

## Path Analysis to Determine the Relationship between Marital Dissatisfaction, Premenstrual Syndrome and Emotional Dimension of Quality of Life in Women

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### ABSTRACT

**Introduction:** Marital satisfaction is defined as individuals' global subjective evaluation of the quality of their marriage. Quality of Life (QOL) is a multidimensional concept and includes all aspects of individuals' lives. Premenstrual Syndrome (PMS) is characterized by a wide variety of emotional and physical symptoms and behavioral changes. The purpose of this study was to determine the role of marital dissatisfaction and premenstrual syndrome in the emotional dimension of quality of life.

**Methods:** This cross-sectional study was conducted on 246 women who referred to the health centers in the suburbs of Yazd. Tools for data collection were Quality of Life questionnaire SF36, Premenstrual Syndrome Screening Tool and Index of Marital Satisfaction (QOL & PSST & IMS). The collected data were coded by SPSS18; descriptive statistics were used to summarize and organize the data. Then, data were analyzed using Path Analyze Test.

**Results:** Marital dissatisfaction ( $p = 0.021$ ) and premenstrual syndrome ( $p = 0.001$ ) have a direct negative effect on the quality of life's emotional dimension, and the severity of premenstrual syndrome has a stronger effect. Also, marital dissatisfaction with the effect on the severity of premenstrual syndrome ( $p = 0.001$ ) indirectly affects the quality of life's emotional dimension.

**Conclusion:** The findings of this study emphasize that women with premenstrual syndrome and marital dissatisfaction have problems in their emotional dimension. Therefore, women should be educated in order to have a better mental health, overcome complications of marital life, and recognize the symptoms of premenstrual syndrome. They also need to learn the improvement strategies overcome the premenstrual factors and increase their quality of life.

**Keywords:** Quality of Life, Marital Satisfaction, Premenstrual Syndrome

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## Introduction

Marital satisfaction is the most important factor affecting the success of the couple's life <sup>(1)</sup>. Marital satisfaction is a situation in which a husband and wife have a positive evaluation of their marital relationships <sup>(2)</sup>. Marital satisfaction is assessed using various concepts such as roles, interpersonal relationships, motivations, privacy compliances and prosperities <sup>(3)</sup>. Morowati Sharifabad et al. in their study demonstrated that women's dissatisfaction in Iranian women was 56.7% <sup>(4)</sup>.

The quality of life is described as a person's mental feelings of life, and is referred to the understanding of one's condition in a culture and a system of values <sup>(5)</sup>.

Factors such as health conditions, quality of marriage, and family life affect quality of life <sup>(6)</sup>. Quality of Life (QOL) is a multidimensional concept and includes all aspects of individuals' lives. The World Health Organization (1993) defined QOL as "the individuals' 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. QOL is by definition a subjective concept that can be affected by various factors, such as a person's physical, psychological, and social conditions, and health-related QOL is an important part of general QOL <sup>(6)</sup>.

Emotional dimension of quality of life can be influenced by various issues. Symptoms of premenstrual syndrome affect the emotional dimension of quality of life <sup>(5)</sup>. Premenstrual syndrome is a physical, psychological, and emotional symptom that occurs in women's premenstrual period <sup>(7)</sup>. Premenstrual syndrome causes interruption of daily relationships and activities, if the symptoms intensify, the person's life and comfort will be affected. This behavior change has an important impact on family performance <sup>(8)</sup>. Studies such as Sahin et al. and Maleki et al. showed that quality of life, especially in emotional and psychological aspects, has a weaker score in women with premenstrual syndrome <sup>(5, 9)</sup>. Women's health is one of the developmental indicators of the United Nations,

because women are more vulnerable than men <sup>(10)</sup>. The assessment of health-related quality of life can provide a comprehensive picture of population health that is used to monitor public health, identify health needs and priorities, evaluate the effectiveness of interventions, and compare interventions with each other <sup>(11)</sup>. Morowati et al. and Hoga et al. studies have shown the association between premenstrual syndrome and marital dissatisfaction <sup>(4, 7, 12, 13)</sup>. In studies by Sahin et al, Maleki et al, Delara et al. and Dean et al. refers to the relationship between premenstrual syndrome and quality of life, especially emotional dimension <sup>(5, 9, 14, 15)</sup>. In most studies, common statistical techniques have been used to determine the relationship and correlation of structures. However, today the use of path analysis is a more accurate statistical technique, which is used to determine a causal pattern among variables, especially when an optimal model for the design of interventions is needed <sup>(16)</sup>.

To the best of our knowledge, there is no study that can show the relationship between marital dissatisfaction and premenstrual syndrome and the emotional dimension of quality of life schematically. Understanding the relevance and impact of these three indicators on each other and the planned interventions for women and their families can help to improve each of these indicators. Therefore, this study was conducted by Path Analysis to determine the relationship between marital dissatisfaction, premenstrual syndrome, and emotional quality of life in women in Yazd.

## Methods

This cross-sectional study was conducted on 246 women who referred to the health centers in the suburbs of Yazd. Sampling was conducted in August 2016 to March 2017. According to the same study <sup>(17)</sup>, the level of confidence was 0.95, the prevalence of PMS  $p = \%80$ , and  $d = 0.5$  sample was estimated. Tools to collect data in this study were Quality Of Life questionnaire SF36, PMS (Premenstrual Syndrome Screening Tool)

screening questionnaires and the demographic data.

### Measures

#### " Short Form Health Survey (SF-36)"

The Short Form Health Survey (SF-36) is a generic health-related QOL instrument that was constructed to survey health status in clinical practice and research, health policy evaluations, and the general population <sup>(18)</sup>. The SF-36 is a multi-item scale that assesses eight domains: a) physical functioning, b) role limitation due to physical problems, c) bodily pain, d) general health, e) vitality (energy and fatigue), f) social functioning, g) role limitation due to emotional problems, and h) mental health. The scores range from 0 to 100 and a higher score indicates better health related quality of life. The SF-36 was translated and validated in Persian by Montazeri and colleagues <sup>(19)</sup>. In assessing the internal consistency (to test reliability) the Cronbach's  $\alpha$  coefficient for all eight Quality of Life and Marital Satisfaction in Medical Staff in Iran SF-36 scales ranged from 0.77 to 0.90 with the exception of the vitality scale ( $\alpha$ 0.65) <sup>(6)</sup>. In this study, only the emotional dimension of the quality of life of this questionnaire has been used.

#### " Index of Marital Satisfaction"

Index of Marital Satisfaction (IMS) designed by Walter W. Hudson <sup>(20)</sup>. It is used to assess the level of marital satisfaction. The questionnaire consisted of 13 positively worded questions and 12 negatively worded questions. There were 5-point score scales to answer each of these questions. The positively worded items were scored in the reverse such that 1 was rescored as 5, 2 as 4, 3 remained as 3, 4 as 2 and 5 as 1. The positively worded items were 1, 3, 5, 8, 9, 11, 13, 16, 17, 19, 20, 21, and 23. The questionnaire adopts a Likert scoring scale which ranges from rarely or none of the time (1) A little or none of the time (2) Sometimes (3) A good part of the time (4) and Most of the time (5). After this, all the scores were summed up. The index of marital satisfaction was derived from subtracting 25 from the total score. A score below 30 was indicative

of marital satisfaction and a score above 30 was indicative of dissatisfaction <sup>(2)</sup>.

Reliability coefficient of the IMS was 0.96 and its concurrent validity has been established. The split-half reliability is reported to be 0.98. In addition, it has good construct validity for marital satisfaction index as well as demonstrating convergent and discriminant validations.

#### " Premenstrual Syndrome Screening Tool"

The PSST, used for screening of the women with PMS, is a 19-item questionnaire in two sections. The first section consists of 14 questions about mood, physical and behavioral symptoms. The second section contains five questions for evaluation of the PMS symptoms' effects on people's lives. The PSST is constructed by Canada's McMaster University and Siahbazi et al. <sup>(21)</sup> It standardized for Iranian population and in the reliability test, Cronbach's alpha was 0.9 and the Content Validity Ratio and Content Validity Index were 0.7 and 0.8, respectively. For diagnosis of moderate or severe PMS, three conditions must be met: (i) for items 1 to 4, at least one should be moderate or severe, (ii) for items 1 to 14, at least four should be moderate or severe and (iii) for the last five items, at least 1 should be moderate. For identification of PMDD, three conditions must be present: (i) for items 1 to 4, at least one should be severe, (ii) for items 1 to 14, at least four should be moderate or severe and (iii) for the last five items, at least 1 should be severe.

#### " Statistical analysis"

Collected data was coded by SPSS18. For organization of the data descriptive statistics were used then it analyzed with Pearson correlation and Path analyzes Test. The level of significance was set, a priori, at 0.05. In this paper, the results of regression-based path analysis are used to determine the pattern of the relationship marital dissatisfaction, premenstrual syndrome and the quality of life's affective dimension.

#### " Ethical approval"

The study approved by the Institutional Review Board at Shahid Sadoughi University of Medical Sciences (code: IR.SSU.SPH.REC.1395.79). The importance, purposes, and methods of this study were explained to the participants. They were told about the volunteering of the study and the possibility of refusal or withdrawn from the study without being penalized or losing any benefits. The participants were reassured of confidentiality and signed the informed consent form.

**Results**

The path analysis methods based on regression analysis in this study were as follows:

1.In the first stage, Pearson correlation test was used to determine the relationship between the three indices of marital dissatisfaction,

premenstrual syndrome and the emotional dimension of quality of life. The results are presented in Table (1).

2.In the next stage, the emotional dimension of quality of life is considered as a dependent variable and linear regression analysis is used to determine the relationship between marital dissatisfaction and premenstrual syndrome (as an independent variable).

3.After that, a stronger known variable (premenstrual syndrome) is considered as a dependent variable in linear regression analysis and marital dissatisfaction is considered as an independent variable and tested.

The results of the regression analysis of steps 2 and 3 are presented in Table (2).

**Table 1.** Correlation coefficient of variables of marital dissatisfaction, premenstrual syndrome and emotional dimension of quality of life

Variables	Marital dissatisfaction	Premenstrual syndrome
Emotional Dimension of Quality of Life	r= <sup>*</sup> -0.191	r= <sup>*</sup> -0.244

\*P value< 0.001

**Table 2.** Regression analysis of variables of marital dissatisfaction, premenstrual syndrome and emotional dimension of quality of life

Independent variable	Beta standardized	p value	R <sup>2</sup>	The dependent variable
Marital dissatisfaction	-0.146	0.021	0.072	Emotional dimension of quality of life
Premenstrual syndrome	-0.214	0.001		
Marital dissatisfaction	0.210	0.001	0.040	Premenstrual syndrome

Regarding the results of regression test, marital satisfaction and premenstrual syndrome can predict 8% of the variance of emotional dimension of quality of life. The standard beta value obtained in the regression analysis was considered as a path coefficient, which is an estimate of the direct effect of the independent variable on the dependent variable. To determine

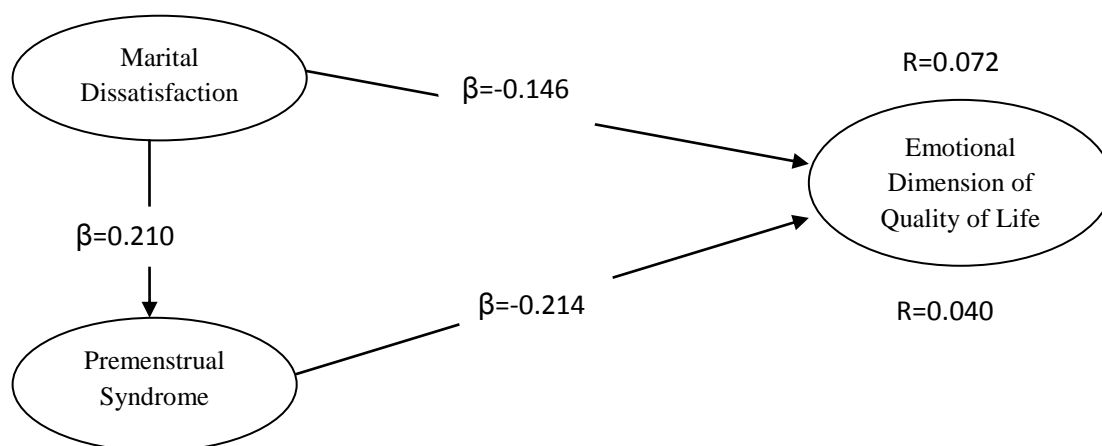
the indirect effect of independent variables on the dependent variable, the "standard beta" of the indirect paths is multiplied. The total effect of the independent variable on the dependent variable is calculated by summing the multiplication of the indirect paths and the direct path. Table (3) shows direct, indirect and total effects.

**Table 3.** Direct and indirect effects and the total effect of marital dissatisfaction and premenstrual syndrome on the emotional dimension of quality of life in path analysis

Independent variable	Direct effects	Indirect effects	Total effect	The dependent variable
Marital dissatisfaction	-0.146	$0.210 \times -0.214 = -0.0045$	$-0.146 + (0.210 \times -0.214) = -0.1505$	Emotional dimension of quality of life
Premenstrual syndrome	-0.214	-	-0.214	

The developed model fitted to the population studied by the regression-based path analysis is shown in Fig. 1. As it can be seen, marital dissatisfaction and premenstrual syndrome have a direct negative effect on the quality of life's

emotional dimension, and the severity of premenstrual syndrome has a stronger effect. Also, marital dissatisfaction affects the severity of premenstrual syndrome indirectly on the emotional dimension of quality of life.



**Fig 1.** The developed model fitted to the population studied by the regression-based path analysis

**Discussion**

Regression-based regression analysis showed that marital dissatisfaction and severity of premenstrual syndrome have a negative effect on the quality of life's emotional dimension, while the severity of premenstrual syndrome is stronger. This is consistent with Maleki et al. that showed women with PMDD reported a poor health-related quality of life as measured by the SF-36. They particularly reported poorer conditions on mental health, vitality and social activities (9). Similarly, Sahin et al. found that the mean score participant with PMS in aspect "role emotional" of Quality of Life was 33.3, lower from all aspects (5). In addition, Dean et al. showed that PMS affects the quality of life and significantly reduces it (measured with the SF-36 short form), especially on the mental subscale (14). The findings of a study by Delara et al. confirm that adolescents with

premenstrual disorders suffer from poor health-related quality of life and they specially reported poorer conditions on emotional and physical role, social functioning and bodily pain (15). Also, Zarei and Bazaaiian showed that behavioral symptoms of premenstrual syndrome have a negative and significant correlation with the mental dimension of quality of life (10).

Justifying this part of the results is clear. Part of the symptoms of premenstrual syndrome affects women's souls and spirits. Therefore, the severity of these symptoms will affect the psychological life and, in fact, the emotional dimension of women's quality of life.

As the results of this study indicate, marital dissatisfaction has a negative effect on the quality of life's emotional dimension and increases the severity of symptoms of premenstrual syndrome. In this regard, Ghafari and Rezai's study showed



that there is a significant correlation between marital satisfaction and quality of life <sup>(22)</sup>. In line with these results, Zarei and Bazazian showed that stress with the mental dimension of quality of life has a significant and reversal correlation and has a significant and direct correlation with behavioral symptoms of premenstrual syndrome <sup>(10)</sup>.

Marital dissatisfaction can have many psychological stresses and stress for women, therefore, the first dimension of quality of life that is harmed by this disorder is the emotional dimension of women's quality of life and well-being. On the other hand, stress causes tensions that increase the severity of symptoms of premenstrual syndrome.

These findings can be effective in educational planning. Thus, if our goal is to improve the emotional dimension of quality of life for a better life for women, it can be achieved by reducing the severity of premenstrual syndrome or improving its symptoms as well as enhancing marital satisfaction. The severity of the symptoms of premenstrual syndrome affects the psychological life of women. By using ways to improve marital satisfaction and educating husbands in supporting women, some of the symptoms of premenstrual syndrome can be improved. Moreover, both women and their husbands need to be given training on how to improve the symptoms of premenstrual syndrome and marital satisfaction. As the results of Morowati et al. showed that education on premenstrual syndrome in husbands of women with this disorder is effective in reducing marital dissatisfaction <sup>(7)</sup>.

### Conclusion

The findings of this study emphasize that

women with premenstrual syndrome and marital dissatisfaction have a problem with their quality of life in the emotional dimension. As an action, if we want to improve the quality of life of women in the emotional dimension, we should first increase their marital satisfaction and then enable them to overcome the symptoms of the premenstrual syndrome. In order to create this ability in women, the cooperation of close members of the family and husbands is necessary. Therefore, it is suggested that future studies should focus on educational interventions to educate women and their husbands about premenstrual syndrome and life skills to improve marital satisfaction. The limitations of this study were that only the marital satisfaction of women was investigated and marital satisfaction of their husbands was not considered, so a supplementary study is necessary from this point of view.

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### Conflict of interest

The authors declare that they have no conflicts of interest.

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