

## Original Paper

# Effectiveness of Integrated Psychological Counseling With Couple Therapy Approach on Quality of Life of Infertile Women



Tayebeh Mokhtari Sorkhani<sup>1</sup>, Atefeh Ahmadi<sup>2</sup>, Moghaddameh Mirzaei<sup>3</sup>, Victoria Habibzadeh<sup>4</sup>, Katayoun Alidousti Shahraki<sup>5\*</sup>

1. Midwifery (MSc), Department of Midwifery, Razi Faculty of Nursing and Midwifery, Kerman University of Medical Sciences, Kerman, Iran

2. Assistant Professor, Department of Midwifery, Razi Faculty of Nursing and Midwifery, Kerman University of Medical Sciences, Kerman, Iran

3. Associate Professor, Department of Epidemiology and Biostatistics, Modeling in Health Research Center, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran

4. Associate Professor, Department of Obstetrics and Gynecology, Faculty of Medicine, Afzalipour Hospital, Kerman University of Medical Sciences, Kerman, Iran

5. Instructor, Department of Midwifery, Neuroscience Research Center, Institute of Neuropharmacology, Kerman University of Medical Sciences, Kerman, Iran

Use your device to scan  
and read the article online



**Citation** Mokhtari Sorkhani T, Ahmadi A, Mirzaei M, Habibzadeh V, Alidousti Shahraki K. Effectiveness of Integrated Psychological Counseling With Couple Therapy Approach on Quality of Life of Infertile Women. *J Holist Nurs Midwifery*. 2022; 32(2):144-151. <https://doi.org/10.32598/jhnm.32.2.2191>

**Running Title** Psychological Counseling on QoL of Infertile Women

 <https://doi.org/10.32598/jhnm.32.2.2191>



## Article info:

**Received:** 02/11/2021

**Accepted:** 12/12/2021

**Available Online:** 01/04/2022

## ABSTRACT

**Introduction:** Infertility has biological and psychological effects on various aspects of the infertile couple's life.

**Objective:** This study aimed to investigate the effectiveness of integrated psychological counseling with a couple therapy approach on the quality of life of infertile women.

**Materials and Methods:** This clinical trial was conducted on 60 couples (30 couples in the intervention and 30 in the control group) referred to Infertility Center in Kerman City, Iran, from October to December 2018. They were assigned to intervention and control groups with available sampling and block allocation method. The intervention group received six group counseling sessions. The subjects completed the Fertility Quality of Life (FertiQoL) questionnaire before and after the intervention. It has 24 items specific to infertility that cover four subscales of the QoL (emotional, mind-body, relational, and social). Data analysis was conducted by paired t test, Chi-square test, and Mann-Whitney test. P values less than 0.05 were considered significant.

**Results:** The Mean±SD ages of the participants were 33.25±5.89 and 33.53±5.46 in the intervention and control groups, respectively. Results showed significant differences between the Mean±SD of the mind-body subscale of the intervention group (88.5±6.39) and that of the control group (69±12.24), between the social subscale of the intervention group (78±6.34) compared to that of the control group (60.5±12.27), and between emotional subscale of the intervention group (73.75±6.71) compared to that of the control group (54.5±12.29) at the post-test (P=0.001). However, no significant change was seen in the relational subscale of intervention (52.25±6.25) compared to the control group (57.25±12.25) (P=0.060). Results showed a significantly higher FertiQoL total score for the intervention group (70.56±6.49) compared to the control group (57.76±12.26) at the post-test (P=0.001).

**Conclusion:** The results indicated that integrated psychological counseling could improve the quality of life among infertile women. Therefore, it can lead to more satisfaction and cooperation in infertility treatment.

## Keywords:

Quality of life, Infertility, Counseling, Couple therapy

## \* Corresponding Author:

**Katayoun Alidousti Shahraki, MSc.**

**Address:** Department of Midwifery, Neuroscience Research Center, Institute of Neuropharmacology, Kerman University of Medical Sciences, Kerman, Iran.

**Tel:** +98 (913) 2421749

**E-mail:** alidoosti@kmu.ac.ir

## Highlights

- Infertility is a stressful situation that can cause psychological stress and reduce the quality of life.
- Psychotherapy is a reliable alternative to promote the mental health of infertile women.
- Integrated psychological counseling could promote mind and body, social, and emotional dimensions of quality of life.
- Counselling did not change the relational dimension of quality of life.

## Plain Language Summary

This study aimed to investigate the effectiveness of integrated psychological counseling with couple therapy approach on the aspects of the quality of life among infertile women. Couples often describe infertility as a stressful situation that can cause psychological stress, personal and social suffering, and reduce their quality of life. Studies have shown that psychotherapy is a reliable alternative to promote the mental health of infertile women. Also, changing couples' perceptions of the problem and increasing their positive emotions and quality of life will increase the success of treatment methods. The results showed that integrated psychological counseling could promote all quality of life subscales (mind, body, emotional, and social) except the relational subscale. Considering psychological counseling as an essential part of infertility treatment may provide better results.

### Introduction

Infertility has been defined as an inability to conceive despite regular sexual intercourse for more than a year without the use of contraceptives. The worldwide prevalence of infertility is predicted to be around 15% of all sexually active couples [1, 2]. Infertility affects various aspects of the infertile couple's life [3]. This approach affects about 80 million people from all over the world. The incidence of depression and anxiety in these couples is significantly higher than in the fertile group and the general population [4]. The prevalence of one-year infertility in developed and less developed countries is estimated to be 3.5% and 16.7%, respectively. In Iran, the prevalence of primary infertility is higher than the global average. In a survey of the Iranian women's community aged 20 to 40 years, the prevalence of primary infertility was estimated at 20.2%, 12.8%, and 9.2%, according to clinical, epidemiological, and demographic definitions, respectively [5].

Couples often describe infertility as a stressful situation that can cause psychological stress, personal and social suffering, social consequences, and become an identity problem for many women, especially in the sociocultural context. Childless women often face ridicule, verbal abuse, discrimination, and humiliation from family members and relatives [6]. About 32% of women in early infertility stages may be at risk for mental health

problems [7], and this event affects the lives of about 15% of couples in advanced societies [8]. Severe adverse reactions to infertility can be seen in infertile women in the form of sadness, denial, sexual and personal incompetence, self-esteem threats, marital distress, and problems in relationships with others [9].

Reproductive aid therapies may affect infertile people's quality of life, exposing them to more anxiety and emotional problems than others [10]. Quality of Life (QoL) is an individual's understanding of his or her position in life regarding the cultural and value systems in which he or she lives. QoL is related to one's goals, expectations, standards, and concerns [11]. In addition, quality of life as a multidimensional factor includes the cognitive, behavioral, welfare, and emotional capacities necessary to perform family, social, and professional roles and is directly associated with their high prevalence of infertility requires the treatment self-esteem, social support, sexual satisfaction, and marital satisfaction [12, 13]. The high prevalence of infertility requires the treatment of stress and the mental health of these couples. Studies have shown that psychotherapy is a reliable alternative to promote the mental health of infertile women [2, 3]. Counseling help couples process their feelings and reach a situation where they feel comfortable and have a quality life. Also, reducing negative emotions and increasing positive emotions and QoL may provide the necessary emotional environment for patients to effectively achieve a successful pregnancy [14]. Positive

group psychotherapy can be introduced as a solution to increase life satisfaction and increase the quality of life in infertile women [15]. Different studies have reported the effect of psychotherapy on improving satisfaction and quality of life in infertile women [15-17]. However, there was no evidence for using standard guideline-based infertility counseling with a couple therapy approach. It is necessary to use specific and effective counseling to reduce the psychological and social pressures of infertile women. Therefore, the present study was designed to investigate the effectiveness of integrated psychological counseling with couple therapy approach on aspects of the quality of life among infertile women.

### Materials and Methods

This randomized clinical trial was conducted from October to December 2018 in special services for infertility in Kerman Province, Iran, with welcoming couples from neighboring provinces. The inclusion criteria for couples included infertile women with primary infertility (no matter the cause of infertility) who were referred for treatment for the first time, did not receive psychiatric or psychological treatment and similar treatments, and were willing to participate in the study. The exclusion criteria included the occurrence of pregnancy spontaneously during counseling sessions, couples being absent for two sessions of six counseling sessions, participating in other counseling treatment simultaneously.

According to the effect size of 0.51, based on the difference between the mean score of life satisfaction after the intervention in the two research groups in the Seyedi study [18] with a 95% confidence interval, and 80% test power, the sample size was estimated 30 couples. So, 30 couples took part in the intervention and 30 couples in the control group (totally 120 participants). Sampling was done with the available sampling method. Due to the drop in samples, sampling continued until the designated sample size was reached, and new couples were re-entered according to inclusion criteria for the number of samples excluded. During the intervention, 3 couples did not attend all the sessions due to the reasons for traveling, and 2 couples were excluded due to the absence of their husbands (5 couples in total). However, new couples who met the criteria entered the study to replace these people. In the control group, there were no dropouts during the study (Figure 1).

The data collection tools included a demographic questionnaire gathering information about age, gender, level of education, occupation, duration of non-pregnancy prevention, duration of contraception, method of pre-

vention, cause of infertility (female or male), and a history of psychiatric problems before the infertility problem.

The Fertility Quality of Life (FertiQoL) questionnaire was also used to measure the quality of life. The FertiQoL questionnaire is an international and authoritative questionnaire containing 24 specific fertility items with four subscales of the QoL (6 items per subscale). The four subscales were used in this study as follows: emotional, mind-body, relational, and social. Each of these four subscales is measured on a 5-point Likert scale [19].

The subscale of mind-body refers to the effect of infertility on physical health, cognition, and behavior. The emotional subscale evaluates the impact of infertility on emotions such as sadness or unhappiness. The relational and social subscales are used to determine the effect of infertility on participation and social aspects, respectively. Items of these subscales are randomly presented in the questionnaire and are given on a scale of 0 to 4 points. Scale scores and FertiQoL are calculated and converted to achieve a range of 0 to 100. A higher score on the whole scale or one of the subscales indicates a higher quality of life [19, 20]. Since the FertiQoL questionnaire was widely used in other research abroad and Iran, its validity and reliability were confirmed [13, 21, 22]. Maroufizadeh et al. determined the validity and reliability (factor analysis) of the FertiQoL questionnaire, which shows that the questionnaire is suitable for Iranians [23].

After selecting the samples in the first step with the available method, the samples were randomly divided into the intervention and control groups. After random allocation sampling and performing pretest for both groups, integrated psychological counseling was held for couples in the intervention group. A trained midwife conducted counseling sessions, and a physician with a PhD degree in guidance and counseling supervised the intervention sessions. The duration of each session was 45 minutes. Six sessions [24] were held in a suitable room at the infertility center. The content of counseling sessions, combination of psychological training, supportive counseling, and cognitive-behavioral counseling [25] are presented in Table 1. Each counseling session was carried out with 8-12 people (4-6 couples). First, the purpose of each session was explained. Then, the new topics were taught, useful techniques were practiced, and ambiguities were answered. Home practice was determined at the beginning of the next session, and the couples were asked how they did their homework (They were asked to practice relaxation techniques at home as per the instructions received and coping techniques).

**Table 1.** Content of integrated psychological counseling sessions

Session	Contents
1 <sup>st</sup>	Outlining sessions' goals, introducing the female and male genital system, fertility mechanism, and causes of infertility.
2 <sup>nd</sup>	Acquaintance with Assistant Reproductive Therapies (ART), benefits and side effects.
3 <sup>rd</sup>	Acquaintance with mental disorders caused by infertility problems.
4 <sup>th</sup>	Acquaintance with all possible supporting systems during infertility.
5 <sup>th</sup>	Training enriching relationships, relaxation, and coping techniques.
6 <sup>th</sup>	Decision-making about therapy continuation, stopping and replacement of options, and parenting counseling.

Control group participants were selected exactly like the intervention group. Each eligible individual was selected from the infertility unit center. The purpose of the study was explained to them, and they were included in the study after providing written informed consent. At the end of the last session, three weeks after the pre-test, the post-test was taken from both groups. The control group received routine treatment during integrated psychological counseling for couples in the intervention group. To observe the ethical aspects after the post-test, a summary of the consultation sessions was given to the control group in a pamphlet.

The study data were processed and analyzed with IBM SPSS Statistics for Windows, version 24 software. The

normality of data was analyzed using the Kolmogorov-Smirnov test. Due to the normal distribution of the data, before and after in each group, a paired t test was used to compare the mean scores in the group. As the distribution of data after the intervention was not normal, the Mann-Whitney test was used for analysis between groups. P values less than 0.05 were considered significant.

### Results

The participants in this study were divided into 3 groups of 20-29, 30-39, and 40-50 years. The Mean±SD age of the participants in this study was 33.25±5.89 and 33.53±5.46 years in the intervention and control group, respectively. There was no statistically significant differ-

**Table 2.** Distribution of the characteristics of the intervention and control group samples

Variables	No.(%)/Mean±SD		p*	
	Intervention Group	Control Group		
Occupation	Employee	7(23.3)	5(16.6)	0.256
	Housekeeper	23(76.6)	25(83.3)	
Educational level	Under diploma	8(26.7)	8(26.7)	0.361
	Diploma	12(40.0)	13(43.3)	
	Academic	10(33.3)	9(30.0)	
The birth control method	None	6(20.0)	4(13.3)	0.121
	Discontinuous method	20(66.6)	23(76.6)	
	Estrogen tablet	4(13.3)	3(10.0)	
Duration of infertility (m)	39	42	0.436	
Age (y)	33.25±5.89	33.53±5.46	0.127	
Duration of contraceptive use (m)	12.02±4.79	12±4.37	0.421	

\* The Chi-square test

**Table 3.** Comparing subscales of quality of life in the intervention and control group before and after the counseling

Subscales	Time	Mean±SD		P*
		Intervention Group	Control Group	
Mind-Body	Before the consultation	67.5±13.08	68.25±12.56	0.001
	After the consultation	88.5±6.39	69±12.24	
	P**	0.001	0.991	
Emotional	Before the consultation	57.75±12.92	55±12.37	0.001
	After the consultation	73.75±6.71	54.5±12.29	
	P**	0.001	0.853	
Relational	Before the consultation	55.25±13.1	57.25±12.22	0.242
	After the consultation	52.25±6.52	57.25±12.25	
	P**	0.06	0.941	
Social	Before the consultation	65.75±13.06	63±12.41	0.008
	After the consultation	78±6.34	60.5±12.27	
	P**	0.001	0.382	
Total	Before the consultation	59.70±13.04	58.15±12.39	0.550
	After the consultation	70.56±6.49	57.76±12.26	
	P**	0.0001	0.896	

\* The Mann-Whitney test; \*\* The paired t-test

ence between the mean ages of the two groups. Also, based on the self-report, none of the subjects reported a history of psychiatric illness (depression/obsession/anxiety) before infertility (Table 2).

Comparing the mean quality of life of infertile women in the intervention (59.70±13.04) and control (58.15±12.39) groups showed that the quality of life in both groups did not differ before counseling (P=0.550). After the consultation, the Mean±SD scores of quality of life in the intervention and control group were 70.56±6.49 and 57.76±12.26, respectively, which was statistically significant (P=0.001). Also, the quality of life score in the intervention group before and after counseling was different, which was statistically significant (P=0.001). The results show the improvement of quality of life in the intervention group compared to the control group. But there was no statistically significant difference between pretest and posttest in the quality of life scores in the control group.

Statistical analysis results showed that the subscales of the mind-body, social, and emotional quality of life improved following infertility counseling in the intervention group (P=0.001), but it did not change in the relational subscale (P=0.060). There was no change in these subscales in the control group (Table 3).

## Discussion

The results showed that integrated psychological counseling could improve the quality of life of infertile women. The findings of the present study are in line with the results of previous research, including the study of Hakim et al., who investigated the psychological counseling effects to prepare couples for assisted reproduction aids [26] and the study of Li et al., who examined the impact of a mindfulness-based intervention on the quality of life, fertility rate and pregnancy among women exposed to the first In Vitro Fertilization (IVF). All interventions improved mental health and quality of life [27]. Counseling plays a positive and supportive role by advising in individual, social, psychological, and other fields to solve

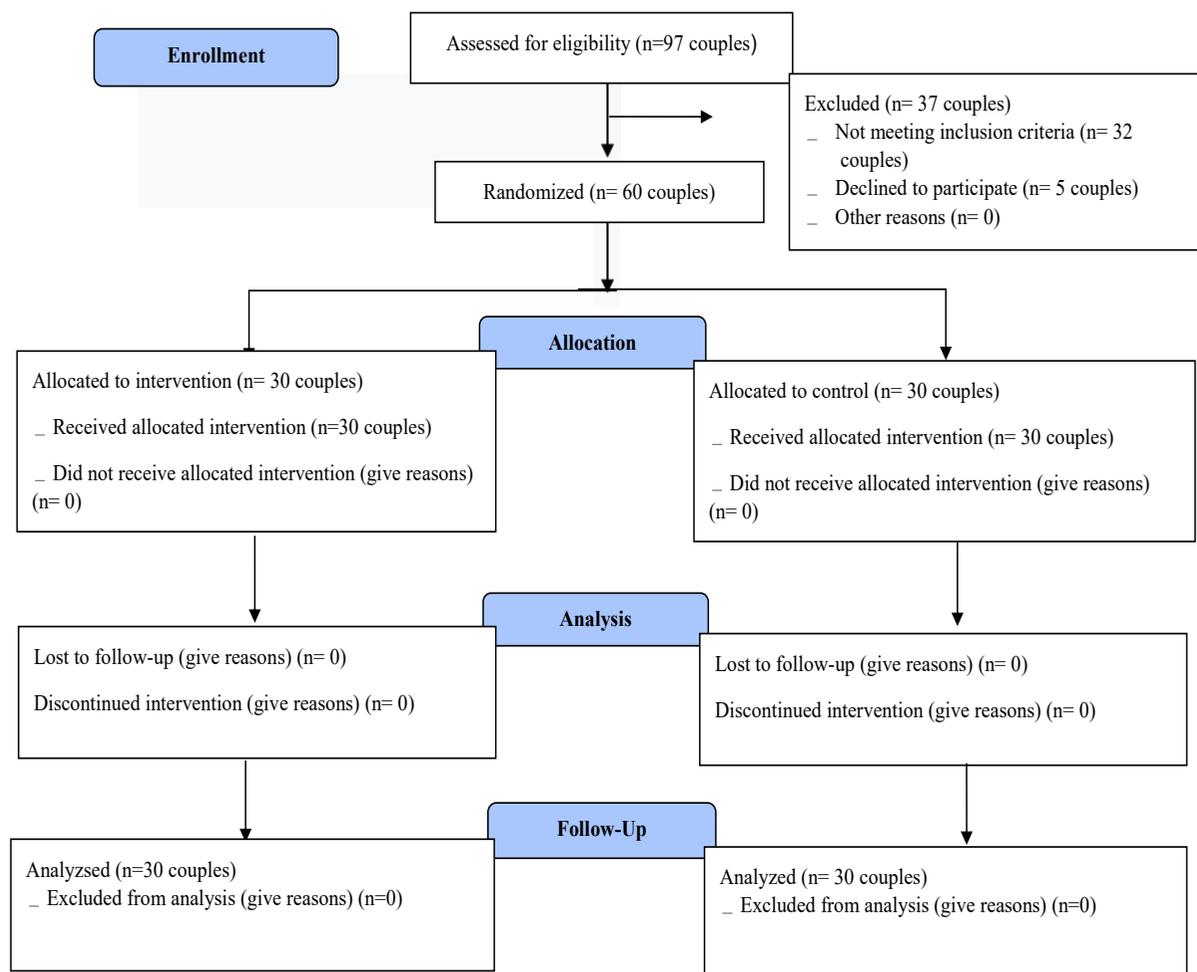


Figure 1. CONSORT flow diagram of selecting participants

the problems of its clients and includes performing vital services to provide helpless people and so on.

Quality of life is a multi-faceted, relative concept influenced by time, place, individual and social values. Factors affecting it vary depending on time and place, and cultural conditions [28]. It includes well-being, social functioning, physical health, the patient’s environment, and personal beliefs. Namdar et al. showed that the quality of life of infertile women in the social subscale is low [29]. The present study’s findings in the social field showed that counseling had improved the quality of life in this subscale.

Although infertility is common, it is associated with poor quality of life, marital disputes, grief, major depressive disorder, anxiety disorders, and post-traumatic stress disorder [30]. The present study’s findings showed that integrated psychological counseling has a positive effect on the quality of life of infertile women in terms of mind and body and has improved this field. It confirms previous research in this field, which showed that cognitive-behavioral counseling is based on approaching alternative cognitive systems and reduces

the anxiety and depression of infertile women [31, 32]. Heredia et al. also found that psychological intervention with a stress reduction approach could positively affect the subscales of mind and body and emotional quality of life, as well as on IVF success [33]. Farshi et al. examined the effect of the continuous care model on emotional health and social connection aspects of the quality of life of an infertile woman. They showed that education improves the emotional and relational areas [34].

In terms of improving the emotional subscale, is in line of their finding, but in the relational field, the opposite result was reported. This discrepancy can be related to the type of training, the number of sessions, and the samples, which were done only with the participation of infertile women. Haica et al.’s study showed that the combination of music therapy and psychological intervention improved the emotional and social dimensions of quality of life and had no effect on the relational subscale [35].

Counseling can improve the quality of life and reduce anxiety, increase knowledge, enhance a person’s perception of life’s goals, improve adaptive behaviors and

patient adjustment, and reduce the cost of treatment [36, 37]. The number of counseling sessions for couples is not enough to change all aspects of the quality of life among infertile women. Inability to control confounders to perform posttest was a limitation of this study.

## Conclusion

Results suggest that integrated psychological counseling can improve the quality of life of infertile women in terms of mind and body, social and emotional, but not in terms of relational. So, it seems that counseling programs can improve the quality of life and subsequently more satisfaction and cooperation in infertility treatment. Therefore, it is recommended to conduct clinical trials with a larger sample size and accurate methodology to obtain more generalizable results.

## Ethical Considerations

### Compliance with ethical guidelines

The study was approved by the Ethics Committee of Kerman Medical University (IR.KMU.REC.2016.678IR) and registered in Iran Clinical Trials Registration Center (IRCT2017080124866N4). After obtaining the necessary permissions from the Head of Afzalipour Hospital Infertility Center, the researcher invited all infertile couples who met the inclusion criteria to participate in the study. Participants filled out a written informed consent form.

### Funding

This article was extracted from Tayebeh Mokhtari MSc thesis in Counseling in Midwifery which was financially supported by the Research Vice-chancellor of Kerman University of Medical Sciences (Grant No. 95000252).

### Authors' contributions

Conceptualization and methodology: Tayebeh Mokhtari Sorkhani, Atefeh Ahmadi, and Katayoun Alidousti, Moghaddameh Mirzaee; Writing the original draft: Tayebeh Mokhtari Sorkhani and Katayoun Alidousti; Data collection: Tayebeh Mokhtari Sorkhani and Victoria Habibzadeh; Data analysis: Moghaddameh Mirzaee; Supervision: All authors.

### Conflict of interest

The authors declared no conflict of interest.

### Acknowledgments

We would like to thank the Vice-Chancellor for Research of Kerman University of Medical Sciences and all infertile women for participating in this research.

## References

- [1] Kurpisz M, Fraczek M, Baldi E. Towards understanding infertility: Inflammatory mediators in male reproductive tract. *Journal of Reproductive Immunology*. 2013; 100(1):1. [DOI:10.1016/j.jri.2013.07.002] [PMID]
- [2] Soltanzadeh Mezreji H, Hassan T. Efficacy of group reality therapy on anxiety in infertile women undergoing treatment with assisted reproductive techniques IUI. *Mediterranean Journal of Social Sciences*. 2016; 7(3 S3):127-37. [DOI:10.5901/mjss.2016.v7n3s3p127]
- [3] Ordoni Avval Z, Rabiepoor S, Behroozilak T, Arefi M, Yas A. The effectiveness of counseling with a cognitive-behavioral approach on infertile women's stress. *Maedica*. 2019; 14(4):363-70. [DOI:10.26574/maedica.2019.14.4.363] [PMID] [PMCID]
- [4] De Berardis D, Mazza M, Marini S, Del Nibletto L, Serroni N, Pino MC, et al. Psychopathology, emotional aspects and psychological counselling in infertility: A review. *La Clinica Terapeutica*. 2014; 165(3):163-9. [DOI:10.7417/CT.2014.1716] [PMID]
- [5] Akhondi MM, Ranjbar F, Shirzad M, Behjati Ardakani Z, Kamali K, Mohammad K. Practical difficulties in estimating the prevalence of primary infertility in Iran. *International Journal of Fertility and Sterility*. 2019; 13(2):113-7. [DOI:10.22074/ijfs.2019.5583] [PMID] [PMCID]
- [6] PHEME MJ, Sithole SL, Malema RN. The perceptions of childless women on surrogacy as an assisted reproductive technique (ART) in lebowakgomo, capricorn district, Limpopo Province. *Social Work*. 2020; 56(3):328-46. [DOI:10.15270/56-4-861]
- [7] Hashemi S, Simbar M, Ramezani-Tehrani F, Shams J, Majd HA. Anxiety and success of in vitro fertilization. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 2012; 164(1):60-4. [DOI:10.1016/j.ejogrb.2012.05.032] [PMID]
- [8] Ried K, Alfred A. Quality of life, coping strategies and support needs of women seeking Traditional Chinese Medicine for infertility and viable pregnancy in Australia: A mixed methods approach. *BMC Women's Health*. 2013; 13:17. [DOI:10.1186/1472-6874-13-17] [PMID] [PMCID]
- [9] Ashraf DM, Ali D, Azadeh DM. Effect of infertility on the quality of life, a cross-sectional study. *Journal of Clinical and Diagnostic Research*. 2014; 8(10):OC13. [DOI:10.7860/JCDR/2014/8481.5063] [PMID] [PMCID]
- [10] Rashidi B, Montazeri A, Abedinia N, Shariat M, Ashrafi M, Ramezanzadeh F. [Health-related quality of life in Iranian couples receiving IVF/ICSI treatment (Persian)]. *Payesh (Health Monitor)*. 2012; 11(3):385-9. [DOR:20.1001.1.16807626.1391.11.3.11.7]
- [11] Skevington S, Lotfy M, O'Connell K. The World Health Organization's WHOQOL-BREF quality of life assessment: Psychometric properties and results of the international field trial. A Report from the WHOQOL Group. *Quality of Life Research*. 2004; 13(2):299-310. [DOI:10.1023/B:QURE.0000018486.91360.00] [PMID]
- [12] Shah R, Kulhara P, Grover S, Kumar S, Malhotra R, Tyagi S. Contribution of spirituality to quality of life in patients with residual schizophrenia. *Psychiatry Research*. 2011; 190(2):200-5. [DOI:10.1016/j.psychres.2011.07.034] [PMID]
- [13] Keramat A, Masoomi SZ, Mousavi SA, Poorolajal J, Shobeiri F, Hazavhei SMM. Quality of life and its related factors in infertile couples. *Journal of Research in Health Sciences*. 2013; 14(1):57-64. [PMID]

- [14] Baniaghil AS, Zarei Abolkheir A, Keshavarz A, Ahmadi SM, Vakili MA. [The effect of integrated third-party reproduction counseling on egg donation recipients' attitude towards assisted reproductive techniques (Persian)]. *The Iranian Journal of Obstetrics, Gynecology and Infertility*. 2016; 19(36):1-10. [DOI:10.22038/IJOGI.2016.8143]
- [15] Masoumi SZ, Khani S, Kazemi F, Kalhori F, Ebrahimi R, Roshanaei G. Effect of marital relationship enrichment program on marital satisfaction, marital intimacy, and sexual satisfaction of infertile couples. *International Journal of Fertility and Sterility*. 2017; 11(3):197-204. [DOI:10.22038/IJOGI.2016.8143] [PMID] [PMCID]
- [16] Khayata GM, Rizk DEE, Hasan MY, Ghazal-Aswad S, Asaad MAN. Factors influencing the quality of life of infertile women in United Arab Emirates. *International Journal of Gynecology & Obstetrics*. 2003; 80(2):183-8. [DOI:10.1016/S0020-7292(02)00387-9] [PMID]
- [17] Karabulut A, Özkan S, Oğuz N. Predictors of fertility quality of life (FertiQoL) in infertile women: Analysis of confounding factors. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 2013; 170(1):193-7. [DOI:10.1016/j.ejogrb.2013.06.029] [PMID]
- [18] Seyedi Asl ST, Sadeghi K, Bakhtiari M, Ahmadi SM, Nazari Anamagh A, Khayatan T. Effect of group positive psychotherapy on improvement of life satisfaction and the quality of life in infertile woman. *International Journal of Fertility and Sterility*. 2016; 10(1):105-12. [DOI:10.22074/ijfs.2016.4775] [PMID] [PMCID]
- [19] Boivin J, Takefman J, Braverman A. The fertility quality of life (FertiQoL) tool: Development and general psychometric properties. *Human Reproduction*. 2011; 26(8):2084-91. [DOI:10.1093/humrep/der171] [PMID] [PMCID]
- [20] Hsu PY, Lin MW, Hwang JL, Lee MS, Wu MH. The fertility quality of life (FertiQoL) questionnaire in Taiwanese infertile couples. *Taiwanese Journal of Obstetrics and Gynecology*. 2013; 52(2):204-9. [DOI:10.1016/j.tjog.2013.04.009] [PMID]
- [21] Maroufizadeh S, Ghaheri A, Omani Samani R. Factors associated with poor quality of life among Iranian infertile women undergoing IVF. *Psychology, Health & Medicine*. 2017; 22(2):145-51. [DOI:10.1080/13548506.2016.1153681] [PMID]
- [22] Santoro N, Eisenberg E, Trussell JC, Craig LB, Gracia C, Huang H, et al. Fertility-related quality of life from two RCT cohorts with infertility: Unexplained infertility and polycystic ovary syndrome. *Human Reproduction*. 2016; 31(10):2268-79. [DOI:10.1093/humrep/dew175] [PMID] [PMCID]
- [23] Maroufizadeh S, Ghaheri A, Amini P, Omani Samani R. Psychometric properties of the fertility quality of life instrument in infertile Iranian women. *International Journal of Fertility & Sterility*. 2017; 10(4):371-9. [DOI:10.22074/ijfs.2016.4696] [PMID] [PMCID]
- [24] Hamzehgardeshi Z, Yazdani F, Elyasi F, Moosazadeh M, Peyvandi S, Gelekholaee KS, et al. The efficacy of group counselling on perceived stress among infertile women undergoing in vitro fertilization treatment: An RCT. *International Journal of Reproductive Biomedicine*. 2019; 17(1):57-66. [DOI:10.18502/ijrm.v17i1.3821] [PMID] [PMCID]
- [25] Boivin J, Appleton TC, Baetens P, Baron J, Bitzer J, Corrigan E, et al. Guidelines for counselling in infertility: Outline version. *Human Reproduction*. 2001; 16(6):1301-4. [DOI:10.1093/humrep/16.6.1301] [PMID]
- [26] Hakim LZ, Newton CR, MacLean-Brine D, Feyles V. Evaluation of preparatory psychosocial counselling for medically assisted reproduction. *Human Reproduction*. 2012; 27(7):2058-66. [DOI:10.1093/humrep/des129] [PMID]
- [27] Li J, Long L, Liu Y, He W, Li M. Effects of a mindfulness-based intervention on fertility quality of life and pregnancy rates among women subjected to first in vitro fertilization treatment. *Behaviour Research Therapy Journal*. 2016; 77(2):96-104. [DOI:10.1016/j.brat.2015.12.010] [PMID]
- [28] Aarts JWM, van Empel IWH, Boivin J, Nelen WL, Kremer JAM, Verhaak CM. Relationship between quality of life and distress in infertility: A validation study of the Dutch FertiQoL. *Human Reproduction*. 2011; 26(5):1112-8. [DOI:10.1093/humrep/der051] [PMID]
- [29] Namdar A, Naghizadeh MM, Zamani M, Yaghmaei F, Sameni MH. Quality of life and general health of infertile women. *Health and Quality of Life Outcomes*. 2017; 15(1):139. [DOI:10.1186/s12955-017-0712-y] [PMID] [PMCID]
- [30] Bhat A, Byatt N. Infertility and Perinatal Loss: When the bough breaks. *Current Psychiatry Reports*. 2016; 18(3):31. [DOI:10.1007/s11920-016-0663-8] [PMID] [PMCID]
- [31] Nilforooshan P, Ahmadi A, Abedi MR, Ahmadi M. Counseling based on interacting cognitive subsystems and its effect on anxiety of infertile couples. *Pakistan Journal of Psychological Research*. 2006; 21(3-4):95-103. <http://pjjprnip.edu.pk/index.php/pjjpr/article/download/234/192>
- [32] Masoumi SZ, Parisa P, Fatemeh K, Hossein M, Younes M. What psychiatric interventions are used for anxiety disorders in infertile couples? A systematic review study. *Iranian Journal of Psychiatry*. 2019; 14(2):160-70. [PMID] [PMCID]
- [33] Heredia A, Padilla F, Castilla JA, Garcia-Retamero R. Effectiveness of a psychological intervention focused on stress management for women prior to IVF. *Journal of Reproductive and Infant Psychology*. 2020; 38(2):113-26. [DOI:10.1080/02646838.2019.1601170] [PMID]
- [34] Farshi N, Hasanpour S, Mirghafourvand M, Esmaeilpour K. Effect of self-care counselling on depression and anxiety in women with endometriosis: A randomized controlled trial. *BMC Psychiatry*. 2020; 20(1):391. [DOI:10.1186/s12888-020-02795-7] [PMID] [PMCID]
- [35] Haica CaF, Ene. Music therapy associated with psychological intervention effect on infertile patients quality of life. *Romanian Journal of Psychological Studies*. 2019; 12-9. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3562197](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3562197)
- [36] 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. *Iranian Journal of Psychiatry and Behavioral Sciences*. 2020; 14(1):e96715. [DOI:10.5812/ijpbs.96715]
- [37] Saeedi Z, Alidoosti K, Mirzaee F, Ahmadi A, Dahesh T. [The effect of combination of psychological counseling and acupressure training with couple therapy approach on nausea and vomiting in pregnancy (Persian)]. *Iranian Journal of Obstetrics Gynecology and Infertility*. 2019; 21(1):71-9. [http://ijogi.mums.ac.ir/article\\_12329.html](http://ijogi.mums.ac.ir/article_12329.html)