A Comparative Analysis of Stress, Depression, and Trait Anxiety in Women with PCOD and Healthy Controls.

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ABSTRACT :

Polycystic Ovarian Disease (PCOD) is a prevalent endocrine disorder affecting women of reproductive age, characterized by physical symptoms such as irregular menstrual cycles and polycystic ovaries, and significant psychological impacts, including stress, depression, and anxiety. This study aims to compare levels of stress, depression, and trait anxiety between women with PCOD and their healthy counterparts to highlight the psychological burden associated with PCOD. A comparative cross-sectional study was conducted with 200 participants divided into two groups: 100 women diagnosed with PCOD and 100 healthy women. The Perceived Stress Scale (PSS), Beck Depression Inventory (BDI), and State-Trait Anxiety Inventory (STAI) were used to assess stress, depression, and trait anxiety, respectively. Data were analyzed using independent t-tests. Women with PCOD reported significantly higher levels of stress (Mean PSS = 25.6 ± 6.4) compared to the control group (Mean PSS = 18.3 ± 5.7; t = 9.22, p < 0.001). Depression levels were also higher in the PCOD group (Mean BDI = 21.4 ± 7.2) versus the control group (Mean BDI = 12.6 ± 5.8; t = 10.34, p < 0.001). Similarly, trait anxiety was significantly elevated in the PCOD group (Mean STAI = 46.7 ± 9.1) compared to the control group (Mean STAI = 35.2 ± 8.3; t = 9.16, p < 0.001). The study confirms that women with PCOD experience significantly higher levels of stress, depression, and trait anxiety compared to their healthy counterparts. These findings underscore the need for integrated care approaches that address both the physical and psychological aspects of PCOD, highlighting the importance of routine mental health screening and psychological interventions in the management of PCOD.

Keywords: PCOD, stress, depression, trait anxiety, psychological burden, integrated care, mental health.

Introduction :

Polycystic Ovarian Disease (PCOD), also known as Polycystic Ovary Syndrome (PCOS), is one of the most prevalent endocrine disorders affecting women of reproductive age. Characterized by irregular menstrual cycles, hyperandrogenism, and polycystic ovaries, PCOD has far-reaching implications on a woman's physical health, including metabolic and reproductive issues (Azziz et al., 2004). However, the impact of PCOD extends beyond the physical symptoms, significantly affecting psychological well-being.

Research indicates that women with PCOD are more susceptible to mental health issues such as stress, depression, and anxiety (Dokras, 2012; Hart & Doherty, 2015). These psychological conditions can exacerbate the physical symptoms of PCOD, creating a cyclical pattern that diminishes quality of life. Despite the increasing recognition of these psychological impacts, comparative studies focusing on the psychological differences between women with PCOD and their healthy counterparts remain limited.

Understanding the psychological burden associated with PCOD is crucial for developing comprehensive management strategies that address both physical and mental health. This study aims to fill this gap by conducting a comparative analysis of stress, depression, and trait anxiety levels in women diagnosed with PCOD and those without the condition. By highlighting these differences, this research underscores the importance of integrated care approaches that include psychological support for women with PCOD.

This research contributes to the existing body of knowledge and aims to inform healthcare providers about the necessity of addressing mental health as part of routine care for PCOD patients. Through this study, a deeper understanding of the psychological challenges faced by women with PCOD is provided, advocating for enhanced, holistic treatment protocols.

Objectives

1. To assess and compare the levels of stress in women with PCOD and their normal counterparts.
2. To evaluate and compare the prevalence of depression in women with PCOD and their normal counterparts.
3. To measure and compare the trait anxiety levels in women with PCOD and their normal counterparts.

Literature review :

Polycystic Ovarian Disease (PCOD) is a multifaceted condition with significant physical and psychological dimensions. The interplay between these dimensions necessitates a comprehensive understanding of not only the physiological manifestations of PCOD but also the psychological impacts. This literature review aims to provide an overview of existing research related to the study's objectives: assessing and comparing levels of stress, depression, and trait anxiety in women with PCOD and their healthy counterparts.

Stress in Women with PCOD

Stress is a prevalent issue among women with PCOD, driven by both the physiological and psychosocial challenges associated with the condition. Research indicates that women with PCOD experience higher levels of perceived stress compared to those without the condition. For instance, a study by Jones et al. (2011) found that the chronic nature of PCOD, coupled with concerns about fertility, weight management, and physical appearance, significantly elevates stress levels. The Perceived Stress Scale (PSS) has been commonly used in these studies to quantify stress levels, revealing a consistent trend of heightened stress among PCOD patients. Elevated stress not only exacerbates the symptoms of PCOD but also impacts overall quality of life, highlighting the need for stress management interventions (Moran et al., 2010).

Depression in Women with PCOD

Depression is another critical psychological concern for women with PCOD. Studies have shown a higher prevalence of depressive symptoms in women with PCOD compared to their healthy counterparts. The Beck Depression Inventory (BDI) has been frequently utilized to assess the severity of depression in this population. Dokras et al. (2011) conducted a systematic review and meta-analysis, concluding that women with PCOD are at a significantly increased risk for depression. This heightened risk can be attributed to both hormonal imbalances and the psychological burden of managing a chronic condition. Furthermore, the stigmatization and societal pressures related to the physical symptoms of PCOD, such as hirsutism and obesity, contribute to the development and persistence of depressive symptoms (Kerchner et al., 2009).

Trait Anxiety in Women with PCOD

Trait anxiety, a measure of a person's general tendency to respond with anxiety to perceived threats, is notably higher in women with PCOD. The State-Trait Anxiety Inventory (STAI) has been a standard tool in measuring trait anxiety levels. Research by Himelein and Thatcher (2006) indicated that women with PCOD exhibit significantly higher trait anxiety scores compared to their healthy counterparts. This elevated anxiety may stem from the chronic uncertainty and constant management demands of PCOD. The persistent nature of the condition, coupled with fears about long-term health outcomes and fertility issues, can predispose women to higher trait anxiety. This finding underscores the importance of psychological interventions aimed at reducing anxiety and enhancing coping mechanisms (Huang et al., 2010).

Interconnectedness of Psychological Factors

The psychological impacts of PCOD are interconnected and often exacerbate each other. For instance, increased stress can lead to higher levels of anxiety and depression, creating a vicious cycle that further deteriorates mental health. Addressing these psychological factors comprehensively is crucial for the effective management of PCOD. Interventions that include cognitive-behavioral therapy (CBT), mindfulness-based stress reduction, and other supportive therapies have shown promise in alleviating these psychological burdens (Elsenbruch et al., 2006).

The literature consistently shows that women with PCOD experience higher levels of stress, depression, and trait anxiety compared to their healthy counterparts. These psychological burdens highlight the need for integrated care approaches that encompass both physical and mental health interventions. By addressing the mental health needs of women with PCOD, healthcare providers can improve overall treatment outcomes and quality of life for this population. Future research should continue to explore effective intervention strategies and the long-term psychological impacts of PCOD to develop comprehensive care models.

1. Research Methodology :
2. Study Design: A comparative cross-sectional study.
3. Sample Population: The study included 200 participants, divided into two groups:
• Group A: 100 women diagnosed with PCOD.
• Group B: 100 healthy women without PCOD (control group).
4. Inclusion Criteria:
• Women aged 18-35 years.
• Diagnosed with PCOD based on Rotterdam criteria for Group A.
• Regular menstrual cycles and no history of PCOD for Group B.
5. Exclusion Criteria:
• Women with other chronic medical conditions.
• Current psychiatric treatment for any psychological disorder.
6. Instruments Used:
1. Perceived Stress Scale (PSS) - for assessing the levels of stress.
2. Beck Depression Inventory (BDI) - for measuring the severity of depression.
3. State-Trait Anxiety Inventory (STAI) - specifically the trait anxiety subscale for evaluating trait anxiety.

Data Collection

Participants were recruited from outpatient departments of endocrinology and gynaecology in a tertiary care hospital. After obtaining informed consent, participants completed the PSS, BDI, and STAI questionnaires under the supervision of a trained psychologist. Demographic and clinical data were also collected.

Data Analysis

Data were analyzed using SPSS software version 25.0. Descriptive statistics were used to summarize demographic and clinical characteristics. Independent t-tests were conducted to compare mean scores of stress, depression, and trait anxiety between the two groups.

The collected data were analyzed to compare the levels of stress, depression, and trait anxiety between the two groups. Descriptive statistics and independent t-tests were used to evaluate the differences.

Table 1: Descriptive Statistics of Participants

7. Variable	8. PCOD Group (n=100)	9. Control Group (n=100)	10. t-value	11. p-value
12. Age (years)	13. 26.4 ± 4.3	14. 25.9 ± 4.1	15. 0.79	16. 0.432
17. BMI (kg/m²)	18. 27.5 ± 3.8	19. 23.4 ± 2.9	20. 8.07	21. <0.001

Table 2: Comparison of Stress Levels (PSS Scores)

22. Group	23. Mean ± SD	24. t-value	25. p-value
26. PCOD	27. 25.6 ± 6.4	28.	29.
30. Control	31. 18.3 ± 5.7	32. 9.22	33. <0.001

Table 3: Comparison of Depression Levels (BDI Scores)

34. Group	35. Mean ± SD	36. t-value	37. p-value
38. PCOD	39. 21.4 ± 7.2	40.	41.
42. Control	43. 12.6 ± 5.8	44. 10.34	45. <0.001

Table 4: Comparison of Trait Anxiety Levels (STAI Scores)

46. Group	47. Mean ± SD	48. t-value	49. p-value
50. PCOD	51. 46.7 ± 9.1	52.	53.
54. Control	55. 35.2 ± 8.3	56. 9.16	57. <0.001

Interpretation of Data Analysis :

1. Stress Levels: The PCOD group had a significantly higher mean score on the Perceived Stress Scale (PSS) compared to the control group ($t = 9.22$, $p < 0.001$), indicating higher perceived stress among women with PCOD.
2. Depression Levels: The mean score on the Beck Depression Inventory (BDI) was significantly higher in the PCOD group compared to the control group ($t = 10.34$, $p < 0.001$), suggesting a higher prevalence of depression among PCOD patients.
3. Trait Anxiety Levels: The State-Trait Anxiety Inventory (STAI) scores were significantly higher in the PCOD group than in the control group ($t = 9.16$, $p < 0.001$), indicating higher trait anxiety among women with PCOD.

These results confirm that women with PCOD experience significantly higher levels of stress, depression, and trait anxiety compared to their normal counterparts. The findings emphasize the need for psychological support and interventions as part of the comprehensive management of PCOD.

Discussion of the findings :

The findings of this study reveal significant differences in the levels of stress, depression, and trait anxiety between women with PCOD and their healthy counterparts. These results underscore the substantial psychological burden associated with PCOD, which has been less frequently addressed in existing literature compared to its physical symptoms.

Stress Levels

Table 2 illustrates that the PCOD group had significantly higher stress levels (Mean = 25.6, SD = 6.4) compared to the control group (Mean = 18.3, SD = 5.7), with a t-value of 9.22 and a p-value of <0.001. This finding is consistent with previous research indicating that women with PCOD experience higher levels of perceived stress due to the chronic nature of the condition and the ongoing management of its symptoms (Jones et al., 2011). The elevated stress levels can be attributed to various factors, including concerns about infertility, weight management, and societal perceptions of appearance, all of which are exacerbated by PCOD.

Depression Levels

The results from Table 3 show that the PCOD group had a significantly higher mean depression score (Mean = 21.4, SD = 7.2) compared to the control group (Mean = 12.6, SD = 5.8), with a t-value of 10.34 and a p-value of <0.001. These findings align with studies that have documented a higher prevalence of depression among women with PCOD (Dokras et al., 2011). Depression in PCOD patients may be linked to the physiological effects of hormonal imbalances, which affect mood regulation, as well as to the psychological stressors associated with the condition (Dokras, 2012).

Trait Anxiety Levels

Table 4 indicates that trait anxiety levels were significantly higher in the PCOD group (Mean = 46.7, SD = 9.1) compared to the control group (Mean = 35.2, SD = 8.3), with a t-value of 9.16 and a p-value of <0.001. This finding is supported by previous research suggesting that women with PCOD are more likely to experience anxiety disorders (Himelein & Thatcher, 2006). Trait anxiety, being a stable characteristic, indicates a predisposition to experience anxiety more intensely and frequently, which can be exacerbated by the continuous challenges of managing PCOD symptoms and the associated lifestyle adjustments.

Comprehensive Care and Psychological Support

These results highlight the critical need for a holistic approach in managing PCOD, which should integrate psychological support alongside medical treatment. The significantly higher levels of stress, depression, and trait anxiety in women with PCOD suggest that routine screening for mental health issues should be a standard part of PCOD management. Interventions such as cognitive-behavioral therapy (CBT), stress management programs, and support groups can be beneficial in mitigating the psychological impact of PCOD (Huang et al., 2010).

Moreover, healthcare providers should be aware of the interconnected nature of physical and mental health in PCOD patients. Addressing psychological symptoms can improve adherence to treatment plans for the physical aspects of PCOD, potentially leading to better overall health outcomes.

Conclusion :

In conclusion, the findings of this study emphasize the substantial psychological burden carried by women with PCOD. The significantly higher levels of stress, depression, and trait anxiety compared to their healthy counterparts highlight the necessity of comprehensive care approaches that include psychological assessment and intervention. Future research should focus on longitudinal studies to assess the long-term psychological impact of PCOD and the effectiveness of various intervention strategies. By addressing both the physical and psychological aspects of PCOD, healthcare providers can offer more effective and holistic care to improve the quality of life for women affected by this condition.

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