Quality of Life of Infertile Couples in relation to Marital Adjustment, Factors related to Infertility, and Demographic Characteristics

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Abstract

Background & Aims: Quality of life of infertile couples is affected by changes happening in their life. Knowledge about the quality of life, marital adjustment, and underlying factors of infertile couples is an important part of social health information. Such information can be used for developing health promotion programs by family counselors. The aim of this study was to predict the quality of life of infertile couples based on marital adjustment, factors related to infertility, and background characteristics.

Materials & Methods: In this descriptive-analytic study, 131 women and 79 men referred to an infertility center in East Azerbaijan were recruited using a convenience method. Data were collected using the infertile women’s quality of life and Spiner’s marital adjustment questionnaires. Regression analysis was used for data analysis via the SPSS16.

Results: The mean age of the female and male participants were 35.74 ± 6.11 years and 32.45 ± 5.72 years, respectively. Of variables with a p-value less than 0.1 that entered the regression analysis, marital adjustment, gender, and insurance accounted for 78% of the observed variance in the quality of life of the infertile couples.

Conclusions: It was revealed that the variables of this study had important impacts on the infertile couples’ quality of life. Therefore, holding consultation programs and conducting more studies are necessary for improving the couples’ quality of life and promoting sexual and marital adjustment in infertile couples. Removing underlying problems by interventional studies are suggested to modify couples’ quality of life.

Keywords: Quality of Life, Infertility, adjustment

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Introduction

Despite major changes in individuals’ attitudes toward sexual relationships, infertility is still a major problem across the globe(1, 2). While the use of infertility healthcare services has increased in recent decades, the prevalence of infertility remained constant. The prevalence of infertility is reported to be 3.5-16.7%
in developed countries and 9.9- 9.3% in developing countries(3).

The problem of infertility has become a social concern that can lead to severe psychological issues, psychological imbalance between couples and even divorce(4). Particularly, in those societies that bringing children immediately after marriage is encouraged, infertility has a greater impact on couples’ quality of life. Infertility as a barrier to the human’s need for survival is a source of severe psychological stress (3, 5). For instance, infertile couples have less satisfaction with life than their counterparts(6). Infertility can be considered as a crisis in life, identity problem and a chronic illness. Infertility also impacts couples’ quality of life(7).

The quality of life is defined as the subjective perspective of well-being and welfare in the present life experiences. The quality of life is a multi-dimensional concept that is influenced by physical, psychological, emotional, and social factors(8). The results of a systematic review study showed that infertility affected sexual and marital relationships among married couples (9, 10). Therefore, the investigation of factors affecting the quality of life of infertile couples needs the assessment of underlying social and psychological factors. Also, more attention should be given to factors affecting couples’ relationships and marital adjustment.

Marital adjustment is defined as the process of modifying, accepting or changing the behavior of the individual to engage in the achievement of the highest level of marital satisfaction. In other words, it coordinates the individual’s lifestyle with another individual’s lifestyle, through a shared understanding of subjects, intimacy, and collaboration(11, 12). Infertile couples especially infertile women need to talk about infertility and share their understanding of marital adjustment(1, 13). However, the marital adjustment of infertile couples is considered to be less than that of fertile couples(12).

Individuals’ feeling of the quality of life varies according to the time, situation, and living conditions. Also, there are various factors related to the quality of life in different societies and cultures(14). In Iran, there are more than one million infertile couples. The religious and cultural history of Iranian society emphasizes childbearing. Therefore, infertility is considered as a major social issue and a cause of divorce(3). The present study was conducted to predict the quality of life among infertile couples using marital adjustment, factors related to infertility, and background characteristics.

Identifying factors that influence couples’ marital problems and decrease their quality of life is essential for identifying couples who need supportive care. Knowledge of background characteristics and marital adjustment, and their impacts on the quality of life can be used for health planning and family counseling to improve couples’ quality of life and relationships. This study makes health authorities aware of couples’ needs to provide appropriate healthcare services.

Materials & Methods

This study was conducted in an infertility clinic in an urban area of Iran. This clinic is the largest and most well-equipped university-centered infertility clinic in the northwest of Iran.

Participants: Inclusion criteria were the age range of 15-45 years; the documented diagnosis of infertility; no history of severe mental problems; the absence of severe discomfort during the interview; and no other acute physical problems. Using a census sampling method from January to June 2020, 131 women and 79 men were found eligible to take part in this study. The means of the women and men’s age were 35.74 ± 6.11 years and 32.45 ± 5.72 years, respectively.

Measures: The background characteristics and infertility-related questionnaire, the infertile women’s quality of life, and Spiner’s marital adjustment questionnaires were used for data collection. The infertile couples’ quality of life questionnaire had 72 items in seven dimensions as physical, psychological, spiritual, religious, economic, emotional, sexual, and social. Scores varied from 72 to 288, and higher grades indicated better quality of life. Its validity and reliability have already been confirmed in similar studies(9) (15-17). The Cronbach’s alpha coefficients of each domain
were higher than 0.81 and for the whole instrument were 0.89.

The Spiner’s marital adjustment questionnaire was a 15-item instrument developed by lock Wallace. This questionnaire examined the extent of couples’ agreement in various areas. Scores varied from 2 to 155, and grades less than 10 indicated tensions in marital adjustment. The internal consistency coefficient of this questionnaire was reported satisfactory in similar context(18).

Data analysis: Descriptive and inferential statistics were used for data analysis via SPSS version 16 (Chicago, Illinois, USA). The normality of data was confirmed using the Kolmogorov-Smirnov test. To examine the relationship between the quality of life and continuous variable such as age, the Pearson correlation coefficient was used. For categorical variables such as gender and the level of education, t-test and ANOVA were applied. All independent variables with a p <.10 from univariate analysis were entered into a multiple linear regression model. In multiple regression analyses, the stepwise method was used in order to arrive at the final model and deduce a multivariate summary model of determinants of the outcome variables. The independent variables in this study were a mixture of continuous and categorical variables. In multiple regression analyses, the categorical variables with more than two groups were coded as “dummy variables”(19).

**Ethical consideration:** This research was approved by the Tabriz Student Research Committee (code number: 5/46/4880). This study was conducted after obtaining permission from the Ethics Committee, as well as explaining the study’s aim to the couples and achieving their informed consent. The participants were explained about the voluntary nature of participation in this study, the possibility of withdrawal from the study at any time without being penalized.

**Results**

In this study, 131 women and 79 men completed the questionnaires. The average duration of marriage and duration of infertility diagnosis were 4.30 ± 2.25 and 2.73 ± 1.74 years, respectively. Other demographic and background characteristics of the couples were reported in Table 1. The mean score of marital adjustment was 97.40 ± 23.70, which was in the range of 45-152. The p-value ≤ 0.05 was considered significant. The results of the uni-variable analysis showed that the relationships between the quality of life with age (p <0.05, r = -0.139) and marital adjustment (p <0.01, r = -0.544) were statistically significant, but no significant relationship was found between marriage and duration of infertility.

| Table 1. Description of demographic and infertility-related characteristics of the participants |
|---------------------------------|-----------------|-------|
| Characteristics                 | Variable        | n     |
|---------------------------------|-----------------|-------|
| infertility-related characteristics | History of infertility in the family |       |
|                                  | Yes             | 55    |
|                                  | No              | 155   |
| Reason of infertility            | Female-related  | 41    |
|                                  | Male-related    | 48    |
|                                  | Common          | 49    |
|                                  | Unknown         | 35    |
|                                  | I do not know   | 37    |
| Type of infertility              | Primary         | 152   |
|                                  | Secondary       | 58    |
| Type of treatment                | Drug            | 67    |
|                                  | In Vitro Fertilization (IVF) | 38    |
|                                  | Intra-Uterine Insemination (IUI) | 49    |
|                                  | Micro Injection | 9     |
|                                  | I do not know   | 47    |

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Table 2. The univariate associations between the quality of life with infertility-related and demographic characteristics

| Characteristics                     | Variable                  | Mean | Std.Deviation | T*  | df** | Sig.*** (2-tailed) |
|------------------------------------|---------------------------|------|---------------|-----|------|-------------------|
| History of infertility in the family | Yes                       | 145.87 | 23.04         | 1.511 | 208 | .132              |
|                                   | No                        | 150.62 | 21.81         |      |      |                   |
| Reason of infertility              | Female-related            | 151.58 | 22.01         | 2.794 | 4   | .027              |
|                                   | Male-related              | 147.08 | 24.88         |      |      |                   |
|                                   | Common                    | 157.67 | 19.81         |      |      |                   |
|                                   | Unknown                   | 145.49 | 19.45         |      |      |                   |
|                                   | I do not know             | 157.45 | 22.08         |      |      |                   |

The univariate associations between the quality of life and other factors associated with infertility and demographic characteristics were presented in Table 2. Accordingly, variables that had a p-value <0.1 entered the regression analysis test (Table 3). Level of 0.1 indicates that we allow for 10% likelihood that we obtain our results by chance.
| Characteristics                  | Variable                  | Mean   | Std. Deviation | T*  | df** | Sig.*** (2-tailed) |
|---------------------------------|---------------------------|--------|----------------|-----|------|-------------------|
| Type of infertility             | Primary                   | 152.59 | 21.69          | .636| 208  | .526              |
|                                 | Secondary                 | 150.41 | 23.61          |     |      |                   |
| Type of treatment               | Drug                      | 153.86 | 21.22          | 4   | 1.050| .383              |
|                                 | In Vitro Fertilization (IVF)| 150.18 | 28.74          |     |      |                   |
|                                 | Intra-Uterine Insemination (IUI) | 153.26 | 18.84          |     |      |                   |
|                                 | Micro Injection           | 161.22 | 19.11          |     |      |                   |
|                                 | I do not know             | 147.70 | 21.23          |     |      |                   |
| Under pressure to undertake     | By the family             | 153.35 | 15.64          | 3   | 5.884| .001              |
| treatment                       | By the husband’s family   | 152.46 | 24.74          |     |      |                   |
|                                 | By the husband            | 159.66 | 17.45          |     |      |                   |
|                                 | Myself                    | 144.79 | 23.79          |     |      |                   |
| demographic                     | Gender                    |        |                |     |      |                   |
| characteristics                | Male                      | 145.39 | 24.39          | 139.277 | .001 |
|                                 |                           |        |                | 3.261 |      |                   |
|                                 | Female                    | 155.97 | 19.83          |     |      |                   |
| Education level                 | Illiterate                | 140.20 | 25.55          | 3   | 10.582| .000              |
|                                 | Under diploma             | 154.52 | 22.79          |     |      |                   |
|                                 | Diploma                   | 159.27 | 18.09          |     |      |                   |
|                                 | Academic                  | 139.00 | 19.67          |     |      |                   |
| Residence                       | Urban                     | 153.76 | 21.09          | 1.955| 208  | .052              |
|                                 | Village                   | 147.00 | 24.61          |     |      |                   |
| Occupation                      | Employed                  | 153.50 | 2.59           | -.036| 208  | .971              |
|                                 | Unemployed                | 151.43 | 1.89           |     |      |                   |
| History of other diseases       | Yes                       | 152.74 | 21.00          | 1.960| 208  | .062              |
|                                 | No                        | 144.00 | 23.91          |     |      |                   |
| Income                          | Sufficient                | 143.86 | 25.41          |     | 26.077| .111              |
|                                 | Insufficient              | 152.99 | 21.64          | 1.650|      |                   |
| Educational level of spouse     | Illiterate                | 158.36 | 20.13          | 3   | 3.581| .015              |
|                                 | Under diploma             | 147.49 | 24.16          |     |      |                   |
|                                 | Diploma                   | 157.47 | 20.22          |     |      |                   |
|                                 | Academic                  | 148.33 | 21.11          |     |      |                   |
| Insurance                       | Yes                       | 153.76 | 21.09          | 1.955| 208  | .052              |
|                                 | No                        | 147.00 | 24.61          |     |      |                   |

*t-test  
**Degrees of freedom  
***Significance (P value)
Table 3. The prediction of variance in the quality of life based on input variables

| Model                      | Unstandardized Coefficients | Standardized Coefficients | 95.0% Confidence Interval for B |
|---------------------------|----------------------------|---------------------------|--------------------------------|
|                           | B      | Std. Error | Beta   | t     | Sig.   | Lower Bound | Upper Bound |
| (Constant)                | 126.401 | 15.801      |         | 7.999 | .000   | 95.244    | 157.559    |
| Age                       | -.312  | .224       | -.085  | -1.398| .164   | -.753     | .128       |
| gender                    | 6.302  | 2.741      | .138   | 2.299 | .023   | .898      | 11.706     |
| Marital adjustment        | -.416  | .058       | -.444  | -7.184| .000   | -.530     | -.302      |
| residence                 | -10.337 | 3.159    | -.205  | -3.272| .061   | -16.567   | -4.107     |
| insurance                 | 13.176 | 3.959      | .199   | 3.328 | .001   | 5.369     | 20.984     |
| Reason of infertility     | -.026  | .947       | -.002  | -.027 | .978   | -1.894    | 1.842      |
| Under pressure to undertake treatment | -1.668 | .958 | -.105 | -1.742 | .083 | -3.556 | .220 |
| education                 | .081   | 1.663      | .003   | .049  | .961   | -3.197    | 3.360      |

R2 = .786

Discussion

The purpose of this study was to predict the quality of life among infertile couples using marital adjustment, factors related to infertility, and background characteristics. According to the findings of this study, male gender, living in the rural area, having insurance, unknown causes of infertility, lack of pressure for fertility, academic education, higher age, and improved marital adjustment are related to a better quality of life. In the regression analysis, gender, insurance, and marital adjustment accounted for more than 78% of the observed variance in the quality of life of the infertile couples.

Gender was one of the predictors of the quality of life, as men had a better quality of life in this study. A systematic review study also demonstrated the poorer quality of life of women than men (9). According to the Monga’s study on the effect of infertility on the quality of life, women in the control group had a higher and better quality of life than women in the infertile group, but no differences were found between men in the groups(20). This indicated the negative effect of infertility on the women’s quality of life. Childbearing for women is more important than men as they feel more responsibility(13). Evidence have shown that women experience more stress even when their husbands have a physical problem(9). The disagreement between couples’ attitudes toward infertility can be attributed to the importance of childbearing for women than men. Also, women are more likely to pursue diagnosis and treat infertility than men, even when the infertility is related to male factors. On the other hand, more women than men talk with their spouses about childbearing, while men do not express clearly their concerns (9, 13, 21).

Insurance was another factor that affected the quality of life of infertile couples. Economic factors are among important factors that affect the quality of life of couples. This is particularly important for infertile couples, because the costs of infertility treatment are high. In the past, infertility treatment was not subject to medical insurance. Recently, the reduction of the reproductive rate in Iran has made that several measures are taken to incorporate the diagnostic and therapeutic interventions of infertility into medical insurance. Perhaps the insurance coverage was more a predictor of the quality of life than living expenses for the infertile couples. This finding reveals the importance and necessity of wider coverage of infertility treatment.

Another predictor of the quality of life was marital adjustment. Marital adjustment is one of the important concepts of couples’ quality of life(4). According to the
findings of this study, marital adjustment was one of the most important criteria for the prediction of variation in the infertile couples’ quality of life. Couples’ adjustment and improving couples’ understanding of the marital life have many positive emotional effects on them, especially those who experience stress\(^{[11]}\). It can influence the quality of life in physical, psychological, spiritual and religious, economic, emotional, sexual and social dimensions\(^{[4,12]}\).

The limitations of this research may influence generalization of the findings. In this study, infertility was studied when the couples were following therapeutic measures. Therefore, other periods of the couples’ life such as the time of infertility diagnosis and disappointment with fertility were not considered in this study. It was also impossible to achieve the perspectives of couples simultaneously. Comparing the perspectives of couples provide a more accurate understanding of this phenomenon.

In general, gender, insurance and marital adjustment influence the couples’ quality of life. The findings of this study revealed the clinical value of appropriate interventions to promote marital adjustment and rectify the underlying causes that increase the infertile couples’ quality of life. In this context, more attention should be paid to women, the use of insurance and widening the scope of insurance for the treatment of infertility. It was found that the components of quality of life were adversely affected by fertility problems, and this is a consequence of infertility. Also, it is suggested that suitable education courses are held to increase marital adjustment among couples.

Given the fact that the quality of life among couples of reproductive age affects the long-term health of each family member, health policymakers, family counsellors, and psychologists are required to pay special attention to physical, mental, and environmental health dimensions of infertile couple’s life which adversely affects their quality of life. However, infertile couples, especially less educated younger women, are at risk of a sub-optimal health-related quality of life and they should be provided help and support in order to improve their health-related quality of life.

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**Conflict of interest**

The authors have no conflict of interest in this study.

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