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# Correlation Between Marital Satisfaction and Mental Health in Infertile Couples Referred to Kosar Infertility Clinic in Urmia: A Cross-Sectional Study

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**ABSTRACT**

**Background & Objective:** Fertility is important in developing personality, and infertility is a disorder that often bears unintended and sometimes untreatable consequences for couples. As an element of personal features, mental health is often related to marital satisfaction. In this study, the correlation between mental health and marital satisfaction is investigated in infertile couples referring to the Kosar Infertility Center of Urmia, Iran.

**Materials & Methods:** This cross-sectional study was performed on 186 infertile couples referred to Kosar Infertility Center, Iran. They were randomly selected in 2018. The data were collected using General Health Questionnaire and Enrich Marital Satisfaction Questionnaire completed by the participants. In the present study, to conduct data analysis, SPSS version 25.0 was used along with inferential and descriptive statistics.

**Results:** Idealistic distortion had a significant relationship with mental health in infertile couples ($P$=0.015). Moreover, leisure activities ($P$=0.043) and financial management ($P$=0.017) had a significant inverse relationship with mental health in infertile couples.

**Conclusion:** According to the findings, based on the association between marital satisfaction and mental health, mental health can be improved by solving marital problems and enhancing the satisfaction of infertile couples. Hence, the health status of families is improved, denoting the considerable contribution of family counseling centers.

**Keywords:** Cross-sectional, Infertility, Marital satisfaction, Mental health



## Introduction

Infertility is a global phenomenon, which is not only a health problem but a psychosocial and public health concern characterized by the lack of clinical pregnancy followed by regular unprotected sex for 12 months **(1-4)**. Nowadays, one-fifth of couples in the world are infertile, and two million sterile couples are added to them each year **(5, 6)**. Infertility is divided into two types: primary infertility, where no pregnancy has occurred beforehand, and secondary infertility, where pregnancy does not necessarily lead to a living birth **(7)**. Infertility is a multifactorial problem, with about one-third of infertility cases related to women, one-third to men, and one-third to unknown factors or both men and women **(8)**.

Infertility can have major effects on couples' life, including marital satisfaction. Marital satisfaction denotes how the expectations of sex partners from each other are met, which can have a detrimental effect on couples' minds and bodies if diminished **(9)**. The essential purpose of libido is reproduction and childbearing; therefore, sexual satisfaction is strongly affected by infertility. According to studies, 80% of infertile people have conjugal disorders such as marital dissatisfaction, impaired interpersonal relationships, sexual dissatisfaction, decreased libido, and negative affective problems **(10)**. Marital satisfaction is a condition where the wife and husband have mostly a satisfied and happy sense **(11)**. Most of the time, infertile couples have no problem with sexual function, but their sexual relationship is disrupted by emotional stress and conflict over childbearing, which contributes to marital dissatisfaction **(12, 13)**.

It has long been claimed that men are more satisfied than women, which has been supported by several

studies **(14)**. There is evidence indicating that the correlation between marital satisfaction and gratification from men differs from that of women **(15)**. Depression and anxiety are more common in women than in men, in whom traits such as loss of confidence, depression, anxiety, shame, and guilt appear. Some investigations have shown that if infertility is linked to the malefactor, it can have a greater negative impact on couples' sexuality, while others have identified infertility as a distressing experience for women because maternity has been accepted as the main role for women. Many infertile women say that they cannot imagine a childless life, while men express a different feeling **(16)**. According to the studies, various variables are related to the marital satisfaction trend and occasionally to mental health over time. According to World Health Organization (WHO), mental health is described as the capability to produce a peaceful relationship with others, alter the social and personal environment, resolve conflict successfully, and manage personal interests through a fair, logical, and proper method **(17)**. Thus, mental health is the compatibility of individuals with the surrounding world, causing effective wellbeing and happiness **(18)**.

Deviation from a society's norms is related to various emotional problems. Thus, it is essential to represent the men's and women's mental health status over their marital life **(19)**. During the process of infertility treatment, couples have to go through the infertility crisis together and participate in long-term therapies, make joint decisions and share emotions, leading to equal or even greater marital satisfaction of them relative to fertile couples **(20)**. The present work aimed at investigating the correlation between marital satisfaction and mental health in infertile couples who were referred to Kosar Infertility Center, Iran. Here, a framework was mainly proposed for further actions for solving marital conflicts and problems.

## Methods

### Study Design and Setting

This descriptive-analytical study was performed in Kosar Infertility Center, Urmia, in the northwest of Iran, in 2018.

### Participants

Using simple random sampling, our target population consisted of all infertile couples referring to Kosar Infertility Center of Motahari Medical Center in Urmia. According to the previous article **(21)**, the sample size was estimated as 155 ($r_0 = 0.2$, $\alpha = 0.05$, $\beta = 0.05$) for each gender utilizing G*Power 3.1. The total calculated sample size was 310 for the study. Considering an attrition rate of 20%, a total of 372 patients (186 infertile couples) entered the study. The inclusion criteria were willing to participate; age between 20- 40 years; marriage duration of <5 years; primary infertility; not having medical diseases such as cardiovascular and pulmonary disease, hypothyroidism, hyperthyroidism, epilepsy, diabetes; not having drug and alcohol addiction. Unwilling to continue the participation was regarded as the exclusion criteria.

### Data Collection

Data were collected using an Enrich Marital Satisfaction Questionnaire, demographic questionnaire, and General Health Questionnaire (GHQ-28). Patients filled out questionnaires under the supervision of a senior researcher. The demographic questionnaire included age, marriage age, level of education, occupation status, residual status, outcome level, infertile factor, and time of infertile.

The 47-question short form of Enrich Marital Satisfaction Questionnaire developed by Olson & Fowers (1993) was used **(22)**, which has 12 sub-scales: Idealistic Distortion (3 questions), Marital Satisfaction (7 questions), Personality Issues (3 questions), Communication (4 questions), Conflict Resolution (4 questions), Financial Management (4 questions), Leisure Activities (4 questions), Sexual Relationship (4 questions), Children and Parenting (4 questions), Family and Friends (4 questions), Equalitarian Roles (2 questions), and Religious Orientation (4 questions). All the items should be responded to on a 5-point Likert scale (1 for completely agree, 2 for agree, 3 for not agree not disagree, 4 for disagree, and 5 for completely disagree). The scores were within the range of 47 to 235, where a higher score represents a greater marital satisfaction. The Persian version of this tool is valid for the Iranian population, which is examined based on the Cronbach's alpha of 0.95 **(23)**.

The participants' mental health was determined using a General Health Questionnaire (GHQ-28), which included 28 questions considering all age groups. Four subscales were included in the questionnaire: anxiety, somatic symptoms, insomnia, depression, and social dysfunction. The Likert method was used to score this questionnaire; in this method, the maximum obtained score was 84. The questionnaire's cut-off point was 23. Hence, the people with mental health problems possessed scores of > 23. The examination was assessed by Palahang *et al.* in 1996, and its validity was determined as 91%. **(24)**.

We used convenience sampling to recruit the infertile couples who were referred to the Kosar Infertility Center to have a physician's appointment. The infertile couples meeting the inclusion criteria were considered eligible participants. The lead researcher then invited them to contribute to the study. When the infertile couples agreed to contribute to the study, he clarified the objectives, phases, and length of the work and responded to their concerns and questions. He also assured them about the confidentiality of their information and their privacy. Next, the questionnaires were filled by them under the supervision of a researcher while waiting for a physician's appointment.

### Ethical Consideration

This article was extracted from a research project approved by the Ethics Committee of the university receiving the code: (IR.UMSU.REC.1396.321).

### Statistical Analysis

All 186 infertile couples were included in the analysis. In this work, the normal distribution of data was determined using the Kolmogorov–Smirnov test. In the present study, to conduct data analysis, SPSS version 25.0. (SPSS Inc., Chicago, Ill., USA) was used along with inferential and descriptive statistics. We utilized percentage and frequency for qualitative variables in descriptive statistics and the mean and standard deviation for normal quantitative variables. In inferential statistics, using Chi-square and spearman tests, we assessed the association between mental health and marital satisfaction in infertile couples.

## Results

The clinical and demographic characteristics of the women and men couples are shown in Table 1. In terms of qualitative variables, 69 females (34.5%) had a university degree, and 165 (82.5%) were unemployed. A total of 123 females (61.5%) had insufficient income, and 158 (79%) were urban. In the male, more than one-half (63.5 %) had enough income, and the majority (79%) were self-employed. A total of 79 males (39%) had a university degree, and 158 (79%) were urban. The most common cause of infertility in couples was related to the female factor (48.5%).

The results indicated that infertile couples of both genders had the highest score in the mental health depression dimension (Table 2).

**Table 1. The demographic features of infertile couples in the study**

| Variable | | Gender | |
|---|---|---|---|
| | | Female | Male |
| Education level* | Illiterate | 12(6) | 6(3) |
| | Elementary | 31(15.5) | 31(15.5) |
| | Secondary | 34(17) | 22(11) |
| | High school | 54(27) | 62(31) |
| | University | 69(34.5) | 79(39.5) |
| Occupational status* | Employed | 21(10.5) | 59(29.5) |
| | Unemployed | 165(82.5) | 1(0.5) |
| | Self-employed | 8(4) | 137(68.5) |
| | Student | 6(3) | 3(1.5) |
| Residential status* | Urban | 158(79) | 158(79) |
| | Rural | 42(21) | 42(21) |
| Outcome level* | Not enough | 123(61.5) | 55(27.5) |
| | Enough | 72(36) | 127(63.5) |
| | More than enough | 5(2.5) | 18(9) |
| Age** | | 28.14 ± 5.58 | 31.86 ± 4.83 |
| The age at which they got married ** | | 24.18 ± 5.40 | 27.83 ± 4.68 |
| Infertile factor* | Female | 194(48.5) | |
| | Male | 38(9.5) | |
| | Both gender | 30(7.5) | |
| | Unknown | 138(34.5) | |

* Data presented as n(%). ** Data presented as mean±SD

**Table 2. Mental Health scores of infertile couples in the study**

| Dimensions of Mental Health | Gender | |
|---|---|---|
| | Male | Female |
| Physical Health | 6.86 ± 5.02 | 8.69 ± 6.53 |
| Stress | 6.80 ± 6.31 | 6.58 ± 6.31 |
| Social Functioning | 6.37 ± 6.42 | 8.55 ± 6.59 |
| Depression | 7.75 ± 6.48 | 8.80 ± 6.67 |
| Total | 27.75 ± 14.66 | 32.54 ± 18.91 |

Data presented as mean±SD.

Based on Spearman Correlation Analysis, idealistic distortion had a significant association with Mental Health in infertile couples (r =0.121, *P*=0.015). Moreover, leisure activities (r = -0.101, *P*=0.043) and financial management (r = -0.119, *P*=0.017) had a significant inverse relationship with Mental Health in infertile couples (Table 3).

**Table 3. Marital Satisfaction scores of infertile couples and correlation with Mental Health scores in the study**

| Dimensions of Marital Satisfaction | Gender | | Correlation with Mental Health |
|---|---|---|---|
| | Female<br>Mean ± SD | Male<br>Mean ± SD | |
| **Idealistic Distortion** | 7.19 ± 3.23 | 6.53 ± 3.20 | *P**=0.015, r =0.121 |
| **Marital Satisfaction** | 17.50 ± 10.20 | 13.42 ± 6.46 | *P**=0.920, r = -0.005 |
| **Personality Issues** | 6.59 ± 3.18 | 6.44 ± 3.04 | *P**=0.818, r = -0.012 |
| **Communication** | 9.39 ± 4.91 | 7.96 ± 3.48 | *P**=0.427, r =0.040 |
| **Conflict Resolution** | 6.94 ± 4.40 | 6.41 ± 3.09 | *P**=0.642, r =0.023 |
| **Financial Management** | 7.86 ± 4.10 | 7.76 ± 4.00 | *P**=0.017, r = -0.119 |
| **Leisure Activities** | 7.56 ± 3.75 | 8.53 ± 4.11 | *P**=0.043, r = -0.101 |
| **Sexual Relationship** | 8.28 ± 4.28 | 8.19 ± 3.96 | *P**=0.953, r =0.003 |
| **Children and Parenting** | 7.67 ± 4.05 | 8.05 ± 4.50 | *P**=0.801, r = 0.013 |
| **Family and Friends** | 7.50 ± 3.71 | 7.91 ± 5.09 | *P**=0.948, r = 0.003 |
| **Equalitarian Roles** | 3.65 ± 1.93 | 4.79 ± 2.22 | *P**=0.066, r = -0.092 |
| **Religious Orientation** | 7.30 ± 4.24 | 7.30 ± 4.15 | *P**=0.579, r = -0.028 |
| **Total** | 97.24 ± 16.86 | 93.11 ± 15.95 | *P**=0.865, r = -0.009 |

* Spearman correlation

## Discussion

The findings revealed that the participants were mainly dissatisfied with their marital life. Also, most of them had mental health problems, and depression was the most prevalent problem within the four mental health features.

Several studies have reported the negative impact of infertility on marital satisfaction, while others have shown a positive effect on marital satisfaction (25-27). The study **(28)** entitled "Marital Relationship and Quality of life among Couples with Infertility" emphasized the effect of infertility on marital satisfaction. Still, the results of **(29)** did not show any effect in this respect. In the study of **(30)**, infertility in men had no adverse effect on the marital relationship; besides, the infertile men had higher marital satisfaction than their wives, and infertile women had significantly more unstable marital relations than fertile women. In line with our results, Abdelhady and coworkers showed that women with primary infertility had a higher prevalence of depression and anxiety **(31)**. Moreover, **(32)** denoted a significant association between marital satisfaction and mental health in different aspects.

Moreover, the most correlation was found between marital satisfaction and depression, which is consistent with our results. A depressed mood leads to reduced marital satisfaction and energy for life activities and a decline in social and personal efficiency. According to **(33)**, marital dissatisfaction results from the relationship between depression and marital satisfaction, which was three times higher compared with the non-depressed couples; therefore, the association was direct between dissatisfaction and depression.

In **(34)**, lack of communication skills may cause people to live unsatisfactorily, believing that their main problem is associated with financial, sexual, and relative of the spouse. However, their problems were rooted in communication problems and a lack of ability in leadership and communication. This finding is against our findings. The results shown in **(35)** indicated that marital relationship status had direct and indirect impacts on mental health only in women, not men. Therefore, it is found that there is poorer mental health in infertile women in comparison with infertile men. Moreover, marital relationship status affecting happiness is effective on mental health in infertile women. However, infertile men's happiness and mental health were not influenced by their marital relationship status. It appears that some cultural elements intervene in this finding, including high social pressures on

women and their extreme expectancies regarding infertility in comparison to men.

The article **(36)** showed that all subscales' GHQ scores and total in women were higher than men revealing the worse general health conditions in women than men. No relation was found between the infertility duration and general health scores. In line with these findings, infertility has a considerable effect on the health situation of infertile couples, especially infertile women, who are at risk of anxiety, somatic symptoms, insomnia, social dysfunction, and severe depression. Severe depression was observed in secondary school education as well as social dysfunction within high school education. The worse health score was revealed in couples with lower income. There was a significant difference relationship between health situation and income. Moreover, higher scores in the social dysfunction scale were found in patients with infertility lengths of over 10 years. The study showed that the younger participants had a worse health situation, and it went better with older ages.

Behavioral, environmental, and psychosocial factors were the limitation of this work, which affected the patients' satisfaction, and the researcher could not control them. Another limitation of this study was a single measurement technique, including a self-report questionnaire as the sole measurement technique. This research was performed within a single government hospital in Iran. Thus, the findings cannot be generalized to all hospitals. Moreover, demographic characteristics in marital satisfaction have not been included. Interesting results will be obtained if fertile couples are included in future research.

## Conclusion

Regarding the marital satisfaction aspects, the greatest problem is depression; hence, effective and proper communication has a vital role in solving depression and marriage problems. One of the most powerful predictors of mental health is marital satisfaction. Mental health can be promoted by solving marital problems and incrementing the couples' satisfaction that increases the families' health status and society's as a whole; therefore, revealing the vital role of family counseling centers.

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## Conflict of Interest

The authors declared no conflict of interest.

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