009).

Discussion

Infertility is a crisis that affects different aspects of infertile couples. In answer to the question of why the effects of infertility are so widespread, it may be possible to point to the role of attitudes toward infertility. The results of the present study showed that with counseling, the mean score of attitude toward infertility in infertile couples in both groups had increased. Of course, this increase was 16.16 ± 11.97 in the face-to-face counseling group and 18.9 ± 12.9 in the telephone counseling group. According to the results of statistical tests, the increase in attitudes toward infertility was higher in the face-to-face counseling group.

In this regard, a study was conducted by Nilforooshan *et al*.[12] to investigate the effect of cognitive behavioral therapy on changing the attitude of infertile couples. The results showed that this counseling method can change the attitude of infertile couples in a positive direction. In this study, which was performed on 30 infertile couples in the intervention and control groups, the couples in the intervention group received six sessions of counseling, and finally the mean score of infertility attitude in them changed by 20 points in a positive direction. Researchers say that cognitive behavioral therapy has been able to change the previous schemas and their attitudes toward infertility by creating new schemas in the minds of infertile couples. Infertile couples have pondered the view that the meaning and purpose of life is limited to having children or not, and their negative attitude toward not having children has decreased. They also reported that most infertile couples cared primarily about their children and their parenting role. Most of them had a negative attitude toward social acceptance. With age, people had less negative attitudes.

Table 1: Mean and standard deviation of infertility attitude score in two groups of face-to-face and telephone counseling

Infertility Attitude Score	Group		Independent *t*-test
	Telephone Counseling	Face-To-Face Counseling	
Before intervention	139.65±29.5	154.11±34.3	P=0.067, t=1.864
After intervention	148.82±29.7	166.08±30.9	P=0.022, t=2.348
Change in mean scores of attitude toward infertility	9.8±12.9	11.97±16.1	P=0.432, t=0.790
Paired *t*-test	t=4.160, P<0.001	t=4.330, P<0.001	

Table 2: Evaluation of the effect of counseling on the mean score of infertility attitude by controlling the attitude of infertility attitude before intervention by analysis of covariance

Variable	B	Std error	*t*	*P*
Before intervention	6/151	4/172	1/474	0/150
After the intervention	0			
Scores of attitude toward infertility before intervention	0/870	0/072	12/068	0/000

Their attitudes toward infertility did not depend on the duration of their marriage, their level of education, and whether the individual or their spouse or both caused the infertility. Depression and anxiety in these couples were mostly due to their attitude towards life control and social acceptance. The research findings showed that the highest frequency of negative attitudes was related to the dimensions of attitudes toward children, parental role, and social acceptance. The couples' attitudes toward marital and sexual relationships, their attitudes toward the future, infertility and treatment, and their attitudes toward themselves and their spouses tended to be more positive. Therefore, it is concluded that most infertile people attach great importance to the child and the role of parents in the first place. Thus, parenting is considered to be the most important role of men and women. and it is believed that the child plays a major role in maintaining the foundation of the family and creating warmth and vitality. Most of these couples are sensitive to social acceptance and the attitude of others and believe that by eliminating infertility, relationships with others will improve, and they will have a greater sense of control over their lives.

In the present study, couples' attitudes toward infertility and childlessness were improved by discussing the various causes of infertility and the success rate of treatment, and examining the purpose of life and the possibility of using other strategies to continue living together. A study by Mirmohammadi *et al*.[11] showed that the mean score of knowledge and attitude of the participants in the study, after the educational intervention compared to before the educational intervention, increased significantly in all areas. Education also increased the awareness and attitude of couples participating in marriage classes. It is suggested that the trainings be designed based on the patterns of health education and with the continuation of such trainings and holding various educational courses after marriage, to help create marital satisfaction. The results of Moodi *et al*.'s[13] study also show that the level of knowledge and attitude of the studied couples in the three areas of reproductive health and family planning, and genetic diseases and disabilities increased significantly before and after the educational intervention. This increase was not very high in the level of awareness and only 8% of the studied couples had a good level of knowledge after the educational intervention. In other words, education can increase people's awareness and attitude, the results of which were in line with the present study.

In the studies found by the researcher, no study was found that compared the two methods of counseling on changing attitudes. The biggest difference between face-to-face and telephone counseling methods was in changing the couples' attitudes toward infertility between men in the two groups. This means that the attitude of men in the telephone counseling group changed less than the men in the face-to-face counseling group. Based on the researcher's experience of conducting these consultations, men were more likely to interact in the face-to-face counseling group than men in the telephone counseling group. According to some of them, the sense of trust, security and calm in dealing with the counselor caused them to sometimes say things that they had never had the opportunity to say. Expressing emotions also led to a more pleasant feeling about infertility and communication with their spouses. Of course, as it is clear, this issue is one of the consequences of face-to-face counseling and non-verbal communication, which is much less visible in telephone counseling.[14,15]

Limitations and Suggestions for Future Studies: Living conditions and emotional relationships between couples were very different, which may have affected their attitudes toward adoption; this was beyond the control of the researcher. As a result, random allocation tried to moderate the effect as much as possible. On the other hand, despite the fact that all research units were fully satisfied with counseling in the presence of the spouse, some people wanted to hold a number of counseling sessions without the presence of the spouse, which was beyond the scope of this study. Also, the number of treatments such as IVF may affect the results of the study, which was controlled by random allocation of couples in both groups. Since attitudes toward infertility may arise from the infertile couple's specific individual beliefs and shared beliefs, it is recommended that infertile couples and groups counsel with a cognitive behavioral approach with an emphasis on changing the behavioral and emotional aspects. Subsequent research can be done to investigate the effect of such interventions on the emotional consequences of infertility.

Conclusion

The results of the present study showed that with counseling, the mean score of infertility attitude in infertile couples in both groups has increased. In other words, counseling can change the attitude towards infertility in infertile people.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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