

## Self-efficacy, Marital Adjustment, and Quality of Life in Women with Polycystic Ovary Syndrome

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### Abstract

**Introduction:** With a prevalence of 4-25%, polycystic ovary syndrome (PCOS) is one of the most common endocrine disorders among women of the reproductive age. This syndrome causes different metabolic, reproductive, and psychological issues. Therefore, performing research and raising awareness in this regard seem essential.

**Objective:** This study measured self-efficacy, quality of life, and marital adjustment in women with PCOS.

**Materials and Methods:** This cross-sectional, descriptive study used convenience sampling to recruit 129 women with PCOS and 125 healthy women during 2013-14. The Rotterdam Diagnostic Criteria was used to confirm the diagnosis of PCOS. The participants completed the General Self-Efficacy Scale (GSE-10), the World Health Organization's Quality of Life Questionnaire-Short Form (WHOQOL-BREF), and the Dyadic Marital Adjustment Scale (DAS-32). The data were analyzed using t-tests and multivariate analysis of variance.

**Results:** The mean scores of marital adjustment were  $139.05 \pm 16.984$  in healthy women and  $132.78 \pm 20.633$  in those with PCOS. The corresponding scores of quality of life were  $98.62 \pm 11.370$  and  $93.48 \pm 13.372$ . The mean self-efficacy scores in healthy women and women with PCOS were  $28.72 \pm 5.65$  and  $27.92 \pm 4.750$ , respectively. Healthy women had significantly higher marital adjustment and quality of life compared to women with PCOS ( $t = 2.641$ ;  $P = 0.009$  and  $t = 3.234$ ;  $P = 0.001$ , respectively). However, the two groups had no significant difference in terms of self-efficacy ( $t = 3.234$ ;  $P = 0.001$ ).

**Conclusion:** Compared to healthy women, women with PCOS have lower performance in some psychological aspects. Therefore, it is essential to raise women's awareness about the symptoms and psychological effects of PCOS. A referral system should also be designed to provide the patients with counseling services.

**Keywords:** Polycystic Ovary Syndrome, Self Efficacy, Marriage, Quality of Life.

### Introduction

Polycystic ovary syndrome (PCOS) is one of the most prevalent endocrine disorders among women of reproductive age [1]. The prevalence of the condition ranges between 4 - 25% [2] and it is characterized by a number of symptoms including acne,

hirsutism, weight gain, problems with weight loss and maintaining the ideal weight, pelvic pain, and increased luteinizing hormone (LH) to follicle-stimulating hormone (FSH) ratio [3]. In the long-term, PCOS can lead to obesity, high cholesterol, type 2 diabetes, and

endometrial cancer. It also increases the risk of miscarriage [4].

While the exact cause of PCOS is unclear, several factors, including genetic predisposition, increased insulin secretion, insulin resistance, obesity, environmental and chemical contaminations [2], overstimulation of the adrenal glands during childhood, contraceptive pills use, hormonal imbalance, and stress [3], have been reported to contribute to the development of the condition.

The clinical symptoms of PCOS, e.g. infertility, acne, hirsutism, and obesity, can lead to psychogenic complications. Due to their concerns about their femininity, women with PCOS not only have lower self-esteem and a poor self-image, but also experience anxiety and depression [1, 5-7]. Therefore, a PCOS diagnosis can have negative effects on various aspects of women's quality of life and limit their physical performance, general behavior, and family activities, and finally cause various mental health issues.

According to previous research, changes caused by the syndrome, including infertility, anorexia nervosa, overeating, pelvic pain, depression, obesity, and concerns about beauty, can all affect the quality of life of women with PCOS [7-11]. Moreover, up to 40% of these women experience some level of depression. Obesity has been identified as a potential cause of depression in women with PCOS [12]. Depression and negative moods can in turn reduce the quality of life and self-efficacy of the patients [13]. High self-efficacy can encourage lifestyle modification and is thus a major predictor of successful weight loss [14]. Marital adjustment can also be affected by the development of this syndrome. PCOS may lead to various psychological consequences including marital and social maladjustment and also sexual dysfunction [15, 16]. The biological, appearance-related, and psychological complications caused by this syndrome can affect the patients' marital satisfaction. Marital

problems can also lead to social dysfunction, increased tendency toward social deviations, and a decline in cultural values among couples [17]. On the other hand, while marital adjustment can have a negative effect on couples' quality of life, lower marital adjustment may decrease the level of happiness among individuals [18]. Considering the shortage of research about the psychological dimensions of PCOS, especially self-efficacy and marital adjustment, in Iran, this study assessed self-efficacy, marital adjustment, and quality of life in Iranian women with PCOS.

### Materials and Methods

This cross-sectional, descriptive study recruited 129 married women with PCOS (the case group) and 125 healthy controls (the control group) aged 18-45 years from November 2013 to June 2014. The patients were selected from the married women with PCOS who visited the Obstetrics and Gynecology Clinic of Shahid Rajaei Hospital (Tonekabon, Iran). The controls were selected from healthy women who accompanied patients during their visits to the clinic. Based on the prevalence of PCOS (10%) reported in previous research [5], the sample size was calculated as 138 participants in each group. However, after excluding incomplete questionnaires, 129 women with PCOS and 125 healthy women were included in the research.

According to the Rotterdam Criteria, a diagnosis of PCOS was confirmed if oligomenorrhea or amenorrhea, sonographic findings indicating PCOS, and clinical symptoms (e.g. acne and hirsutism) and/or laboratory findings (e.g. hyperandrogenism) were present [3]. The participants were selected through convenience sampling and all women with a confirmed diagnosis of PCOS (made by a gynecologist) who were willing to participate (provided verbal consent) were recruited. The control group consisted of 125 married and healthy 18-45 year-old women who did not have any chronic

diseases and had regular menstrual cycles based on self-reports. The controls were selected from the staff members of the mentioned hospital and women accompanying patients.

Women were included if they did not have any psychological disorders, did not use any medicines for psychological disorders, had not been hospitalized in neurology or psychiatry wards, were not pregnant or breastfeeding, and did not have any chronic diseases such as diabetes, disorders of the endocrine system, and did not use medicines for the treatment of PCOS during the past two months. The diagnosis of PCOS was confirmed based on a gynecologist's decision and the patients' medical records and self-reports. The absence of PCOS among the controls was ensured through self-reports.

Finally, the participants completed the General Self-Efficacy Scale (GSE-10), the World Health Organization's Quality of Life Questionnaire-Short Form (WHOQOL-BREF), and Dyadic Adjustment Scale (DAS-32).

The DAS assesses the level of marital adjustment among couples through 32 items arranged in four subscales including consensus, cohesion, satisfaction, and affectional expression. Upon filling the questionnaire, the respondents are asked to determine the correspondence of each item to their current conditions. The final score of marital adjustment, obtained by summing the scores of all items, ranges between 0 and 150. Sanaii investigated the content validity of DAS [19].

The quality of life was measured by the 24-item WHOQOL-BREF which is arranged in four domains including physical health (seven items), mental health (six items), social relationships (three items), and environment (eight items). The first two items are general questions related to general health conditions and quality of life. The scores of each domain range between four (the worst conditions) to 20 (the best conditions). These scores can be

transformed into scores between zero and 100 [20].

The GSE scale is a self-administered instrument designed for adult individuals over 12 years of age. The respondents should determine their level of agreement or disagreement with each item on a four-point Likert scale from "Not at all true" to "Exactly true". The total scores of the scale range between 10 and 40. This scale has no cut-off score and the respondents are divided into two groups with high or low self-efficacy based on the median [21].

The collected data were analyzed using descriptive statistics (measures of central tendency and dispersion including mean, variance, and standard deviation) and inferential statistics (t-tests and multivariate analysis of variance). All analyses were performed using SPSS 20 (SPSS Inc., Chicago, IL, USA).

## Results

Table 1 presents the demographic and descriptive information of the case and control groups. The mean scores of marital adjustment were  $139.05 \pm 16.984$  and  $132.78 \pm 20.633$  in the control and case groups, respectively. The mean score of quality of life was  $98.62 \pm 11.370$  in the control group and  $93.48 \pm 13.372$  in the case group. The mean self-efficacy scores were  $28.72 \pm 5.65$  and  $27.92 \pm 4.750$  in the control and case groups, respectively.

According to the results of independent sample t-tests, healthy women (the control group) had significantly higher marital adjustment and quality of life compared to women with PCOS ( $t = 2.641$ ;  $P = 0.009$  and  $t = 3.234$ ;  $P = 0.001$ , respectively). However, the two groups had no significant differences in general self-efficacy ( $t = 1.221$ ;  $P = 0.223$ ) (Table 2).

Based on the results of multivariate analysis of variance on the mean scores of marital adjustment, the presence or absence of PCOS (group) had a significant effect on the linear combination of dependent variables (Wilks's lambda = 0.959;  $F = 2.654$ ;  $P < 0.05$ ).

**Table 1. Frequency of demographic characteristics of the participants**

| Group   | Age   |                    | Education                    |                            | Employment |          | Number of Children |     |             |
|---------|-------|--------------------|------------------------------|----------------------------|------------|----------|--------------------|-----|-------------|
|         | Mean  | Standard Deviation | High School Diploma or Lower | Academic Degree and Higher | Housewife  | Employed | None               | One | Two or more |
| Healthy | 32.79 | 7.984              | 69                           | 56                         | 97         | 28       | 33                 | 35  | 57          |
| Patient | 30.10 | 6.510              | 82                           | 47                         | 106        | 23       | 38                 | 51  | 40          |
| Total   | 31.42 | 7.382              | 151                          | 103                        | 203        | 51       | 71                 | 86  | 97          |

**Table 2. The mean scores of marital adjustment, quality of life, and self-efficacy in the study groups**

| Variables          | Group   | Frequency | M ± SD          | t     | df    | Sig.* |
|--------------------|---------|-----------|-----------------|-------|-------|-------|
| Marital adjustment | Healthy | 125       | 139.05 ± 16.984 | 2.641 | 0.252 | 0.009 |
|                    | Patient | 129       | 132.78 ± 20.633 |       |       |       |
| Quality of life    | Healthy | 122       | 98.62 ± 11.370  | 3.234 | 242   | 0.001 |
|                    | Patient | 122       | 93.48 ± 13.372  |       |       |       |
| Self-efficacy      | Healthy | 123       | 28.72 ± 5.615   | 1.221 | 248   | 0.223 |
|                    | Patient | 127       | 27.92 ± 4.750   |       |       |       |

\*Independent T-test

**Table 3. The mean scores of domains of marital adjustment in the study groups**

| Variables              | Sum of Squars | df | Mean of Squars | F     | Sig.* |
|------------------------|---------------|----|----------------|-------|-------|
| Dyadic satisfaction    | 156.628       | 1  | 156.628        | 3.111 | 0.079 |
| Dyadic cohesion        | 28.084        | 1  | 28.084         | 2.035 | 0.155 |
| Dyadic consensus       | 593.369       | 1  | 593.369        | 7.635 | 0.006 |
| Affectional expression | 38.529        | 1  | 38.529         | 9.072 | 0.003 |

\*Multivariate analysis of variance

In other words, the two groups had a significant difference in at least one of the features related to the quality of life. Moreover, when compared to the case group, the control group had significantly higher mean scores on dyadic consensus ( $F = 7.635$ ) and affectional expression ( $F = 9.072$ ). However, the two groups had no significant difference in other subscales of DAS (Table 3).

According to the results of multivariate analysis of variance on the mean scores of quality of life, group had a significant effect on the linear combination of

dependent variables (Wilks's lambda = 0.939;  $F = 0.891$ ;  $P < 0.01$ ). In other words, the two groups had a significant difference in at least one of the features related to the quality of life. Furthermore, the mean scores of physical health, environment, and social relationships were significantly higher in the control group than in the case group ( $F = 11.156$ ,  $9.036$ , and  $10.441$ , respectively). However, the two groups were not significantly different in terms of the mean scores of psychological health (Table 4

**Table 4. The mean score of the domains of quality of life in the study groups**

| Variables            | Sum of Squars | df | Mean of Squars | F      | Sig.* |
|----------------------|---------------|----|----------------|--------|-------|
| Physical Health      | 167.230       | 1  | 167.230        | 11.156 | 0.001 |
| Psychological Health | 26.230        | 1  | 26.230         | 1.184  | 0.278 |
| Social Relationships | 40.168        | 1  | 40.168         | 10.441 | 0.001 |
| Environment          | 140.266       | 1  | 140.266        | 9.036  | 0.003 |

\* **Multivariate analysis of variance**

### Discussion

This study compared women with PCOS and healthy women in terms of marital adjustment, self-efficacy, and quality of life. The results showed significantly lower level of marital adjustment in women with PCOS than in healthy women. Similar findings were reported by Drosdzoj et al. [15] and Valian [17]. The appearance-related problems and physical and psychological symptoms caused by PCOS, obesity and hirsutism, can decrease women's marital adjustment by interfering with their interpersonal and marital relationships, affecting their sexual performance, and reducing their self-esteem. In a study on emotional intelligence and marital adjustment, Jafaryazdi and Golzari identified emotion control and management as a crucial factor in determining the health of marriage [22]. Moreover, since sexual performance plays a key role in the prediction of marital adjustment [23], low sexual performance of women with PCOS compared to healthy women can justify the difference in marital adjustment between these two groups of women. According to some studies on infertility, infertile individuals generally have lower marital adjustment compared to their fertile counterparts [4]. As a high percentage of women with PCOS are infertile, the difference in marital adjustment between these women and healthy controls seems logical.

Similar to previous research [10, 15, 16, 25-27], this study found significantly lower quality of life in women with PCOS than in healthy women. Due to the feeling of despair [28], clinical symptoms affecting beauty and self-esteem, fatigue, and

anxiety experienced by women with PCOS, along with the complexity of treatment, the patients may perceive the disease as a disheartening experience. This negative perception can, in turn, reduce their quality of life. Amini et al. reported all clinical symptoms of PCOS, including oligomenorrhea, amenorrhea, hirsutism, obesity, decreased fertility, and acne, to contribute to the poorer quality of life of women with this syndrome [29].

Similar to the findings of Deeks et al. [13] and in contrast to the results reported by Kozicac et al. [30], we found no significant difference in self-efficacy between women with PCOS and healthy women. Wingo et al. concluded that self-efficacy could not affect behavior modification in order to lose weight [31]. The attitude towards obesity differs in various cultures and this issue can also affect self-efficacy. In Iran and some other countries, the type of clothing can to some extent hides the exact level of obesity and thus moderates the possible effects of obesity on self-efficacy. This moderation can further include the other appearance-related dimensions of PCOS such as hirsutism and acne. Considering the importance of fertility in the Iranian culture, infertility can be regarded as a major factor in decreasing psychological indicators, especially self-efficacy. Therefore, the fact that over 70% of our participants had children can probably explain the absence of any significant difference in self-efficacy between the case and control group. This study had a number of limitations. First, due to the absence of specialized gynecology centers, particularly specialized infertility centers used

exclusively for PCOS in Tonekabon, it was hard to identify and access patients. Moreover, the absence of comprehensive information about the patients with this syndrome in health centers made random sampling impossible.

Therefore, further research is required to evaluate the relationship between physical indices, such as weight and hirsutism, and self-efficacy, quality of life, and marital adjustment. Furthermore, given the possible role of the duration of the disease in the patients' psychological status, the relationships of age and duration of the disease with psychological indices should also be investigated.

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