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RESEARCH PAPER

The predictors of quality of life in women with polycystic ovarian syndrome

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Abstract

Polycystic ovarian syndrome (PCOS) is one of the most common endocrine disorder that may be effective in reducing the quality of life. This study aimed to determine the predictors of quality of life in women with PCOS. This cross-sectional study was conducted on 174 women with PCOS who attended in public and private fertility clinics in Urmia (West Azerbaijan, Iran), 2015. The data were collected through the questionnaires of sociodemographic and obstetrics characteristics, quality of life and Beck depression inventory-II. Multivariate linear regression was used to estimate the effect rate of the independent variables (depression and sociodemographic characteristics) on the dependent variable (quality of life). In this study, the mean (standard deviation) of total score of the quality of life was obtained, 45.8 (11.3) in the range 0-100. The highest and lowest mean scores were in the subdomains of weight and hirsutism. The variables of depression, body mass index, woman's job, menstrual cycle intervals, and sexual satisfaction were predictors of the quality of life in women with PCOS. Because of various effective factors on quality of life in these women such as depression, necessary strategies must be implemented to control these factors and improve the quality of life.

KEYWORDS
depression, polycystic ovarian syndrome, quality of life, women

SUMMARY STATEMENT

What is already known about this topic?

- Women with polycystic ovarian syndrome (PCOS) compared with healthy women exhibit high levels of psychological symptoms such as depressive symptoms as well as clinical and biochemical problems that can lower their quality of life. Thus, it is necessary to take steps in improving the health and quality of life of these women by identifying factors that influence their quality of life

What this paper adds?

- The variables of depression, body mass index, woman's job, menstrual cycle intervals, and sexual satisfaction were predictors of the quality of life in women with PCOS.

The implications of this paper:

- The findings of this study may be used for planning and implementing interventions in nursing practice such as screening and early treatment of depression, nutritional education, etc to improve and promote the quality of life of women with PCOS.

1 | INTRODUCTION

Polycystic ovarian syndrome (PCOS) is one of the most common endocrine system disorder in women and one of the causes of hyperandrogenic anovulation, which is one of the most important reasons for infertility and is often related with numerous health problems (Elghblawi, 2007; Jones, Hall, Lashen, Balen, & Ledger, 2011; Norman, Dewailly, Legro, & Hickey, 2007). The classic PCOS is in the form of amenorrhea or completely irregular periods, hirsutism or excessive hairiness, obesity, acne, bilateral ovarian enlargement (in which the ovaries are full of cysts), infertility, and metabolic syndrome (Elghblawi, 2007; Norman et al., 2007). It has been reported that this syndrome has a prevalence of 6% to 25% (Setji & Brown, 2014). Diagnosis of PCOS is difficult because of the variety of its symptoms and signs, no definite cure has been found for it yet, and the current treatments simply improve its symptoms (Elghblawi, 2007).

Psychological distress is one of the most important complication that can be caused by PCOS in women (Ching, Burke, & Stuckey, 2007) causing fatigue and anxiety and, eventually, leading to

depressive symptoms and other mental disorders in the affected women (Benson et al., 2009; Himelein & Thatcher, 2006). Depressive symptoms have been reported in 14% to 64% of women with PCOS (Adali et al., 2008; Dokras, Clifton, Futterweit, & Wild, 2011; Kerchner, Lester, Stuart, & Dokras, 2009). Moreover, disorders in sexual performance and marital life (Dokras, 2012; Drosdzol, Skrzypulec, Mazur, & Pawlinska-Chmara, 2007), anxiety, shame, feeling of fear, social stigma, lack of self-confidence, suicidal thoughts, and reclusiveness are common in PCOS patients that may reduce their quality of life (Benson et al., 2009; Farrell & Antoni, 2010; Kumarapeli, Seneviratne, & Wijeyaratne, 2011).

The World Health Organization has defined quality of life as the individual's perceptions and feelings concerning his/her life situation in the framework of the cultural and value systems and based on the individual's ideals, priorities, expectations, standards, and interests that this perception and feelings have various scopes (mental, physical, social relationships, level of independence, environmental, and personal opinions). It is a completely subjective matter that cannot be observed by others and depends on the individual's perception of the various aspects of life (Lucas-Carrasco, 2012; Power & Green, 2010). In general, health-related quality of life (HRQoL) has been defined in the form of multiple conceptions including the physical, emotional, and social aspects of health that are related to special diseases or their treatments (Jones et al., 2011).

Women with PCOS face with tensions within the family, especially due to irregular menses, impaired sexual functioning and infertility issues, which may lower the HRQoL (Jones, Hall, Balen, & Ledger, 2008). Kumarapeli et al. (2011) studied 146 women of 15-39 years of age affected with PCOS and reported that these women, compared to those in the healthy group, exhibited high levels of psychological symptoms such as depressive symptoms in addition to clinical and biochemical problems. These researchers reported the significant reduction in the quality of life of the studied women was related to these symptoms and problems.

The painful, destructive, and distressing experiences due to PCOS result in weakness, anxiety, and hopelessness in affected women and eventually reduce quality of their lives (Dokras, 2012; Dokras et al., 2011). Therefore, considering the effects of this syndrome, it is necessary that nurses and health workers to adopt a series of new strategies and take steps in improving the health and quality of life of these women by identifying factors that influence their quality of life and, thereby, to somewhat decrease the physical-mental load of this disease. Therefore, this research aimed to determine the predictors of quality of life in women with PCOS.

2 | STUDY METHODS

2.1 | Study design & participants' characteristics

This cross-sectional study was conducted on 174 women with PCOS who attended in public and private fertility clinics in Urmia (capital of West Azerbaijan province, Iran) in 2015. The participants were selected according to the physician's final diagnosis of PCOS.

Inclusion criteria included diagnosis of PCOS based on medical records, willingness to participate in the study, being in reproductive age (15-49 years), and having secondary school education and higher. Exclusion criteria included suffering from physical or mental diseases leading to limitations in quality of life, such as experiencing grief or other life events during the last 3 months, having special diets, and known history of depressive symptoms (self-report).

On the basis of the study conducted by Amini, Seyedfatemi, Montazeri, et al. (2012) on quality of life domains (SD = 29.69, study precision (d) = 0.1, mean (m) = 48.13, 2 sided α = 0.05, power = 90%) and on the study conducted by Arshad et al.(Arshad, Moradi, Ahmmadkhani, & Emami, 2012) regarding depression (SD = 10.8, m = 16.01, d = 0.1, power = 90% and α = 0.05), the calculated number of participants for this research were 147 and 174, respectively. Since the sample size that was calculated based on the variable of depression (174) was higher, it was selected as the final number of the participants.

2.2 | Sampling

After the Ethics Code (TBZMED.REC.1394.341) was obtained from the Ethics Committee of Tabriz University of Medical Sciences, sampling was performed in 2 private and 2 public centers in Urmia (West Azerbaijan province, Iran). Convenience sampling was used, thus the researcher attended the mentioned centers and evaluated all women who were referred to the centers for various reasons such as amenorrhea/oligomenorrhea, ultrasound results indicating ovarian cysts, acne, hirsutism, infertility, etc. The participants were enrolled according to their medical records and the physician's final diagnosis of PCOS. Women who had willingness to participate in the study were assessed for inclusion and exclusion criteria and if they were eligible, they signed the informed consent and were assured of confidentiality of all the information. Finally, they completed data collection instruments through interview.

In this study, 206 women were eligible for entering the study as the final diagnosis showed they were affected with PCOS. Finally, 112 with PCOS from the governmental clinics and 62 from private clinics participated in the study by filling out the questionnaires and 32 women declined to participate in the study.

2.3 | Data collection instruments

The data collection tools included the questionnaires of sociodemographic and obstetrics characteristics, polycystic ovarian syndrome quality of life (PCOSQ) (Cronin et al., 1998) and Beck depression inventory-II (BDI-II) (Beck, Steer, & Brown, 1996).

Sociodemographic and obstetrics characteristics questionnaire contained items on age, weight, height, ethnicity, place of residence, marital status, having children (if married), education, women's and their husbands' jobs, mean length of menstruation, mean interval between two consecutive menstruations, amount of bleeding in menstruation, adequacy of monthly income of living expenses, the role of perceived stress due to PCOS in life, symptoms of PCOS that affect people's lives most, woman's first supporter, satisfaction with sexual relationship (if married), suffering from infertility or having a history

of infertility, evaluation for infertility in the past, and active efforts to become pregnant.

The quality of life questionnaire (Cronin et al., 1998) for women with PCOS (PCOSQ) includes 26 items in which the quality of life was assessed for dimensions of emotions, hirsutism, weight, infertility, and menstrual disorders. All items are scored based on Likert scale ranging from 1 (strongly/all of the time) to 7 (no problems/never). Validity and reliability of the Persian questionnaire was confirmed by Amini, Ghorbani, and Montazeri (2012) Cronbach α coefficient in all dimensions was higher than .7.

The BDI-II questionnaire (Beck et al., 1996) has 21 items, and it assesses all domains of depression based on the cognitive theory of depression. Each item consists of 4 options, and the participants must express their feelings by selecting one of them. Each option is given a score of 0-3 based on the intensity of depressive symptoms. Therefore, the total score on the questionnaire has the range of 0-63. Since this questionnaire is used not only for diagnosis of depression but also for studying and evaluating its presence and intensity, it can be used in all populations consist of people aged 13 and older, and therefore, it could indicate the feelings of the participants during the past 2 weeks. Score ranges of 0-13, 14-19, 20-28, and 29-63 were interpreted as slight, mild, moderate, and severe depression, respectively, and the questionnaire does not specify a score as indicating absence of depressive symptoms. Its validity and reliability in Iran were determined by Dabson, Mohammad, and Massah (2007) (Cronbach α = .913). Arshad et al. 2012 also used the Persian version of this questionnaire in their study on women with PCOS.

In this study, the reliability of the 2 questionnaires (PCOSQ and BDI-II) were determined by the test-retest with a 2-week interval on 20 women with PCOS through using the intraclass correlation assessment. The intraclass correlation (95% confidence interval) was 0.99 (0.98-1.0) for PCOSQ and 0.98 (0.96-0.99) for BDI-II.

2.4 | Data analysis

Statistical analysis was performed by SPSS-21 software. Descriptive statistics including frequency, percent, mean, and SD were used to describe quality of life and depression. Pearson correlation was used to determine the relationship between quality of life and depression, and independent t-test and 1-way analysis of variabce were used to determine the relationship between sociodemographic characteristics and quality of life, then all variables with $P < .2$ were entered into backward multivariate linear regression model to estimate the effect of each independent variables (depression and sociodemographic characteristics) on the dependent variable (quality of life) and to explain the variance.

3 | RESULTS

The mean (SD) age and body mass index (BMI) was 28.9 (6.2) and 28.7 (4.7), respectively; 44.2% of women had BMI ≥ 30. More than half of the women (56.9%) were Azeri and more than three-quarters of them (79.9%) were living in urban areas. More than three-quarters of women (77%) were married, among whom about half (46.5%) had no children.

About a third of women's husbands and half of the women (33.3% and 55.7%, respectively) had high school diploma. About a quarter of women's husbands (23%) were workers and almost two-thirds of women (62.6%) were housewives. About half of the women (54%) stated that their family income was enough to some extent for their living expenses. Three-quarters of women (74.7%) stated that the stress of PCOS has completely affected their lives. About half of the women (48.3%) introduced their husbands as the first supporter in their life (Table 1).

About 62.1% of women reported that their menstrual periods lasted from 3 to 7 days and more than half of them (59.8%) reported their menstrual cycles longer than 35 days, and about half of them (49.4%) reported average amount of menstrual bleeding. About 39.1% of women were rarely satisfied with their sexual relationship. About half of the participants (55.2%) were diagnosed with infertility. More than half of the women (58.6%) were actively trying to get pregnant for less than 9 months (Table 2).

The total mean (SD) score of the quality of life in women with PCOS was 45.8 (11.3) out of the obtainable scores of 0-100. The highest mean score [52.2 (30.6)] belonged to the subdomain of weight and the lowest [37.7 (18.1)] to the subdomain of hirsutism.

The mean (SD) score of depression was 27.4 (10.5) out of the obtainable score of 0-63. About 9.8% of the women suffered from slight depressive symptoms, 17.8% from mild depressive symptoms, 27% from moderate depressive symptoms, and 45.4% from severe depressive symptoms. Based on Pearson correlation coefficient, there was a significant inverse correlation between the depression and total score of quality of life and the dimensions of emotional, weight, hirsutism, and infertility ($r = −0.5$ to $−0.2$) (Table 3). Moreover, On the basis of 1-way analysis of variance, the mean total score for quality of life significantly declined with increases in the severity of depressive symptoms in women with PCOS ($F = 21.5$, $P < 0.001$).

In this study, based on bivariate tests, variables of BMI, first supporter, and menstrual cycle intervals showed a statistically significant relationship with quality of life ($P < .05$). The variables of depression, BMI, ethnicity, marital status, woman's job, the first supporter, sexual satisfaction, and menstrual cycle intervals that had $P < .2$ were entered into backward multiple linear regression model that resulted in exclusion of marital status, ethnicity, the first supporter. Variables of depression, BMI, woman's job, sexual satisfaction, and menstrual cycle intervals remained in the model and explained 46.7% of the variance of the quality of life (Table 4).

4 | DISCUSSION

Results of this study indicated that the total score for quality of life in the studied women was average, and they obtained the highest and lowest mean scores in the subdomains of weight and hirsutism, respectively. The variables of depression, BMI, woman's job, menstrual cycle intervals, and sexual satisfaction were predictors of the quality of life in women with PCOS.

Furthermore, results of this research revealed that the quality of life in women with PCOS was in the average range. PCOS is a metabolic, hormonal, and psychosocial disorder that affects women's

TABLE 1 The relationship between sociodemographic characteristics and quality of life in women with polycystic ovary syndrome referred to public and private clinics for women and infertility in Urmia, Iran, in 2015 (n = 174)

Variable	Number	Mean (SD[a])	P value
Body mass index (kg/m^2)			
18.5-24.9	43	54.4 (10.9)	.001
25-29.9	54	46.8 (11.1)	
≥ 30	77	40.2 (8.2)	
Ethnicity			
Azeri	99	46.2 (11.3)	.194
Kurd	62	46.3 (11.7)	
Other[b]	13	40.3 (9.2)	
Place of residence			
City	139	45.6 (11.4)	.663
Village	35	46.5 (11.3)	
Marital status			
Single	40	42.4 (7)	.005
Married[c]	134	46.8 (12.2)	
Having children			
Yes	53	46.3 (10.8)	.749
No	81	47 (13.1)	
Spouse's education			
Secondary school and lower	39	48.5 (13.5)	.226
Diploma	58	44.6 (9.3)	
University	37	47.5 (12.3)	
Spouse's job			
Working[d]	40	45.9 (12.4)	.514
Employee	26	48.4 (10.3)	
Shopkeeper	31	48.2 (10.1)	
Other[e]	37	44.7 (12.6)	
Women's education			
Secondary school	28	47.9 (12.5)	.354
Diploma	97	44.7 (11)	
University	49	46.6 (11.3)	
Women's job			
Housewife	109	46.7 (12.7)	.139
Employee	65	44.3 (8.5)	
Adequacy of monthly income of living expenses			
Not at all	54	46.4 (11.1)	.742
Somewhat	94	45.8 (11.8)	
Completely	26	44.3 (10.5)	
The role of perceived stress dues to PCOS in life			
Less effective	44	45.3 (10.4)	.744
Quite impressive	130	45.9 (11.7)	
Woman's first supporter			
Mother, father or both	64	40.5 (7.3)	.001
Spouse (partner)	84	49.3 (12.7)	
Other[f]	26	47.1 (10.2)	

[a]Standard deviation.

[b]Including Fars and lore.

[c]One participant was widowed.

[d]Seven people were unemployed.

[e]Including jobs such as salesman, driver, etc.

[f]Including support from friends, relatives, or medical staff.

TABLE 2 The relationship between obstetrics characteristics and quality of life in women with polycystic ovary syndrome referred to public and private clinics for women and infertility in Urmia, Iran, in 2015 (n = 174)

Variable	Number	Mean (SD[b])	P Value
Mean length of menstruation			
<3 days	40	43.7 (7.8)	.295
3-7 days	108	46.8 (12.3)	
>7 days	26	44.6 (11.9)	
Mean interval between 2 consecutive menstruations			
<21 Days	22	45.6 (11.3)	.001
21-35 Days	48	51.6 (11.4)	
>35 Days	104	43.1 (10.4)	
Amount of bleeding in menstruation			
Slight	46	45.3 (8.9)	.758
Average	86	45.9 (13.4)	
Severe	28	47.3 (8.7)	
Very severe	14	43.4 (10.4)	
Satisfaction with sexual relationship			
Dissatisfied	21	46.7 (16.3)	.163
Rarely satisfied	68	44.9 (9.8)	
Completely satisfied	44	49.2 (11.2)	
Suffering from infertility or having a history of infertility[a]			
No	38	46.5 (11.4)	.867
Yes	96	46.9 (12.5)	
Evaluation for infertility in the past[a]			
No	64	46.8 (11.4)	.973
Yes	70	46.7 (12.9)	
Active efforts to become pregnant[a]			
<9 months	102	44.5 (10.6)	.640
>9 months	32	48.3 (12.4)	

[a]In married women.

[b]Standard deviation.

women showed that various diseases occurred with more severity and the anxieties regarding fertility and inability to bear children in future were greater in women with PCOS. The researchers concluded that the reduction in quality of life of the women with PCOS was significantly influenced by these factors (Trent, Rich, Austin, & Gordon, 2003). Therefore, it is necessary to implement suitable strategies for improving the quality of life of this group of women in society to prevent the occurrence of irreparable complications.

Moreover, results of this study indicated 45.4% of women with PCOS were severely depressed. The results of a systematic review conducted in the United States revealed a high prevalence of depression in women of the childbearing age affected with PCOS, and it was concluded that all women with PCOS must be screened through using valid tools due to the higher risk of depression in these women (Dokras et al., 2011). Therefore, the early diagnosis and treatment of depression in these women will be an important step for preventing the consequences of depression, so that they can cope with their problems and lead pleasant lives.

Depression was one of predictors of the quality of life in women with PCOS in this study; the overall score of quality of life was decreased with increase in the severity of depressive symptoms. This result is consistent with those of a study conducted in Germany on

quality of life (Brady, Mousa, & Mousa, 2009). Results of a study conducted in the United States on 97 women with PCOS and 186 healthy

TABLE 3 Total score of quality of life and its dimensions and their relationship with depression in women with polycystic ovary syndrome referred to public and private clinics for women and infertility in Urmia, Iran, in 2015 (n = 174)

Variable	Mean (SD[a])	Obtainable Range	Obtained Practical range	Correlate withDepression r (p)
Total score of quality of life	45.8 (11.3)	0 to 100	20.9 to 84.6	−0.5 (<.001)
Emotional	41.0 (12.9)	0 to 100	16.0 to 80.4	−0.5 (<.001)
Hirsutism	37.7 (18.1)	0 to 100	11.4 to 94.3	−0.3 (<.001)
Weight	52.2 (30.6)	0 to 100	11.4 to 257.1	−0.2 (<.006)
Infertility	44.1 (20)	0 to 100	10.7 to 92.9	−0.3 (<0.001)
Menstrual disorders	44.7 (14.4)	0 to 100	10.7 to 89.3	0.1 (<.161)
Depression	27.4 (10.5)	0 to 63	6 to 51	–

[a]Standard deviation.

TABLE 4 The predictors of quality of life in women with polycystic ovary syndrome referred to public and private clinics for women and infertility in Urmia, Iran, in 2015 (n = 174)

Variable	B (CI 95%)[a]	P Value
Depression	−0.4 (−0.5 to −0.2)	<.001
Body mass index		
18.5-24.9 (ref)	0	
25-29.9	−4.5 (−8.6 to −0.4)	.030
≥30	−10.5 (−14.3 to −6.6)	<.001
Women's job		
Employee (ref)	0	
Housewife	2.9 (−0.17 to 6.0)	.064
Mean interval between 2 consecutive menstruations		
21-35 Days (ref)	0	
<21 Days	−2.0 (−7.3 to 3.4)	.467
>35 Days	−7.5 (−10.8 to −4.2)	<.001
Satisfaction with sexual relationship		
Completely satisfied (ref)	0	
Dissatisfaction	−1.6 (−6.1 to 2.9)	.488
Rarely satisfied	−3.2 (−6.6 to 0.1)	.056

[a]Confidence interval.

Adjusted r^2 = 46.7%

50 women with PCOS and 50 healthy women that the reduction in HRQoL in women with PCOS related to mental problems and distress. Moreover, it was recommended that the mental consultation sessions and participation in support groups could be used for women with PCOS along with other drug treatments to improve their satisfaction with their lives and their adaptation with their condition (Elsenbruch et al., 2003). Dokras (2012) has reported that women with PCOS have higher depression scores and a higher risk of depression independent of BMI. Therefore, it can be concluded that constant evaluation of the mental health of women with PCOS and treatment of their mental problems are required to improve their quality of life.

The BMI variable was another predictor of quality of life in women with PCOS; quality of life in overweight women was significantly lower as compared with those with normal BMI (18.5-24.9). This finding is consistent with those found in a study conducted in Australia on 49 women with PCOS that concluded limited energy in the diet of women with PCOS who were overweight was one of the factors that improved symptoms of depression and HRQoL. Moreover, it concluded that exercise, compared to diet alone, had identical effects in improving quality of life and depressive symptoms.(Thomson et al., 2010) Therefore, the strategies such as nutritional education, consultation sessions should be used for these women.

Sexual satisfaction also was another predictor of quality of life in women with PCOS; women who expressed dissatisfaction or relative satisfaction with their sexual relationships had lower quality of life compared with those with complete sexual satisfaction. This result conformed to the results of study conducted on 532 women in Tabriz, Iran. This study recognized the sexual satisfaction as the main predictor of quality of life in women of reproductive age (Mirghafourvand, Mohammad-Alizadeh Charandabi, Asghari Jafarabadi, Tavananezhad, & Karkhane, 2015). In the other study, which was conducted on 120 women with PCOS and 50 healthy women, results indicated that mental disorder and lower sexual satisfaction reduced the quality of life significantly in women with PCOS. This research also reported that hirsutism and BMI were more effective than the other factors in reducing sexual satisfaction and quality of life (Hahn et al., 2005). In a case-control study in Sweden on 49 women with PCOS and 49 age-matched controls, almost half the women with PCOS reported that the disorder had a great impact on their sex life (Mansson et al., 2011).

In this research, quality of life in women with PCOS who experienced menstrual cycle disorders was lower as compared with those with regular menstrual cycles. This finding is in line with those of studies performed in Hong Kong (Chung, Chan, Yiu, Lao, & Chung, 2011), Malaysia (Azurah, Sanci, Moore, & Grover, 2013), and England (Jones et al., 2011) on women with PCOS that found menstrual cycle disorders were related to quality of life. In this relation, in studies conducted in Michigan and at East Tennessee State University, it was concluded that menstrual cycle disorders were the second most important factor, after obesity, in reducing quality of life in women with PCOS (McCook, Reame, & Thatcher, 2005). However, a study conducted in Germany on 120 women with PCOS reported that the menstrual cycle disorders were less important in reducing quality of life in these women compared to healthy women (Hahn et al., 2005). In all, it seems that interventions with the purpose of regulate the menstrual cycles are useful because of control stress, maintain fertility, and as a result, have positive influence on quality of life in these women.

Occupations of women with PCOS were another predictor of their quality of life in this study; housewives enjoyed better quality of life compared to employed women. A study conducted in Brazil on 2054 workers showed that exposure to adverse psychosocial conditions of work has a negative impact on HRQoL among financial service workers (Silva & Barreto, 2012). In this relation, some studies have reported quality of life in employed women is better compared with housewives, and other studies have stated quality of life in employed women is better than that of housewives, except for the domain of sexual performance (Beutel, Schumacher, Weidner, & Brähler, 2002; Vahdaninia, Goshtasbi, Montazeri, & Maftoun, 2005). However, it was noticed in 1 study that employed women did not report a better quality of life compared with housewives except for the physical dimension of quality of life (Reisine, Fifield, Walsh, & Dauser, 2004). Another research conducted in this relation suggested that there were no significant differences between the quality of life of employed women and that of housewives but, nevertheless, it recommended that actions should be taken to improve the quality of life of housewives (Saravi, Navidian, Rigi, & Montazeri, 2012). It seems housewives are less active physically while employed women, because of their occupations, pay less attention to their health and quality of life. Therefore, it is necessary that emphasis be placed on improving quality of life in both groups.

Results of this study showed that quality of life in women with PCOS was greatly influenced by depressive symptoms resulting from this syndrome, and these symptoms must be controlled to achieve acceptable levels of quality of life in these women. Since women with PCOS are often in the reproductive age and are sexually active, stress resulting from this disorder can influence their relationships. Therefore, it can be concluded that PCOS is not merely a disease but a combination of physical and mental factors that cause a range of complications. Consequently, supporting these women and performing interventions to control their stress and anxiety can be suitable strategies for reducing their depressive symptoms, for managing the conditions they face and hence for improving their quality of life.

One of the limitations of this study was because of the study design. Since this was a cross-sectional study, the relationship shown between quality of life and depression and some sociodemographic characteristics does not necessarily indicate a causal relationship exists between the mentioned variables. The other limitation was because of not using of a standard instrument for measuring variable of sociodemographics, menstrual history, perceived stress, marital satisfaction, and infertility. This instrument was developed by research team and the content validity of this questionnaire was confirmed by expert panel. Considering the results, it is suggested that the effect of educational interventions based on the effective factors in future studies in this group of women to assess the extent of their effectiveness in improving quality of life of them.

5 | CONCLUSION

Results of this study indicate that women with PCOS have an average quality of life. Almost half of these women were severely depressed. The variables of depression, BMI, occupation, menstrual cycle intervals, and sexual satisfaction are among predictors of quality of life. Therefore, suitable strategies must be used for controlling factors that are effective in order to improve the quality of life in this group of women. Furthermore, education and consultation sessions must be held and interventions conducted with the purpose of controlling their depressive symptoms, modifying of BMI, and improving their quality of life.

The findings of the present study corroborate the importance of depression and modifiable sociodemographic variables in the improving of quality of life. The findings of this study may be used for planning and implementing interventions in nursing practice for women with PCOS to improve quality of life through preventing of the depression following this syndrome and adverse effects caused by it.

CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest.

AUTHORSHIP STATEMENT

All listed authors meet the authorship criteria and that all authors are in agreement with the content of the manuscript.

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