

**Evaluation the Depression Level among  
Overweight Women with Polycystic Ovary  
Syndrome**

تقييم مستوى الاكتئاب بين النساء ذوات الوزن الزائد المصابات بمتلازمة  
المبيض المتعدد الكيسات

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### المستخلص

**الأهداف:** هدفت هذه الدراسة إلى تقييم مستوى الاكتئاب بين بين النساء ذوات الوزن الزائد المصابات بمتلازمة المبيض المتعدد الكيسات .

**المنهجية:** تم إجراء دراسة وصفية رصدية مقطعية على النساء المصابات بمتلازمة المبيض المتعدد الكيسات في بغداد ، حيث طُلب من النساء المريضات ملء استبيان حول تقييم الاكتئاب .

**النتائج:** من إجمالي ١٠٠ امرأة، متوسط عمر المرأة هو  $27.5 \pm 7$  سنوات وتكشف الحالة الاجتماعية أن ٥٥% من النساء متزوجات وأعلى نسبة بين النساء تشير إلى ٢٦% من اللاتي تخرجن من المدرسة الابتدائية و ٥٨% من النساء ربوات بيوت وتشير الإقامة إلى أن ٧٨% من النساء مقيمات في الحضر و ٤٥% من النساء يحصلن على دخل لا يكاد يكفي، كما يشير مؤشر كتلة الجسم إلى زيادة الوزن لدى ٩٤% من النساء المشمولات في هذه الدراسة ولوحظ أن ٤٥% من النساء معرضات لخطر الإصابة باضطراب اكتئابي جسيم محتمل كما يظهر في الحالات المعتدلة ( $M \pm SD = 31.26 \pm 9.873$ ) لكن ٢٨% منهن يعانين من أعراض حادة معرضات لخطر الإصابة بالاضطراب الاكتئابي الرئيسي المحتمل . وقد لوحظ أنه لا توجد فروق ذات دلالة إحصائية في الاكتئاب بين النساء ذوات الوزن الزائد فيما يتعلق بفئتهن العمرية، وحالتهم الاجتماعية، والحالة المهنية، والدخل الشهري، والإقامة، في حين توجد فروق ذات دلالة إحصائية في الاكتئاب بين النساء ذوات الوزن الزائد فيما يتعلق بمستوى تعليمهن في سن الدراسة . القيمة  $p = 0.010$  فيما يتعلق بجودة الحياة، فإن هناك علاقة ذات دلالة إحصائية بين نوعية الحياة بين النساء ذوات الوزن الزائد وحالتهم الاجتماعية بقيمة  $p = 0.008$  ، ولا توجد علاقة ذات دلالة إحصائية بين نوعية الحياة والمتغيرات الأخرى مثل العمر ومستوى التعليم والمهنة . والدخل الشهري والإقامة.

**الاستنتاج:** كشفت نتائج هذه الدراسة عن وجود مستوى معتدل من الاكتئاب مع العديد من أعراض الاضطرابات الاكتئابية الكبرى بين النساء من مختلف الفئات العمرية والحالة التعليمية والمهنية . وقد لوحظ أن الوزن الزائد هو عامل الخطر الرئيسي والسبب لاضطراب الاكتئاب الشديد لدى هؤلاء النساء بالإضافة إلى مستوى الاكتئاب الذي يزداد بسبب أعراض متلازمة تكيس المبايض .

**الكلمات المفتاحية:** الاكتئاب – النساء ذوات الوزن الزائد – الاجتماعية والديموغرافية – متلازمة المبيض المتعدد الكيسات

### Abstract

**Objectives:** This study aimed to assess depression level among overweight women with polycystic ovary syndrome.

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**Method:** A descriptive correlational design study was carried out on patients women in Baghdad Governorate in Iraq Region, patients were asked to fill a questionnaire about assessing the depression level by using depression scale.

**Results:** From total 100 women, the average age for women is  $27.5 \pm 7$  years old and the marital status reveals that 55% of women are married and the highest percentage among women refers to 26% of those who are graduated from primary school and 58% of women are housewives, and the residency indicates that 78% of women are resident in urban and 45% of women perceive barely sufficient income, also, the body mass index refers to overweight among 94% of women included in this study and it was noted that 45% of women are at risk of possible Major Depressive Disorder as seen with moderate ( $M \pm SD = 31.26 \pm 9.873$ ) but 28% of them are seen with severe symptoms at risk of probable MDD. It has been noted that there is no significant difference in depression among overweight women regarding their age group, their marital status, Occupational status, monthly income, residency, while there is significant difference in depression among overweight women with regard to their level of education at  $p\text{-value} = .010$ . Regarding the QoL, that there is significant relationship between quality of life among overweight women and their marital status at  $p\text{-value} = .008$ , there is no significant relationship is reported among quality of life and other variables of age, level of education, occupation, monthly income, and residency.

**Conclusions:** This study findings revealed a moderate level of depression with several major depressive disorders' symptoms among women with different age groups and educational and occupational status. Overweight has been noted as main risk factor and cause for these women major depressive disorder as well as their level of depression which increases due to their PCO symptoms

**Key-wards:** depression – Overweight Women – socio-demographic – Polycystic Ovary Syndrome

### Introduction

Overweight and obesity are both classified as conditions designated as determined by the World Health Organization (WHO): a body mass index (BMI) of at least 25 and 30 respectively (1,2). Overweight and obesity have emerged as the most prevalent chronic illnesses on a global scale over the past few decades (2,10), there are reproductive ramifications associated with the rising prevalence of obesity among women, and Hyperandrogenism is exacerbated by obesity in the PCOS. Obstetric complications including hirsutism, insulin resistance, and infertility (3). In addition, there is a

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correlation between increased miscarriages and decreased pregnancy rates among overweight women undergoing assisted reproduction (4).

Mousa and Mansour (2020) among the clinical manifestations associated with polycystic ovary syndrome are infertility, hirsutism, obesity, and menstrual irregularities, these symptoms diminish the standard of life in relation to the overall well-being, Depression is prevalent as well, in polycystic ovary syndrome, the relationship between depressions, self-perception of symptoms, and quality of life remains inadequately understood. (5).

“The term “quality of life”(QOL) encompasses a broad spectrum of elements, including mental health, physical well-being, social support, emotional health, and functional health. It is a subjective and multidimensional concept (6).

Ahmed et al. Overweight and a depressed psychological state were identified as factors influencing the QOL of women with PCOS (7), individuals who experienced anxiety, depression, and a diminished QOL resorted to employing emotional maladaptive coping mechanisms (8,11), the instruments intended to evaluate quality of life during gynecologic investigations, at conclusion, they stated that prevalent benign gynecologic conditions, such as PCOS, "significantly contribute to psychological distress and generally result in a general decline in quality of life (9,12).

Depression, also referred to as depressive disorder, is a prevalent mental health condition, it is characterized by prolonged sadness, loss of delight, or lack of interest in activities, depressive 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 (5,6).

### Methods

#### Design

A descriptive correlational design was conducted on overweight women with polycystic ovary syndrome in the city of Baghdad for the period from (December 26, 2023 to February 1th, 2024). The study was conducted to evaluate the level of depression in overweight women with polycystic ovary syndrome, as well as to evaluate their quality of life and to know the relationship between overweight women with polycystic ovary syndrome and demographic characteristics of age, education level, marital status, occupation, residence, as well as family income in Baghdad teaching hospitals.

#### Study Instrument

Two tools were used for data collection in this study:

- 1) A demographic data questionnaire created for this study by researchers obtained information about the women sociodemographic characteristics.
- 2) The Centre for Epidemiologic Studies Depression Scale (Rudolf, L .1977)

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## Data Collection

The data collected from (December 26, 2023 to February 1, 2024) began to complete the questionnaire after obtaining permission from the gynecology consultants in the Baghdad Teaching Hospital,

## Statistical Analysis

All of the subsequent analyses were conducted in IBM SPSS 20.0. In order to classify the variables, we employed whole numbers and percentages (No. and %), while the mean and standard deviation were used to define the continuous variables (mean and SD). The correlational analysis was conducted to determine the link between the different factors. Two-tailed p.05 was used as the threshold for statistical significance.

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## Results

**Table (١): Socio-Demographic Characteristics**

List	Characteristics	f	%
1	Less than 20	13	13
	20 – less than 30	55	55
	30 – less than 40	22	22
	40 and more	10	10
	<b>Total</b>	<b>100</b>	<b>100</b>
2	Unmarried	36	36
	Married	55	55
	Widowed	2	2
	Divorced	7	7
	<b>Total</b>	<b>100</b>	<b>100</b>

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

Table (1) shows that the average age for women is  $27.5 \pm 7$  years in which 55% of them are seen with age group of 20 – less than 30 year.

The marital status reveals that 55% of women are married and 36% of them are still unmarried.

Regarding level of education, the highest percentage among women refers to 26% of those who are graduated from primary school while only 19% of them are graduated with bachelor degree.

The occupational status refers that 58% of women are housewives, 26% are governmental employee, and only 16% are students.

**Table (٢): Overall Assessment of Major Depressive Disorder among Overweight Women with Polycystic Ovary Syndrome**

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**

This table indicates that 45% of women are at risk of possible Major Depressive Disorder as seen with moderate ( $M \pm SD = 31.26 \pm 9.873$ ) but 28% of them are seen with severe symptoms at risk of probable MDD

### Discussion

Regarding major depressive disorders, it has been reported that half of women are at moderate risk of possible Major Depressive Disorder, which agrees with (13,14,15) 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 (16,17). The women diagnosed with Polycystic Ovary Syndrome (PCOS) had a considerably higher prevalence of utilizing passive stress-coping techniques compared to the women without any health conditions. Anxiety levels were shown to be higher among individuals residing in rural locations, possessing a lesser level of education, and not having any

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children and with Almeshari et al. (25,12) study, who reported from a cross-sectional study was undertaken to evaluate 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 the 100 women surveyed.

While it is in contrast to Batool (2016) study, who found from cohort research was done 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 (22,24). All participants in the study were required to complete 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. A study has revealed a higher occurrence of depression and anxiety in women with Polycystic Ovary Syndrome (PCOS) compared to the general population.

Assessing the symptoms of MDD in this study showed that polycystic ovary syndrome are at risk of moderate depression, as reported previously by March et al. (2018) study, who reported that the connection was seen between polycystic ovary syndrome and postnatal depression, however it was not statistically significant (odds ratio 1.6, 95% confidence interval 0.9–2.9). Those with polycystic ovarian syndrome were significantly more prone to experiencing difficulties in conceiving compared to those without the condition (odds ratio 5.2, 95% confidence interval 2.9–9.4). Also, most of women are feeling depressed while doing an effort, which is in alignment with Roberts et al. (2020) study, who reported that the high stress to women may contribute to enhancing their depression symptoms.

Poissy et al. (2020) Regarding the quality of life for women with overweight and PCOS, it has been noted that women with polycystic ovary syndrome have moderate quality of life, it is in agreement with Ligocka et al. (25, 27) study, who found that women with Polycystic Ovary Syndrome (PCOS) may experience a severe impact on their self-esteem due to excessive body weight and the extended struggle to lose it. The analysis indicated that there was no correlation between the lengths of the disease or comorbidities and the quality of life of the women being studied (27, 23). Nevertheless, a notable correlation was detected regarding the inconvenience caused by symptoms of PCOS. Women who have highly troublesome symptoms of PCOS reported a



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diminished quality of life in comparison to those with symptoms evaluated as minimally troublesome (28,24).

Assessing the QoL in relation to emotional and psychological status, the study findings revealed that psychological and emotional status of women with polycystic ovary syndrome is affected moderately by their illness, and it is agreeing with Tabassum et al. (26) study, who concluded that instances shown a notable reduction in Health-Related Quality of Life (HRQOL) with stressful and bad emotional signs and less psychological comfort (Ahmed et al., 2020b).

### Conclusion

This study findings revealed a moderate level of depression with several major depressive disorders symptoms among women with different age groups and educational and occupational status, in addition to that, their overweight indicated to moderate level of depression too due to their polycystic ovarian syndrome (PCOS) signs, Overweight has been noted as main risk factor and cause for these women major depressive disorder as well as their level of depression which increases due to their PCO symptoms. Regarding the quality of life among these tested women, they revealed a moderate QoL with more depression and anxiety than comfort and happiness as reported by several items in their questionnaires. Their emotional distress, sexual dysfunctionality, menstrual irregularity, coping, hair fall, acne, and infertility as well as their unpleasant body image revealed a moderate depression with moderate satisfaction for their quality of life, as well, few variables and predictors can affect these women depression due to their PCOS symptoms such as the educational level, while their age, marital status, monthly income, residency while the marital status can only affect these PCOS women QoL. This study recommend Some psychological support programs must be carried out by teacher to students as they Integrate relaxation strategies into your teaching practice, such as promoting students to participate in a short period of deep, serene breathing and to encourage hesitant students to autonomously articulate their thoughts whenever feasible, rather than speaking on their behalf.

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