Journal of Obstetrics, Gynecology and Cancer Research | ISSN: 2476-5848

The Quality of Life among Overweight Women with Polycystic Ovary Syndrome

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Article Info

10.30699/jogcr.9.5.532

Received: 2024/03/06;
Accepted: 2024/05/28;
Published Online: 18 Aug 2024;

Use your device to scan and read the article online

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ABSTRACT

Background & Objective: Polycystic ovary syndrome (PCOS) is a complex condition affecting multiple systems in women of reproductive age and can negatively impact quality of life and increase the risk of depressive disorders. The present study was performed with aim to evaluate the quality of life (QOL) and levels of depression in overweight women with PCOS.

Materials & Methods: This descriptive correlational study was conducted on overweight women with PCOS at the Hospitals of Baghdad in 2023-2024. The selected women completed three questionnaires, including the demographical data form, Depression scale for the Center for Epidemiological Studies Depression Scale (CES-D NIMH), and Questionnaire measuring the well-being and overall standard of living experienced by women diagnosed with polycystic ovary syndrome (PCOSQoL_53). Data were analyzed by SPSS software (version 21.0).

Results: The average age of women was 27.5± 7 years and 55% of women were married. Also, the body mass index refers to overweight among 94% of women and 45% were at moderate risk of possible Major Depressive Disorder (31.26±9.873), but 28% with severe symptoms at risk of probable MDD. There was no significant difference in depression among overweight women regarding their age group, marital status, occupational status, monthly income, residency, while there was significant difference in depression among overweight women with regard to level of education (P= 0.010). There was significant relationship between quality of life among overweight women and marital status (P=0.008); however, there was no significant relationship among quality of life and age, level of education, occupation, monthly income, and residency.

Conclusion: The findings revealed a moderate level of depression with several major depressive disorder's symptoms among women with different age groups and educational and occupational status. Overweight was the main risk factor and cause major depressive disorder as well as level of depression which increases due to PCO symptoms.

Keywords: QOL (Quality of Life), Overweight Women, Socio-demographic Characteristics, Polycystic Ovary Syndrome

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Introduction

The World Health Organization (WHO) designates overweight and obesity as medical conditions characterized by body mass index (BMI) of 25 kg/m^2 and 30 kg/m^2, respectively **(1)**. In the last few decades, overweight and obesity have become the most prevalent chronic diseases worldwide **(2)**. The increasing incidence of obesity among women has significant consequences for reproductive health. Obesity worsens hyperandrogenism in women with polycystic ovary syndrome (PCOS). The syndrome is associated with obstetric issues such as excessive hair growth, reduced sensitivity to insulin, and difficult conceiving **(3)**. Additionally, increased miscarriages and decreased pregnancy rates are correlated among overweight women enduring assisted reproduction **(4)**. Mousa and Mansour **(5)** identified several clinical manifestations associated with polycystic ovary syndrome, including infertility, hirsutism, obesity, and menstrual irregularities. These symptoms significantly impact the overall well-being and quality of life, often leading to depression in women with PCOS **(5)**. However, the exact relationship between depression, self-perception of symptoms, and quality of life in polycystic ovary syndrome is still not well understood **(6)**.

The comprehensive notion of "quality of life" (QOL) comprises various facets, such as psychological health, physical wellness, social connections, emotional state, and functional capability. The notion is multidimensional and subjective **(7)**. Ahmed and Sajit **(8)** reported that overweight and a depressed psychological state were identified as the factors influencing the QOL of women with PCOS **(8)**. Individuals who experienced anxiety, depression, and a diminished QOL resorted to employing emotional maladaptive coping mechanisms **(9)**. The prevalent benign gynecologic conditions, such as PCOS, significantly contribute to psychological distress and generally result in a general decline in quality of life **(10)**.

Depression, also known as depressive disorder, is a common mental health condition characterized by persistent feelings of sadness, loss of delight, or lack of interest in activities. Depression is different than ordinary changes in mood and feelings regarding everyday life; it may affect all facets of life, involving familial, social, as well as communal relationships **(11)**. The present study was performed with aim to evaluate the quality of life (QOL) and levels of depression in overweight women with PCOS.

Methods

This descriptive correlational study was conducted on 100 overweight women diagnosed with polycystic ovary syndrome in the city of Baghdad during December 26, 2023 to February 1, 2024.

Three instruments were utilized to gather data for this research:

1) For the purpose of this study, the researchers developed a demographic data questionnaire to gather information regarding the sociodemographic characteristics of women.

2) The Centre for Epidemiologic Studies Depression Scale **(12)**.

3) Arabic version of the health-Related Quality of Life Questionnaire for Women with Polycystic Ovary Syndrome **(13)**.

The data collection began after obtaining permission from the gynecology consultants in the Baghdad Teaching Hospital. The participants were asked to complete the questionnaires.

The data were analyzed using IBM SPSS (version 20.0). To categorize the variables, we used whole numbers and percentages (No. and %), while mean and standard deviation were used to describe continuous variables (mean±SD). A correlational study was performed to ascertain the relationship between various parameters. $p< 0.05$ was employed as the threshold for statistical significance.

Results

A total of 100 overweight women with PCOS were included in this study. According to Table 1, the mean age of women was 27.5±7 years and 55% of women were age group of 20 – less than 30 years. Moreover, 55% of women were married, while 36% were unmarried. In addition, 26% of women have completed primary school, but only 19% have obtained a bachelor's degree. The occupational status indicates that 58% of women were engaged in domestic work, 26% were employed by the government, and 16% were enrolled as students.

Table 2 indicates that 45% of women were at risk of possible Major Depressive Disorder as seen with moderate (M±SD= 31.26±9.873), but 28% of them were with severe symptoms at risk of probable MDD.

As shown in Table 3, women diagnosed with polycystic ovary syndrome possess moderate quality of life as reported among 63.9% of unmarried women and 64% of married women (M±SD= 123.83±26.316 and 144.34±35.248, respectively) that indicate they are moderately affected by their illness.

Table 1. Socio-demographic characteristics of the women participated in this study

List	Characteristics		f	%
1	Age (year) M±SD= 27.5 ± 7	Less than 20	13	13
		20 – less than 30	55	55
		30 – less than 40	22	22
		40 and more	10	10
		Total	100	100
2	Marital status	Unmarried	36	36
		Married	55	55
		Widowed	2	2
		Divorced	7	7

List	Characteristics	f	%
	Total	100	100

f: Frequency, %: Percentage, M: Mean, SD: Standard deviation

Table 2. Major Depressive Disorder among overweight women with PCOS

MDD	f	%	M	SD	Ass.
Not clinical	3	3	31.26	9.873	Moderate: At risk of possible MDD
Mild (Subthreshold)	22	22			
Moderate (Possible MDD)	45	45			
Severe (Probable MDD)	28	28			
Extreme (MDD)	2	2			
Total	100	100			

M: Mean for total score, SD: Standard Deviation for total score, Ass: Assessment

Table 3. Quality of Life of overweight women with PCOS

Quality of Life	Unmarried		Married	
	f	%	f	%
Poor	7	19.4	19	29.7
Moderate	23	63.9	41	64
Good	6	16.7	4	6.3
Total	36	100	64	100
M ± SD	123.83 ± 26.316		144.34 ± 35.248	
Assessment	Moderate		Moderate	

Discussion

As evidenced by the results of the present study, half of women are at moderate risk of possible Major Depressive Disorder, which agrees with Saeed Abd Elaziz, et al. **(14)** study, who found that the women diagnosed with Polycystic Ovary Syndrome (PCOS) exhibited elevated levels of anxiety and despair, as well as lower levels of ego-resiliency, as compared to the women without any health conditions. The women diagnosed with PCOS had a considerably higher rate of utilizing passive stress-coping techniques compared to the women without any health conditions **(14)**. Anxiety levels were higher among individuals residing in rural locations, possessing a lower level of education, and not having any children. Almeshari, et al. **(15)** evaluated the presence of depression and anxiety symptoms in a group of 250 individuals with Polycystic Ovary Syndrome (PCOS). The patients were recruited using a successive sampling technique. The Arabic versions of the HAM-A and HAM-D questionnaires, coupled with a demographic sheet, were employed to assess the socioeconomic and fertility status to report that depression and anxiety symptoms were found to be prevalent in 40% of participants **(15)**.

The result was in contrast with the study of Batool, Ul Ain Ahmed **(16)**, who conducted cohort research at Fatima Memorial Hospital, involving 137 patients diagnosed with polycystic ovary syndrome (PCOS) and an equal number of control subjects who were attending the gynaecology clinic **(16)**. All participants filled out the Hospital Anxiety and Depression Scale (HADS) questionnaire. A subsequent biochemical assessment was conducted to compare the presence of depression in individuals with PCOS to those without PCOS, with the aim of identifying any associations. Their results revealed a higher rate of depression and anxiety in women with PCOS compared to the general public **(17)**.

Assessing the symptoms of MDD in this study showed that polycystic ovary syndrome are at risk of moderate depression, as reported previously March, Whitrow **(18)** study, who reported that there is relationship between polycystic ovary syndrome and postnatal depression, however it was not statistically significant (the odds ratio is 1.6, with a 95% confidence interval ranging from 0.9 to 2.9). Those with polycystic ovary syndrome were significantly more prone to

experiencing difficulties in conceiving compared to those without PCOS (the odds ratio is 5.2, with a 95% confidence interval ranging from 2.9 to 9.4) **(18)**. Also, most of women are feeling depressed while doing an effort, which is in alignment with Roberts et al.'s study (2020), who reported that the high level of stress in women may contribute to enhancing their depression symptoms.

Poissy, et al. **(10)** conducted a study on the quality of life of women who have both overweight and polycystic ovary syndrome (PCOS), it has been noted that women with polycystic ovary syndrome have moderate quality of life. Ligocka, et al. **(19)** also reported the similar results. They found that women with PCOS may experience a severe impact on their self-esteem due to excessive body weight and the extended struggle to lose it **(10, 19)**. In Firth, et al. **(20)** indicated that there was no correlation between the lengths of the disease or comorbidities and the quality of life of the women being studied **(20)**. Nevertheless, a notable correlation was detected regarding the inconvenience caused by symptoms of PCOS. Women who have highly troublesome symptoms of PCOS reported a diminished quality of life in comparison to those with symptoms evaluated as minimally troublesome **(21)**.

The findings of the present study indicated that the psychological and emotional well-being of women with polycystic ovarian syndrome is moderately impacted by their illness, which aligns with the findings of Tabassum, et al. **(22)**, who concluded that a notable decrease was found in Health-Related Quality of Life (HRQOL) with stressful emotional signs and less psychological comfort **(8, 22)**.

Conclusion

The findings of the current research revealed a moderate level of depression with several major depressive disorder's symptoms among women with different age groups and educational and occupational status. In addition, overweight indicated to moderate level of depression due to poly cystic ovarian syndrome (PCOS) signs, Overweight has been noted as the main risk factor and cause for major depressive disorder as well as level of depression which increases due to PCO symptoms in these women. The results revealed a moderate QoL with more depression and anxiety than comfort and happiness as reported in the questionnaires. The emotional distress, sexual dysfunctionality, menstrual irregularity, coping, hair fall, acne, and infertility as well as unpleasant body image revealed a moderate depression with moderate satisfaction for the quality of life in overweight PCOS women.

Acknowledgments

Not applicated.

Conflict of Interest

The authors declare that they have no conflict of interest.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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How to Cite This Article:

Hamed, N., Adnan Abbas, A. The Quality of Life among Overweight Women with Polycystic Ovary Syndrome. J Obstet Gynecol Cancer Res. 2024;9(5):532-6.

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