Journal of Fundamentals of Mental Health

Mashhad University of Medical Sciences

Psychiatry and Behavioral Sciences Research Center

Original Article

Comparison of quality of life in infertile women undergoing IVF fertilization therapy (IVF) and fertile women

Masoumeh Alizadeh[1]; *Tayebeh Rahbar[2]; Bahman Akbari[3]

[1]*M.Sc. in clinical psychology, Guilan Research Sciences, Rasht Branch, Islamic Azad University, Rasht, Iran.*
[2]*Ph.D. of community health, Associate professor of Department of Midwifery, Rasht Branch, Islamic Azad University, Rasht, Iran.*
[3]*Associate professor of Psychology Department, Rasht Branch, Islamic Azad University, Rasht, Iran*.

Abstract

Introduction: Infertility is known as a stressful experience all over the world. The aim of this study was to compare the quality of life in infertile women undergoing IVF and fertile women in Rasht.

Materials and Methods: In this study, 275 women referring to Rasht Mehr Infertility Institute from July to November 2016 were selected and data collected and analyzed based on demographic questions and WHOQOL-BREF quality of life questionnaire. In this research, multivariate analysis of variance (MANOVA) was used to test the hypotheses and data were analyzed using SPSS18.

Results: The results of MANOVA test showed that quality of life in infertile women treated with IVF and fertile women had a significant difference and there were significant differences between the four subscales of quality of life in two areas of psychology and social relationships (P=0.001) However, there was no significant difference in terms of physical health (P=0.59) and the area of life environment (P=0.89).

Conclusion: In general, the quality of life in fertile women was more favorable than infertile women treated with IVF in both psychological and social domains but the differences between two groups in the area of physical health and the environment were not significant.

Keywords: Fertility, Infertility, Quality of life

Please cite this paper as:
Alizadeh M, Rahbar T, Akbari B. Comparison of quality of life in infertile women undergoing IVF fertilization therapy (IVF) and fertile women. Journal of Fundamentals of Mental Health 2018 Nov-Dec; 20(6):399-403.

Introduction

Infertility is one of the personal and social problems affecting the life of couples and family functioning and can expose people to psychological stress or psychiatric disorders (1). The World Health Organization (WHO) has identified infertility as a public health problem around the world (2). Today, infertility is defined as the absence of pregnancy following a year of close proximity to unprotected sex (without the use of contraceptive methods) (3).

The prevalence of infertility among ethnic groups is not significantly different (4) and has involved between 80 and 168 million people around the world (2).

In all over the world, from every six couples, a couple has fertility in their ages (5). Vahidi showed that about a quarter of Iranian couples experienced primary infertility during their common life (6).

Concerned about the success of the treatment, the fear of a breakdown of the family, the loss of

***Corresponding Author:**
Department of Midwifery, Rasht Branch, Islamic Azad University, Rasht, Iran.
tayebeh_rahbar@yahoo.com
Received: Feb. 27, 2018
Accepted: Sep. 09, 2018

the husband's interest and the potential tensions resulting from the treatments, leads to stress in them (7).

Studies show that psychological factors can both contribute to the development of infertility and can be considered as a consequence. In this regard, there is ample evidence that psychological problems caused by infertility can be a contributing factor in intensifying infertility (8). In the field of quality of life, infertility treatments with important social and health problems can lead to negative effects (9) and lowering the quality of life (10) and in turn lead to devastating effects on couples' quality of life. The purpose of quality of life defined by the WHO as the perception of individuals from their position in life in terms of culture, the value system in which they live, goals, standardized expectations and their priorities (11). According to WHO, dimensions and aspects of quality of life include 6 dimensions: 1) Physical health, 2) Mental health, 3) Level of independence, 4) Social communication, 5) Environment and 6) Spiritual (12).

In Iran, only a few small studies on the quality of life of infertile women have been conducted under ICSI and IVF treatment. Because of the limited studies on the comparative study of quality of life among infertile women with IVF and fertile women as well as, the existence of contradictory results in researches, the present study was carried out. It is hoped that the results of this study will be a step towards identifying some of the problems of infertile women treated with IVF to help them resolve and thereby increase the response to IVF treatment.

Materials and Methods

The present study is used comparative-causal method. In this research, after investigations conducted by the researcher of the Mehr Infertility Institute Center in Guilan, a total of 200 patients referred for infertility treatment and 240 fertile referral cases were identified from July to November 2017.

Given the limitations available and the lack of access to all of these individuals, a total of 130 questionnaires were distributed among infertile women undergoing IVF and 145 questionnaires among fertile women according to Morgan table questionnaires was completed.

Sampling method was selected randomly and samples were available. The criteria for entering the research in the infertile group were IVF, and in the fertility group, the lack of history of infertility and exclusion criteria conclude other assisted reproductive techniques such as ZIFT, GIFT, IUI. The present study was approved by the Islamic Azad University of Rasht.

The questionnaire consists of two separate sections. The first part of the questionnaire, the demographic, was questioned from both infertile women treated with IVF and fertile women and in the second part the quality of life has been analyzed.

The Quality of Life (QOL) questionnaire, developed by the World Health Organization (WHOQOL-BREF) in collaboration with 15 international centers in 1989, has 24 questions in 4 domains that the first two questions do not belong to any of the domains and it assess health and quality of life in general.

So the questionnaire has a total of 26 questions, with 4 subscales in the following areas: physical health domain, psychological domain, social relationship domain, environmental domain.

The research hypothesis was analyzed using descriptive statistics (mean, standard deviation) and inferential statistics of multivariate analysis of variance (MANOVA) using SPSS 18. Cronbach's alpha coefficient was calculated 0.81 for all questions of the questionnaire which indicated that the reliability of the research questionnaire was desirable.

The validity and reliability of the Quality of Life Questionnaire were reviewed and approved by Bakhshy et al. (13), Rafiei et al (14), Nasihatkon et al. (15), Zawisza et al. (16), Burckhardt and Anderson (17), Midori Asano et al. (18).

To consideration of ethical issues, the authors consider the following items: 1- Obtaining written consent of the samples and ensuring the confidentiality of their information, 2- Obtaining a letter from university for submission to the Sample Collection Institute.

Results

The majority of samples in the infertile and fertile group were 26-29 years old (27.7% and 26.9%), high school graduates (31.5%, 33.8%) and housewives (60.8%, 59.3%).

Table 1 shows the mean and standard deviation of quality of life among women infertility treatment with IVF and fertile women.

Table 1. Descriptive indexes of quality of life among infertile women undergoing treatment with the IVF and fertile women

Variable	Group	Mean	SD
Physical Health	infertile women undergoing treatment with the IVF	25.02	4.09
	fertile women	24.75	4.26
Psychological Domain	infertile women undergoing treatment with the IVF	18.44	3.66
	fertile women	22.22	3.17
Social relationship Domain	infertile women undergoing treatment with the IVF	9.09	2.35
	fertile women	12.24	2.26
Environmental Domain	infertile women undergoing treatment with the IVF	27.46	3.14
	fertile women	27.52	3.81

As can be seen, the mean of quality of life among infertile women is different with IVF and fertile women. The results of the multivariate analysis of variance have been reported to substantially examine the observed differences. But before that, the hypothesis of this test is examined.

The Leven test is performed to examine the null hypothesis of variances. As the results of the table show, the significance level of calculated F for the psychological and social and life environment is greater than $P \leq 0.05$ which indicates that the difference between variances is not statistically significant and the null hypothesis is set; therefore, the results of the multivariate variance can be reported.

According to the results of Table 3, the difference in psychological domain of infertile women treated with IVF and fertile women, the difference between the social relationships of infertile women treated with IVF and fertile women is statistically significant by F (1.272)=84.22 and F(1.272)=1217.19, respectively ($P \leq 0.01$). Also, fertile women have more and better psychological and social relationships than infertile women with IVF treatment. Also, the difference in physical health of infertile women treated with IVF and fertile women and the life environment of infertile women treated with IVF and fertile women is not statistically significant by F(1.272)=0.29 and F(1.272)=0.02 , respectively ($P \geq 0.05$).

Table 2. Leven test for null hypothesis of variance

Variable	F	df_1	df_2	Sig
Physical Health	0.05	1	267	0.82
Psychological Domain	4.63	1	267	0.03
Social relationship Domain	0.07	1	267	0.79
Environmental Domain	8.59	1	267	0.01

Table 3: Results of the comparison of quality of life among infertility women treatment with IVF and fertile women

Sources of change	Ss	dF	MS	F	Sig.
Physical	5.09	1	5.09	0.29	0.59
Error	4761.93	272	11.51		
Psychological	987.14	1	987.14	84.22	0.001
Error	3158.89	272	11.61		
Social	675.25	1	675.25	127.19	0.001
Error	1442.87	272	5.31		
Environmental	0.24	1	0.24	0.02	0.89
Error	3338.25	272	12.27		

Discussion

The results of this study showed that in fertile and infertile women, means of physical health (25.02 and 25.75, psychological (18.44 and 22.22), social relationships (9.09 and 12.24) domain of life environment (27.4 and 27.52) have been respectively. There was a significant difference between two groups in two areas of psychology and social relationships. Although several studies have shown the negative effects of infertility on the quality of life of infertile women, in some studies, there was no significant difference in the quality of life of these people compared to the general population. The results of Amanollahifard et al. also showed that the means of quality of life in the infertile and fertile groups were 77.76 and 80.69, respectively. Fertile women had better quality of life (19). The study of Almasi et al. also confirmed that: In fertile and infertile

women, the averages of total quality of life were 374.42 and 436.61 respectively and fertile women had better quality of life than infertile women (20). However, in a study conducted by Nourani et al. among infertile and fertile women, the means of physical health were 50.80 and 52.19, psychological domain (60.03 and 60.24), social relationships (63.08 and 65.5), environment (60.63 and 65.26) respectively, and the quality of life of infertile and fertile women were not different (12).

According to the findings of the study by Neil Forrushan et al. the quality of life of infertile women is significantly lower than fertile women (P=0.02).

Comparison of each aspect of quality of life in infertile and fertile women showed that the means of physical health were (21.29 and 21.27), mental status (28.93 and 24.42), stress assessment (24.93 and 27.11), and the pleasure of life (33.43 and 39.71). Infertile women have significantly less emotionally-psychological status and less pleasure in their lives. The two groups are different in terms of total quality of life and fertile women have a better situation (21). Since in the current research, quality of life was better in both psychological and social relationships in fertile women. It can be argued that infertility and its treatment have effects such as confusion, frustration, depression, anxiety, disappointment, guilt and worthlessness in life that affects the quality of life among infertile women. The constraints of the research were the crowdedness of the Mehr Institute, which was effective in responding to the samples.

Conclusion

In general, quality of life in fertile women is more favorable than infertile women treated with IVF. Out of four subscales of physical health, psychological, social relationship and living environment, two domains physical health and living environment were the same in the two groups. However, two areas psychology and social relations are more desirable in fertile women.

Acknowledgement

In conclusion, we need to express our gratitude and appreciation to the dear colleagues of the Mehr Institute. There was no contradiction between the interests of the authors with the subject of the research. The paper concluded from the master's thesis of clinical psychology and Islamic Azad University of Rasht Branch has approved this research.

References

1. Zamani N, Ghasemi M, Joukar E, Khezri Moghadam N. [Comparison of depression and quality of life in infertile, fertile and repeated abortions]. Journal of Babol University of Medical Sciences 2013; 6: 78-83. (Persian)
2. Latifnejad Roudsari R, Rasoulzadeh Bidgholi M, Mousavi Far N. [Investigating the effect of participatory counseling on infertility on perceived stress in women with infertility therapy by IVF]. Iranian journal of obstetrics and gynecology 2011; 4: 22-31. (Persian)
3. Berek JS. [Berek and Novaks gynecology]. Ghazijahani B. (translator). 14th ed. Tehran: Golban; 2012: 200-30. (Persian)
4. Berek JS. Novak's gynecology. 14th ed. London: Lippincott Williams and Wilkins; 2012: 233-40.
5. Bahramy H, Faal kalkhoran L, Farokhy NA, Zaraty H, Tarahomy M. Comparison of anxiety, depression and marital satisfaction in two selected groups of fertile and infertile women in Tehran. Fertil Infertil 2012; 12(2): 157-63.
6. Vahidy S, Ardalan A, Kazem M. [The survey of prevalence of primary infertility in Iran 83-84]. Journal of reproduction and infertility 2007; 3(9): 243-51. (Persian)
7. Benyamini Y, Gozlan M, Kokia E. Variability in the difficulties experienced by women undergoing infertility treatments. Fertil Steril 2005; 83(2): 275-83.
8. Domar AD, Clapp D. Slasby E. The impact of group psychological intervention on pregnancy rates in infertile women. Fertil Steril 2000; 73(7): 805-11.
9. Monga M, Alexanderescu B, Katz SE, Stein M, Ganiats T. Impact of infertility on quality of life, marital adjustment and sexual function. Urology 2004; 63(1): 126-30.
10. Khayata GM, Rizk DE, Hasan MY, GhazalA, swad S, Asaad MA. Factors influencing the quality of life of infertile women in United Arab Emirates. Int J Gynaecol Obstet 2003; 80(2): 18-38.
11. Bonomi A, Patric D, Bushnell D. Validation of the united states' version of the World Health Organization Quality of Life (WHOQOL) instrument. J Clin Epidemiol 2000; 53: 1-12.
12. Nourani SH, Jonaidy E, Shakeri MT, Mokhber N. [Sexual satisfaction in fertile and infertile women attending state clinic in Isfahan]. Iranian journal of gynecology, obstetrics and infertility 2012; 15(7): 24-31. (Persian)

13. Bakhshi A, Rasafiani M, Sagaf R, Chehel Amirani N. [The validity and reliability of the Persian version of the World Health Organization Quality of Life Questionnaire in elderly people with disabilities]. Rehabilitation 2014; 16(4): 334-44. (Persian)
14. Rafiei N, Sharifian Sani M, Rafiey H, Behnampour N, Foroozesh K. [Evaluation of the reliability and validity of the Persian version of the Quality of Life Index questionnaire]. Journal of Mazandaran University of Medical Sciences 2014; 24: 75-83. (Persian)
15. Nasihatkon AA, Pishva A, Habibzadeh F, Tabatabaiy M. [Determination of reliability and validity of Clinical Questionnaire on Diabetic Patients' Quality of Life (DQOL) in Farsi]. Journal of diabetes and metabolism of Iran 1391; 11(5): 483-7. (Persian)
16. Zawisza K, Tobiasz-Adamczyk B, Nowak W, Kulig J, Jedrys J. [Validity and reliability of the quality of life questionnaire (EORTC QLQ C30) and its breast cancer module (EORTC QLQ BR23)]. Ginekol Pol 2010; 81(4): 262-7. [Polish]
17. Burckhardt C, Anderson KL. The Quality of Life Scale (QOLS): Reliability, validity, and utilization. Health and Quality of Life Outcomes 2003; 1: 60.
18. MidoriAsano P, Sugiura T, Miura K, Torii Sh, Ishiguro A. Reliability and validity of the self-report quality of life questionnaire for Japanese school-aged children with asthma (JSCA-QOL v.3). Allergol Inter 2006; 55(1):59-65.
19. Aman Alahifard A, Nikbakht R, Hoseini MA, Ahmadi Fakhr S, Hoseini Z.. [Comparison of marital satisfaction and quality of life in fertile and infertile women]. Quarterly journal of applied counseling 2012; 2(1): 75-88. (Persian
20. Almasy M, Mahmooiany S, Ghasemy T. [Comparison of spiritual health and quality of life infertile and fertile women]. Iranian journal of nursing 2015; 28: 87-95. (Persian))
21. Nilfrooshan P, Latify Z, Abedy MR, Ahmady A. [Comparison of quality of life and its different dimensions in fertile and infertile women]. Journal of behavioral sciences research 1385; 4(1): 66-70. (Persian)