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The quality of life in infertile Saudi males and females in Jeddah-KAMC

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Abstract

Background: Infertility is defined as the inability of a person to conceive over a period of a year or more with regular a sexual intercourse and without using any form of sexual protection. Infertile patients face a variety of challenges impacting numerous aspects of their lives including the relational and social well-being, yet the psychological health is the most influential one of them. Numerous studies have been conducted to assess the quality of life in different areas, yet no national data was found using a validated method, such as the FertiQoL. A significant correlation was found between infertile patients and lower scores of total FertiQoL score. As a result, we believe that infertility is associated with having a lower quality of life among Saudi infertile patients; thus, we aim to investigate those population using validated questionnaires, such as FertiQoL.

Methods: A cross-sectional study design was conducted at King Abdulaziz Medical City, Jeddah, Saudi Arabia. Every patient who fulfilled the criteria from 2011 to 2018 was included in this study. Out of 146 patients, we were able to successfully contact only 78 by calling them and taking their consent verbally. The FertiQoL questionnaire was used for both infertile males and females who presented to King Abdulaziz.

Results: The majority of male participants had a good quality of life where the mean core FertiQoL score was 72.4 which is better than the female score which is 66.7. Also, women scored the lowest in the emotional subscale. There was no significant association of level of quality of life with age. Surprisingly, statistically significant higher scores were found in the less than high school education level than in the higher levels of education ones.

Conclusion: Infertility impacts all the domains of the quality of life; however, it mainly affects the emotional aspect in both males and females. Therefore, health professionals need to include an evaluation of psychological symptomatology to propose a more effective intervention to infertile individuals.

Keywords: Infertile Saudi, Jeddah-KAMC, sexual intercourse

Introduction

Infertility is defined as a global public health issue by the world health organization, and it is defined as the inability of a person to conceive over a period of a year or more with regular a sexual intercourse and without using any form of sexual protection ^[1]. Worldwide, the prevalence is estimated to be 9%, and in Saudi Arabia it is estimated to be 18% ^[2, 3]. The causes of infertility can either be from one partner or both; moreover, the causes can be ovulatory or sperm problems, sexual dysfunction and others ^[1, 4]. There are many approaches to treat infertility; however, the recommended approach for couples with persistent infertility is the *in vitro* fertilization (IVF) ^[5]. Infertile patients face a variety of challenges impacting numerous aspects of their lives including the relational, sexual, and social well-being, yet the psychological health is the most influential one of them; furthermore, Infertile patients are put under a great deal of stress and emotional tension than their fertile counterpart suffering from infertility could be an extremely stigmatizing experience, especially for women, independent of whether or not they have children ^[6, 8].

Also, It may affect their relationships with their partner, friends, family, and even among each other; moreover, infertility may decrease their self-confidence with feelings of guilt and insufficiency for not being able to conceive like the others ^[9, 11]. Studying infertility- related quality of life in these groups of people is very crucial since is considered as an important

outcome measure in many clinical settings and can improve the wellbeing of the infertile population ^[12]. In order to fully understand infertility with a thorough approach, crosscultural comparative studies examining psychosocial consequences of infertility are necessary ^[13]. For the past years, several infertility-related measurements have been developed and validated in various countries [14-16] Numerous studies have been conducted to assess the quality of life in different areas, yet no national data was found here in Saudi Arabia among infertile patients using the FertiQoL (Fertility Quality of Life questionnaire) which is an international and condition-specific tool that evaluates and assess the effects of infertility on the quality of life in a more realistic way, and reveals more objectively the psychometric characteristics of individuals [17, 19]. The FertiQoL questionnaire which focuses specifically on infertility quality of life has underwent a multinational and a long-based developing process and has been used as a disease-specific tool in some cities in Europe and Asia and some states in America [14, 20-24].

A significant correlation was found between infertile patients and lower scores of total FertiQoL (Fertility Quality of Life Questionnaire) score ^[25]. As a result, we believe that infertility is associated with having a lower quality of life among Saudi infertile patients; thus, we aim to investigate those population using validated questionnaires, such as FertiQol.

Methods

Project site and patient selection

A cross-sectional study design was conducted at King Abdulaziz Medical City, Jeddah, Saudi Arabia. The approval of Institutional Review Board of King Abdullah International Medical Research Center was obtained at the beginning of the study back in Sep 2017. The criteria for including patients attending the infertility clinic was for them to be Saudis. On the other hand, any non-Saudi patient was excluded. Every patient who fulfilled the criteria from 2011 to 2018 was included in the study. Out of 146 patients, we were able to successfully contact only 78 by calling them and taking their consent verbally. The FertiQoL questionnaire was used for both infertile males and females who were just diagnosed or were already following up at King Khalid Hospital in King Abdulaziz Medical City from 2011 to 2018. All the participants who completed the survey entered this study voluntarily and anonymously.

The FertiQoL tool

The FertiQoL (Fertility Quality of Life Tool) is a self-report questionnaire. It is designed specifically for infertile patients to assess their quality of life by experts from the European Society of Human Reproduction and Embryology (ESHRE) and the American Society of Reproductive Medicine (ASRM). It has two main modules that composes it: The Core FertiQoL module and the optional Treatment module. There are 24 items in the Core FertiQoL module and only 10 in the Treatment FertiQoL module. The 24 items from the Core FertiQoL are categorized into four domains, which include the emotional, cognitive, mind/body, relational, and social domains. The emotional domain evaluates the impact of infertility on emotions, such as sadness, resentment, or grief. The mind/body domain refers to the influence of infertility on physical health, cognition, and behavior. The relational domain and the

social domain are used to quantify the impact of infertility on partnership and on social aspects, such as social inclusion, expectation, and support. The optional treatment module consists of two domains that are used to assess the environment and tolerability for the treatment of infertility. Items from these domains are presented in the questionnaire randomly and rated on a scale of 0 to 4. The subscale and total FertiQoL scores are computed and transformed to achieve a range of 0 to 100, where higher scores indicate better quality of life. The FertiQoL tool has been translated into 20 different languages. In our study, the traditional Arabic version of the FertiQoL questionnaire was used as the measurement instrument for quality of life of Saudi infertile couples.

Data analysis

SPSS version 23.00 was used for data merging and statistical analysis. For descriptive data, we used frequencies and percentages for categorical data, and mean and standard deviation (for normally distributed data) for continuous data. For Bivariate analysis, two sample t test or one-way analysis of variance (ANOVA) test were used detect the significant relationships between variables. A P value of =<0.05 was considered as statistically significant.

Discussion

The collected data for the present study was analyzed statistically and compared with other studies. The results that were based on the objectives of the study were discussed. In our study, it was shown that the infertile females had lower scores in the emotional, mind/body, relational and social domains than the infertile males, which was consistent with the findings of a systemic review study conducted by Chachamovich JR et al., which stated that the infertile females had significant lower scores in mental health, social functioning and emotional behavior ^[26]. Our study indicated that the majority of male partners had good quality of life where the core FertiQoL score was 72.4, which is better than the female score, which is 66.7. Other studies, like the study by Ofovwe&Aziken came with the same findings ^[27]. A Similar finding also was described by Batool Rashidi et al., who reported that there were differences between women and men, suggesting that male patients had a better health-related quality of life. Another one with findings that were similar to the previous mentioned studies along with ours: A study by Réka Eszter, Kőrösi Tamás and Bugán Antal. Their study showed, in gender comparison, women showed poorer quality of life than men ^[28, 29]. Another finding in our study was that the infertile patients whom sought a medical treatment, had fair FertiQoL scores. Even more, it showed that female participants had lower scores than their males counterparts. An interesting finding that several studies have suggested was that the impact of infertility and its treatment was higher in females than males ^[30]. One reason they suggested was the fact that, in general, women usually rate their health-related quality of life lower than male gender ^[31]. Another explanation was that women are blamed or even take the blame themselves more frequently for the infertility, and that is why the stigma associated with such blaming causes more distress in health-related quality of life in infertile females. Supporting our findings, a study conducted by Aliyeh G and Laya F reported that there was

no significant association of level of FertiQol with the age by female participant ^[32]. This study achieved some important and surprising findings, too. It showed that those with lower educational level had better and higher scores. Another finding this study revealed was how the previous effort for treatment of infertility was adversely associated with the FertiQoL scores (core in treated 66.9 + 18.5 vs 79.5 + 12.8 untreated). Other studies, like one by Kahyaoglu Sut and Balkanli Kaplan who came with the same finding seemed to relate it to how prolonged infertility can be accompanied with common psychological negative consequences such as stress and anxiety ^[30, 31].

In total, lower educational level, lower income, not getting treatment and male gender were overall associated with better quality of life status in most of the component.

Results

Demographic information of the participants in this study, including age, gender, educational level, marital status, has been treated, and if they have children. Which is shown in (Table 1). Findings regarding selected variables revealed that the gender distribution were 23.1% male and 76.9% female. The total mean age was 36 years, (males 37 years and females 36 years). For marital status, 94.9% were married, 2.6% were divorced, and 2.6% were widowed. Participants whom had children were 47.4% while 52.6% did not have. Regarding level of education, 12.8% were less than high school, while 38.5% completed high school, and 48.7% have higher level of education. The majority 91% of participants have been treated while only 9% did not seek medical treatment.

The overall FertiQoL core and subscale scores mean and standard deviation are shown in (Table 2). The emotional subscale which shows the impact of negative emotions, such as depression and sadness on the quality of life which was (61.6 + 21.2). The mind/body subscale which shows the effect of infertility on the physical health was (70.3 + 22.9). The relational subscale which shows the effect of infertility on the relationship matters whether communication-wise or sexually was (69.6 + 17.5). The social subscale which measures the effect of infertility on social interactions and stigma which was found to be (70.5 + 20.6). Finally, the core FertiQoL which is the average quality of life across all domains was (67.99 + 18.4).

We have compared the results of the FertiQoL domains according to gender which it is shown in (Table 3). Men showed a statistically higher FertiQoL scores than female in emotional (65.3 + 23.9), mind/body (74.8 + 23.8), relational (75.0 + 23.8), and social (74.5 + 17.96). However, it was not significant since P values were > 0.05. The mean score of the core FertiQoL in infertile males was not significantly higher than the score in infertile females (72.4 + 17.5 vs. 66.7 + 18.6, p 0.25). In addition, it is found that infertility affects all domains of FertiQoL, but emotional aspect has the major impact on infertile patients in both genders.

We compared the FertiQoL scores between genders regarding seeking medical treatment in (Table 4). We found that females scored higher levels in the environmental aspect (72.7 + 21.7 vs 69.8 + 24.9), which assesses the accessibility and quality of the treatment impact on the quality of life. However, females score were lower than male regarding tolerability (58.98 + 25.3 vs 63.7 + 24.7), which assesses the impact of fertility treatment on daily life and the result of mental and physical symptoms. Overall, the

total FertiQoL score was higher in male but not significant (69.9 + 19.4 vs 65.6 + 17.8, P0.40).

We stratified the FertiOoL scores according to different levels of education (less than high school, high school diploma, and higher levels of education). They are listed in (Table 5). Surprisingly, statistically higher scores were found in the less than high school participants in the emotional, (75.8 + 23.3), mind/body(83.3 + 21.4), relational(72.1 + 11.3), social(86.7 + 12.9) and core FertiQoL score (79.5 + 13.8), followed by the higher educational level group. The only exception was the relational domain where high school graduates preceded the higher educational level group. This finding could be explained by the hypothesis that participants with higher education level are more exposed to society thus have more stress. The only exception was in the relational domain where high school graduates preceded the higher educational level group.

Lastly, we have compared the FertiQoL scores in participants who had children and participants who didn't in (Table 6). The participants who have children have shown higher results in the emotional (64 + 21.4), mind/body (70.7 + 22.3), core (68.2 + 17.9); However, participants with no children had higher scores in the relational (70.5 + 19.5) and social domains (72.4 + 21.0).

Conclusion and recommendations

Infertility impacts all the domains of the quality of life; however, it mainly affects the emotional aspect in both males and females. Therefore, health professionals need to include an evaluation of psychological symptomatology to propose a more effective intervention to infertile individuals.

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Appendix

Variables	Number (%) N=78,			
Gender				
Male	18	(23.1%)		
Female	60	(76.9%)		
	Status			
Single	1	(1.3%)		
Married	73	(93.6%)		
Divorced	2	(2.6%)		
Widowed	2	(2.6%)		
Children				
Yes	37	(47.4%)		
No	41	(52.6%)		
	Education			
Less than high school	10	(12.8%)		
High school	30	(38.5%)		
After high school	38	(48.7%)		
Seek	medical treatmen	t		
Yes	71	(91%)		
No		7 (9%)		

Table 1: Participants characteristics

Table 2: The overall FertiQoL domains scores

Domains	N= 78 Mean + SD	
Emotional	61.6	+ 21.2
Mind / Body	70.3	+ 22.9
Relational	69.6	+ 17.5
Social	70.5	+ 20.6
Core	67.99	+ 18.4

Table 3: Domain wise mean and standard deviation of FertiQoL scores of male and female

Domains	Male (N=18) (Mean + SD)	Female (N=60) (Mean + SD)_	P Value
Emotional	65.3 + 23.9	60.5 + 21.7	0.43
Mind / Body	74.8 + 23.8	68.95 + 22.7	0.35
Relational	75.0 + 23.8	67.97 + 22.7	0.14
Social	74.5 + 17.96	69.2 + 21.4	0.34
Core	72.4 + 17.5	66.7 + 18.6	0.25

Table 4: Comparison of FertiQoL domains scores between male and female patients regarding seeking medical treatment

Domains	Male (N=16) (Mean + SD)	Female (N=55) (Mean + SD)	P Value
Emotional	66.1 + 23.6	58.3 + 21.3	0.20
Mind / Body	75.3 + 22.997	67.4 + 23.0	0.24
Relational	75.0 + 13.4	66.8 + 18.6	0.10
Social	76.0 + 18.5	67.7 + 21.5	0.16
Environment	69.8 + 24.9	72.7 + 21.7	0.66
Tolerance	63.7 + 24.7	58.98±25.3 25.3	0.51
Core	73.1 + 17.7	65.0 ± 18.6	0.13
Treatment	66.7 + 23.7	65.8 + 20.1	0.88
Total	69.9 + 19.4	65.6 + 17.8	0.40

Table 5: Domain wise mean and standard deviation of FertiQoL scores by level of education

Domains	Less than high school (N=10) (Mean + SD)	High school (14=30) (Mean + SD)	After high school (N=38) (Mean + SD)	P Value
Emotional	75.8 + 23.3	56.4 + 21.2	61.95 + 21.5	0.05
Mind/Body	83.3 + 21.4	66.7 + 26.2	69.7 + 19.7	0.14
Relational	72.1 + 11.3	69.9 + 19.0	68.8 + 17.97	0.87
Social	86.7 + 12.9	67.4 + 22.3	68.6 + 19.3	0.03
Core	79.5 + 13.8	65.1 + 19	67.99 + 18.4	0.09

Table 6: Domain wise mean and standard deviation of FertiQoL scores by level of education

_ ''Flaying Children (N=41) Domains (Mean + SD)		No Children (N=37) P Value (Mean + SD)	
Emotional	64 + 21.4	58.2 + 22.9	0.20
MindMind / Body	70.7 ± 22.3	69.8 + 23.96	0.86
Relational	68.8 + 15.8	70.5 + 19.5	0.67
Social	68.7 + 20.4	72.4 + 21.0	0.43
Core	68.2 ± 17.9	67.7 ± 19.2	0.91