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REVIEW ARTICLE

Comparing the quality of life of infertile men referred to urology clinics of Golestan and Imam Khomeini Hospitals in Ahvaz with that of fertile men

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ABSTRACT

Infertility is the inability of a couple to conceive a child after at least one year of intercourse without using means of preventing pregnancy. According to the World Health Organization, infertility affects about 80 million couples worldwide, with male factor infertility responsible for 50%. It is important to evaluate the quality of life in terms of identifying various aspects of pregnancy issues associated with the lower quality of life, and conduct advanced research on health systems and policies through the use of a standardized measurement tool. This study is a case-control study which aims to compare the quality of life of infertile men referred to urology clinics of Golestan and Imam Khomeini Hospitals in Ahvaz with that of fertile men and the factors affecting the quality of life. Of all the infertile patients referred to the urology clinics, 130 people meeting the entry requirements of the study were randomly chosen. Also, among the healthy men accompanying the patients to the clinics, 130 men were randomly chosen as the control group. After personal information and informed consent were obtained from all the participants, they were asked to fill out a questionnaire (The Short Form Health Survey) (SF-36). Then the points in each of the eight areas were collected, and finally the statistical analysis was carried out through SPSS V. 17 software. Based on the statistical analysis of the patient group compared to the control group, physical functioning, emotional role functioning, vitality, emotional health, bodily pain and health perception have scored lower. In other words, the quality of life in the patient group is lower than that of the control group with regard to the areas (fields) mentioned. However, the patient group has scored higher than the control group in social functioning and physical role functioning as a higher quality of life in the patient group regarding the two areas (fields) mentioned. Overall, based on this study, it can be concluded that the quality of life of infertile men is different from that of fertile men.

INTRODUCTION

Infertility is the inability of a couple to conceive a child after at least one year of intercourse without using means of preventing pregnancy (1). According to the World Health Organization, infertility affects about 80 million couples worldwide (2), with male factor infertility responsible for 50% (3). Based on research conducted, the prevalence of infertility has been estimated at about 10-15% and 19% in the U.S. and Australia respectively (2). The prevalence of infertility in couples from 21-26 years of age was estimated at 2.17% in 2009 (4). The experience of infertility, or infertility crisis, called by some other people, comes with physical, economic, psychological and social stress (5). WHO defines Quality of Life as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns (6). WHO uses 29 factors, including self-confidence, dynamism, sense of security, etc. to measure the quality of life. It shows the importance that the quality of life is evaluated in terms of various aspects of pregnancy issues associated with the lower quality of life, and advanced research on health systems and policies through the use of a standardized measurement tool is conducted (7). Psychosocial aspects of infertility have been neglected in the past. Fortunately, however, Since the 1980s, they have attracted attention and thus a lot of research has been done on them. Often common issues have been reported on the experience of infertility in descriptive studies, including: the identity of infertile being the central focus (especially for women); the feeling of loss of control and attempting to gain control; the feeling of failure and incompetence (especially for women); stress in marital relationship and sex caused by infertility; the feeling of isolation and alienation from the world of fertile, the feeling of social stigma; the difficulty of coping with infertility; soaking in the treatment process; the nature of stressors in the treatment process and relationships with physicians and caregivers. Based on the studies related to testing hypotheses of psychological consequences (mental confusion, stress, depression, self-esteem, marital satisfaction, sexual satisfaction), it can be concluded that psycho-social consequences of infertility are not as severe as they are described in descriptive studies. Therefore, while descriptive studies using qualitative methods defend more strongly the differences between the infertile population and general population, hypothesis-based studies using quantitative methods discuss less strongly the differences between the infertile population and general population, which are not consistent (8). Given the essential role of childbearing in Iranian families, cultural and

social dimensions, as well as the high prevalence of infertility in society and studies with inconsistent results on the social and psychological consequences of infertile couples, the present study aims to evaluate the quality of life of some of the infertile men so as to, if a significant difference concerning life satisfaction was seen between their life and the general population life, adopt a general approach for treatment and rehabilitation of the infertile patients in order to improve their life and satisfaction as well as reducing the damaging impacts on the lives of infertile couples.

MATERIALS AND METHODS

The present study is a case-control study which aims to compare the quality of life of infertile men referred to urology clinics of Golestan and Imam Khomeini Hospitals in Ahvaz with that of fertile men and the factors affecting the quality of life. The inclusion criteria for patients of the case group are as follows: patients' infertility which was confirmed by appropriate diagnostic methods, people with no mental or physical illness, and showing willingness to participate in the study.

The inclusion criteria for patients of the control group are as follows: the individuals should not have any mental or physical illness; they should be willing to participate in the study. The Exclusion criteria for both groups are: the occurrence of a disease affecting the quality of one's life and lack of patient cooperation.

After determining the sample size with the help of statistics experts, of all the infertile patients referred to the urology clinics, 130 people meeting the entry requirements of the study were randomly chosen. Also, among the healthy men accompanying the patients to the clinics, 130 men were randomly chosen as the control group. After personal information and informed consent were obtained from all the participants, they were asked to fill out a questionnaire (The Short Form Health Survey) (SF-36). Then the points in each of the eight areas were calculated. In order for the descriptive data and quantitative variables, mean and standard deviation were used (if need be, median and interquartile range were used), and for qualitative variables, frequency and percentage were used. Also, to analyze the data, analysis of covariance was used. All the statistical analyses were done using SPSS version 17.

RESULTS

In this study, a total of 260 patients were divided into two groups in such a way that 130 patients were in the patient group and the other 130 patients were in the control group, which were studied and compared. The demographic

Characteristics of the two groups, patient and Control, are given below.

Table 1. Age characteristics of patient and control groups

Age range of patient group	25 – 56
Age mean of patient group	5.60 ± 34.438
Age range of control group	20 – 74
Age mean of control group	4.85 ± 34.146

There is no significant relationship between the control group and patient group (p-value < 0.001).

To evaluate the data collected, income, occupation and education of the male participants of both groups, patient and control, were analyzed. In the control group, 83.3% of the participants had jobs with 30% holding high school diplomas. The data analysis showed that most of the participants, 50% to be exact, had an income between 500 thousand and 1 million tomans. Table 2 shows the demographic characteristics of the control group entirely.

Table 2. Demographic data of control group

	Title	No.	%age
Occupation	Employed	125	96.2
	Unemployed	5	3.8
Education	Illiterate	1	0.8
	Under diploma	25	19.2
	Diploma	40	30.8
	Associate's degree	34	26.2
	Bachelor's degree	19	14.6
	Master's degree	6	4.61
	PhD. and above	5	3.84
Income	No income	2	1.6
	Below 500,000 tomans	16	12.7
	From 500,000 up to 1 million tomans	54	42.9
	From 1 million up to 2 million tomans	39	31
	Above 2 million	15	11.9

In the patient group, 96.2% of the participants had jobs with 66.2% holding high school diplomas and associate's degrees. The data analysis showed that most of the participants, 42.9% to be exact, had an income between 500 thousand and 1 million tomes. Table 3 shows

The demographic characteristics of the patient Group entirely.

Table 3. Demographic data of patient group

	Title	No.	%age
Occupation	Unemployed	21	16.2
	Employed	109	83.8
Education	Illiterate	4	3.1
	Under diploma	31	23.8
	Diploma	40	30.8
	Associate's degree	32	34.6
	Bachelor's degree	19	14.6
	Master's degree	2	1.5
	PhD. and above	2	1.5
Income	No income	10	7.7
	Below 500,000 tomans	14	10.8
	From 500,000 up to 1 million tomans	65	50
	From 1 million up to 2 million tomans	36	27.7
	Above 2 million	3	2.3

The data related to the quality of life in the patient group regarding the score each individual got in each field (area) were analyzed and the results are as follows:

The minimum application of assisted reproductive techniques was equal to 0 and the maximum was equal to 5 and its mean was equal to 0.5. The minimum score of duration of infertility was equal to 1 and the maximum was equal to 6 and its mean was equal to 4.7. The minimum score of physical function was equal to 12 and the maximum was equal to 36 and its mean was equal to 25.7. The minimum score of physical role functioning was equal to 4 and the maximum was equal to 9 and its mean was equal to 7. The minimum score of emotional role functioning was equal to 3 and the maximum was equal to 6 and its mean was equal to 5.1. The minimum score of energy (vitality) was equal to 6 and the maximum was equal to 18 and its mean was equal to 14.2. The minimum score of emotional health was equal to 13 and the maximum was equal to 25 and its mean was equal to 19.2. The minimum score of social functioning was equal to 3 and the maximum was equal to 8 and its mean was 5.6. The minimum score of pain was equal to 2 and the maximum was equal to 9 and its mean was equal to 4. The minimum score of health perception was equal to 9 and the maximum was equal to16 and its mean was equal to 11.6 (Table 4).

Table 4. Descriptive statistics of patient group

Title	Min.	Max.	Mean	Standard Deviation
Number of application of assisted reproductive techniques	.00	5.00	.5231	1.01321
Duration of infertility	1.00	36.00	4.7031	4.39642
Physical Functioning	12.00	30.00	25.7923	3.84526
Physical role functioning	4.00	9.00	7.0692	1.20199
Emotional role functioning	3.00	6.00	5.1385	1.03245
Energy (vitality)	6.00	18.00	14.2615	2.51370
Emotional health	13.00	25.00	19.2231	2.28329
Social functioning	3.00	8.00	5.6923	0.92213
Pain	2.00	9.00	4.0692	2.05426
Health perception	9.00	16.00	11.5638	1.62209

The data related to the quality of life in the control group regarding the score each individual got in each field (area) were analyzed and the results are as follows:

The minimum score of physical functioning was equal to 20 and the maximum was equal to 39 and its mean was equal to 27.9. The minimum score of physical role functioning was equal to 5 and the maximum was equal to 8 and its mean was equal to 6.8. The minimum score of emotional role functioning was equal to 4 and the maximum was equal to 7 and its mean was equal to 5.2. The minimum score of energy (Vitality) was equal to 11 and the maximum was equal to 18 and its mean was equal to 14.9. The minimum score of emotional health was equal to 14 and the maximum was equal to 25 and its mean was equal to 19.8. The minimum score of social functioning was equal to 3 and the maximum was equal to 8 and its mean was 5.6. The minimum score of pain was equal to 2 and the maximum was equal to 9 and its mean was equal to 4. The minimum score of health perception was equal to 9 and the maximum was equal to16 and its mean was equal to 11.6 (Table 5).

Table 5. Descriptive statistics of control group

Title	Min.	Max.	Mean	Standard Deviation
Physical Functioning	20.00	39.00	27.9231	2.35795
Physical role functioning	5.00	8.00	6.8538	1.19503
Emotional role functioning	4.00	7.00	5.2692	0.79522
Energy (vitality)	11.00	18.00	14.9308	1.98907
Emotional health	14.00	25.00	19.8846	1.99081
Social functioning	3.00	8.00	5.6462	1.04073
Pain	2.00	9.00	4.1692	1.68963
Health perception	9.00	16.00	11.6769	1.60046

Based on the statistical analysis on the comparison between the two groups, patient and control, there is a significant difference between the variables: physical functioning, physical health, emotional disorders, energy, emotional health, and social functioning, pain and health perception (p-value < 0.001).

Table 6. Shows the results related to the average scores of the control group and patient group in each of the eight areas (fields) in regard to the quality of life have been compared with each other.

Table 6. Average scores of control and patient groups

Area (Field)	Patient Group	Control Group
Physical functioning	25.7923	27.9231
Physical role functioning	7.0692	6.5838
Emotional role functioning	5.12835	5.2692
Energy (Vitality)	14.2615	14.9308
Emotional health	19.2231	19.8846
Social functioning	5.6923	5.6462
Pain	4.0692	4.1692
Health perception	11.6538	11.6769

According to the results of the comparison of the data related to the patient group and control group (See table 6), the following results are obtained.

The patient group compared to the control group regarding physical functioning, emotional role functioning, energy (vitality), emotional health, bodily pain and health perception have scored lower. In other words, the quality of life in the patient group is lower than that of the control group with regard to the areas (fields) mentioned. However, the patient group has scored higher than the control group in social functioning and physical role functioning i. e., a higher quality of life in the patient group regarding the two areas mentioned.

DISCUSSION

In recent years, health researchers have considered studying the quality of life of patients as well as designing questionnaires measuring patients' quality of life (9).

Measuring the quality of life makes it possible to perceive the needs of patients and leads to providing quality services. Various factors affect the quality of life and infertility is an example of one difficult and debilitating condition causing major health and social problems (10). The results of Monga showed that issues related to infertility had a negative effect on the quality of life (11). It seems that infertility can have a considerable influence on psychological factors such as anxiety and depression and in addition can Cause the duration of infertility to increase (12). Infertility creates a wide range of effects, such as frustration, conflict, a sharp drop in self-esteem causing a low self-esteem, withdrawal and isolation, identity problems, losing the sense of beauty, and absurdity (13). Moreover, infertility is a major stressor in one's life, which influences different aspects of a couple's activities such as sex and obsession about being pregnant (14). For many couples, infertility is a major crisis that is psychologically stressful (15), which create serious problems in their relationship. When couples are faced with infertility, many problems, such as loss of communication with one another as well as others, having difficulty in sex, life decisions, and problems of emotional disorder arise (16); therefore, infertility is a serious medical problem affecting the quality of life (17). The issue of infertility, especially among Iranian families and culture, is of a matter of major importance (18). The present study evaluates the quality of life of infertile men in the city of Ahvaz. Based on the results obtained, the infertile group who participated in the study, in six areas (fields) out of the eight areas (fields) concerning the quality of life (according to the questionnaire), physical functioning, emotional role functioning, energy (vitality), emotional health, bodily pain and health perception has scored lower compared to the

Control group and thus has a lower quality of life with regard to the areas (fields) mentioned. Also based on the results, the patient group has scored higher than the control group in social functioning and physical role functioning i. e., a higher quality of life in the patient group regarding the two areas (fields) mentioned.

While the case-control study of Kissi et al in 2009 in Tunisia, which used a 36-item questionnaire (Short-Form Health Survey SF-3), shows that men in the infertile group compared to men in the control group regarding the areas (fields) social functioning, emotional role functioning and emotional health have scored lower, women in the infertile group compared to women in the control group regarding the areas (fields) energy (vitality), physical functioning and social functioning have scored lower (19).

The paper of Guliz Onta in 2011 in Turkey shows that social-demographic features of the two groups were similar and the average score of the quality of life in the infertile group was higher than that of the normal people, and the quality of life in the infertile group was equal for both genders (20).

The study of Fekkes M, in which the participants planned to receive IVF for treatment for infertility, had more social and emotional problems in comparison to normal people, but there was no particular difference in The areas of physical and cognitive functioning compared with the normal population of the same age (21).

The study of Karbabulut, in which Fertile part was used, the quality of life of women with primary infertility was compared with women with secondary infertility and the women with secondary infertility regarding the mental, physical, social and emotional areas have scored higher (22).

According to Keramat's study, the self-esteem score in individuals with long durations of infertility was lower (23).

Based on the studies related to testing hypotheses of psychological consequences (mental confusion, stress, depression, self-esteem, marital satisfaction, sexual satisfaction), it can be concluded that psycho-social consequences of infertility are not as severe as they are described in descriptive studies. Therefore, while descriptive studies using qualitative methods defend more strongly the differences between the infertile population and general population, hypothesis-based studies using quantitative methods discuss less strongly the differences between the infertile population and general population, which are not consistent (8). considering the essential role of childbearing in Iranian families, cultural and social dimensions, it seems that men infertility

Affects their quality of life, but the reason why the results of this study are different with those of the previous ones can be because of racial differences. It can also be due to the differences in demographic features of groups, control and patient. For example, while in the patient group 83.3% had jobs and 3.1% were illiterate, in the control group 96.2% had jobs and 8% were illiterate. Furthermore, in the control group, in total 8.45% had master's degrees and above while in the patient group it was only 3%. Moreover, in the control group in total 42.9% had an income above 1 million tomans, whereas in the patient group it was 30%. Therefore, in order to avoid such confounding factors, it is recommended to study the quality of life between individuals with almost the same demographic characteristics and races. In addition to the cultural differences of the Iranian with other nations, the consequences and attitudes toward infertility among different Iranian ethnic groups, including Arabs, Lor, Persian, and Turk are worth considering in the study. Also, the differences in measurement tools used in various studies can lead to such results being inconsistent with the previous results of other studies, because the approaches and attitudes of the present questionnaires available to study the quality of life are different with each other. Although the Persian version of the standard tool SF-36 is used in this study, it Meets the requirements of reliability and validity to measure health-related quality of life at the population level (24).

CONCLUSION

The general conclusion from this study is that the quality of life of infertile men is different from that of fertile men.

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