

## The Impact of Polycystic Ovary Syndrome (PCOS) on Mental Health and Quality of Life (QoL) in Sri Lankan Women

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### Abstract

Polycystic Ovary Syndrome (PCOS) is a common endocrine disorder that affects many aspects of a woman's life including reproductive, metabolic, psychological, and social function. This study examined the relationship between PCOS symptom severity and depression, anxiety, and stress, and overall quality of life (QoL) among Sri Lankan women with PCOS. A quantitative cross-sectional survey design was employed, and online data were gathered using a questionnaire from 100 participants, of which 48 met all inclusion criteria and were analysed in the final study. Purposive and snowball sampling recruited 18 to 45-year-old participants with a clinical diagnosis of PCOS. Measures included a demographic questionnaire, PCOS symptom checklist, Depression Anxiety Stress Scales-21 (DASS-21), and the World Health Organization Quality of Life-BREF (WHOQOL-BREF). Data were gathered between February and April 2025, with all data being gathered via Google Forms. Ethical approval was obtained from the University of West London School of Human and Social Sciences Ethics Panel. Data was processed utilizing IBM SPSS Statistics Version 30.0 and employing correlation and regression analysis to study relationships among the study's variables. Results indicated a positive significant correlation between PCOS symptom severity and depression, anxiety, and stress levels, and a negative significant correlation with quality of life in all four domains (i.e., physical, psychological, social, and environmental). The results reveal the significant impact of PCOS on not only physical health but also on mental wellbeing and life satisfaction. The results highlight the importance of incorporating psychological assessment and mental health care into the clinical care of PCOS. Future research is recommended to design culturally appropriate interventions to improve the mental wellbeing and quality of life of Sri Lankan women with PCOS.

**Keywords:** Polycystic Ovary Syndrome; Mental health; Quality of life; Infertility; Depression

### Introduction

Polycystic Ovary Syndrome (PCOS) is a prevalent multifaceted endocrine disorder that impacts women of reproductive age (Bellver et al., 2018). It has been associated with significant reproductive, endocrine, psychological, cardiovascular, and metabolic conditions (Teede et al. 2013). As per the Rotterdam criteria, the diagnosis of PCOS requires at least two of the three symptoms (Goodman et al., 2015): (1) the presence of polycystic ovaries on an ultrasonographic scan, (2) clinical/biochemical hyperandrogenism, and (3) chronic anovulation. The polycystic ovarian morphology is seen in approximately 21% of women and among this, 15 – 20% of the women diagnosed with PCOS suffer with concerns related to infertility such as early pregnancy loss and reduced fecundability (Kriedt et al., 2019). Apart from the serious metabolic and reproductive consequences of PCOS, it has been recognized for its impact on overall wellbeing and mental health. Research has indicated that the quality of life (QoL) in women with PCOS are heavily

influenced by physical symptoms (i.e., hirsutism, obesity, acne) and psychological factors (i.e., depression, anxiety, dissatisfaction with body image) (Dokras et al. 2018; Behboodi Moghadam et al., 2018). The combination of both these factors contributes to emotional distress, social isolation, and numerous physical health complications. However, it is evident that there are a lot of unclear areas about the psychological and social impacts of PCOS, especially in non-western cultures. This study seeks to address this gap by examining the impact of PCOS on mental health and the QoL among women in Sri Lanka with the use of a quantitative approach. Despite a noticeable rise in clinical observations and personal accounts regarding the impact of PCOS of mental well-being and overall QoL for women in Sri Lanka, it is surprising to find that there is still a lack of solid research in this area. This emphasizes an important gap in both research and practice, especially when we consider how physical health, cultural norms, and mental health outcomes all intersect in this context. The present research focused on the overlooked connection between PCOS, overall mental health and QoL within a South Asian context. This study aims to: (1) examine the relationship between PCOS symptom severity and levels of anxiety, depression, and stress; (2) examine the relationship between PCOS symptom severity on QoL across physical, psychological, social, and environmental domains.

Aligning with the literature, the current study tests the following hypotheses;

#### Hypothesis 1

H1 - There is a significant positive relationship between the number of PCOS symptoms and anxiety.

H0 - There is no significant positive relationship between the number of PCOS symptoms and anxiety.

#### Hypothesis 2

H2 – There is a significant positive relationship between the number of PCOS symptoms and depression.

H0 - There is no significant positive relationship between the number of PCOS symptoms and depression.

#### Hypothesis 3

H3 – There is a significant positive relationship between the number of PCOS symptoms and stress.

H0 - There is no significant positive relationship between the number of PCOS symptoms and stress.

#### Hypothesis 4

H4 – There is a significant negative relationship between the number of PCOS symptoms and the physical domain in QoL

H0 - There is no significant negative relationship between the number of PCOS symptoms and the physical domain in QoL.

#### Hypothesis 5

H5 – There is a significant negative relationship between the number of PCOS symptoms and psychological domain in QoL.

H0 - There is no significant negative relationship between the number of PCOS symptoms and psychological domain in QoL.

#### Hypothesis 6

H6 – There is a significant negative relationship between the number of PCOS symptoms and social relationships domain in QoL.

H0 - There is no significant negative relationship between the number of PCOS symptoms and social relationships domain in QoL.

#### Hypothesis 7

H7 – There is a significant negative relationship between the number of PCOS symptoms and the environmental domain in QoL.

H0 - There is no significant negative relationship between the number of PCOS symptoms and the environmental domain in QoL.

## **Materials and Methods**

The study employed a quantitative cross-sectional survey design, gathering data through an online questionnaire. The independent variable of the present study is the severity of PCOS measured through the number of PCOS symptoms and the dependent variables are mental health outcomes (depression, anxiety, and stress) and quality of life (physical, psychological, social, and environmental domains).

Purposive and snowball sampling methods were used to recruit 48 Sri Lankan women aged 18-45 with a clinical diagnosis of PCOS. Recruitment was conducted via social media platforms such as Facebook, Instagram, WhatsApp, and LinkedIn. Inclusion criteria ensured participants had no severe psychiatric diagnoses or major medical interventions that could influence outcomes.

Data were collected using an online questionnaire via Google Forms. The survey included: (1) A demographic form; (2) A PCOS symptom checklist (based on literature and clinical patterns); (3) The Depression Anxiety Stress Scales-21 (DASS-21) to measure psychological distress; (4) The World Health Organization Quality of Life-BREF (WHOQOL-BREF) to assess QoL across the four domains (physical, psychological, social, and environmental).

### ***Data Analysis***

A study advert was electronically distributed which included the link to the online survey created using Google Forms. The data was initially collected via Google Forms, then downloaded as an Excel spreadsheet and thereafter exported to IBM SPSS Statistics version 30.0 for analysis. Upon import, the data underwent a thorough cleaning process which excluded the participants who did not fit into the inclusion criteria. The dataset was reviewed for missing values, errors, and outliers to ensure data integrity. Finalized datasets were then prepared for scoring each domain of the questionnaires.

Descriptive statistics were conducted to summarize demographic characteristics and to examine the distribution and central tendencies of the key variables. Furthermore, preliminary analyses were also carried out to test the assumptions required for inferential statistics, including normality, linearity, homoscedasticity (Yang et al., 2019).

To examine relationships between symptom severity and mental health and quality of life, Pearson's correlation test was conducted to test hypothesis 1,2,3,4,5, and 7 as they showed normal distribution (Obilor & Amadi, 2018), and Spearman's rank correlation was used to test hypothesis 6 as the social domain did not show normal distribution (Chok, 2010). Following this, simple linear regression was employed to investigate whether symptom severity as measured by the number of PCOS symptoms had an effect on depression, anxiety, and stress (as measured by the DASS-21), as well as on the four domains of quality of life (physical, psychological, social, and environmental, as derived from the WHOQOL-BREF) among Sri Lankan women diagnosed with PCOS.

## **Results**

### ***Descriptive Statistics***

The final sample consisted of 48 Sri Lankan women clinically diagnosed with PCOS, aged between 18–45 years ( $M = 24.42$ ). The majority were single (60.4%) and did not have children (83.3%). Most participants reported experiencing between 7 to 13 PCOS symptoms, indicating moderate to high symptom severity. Simple Linear Regression for Predicting the Impact of PCOS Symptoms on Mental Health and Quality of Life.

A series of simple linear regression analysis were carried out to investigate whether the number of PCOS symptoms significantly predicted mental health outcomes (anxiety, depression, and stress) as well as the

key quality of life domains (physical health, psychological health, environmental factors, and social relationships). Table 1 demonstrates the results of the analysis.

**Table 1:** Linear regression results for associations between PCOS symptoms and mental health and QoL variables

Variables	Percentage (%)	R Square (R <sup>2</sup> )	F-Statistic (F)	Standardized Beta ( $\beta$ )
Anxiety	44.9	.449	37.56*	.67***
Depression	29.7	.297	19.41*	.55***
Stress	38.1	.381	28.38*	.62***
Physical domain	46.9	.469	42.56*	-.69***
Psychological domain	36.3	.363	27.73*	-.61***
Environmental domain	15.4	.154	9.55*	-.41***
Social domain	19.2	.192	12.16*	-.46***

Note. \*p < .05, \*\*\* p < .001

The findings confirm that increased PCOS symptom severity is associated with higher levels of psychological distress and poorer quality of life. Anxiety and physical QoL were the most affected dimensions. These results support the study's objectives and highlight the need for integrated clinical care that addresses both physical and psychological aspects of PCOS in Sri Lankan women.

## Discussion and Conclusion

This research analysed the association between the severity of PCOS symptoms and mental health concerns such as anxiety, depression, and quality of life (QoL) in Sri Lankan women. In this study, symptom severity which was measured by the number of symptoms, was positively correlated with psychological distress while being negatively correlated with all domains of QoL. The correlation discrepancy aligns with existing literature on the psychosocial impacts of PCOS (Dybczak et al., 2023; Azizi Kutenae et al., 2020). Notably, anxiety and physical QoL were most strongly affected, which highlights an urgent need to address health care that combines physical and psychological services (Dokras et al., 2018).

Within the Sri Lankan context, sociocultural norms concerning fertility, female aesthetics, and gender roles likely exacerbate hirsutism along with weight gain resulting in additional psychological stress (Ranathunga et al., 2022). However, it is important to keep in mind that this study bears several limitations. One of the main limitations is the cross-sectional design of the study, which by definition restricts causal inferences between PCOS symptoms and mental health or QoL domains. Although there were strong correlations observed, the direction of these relationships is unclear. Future longitudinal research would allow for more definite conclusions regarding causality and the trajectory of psychological distress over time in PCOS patients (Goodman et al., 2015). Secondly, the research was premised on self-reported data collected using structured questionnaires. Although these tools are validated, self-report measures are vulnerable to a number of biases including social desirability bias, recall bias, and response bias (Vieira et al., 2022). Furthermore, another limitation is the absence of clinical biomarkers in PCOS severity measurement. The study relied on participants' self-report of symptom presence, rather than objective clinical measures such as hormone levels, insulin resistance markers, or ultrasound of the ovary.

For future studies it would be valuable to attempt a longitudinal or mixed-method design that would illustrate more about lived experiences concerning psychological outcome progression. There is also need for culturally tailored interventions for mental health professionals equipped to address these unique contexts. Furthermore, this study utilized non-probability sampling, which may have led to an overrepresentation of certain demographic groups, such as urban and educated women given the online nature and recruitment channels of the study. This limits the generalizability of the findings to the wider population of individuals with PCOS.

The present study was conducted to explore the psychological impact of Polycystic Ovary Syndrome (PCOS) in Sri Lankan women, that is, depression, anxiety, stress, and quality of life. It has enlightened the

multifaceted nature of PCOS and how it goes beyond its physical symptomology to influence significant psychological and social dimensions, thereby supporting the claim that PCOS is not only a reproductive or metabolic disorder but also a psychological and emotional disorder.

Findings of this study demonstrate that women with PCOS have increased levels of depression, anxiety, and stress, and decreased quality of life. The findings are consistent with global literature but take on additional meaning when placed against the specific socio-cultural context of Sri Lanka. In a culture in which fertility and physical beauty are strongly linked with femininity, PCOS symptoms such as hirsutism, irregular menstrual patterns, and infertility can have significant psychological consequences (Kumarapeli et al., 2008; Gihan et al., 2024). Furthermore, this study employed such well-validated instruments as the DASS-21 and WHOQOL-BREF which gives scientific credibility to such findings and allows comparative meaning across studies worldwide.

This research has the potential to contribute to growing understanding of the need for integrative care that not only controls hormonal imbalance but also addresses the mental health needs of patients. Treatment of PCOS in Sri Lanka primarily focuses on physical control through lifestyle changes, medication, and assisted reproductive technology. However, existing studies indicate that such an approach is deficient. Psychological distress needs to be frequently assessed and treated concomitantly with physical symptoms if clinicians want to maximize patient outcomes in an integrated fashion (Dokras et al., 2018).

This study also lends support to the need for mental health professionals, general practitioners, gynaecologists, and endocrinologists to adopt interdisciplinary and patient-centred care. Sensitization training and capacity-building among frontline healthcare providers on the psychological aspects of PCOS would be a long way towards early detection and intervention (Kumari et al., 2022). Furthermore, incorporating mental health services in reproductive health clinics might reduce stigma and enhance care-seeking behaviour among women who are reluctant to access mental health services directly (Fernando et al., 2010).

Policymakers in Sri Lanka need to acknowledge PCOS as a public health issue that impacts the welfare and productivity of women during their most economically productive years. Integrating PCOS education and mental health assessment into national reproductive health programs could facilitate early diagnosis and holistic treatment. Education campaigns, especially among adolescents and young women, are also essential for early detection and misinformation reduction.

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