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The Relationship between Quality of Life and Irrational Thoughts Regarding the Mediating Role of Religious Teachings in Couples with Infertility

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Abstract

Introduction: The Quality of Life (QOL) of couples with infertility can be affected by Irrational Thoughts (IT) regarding childbearing and it might be influenced by Religious Teachings (RT) as a mediator. The purpose of this study was to investigate the relationship between QOL and IT of childbearing with the mediating role of RT in couples with infertility in Shahrekord City, Iran.

Method: This analytical correlational study was conducted among 196 couples with infertility who were referred to Shahrekord Infertility Center, Iran selected by a convenient sampling method. Data were collected using the questionnaires on QOL provided by the World Health Organization (WHO), IT designed by Flex and Religious Teaching.

Results: The mean score of QOL was 76.42± 20.137, IT 32.20± 9.019 and RT was 150.84± 40.97. A significant relationship was found between the mean scores of QOL and IT of childbearing with the mediating role of RT in couples with infertility (P=0.001). Moreover, mean scores of study concepts had no significant relationship with demographic variables (gender, education, and infertility duration) among the participants.

Conclusion: Based on the findings, the QOL of couples with infertility can be improved by strengthening the RT and reducing the IT of childbearing.

Keywords: Quality of Life, Irrational Thought, Rational, Religious Belief, Infertility

Introduction

The desire to have a child is one of the basic human motivations and infertility leads to a destructive emotional feeling of imperfection especially in developing countries since having no children causes insecurity in marriage as a social stigma [1]. The World Health Organization (WHO) estimates that between 48 million couples and 186 million individuals live with infertility globally [2]. Akbarzadeh et Al. reported the prevalence of infertility 20.2% (17187 women studied) in Iran. This prevalence is twice more the world rates [3]. This issue is more obvious in the Iranian culture, where most families are interrelated. Infertility has many psychological consequences. The fact that a person cannot follow the natural reproductive process is one of the tough experiences of life [4]. In today's Iranian society, the couples' irrational beliefs have been introduced as one of the fundamental reasons of many divorces [5].

Irrational Thought (IT) refers to those beliefs people might learn during life that are not fundamentally realistic and commonplace. David et al. believe that, IT led to misunderstanding and distortion of realities, environmental stimuli and others' behaviors that disrupt people's social adaptability and do not allow them to adapt [6].These beliefs

could lead to psychological and emotional problems such as neurosis, communication disorders, and reduced effective functions and have a direct impact on people's QOL [7]. QOL is a broad concept that affects mental health [8], level of independence [9], and environmental relationships [10]. Negative thoughts can have a significant impact on one's overall well-being and ability to carry out daily activities [11]. This, in turn, leads to a decrease in the quality of life [12]. Furthermore, recent literature has introduced a new concept known as fertility quality of life, which highlights the specific ways in which fertility issues can affect different aspects of a person's life [11]. It can bring heavy mental pressure and psychological burden to infertile families and affect their QOL [4].

Chachamovich et al. conducted a study in Brazil which revealed that among the demographic variables related to quality of life (QOL) in infertile women, age and advanced education were associated with better general health and physical functioning. On the other hand, previous reproductive tract surgery or previous in vitro fertilization were associated with poorer scores in the psychological health domain.[12]. Bolsoy et al. in Turkey's context showed variables affecting QOL in infertile women and men don't differ significantly [13]. A combination of these factors, the pressure of family and friends, treatment costs, and IT about having a child also affects the QOL and couples' health. In other words, the others' attitudes cause shame on them and lead to IT about infertility. Lack of awareness, inappropriate behavior of the spouses or relatives can aggravate the consequences [1].

Researchers have demonstrated that thoughts, emotions, and intellect all interact with each other. It is often the case that our emotional experiences are heavily influenced by irrational beliefs we hold about ourselves and the world around us. These irrational beliefs can lead to feelings of anxiety [14]. So the physical and psychological QOL is considered as the best personal empowerment to adapt to challenges successfully [15]. Infertile women frequently report severe stress and poorer marital adjustment and QOL than women who conceive naturally [16]. `Infertility might lead to sadness, guilt, anger, anxiety, frustration, loneliness, and even marital dissatisfaction and reduced QOL [17, 18].

In contrast, religiosity and spiritual strategies improve QOL by dealing with stressful situations like infertility [19]. Religion is a set of sacred beliefs maintained by society members who are officially bound to follow these beliefs and divine deeds [20]. Studies showed that QOL results from ppsychological pressures, family, environmental and social factors on one hand and programs such as public health and individual resources (such as knowledge, ability to cope with competence, feeling of security, compromise skills, stable belief-value system and support system) is on the other hand [21]. Latifnejad Roudsari et al. have argued that infertile women turning their attention to religious and spiritual beliefs show connectedness to a higher being who can be trusted and believed, as a source of strength, guidance, and support [22]. In other study Latifnejad Roudsari et al. also indicated that religious participants had higher feelings of optimism and peace in dealing with infertility problems by adopting religious/spiritual coping strategies, which originated from their religious teachings and divine outlook on life [23].

In previous studies related to the topic, Goli et al. examined parenting IT and QOL, and other factors on infertile women [24]. Almasi found a significant correlation between the spiritual health and QOL of fertile and infertile women [25]. Royani et al. also studied the factors affecting the QOL of infertile women [26]. Howie et al. revealed that infertility negatively impacts QOL by disrupting infertile people's core belief [27].

In addition, Abganeh et al. revealed that no study has investigated these concepts in Shahrekord as a city with religious believes [28]. So the researchers decided to investigate the association of QOL and childbearing RTs with the mediating role of IT in couples with infertility in Shahrekord, Iran.

Method

This descriptive-analytic correlational study was carried out among 500 couples with infertility who were referred to the Shahrekord Infertility Center, Iran from March to January 2020 . Based on Cochran's formula, the number of sample was calculated to be 217. Among them, 196 eligible participants remained. The participants were selected using the convenient sampling method based on the inclusion criteria, confirmation of infertility by the center physician and the individual's consent to participate, excluding criteria that were unwillingness to participate in the study and failure to determine the couple's infertility. After distributing the questionnaire, 196 completed questionnaires were obtained. The participants' infertility was confirmed by the health center physician. To conduct the research, an introduction letter was obtained from the Islamic Azad University of Shahrekord Branch. A permission was received from the fertility clinic's center to collect data. After getting permission, the assessment package was prepared including informed consent, demographic form, QOL, IT, and religiosity of couples with infertility questionnaires. Before participating in the study, participants read and signed the informed consent which concluded information about the right to decline or withdraw from the study at any time, voluntary participation, the purpose of the research, benefits associated with participation of getting the results, and confidentiality of personal information. To protect privacy, data was collected anonymously.

The tools used in this study were as follows:

World Health Organization Quality of Life Questionnaire: This questionnaire was designed by WHO in 1996 with four domains: Physical health (7 items), mental health (6 items), social relationships (3 items) and environmental health (8 items) which is assessed on a 5-point Likert scale (very good: 5 to very bad: 1). The minimum and maximum attainable scores are 26 and 130 in this questionnaire, respectively. In the Iranian version of

the questionnaire, reliability was also confirmed by Cronbach's alpha coefficient of 0.7 for all domains [29, 30].

Irrational Thinking Questionnaire: This questionnaire designed by Flex et al. was also administered to evaluate the infertile couple's IT on childbearing over a 5-point Likert scale (strongly agree: 1 to strongly disagree: 5). The minimum and maximum attainable scores were 14 and 70, respectively. The validity and reliability (Cronbach's alpha of 0.84) of this questionnaire were confirmed by previous Iranian studies [21, 24].

The Religiosity of Couples with Infertility Questionnaire: This questionnaire of RT, developed by Sarajzadeh et al. [5] was administered to assess the religiosity of couples with infertility. This questionnaire includes 102 items on religious belief, the practice of religious duties, and religious emotion, which is answered on a 6-point Likert scale. The maximum and minimum attainable scores are 612 and 102 in this questionnaire, respectively. The validity and reliability (Cronbach's alpha = 0.89) of this questionnaire were also confirmed by Sirajzadeh et al. [5].

Data were analyzed using the SPSS Version 14. The normality of continuous variables was assessed using the one-sample Kolmogorov-Smirnoff test. To study the relationship among variables, Pearson's correlation coefficients were applied. The differences were tested by using a t-test, Analysis of Variance, and Multivariate Regression. A p-value < 0.05 was considered statistically significant.

Results

Among the questionnaire distributed to infertile families, the attrition rate was 10%. Regarding the demographic information, most participants (75%) were female. The majority of them (44.9%) had a Bachler's degree and the most duration of fertility was 43.8% (Table 1).

Analysis of demographic data showed that the participants' mean age was 34 ± 2.6 years. Other demographic information is provided in Table 1.

Table 2 shows the mean score of QOL and its domains with one sample T-Test. The QOL of couples with infertility had the highest score in the physical domain and the lowest score in the social domain. The lower limit on the questionnaire was 14 and the upper limit was 70. In the present study, the average score of RT was 32 lower than the population average. The low score of the religious education questionnaire was 102 and the high score was 612. In the present study, the mean score of this variable was 150, which was lower than the population average.

Regarding the relationship between QOL and parenting IT with the mediating role of RT scores of QOL, parenting IT, and RT was 76.42 ± 20.13, 32.20 ± 9.01, and 150.84 ± 40.97 in couples with infertility, respectively. To evaluate the relationship between QOL and IT of childbearing considering the mediating role of RT, multivariate regression analysis was run (Table 3).

Table 3 presents a multivariate regression analysis of variance. Since the level of significance (sig) is 0.001, the relationship is significant.

Table 1. Demographic Characteristics of Couples with Infertility Participating in the Study

Variable	Level	Frequency (%)
Gender	Male	49(25%)
	Female	147(75%)
Educational level	High school	22(11.2%)
	Diploma	44(22.5%)
	Bachelor	88(44.9%)
	Master's and higher	42(21.4%)
Duration of infertility (Year)	1-4	42(21.4%)
	5-9	86(43.8%)
	10-14	52(26.6%)
	15 and over	16(8.2%)
Total		196(100%)

Table 2. Mean Scores of QOL, RT, IT of Couples with Infertility and Domains

Study concepts	mean	Mean Total	
Quality of Life	Environmental	74.55±32.22	76.42 ±20.13
	Social	69.34±14.72	
	Psychological	75.12± 11.23	
	Physical	76.12 ± 20.13	
Religious Teachings			32.20± 9.01
Irrational Thought			150.84±40.97

Table 3. Relationship Quality of Life and Religious Teachings and Irrational Thoughts among Couples with Infertility

	Mean squares	Degrees of freedom	Mean squares	F statistics	P	R
Regression	1490.31	1	1490.31	20.11	0.001 (a)	0.30(a)
Residual	14372.11	194	74.08			
Total	15862.42	195				

Dependent variable: RT

Independent variable: IT, QOL

*Multivariate regression analysis of variance

According to Table 4, the significance level of the RT is 0.001, which shows that this variable is related to IT.
The values of t and P indicate the statistical significance of the relationship between the predictor variables.
The results of the Pearson correlation test showed that the correlation coefficient between these two variables was 0.311, which is significant at the error level of less than 0.001. Furthermore, a positive and significant relationship was found between the dimensions of genuine leadership and mindfulness, which had the highest correlation with mindfulness among the dimensions of internalized moral aspects (Table 3).
Based on the regression test results, high scores are related to RT (p =0.001) and QL is related to RT (p =0.001).
Given that the variable of RT has a mediating role, we calculated the standard coefficient of the desired path by multiplying the beta of both paths. This coefficient ranged from -1 to +1.
The path of QOL to RT * to IT:
0.307* 0.258= 0.079
Moreover, a relationship was found between QOL and RT of childbearing in couples with infertility in Shahrekord City. According to the correlation coefficient, this correlation is relatively strong and inverse (-1<-0.258<+1). Furthermore, a strong and inverse relationship was found between QOL and RT among the participants of this study according to the correlation coefficient (+1 < 0.258 <+ 1) (Figure 1).

Table 4. Relationship Religious Teachings and Irrational Thought and Quality of Life among Couples with Infertility

Variable	Non-standard regression coefficient		Standardized regression coefficient	T	P
	B	Standard deviation error	B		
	42.38	3.35		18.03	0.001
Religious teachings	-0.06	0.01	-0.30	-4.48	0.001

Dependent variable: IT
*Multivariate regression coefficient.

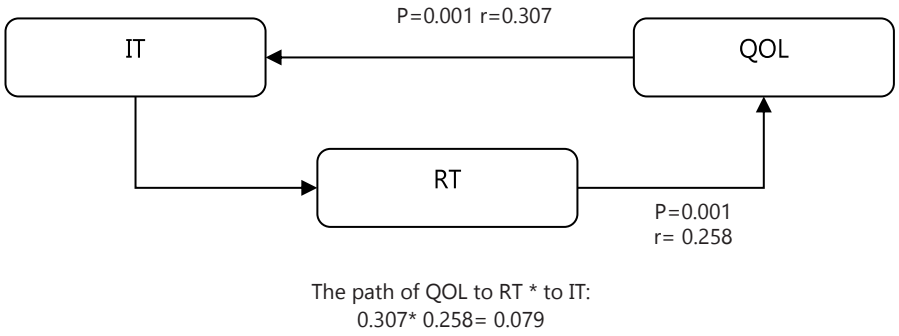

Figure 1. The path analysis of quality of life with religious teaching and irrational thoughts.

Discussion

Based on the findings, most patients participating in this study were women (75%), had a bachelor's degree (44.9%), and had an infertility period of 5-10 years (43.9%). The mean score of QOL was 76.42 in couples with infertility, which shows a desirable level among these couples. The mean score of QOL was 48, 60, 54, and 45 in previous studies [31], respectively. All of these studies used the WHOQOL-BREF questionnaire, which is in line with the findings of the present study. The mean score of parenting IT in couples with infertility was reported as 32.20 in the study conducted by Goli et al. [26]. Additionally, Besharat et al. [35] found that the mean score of IT was 41 and 57 in infertile couples [24, 32]. According to Karimian, the majority of infertile couples have cognitive errors in understanding and interpreting ambiguous situations, and they mostly use black and white solutions and like to ignore the facts [33] . This is especially considered in women more than men. In the interaction of couples, the role of individuals' beliefs and attitudes should be considered as a determining factor in the quality of the couple's relationship. They showed that the educational intervention was effective in improving and correcting this type of thinking among couples with infertility in stressful situations [34].
The mean score of RT was 150.84 in couples with infertility in Shahrekord ranging from 145.06 and to 154.61. In the study of Modarres et al. the mean (SD) of irrational thoughts' scores of infertile women were 33.92 (5.98) [6]. In the study of Goli et al. on the 0-56 scale of IT of infertile couples, the score of 40 indicated a high score for this concept [35]. In comparison of the mean score of IT among fertile and infertile couples, there was a significant difference [36]. Besharat et al. revealed that irrational beliefs showed negative correlations with adjustment to infertility [32]. However, the results of infertility in men and women are different due to the role of social and cultural factors.
Findings of the present study also showed a relatively strong and inverse correlation (+1<-307<+ 1) between RT and IT of childbearing in participants. Moreover, we observed a strong and consistent correlation (+1<0. 258<+ 1) between QOL and RT in infertile patients of this study. Haghighatian et al. investigated the social consequences of infertility among families in Isfahan [37]. As Yazdi et al. noted, infertile women suffer from a

significant number of psychological disorders compared to fertile women, which have a negative impact on other aspects of their life, such as social and family relationships [38]. In other words, the life of couples with infertility is affected by other's pressure and even support, which leads to different reactions such as isolation and reduced communication among couples.

Goker studied the relationship between factors affecting the QOL of infertile couples in Turkey and found that women were much more psychologically vulnerable than men [39]. Navid et al. confirmed that irrational beliefs relate to health-related QOL of couples with infertility [40]. Studies in different countries show that emotional problems [41, 42], mental health [43], social structure [13, 44], women's age [12, 39, 44], and level of education [12, 45] can affect the QOL of couples with infertility.

When infertile couples are dealing with this uncontrolled event, it is extremely important how to evaluate it in order to use a suitable coping techniques [40], meanwhile RT could be used as a soothing indicator.

Conclusion

Based on the findings of the present study, the QOL of infertile couples could be enhanced via strengthening RT and reducing IT about childbearing.

Just like any research, this study also faced some limitation. First, the small sample size was collected using convenience sampling of clinical-based participants. Future studies investigating couples with infertility should consider a larger sample size and infertile couples in the general population in bigger societies. The second limitation was that the survey was based on a self-report, which is likely to be biased. While the IT affect the QOL of infertile couples, additional research is recommended to implement interventions in order to control them.

Conflict of Interest

The authors declare no conflicts of interest.

Ethical Approval

Ethical considerations were observed by the Declaration of Helsinki including obtaining informed consent from the participants, obtaining the necessary permissions from the authorities for sampling, and ensuring the participants about the confidentiality of personal information. Moreover, the research was obtained from the Islamic Azad University of Falavarjan and ethical code IR.IAU.FALA.REC.1398.019 was registered in the national system of bioethics.

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