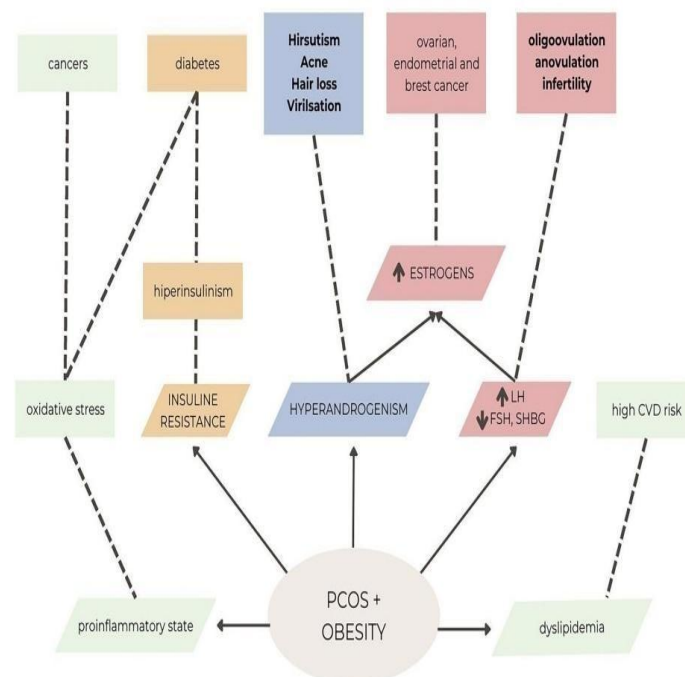
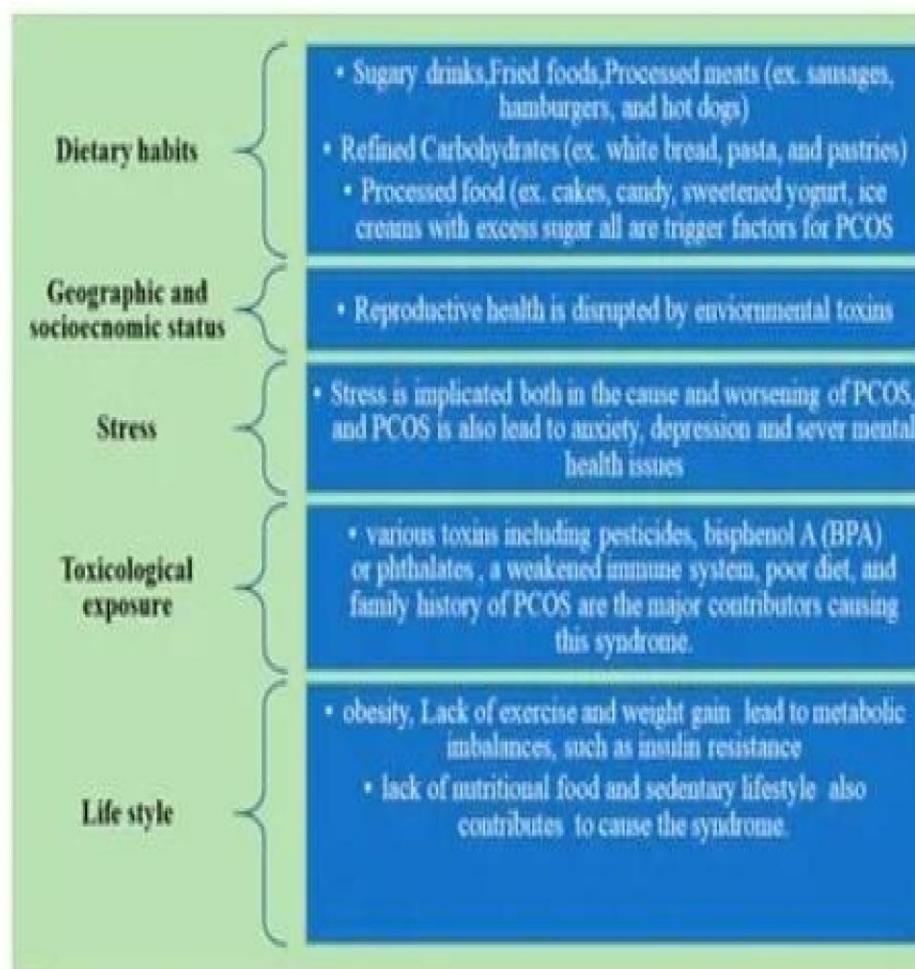


Impact of Polycystic Ovary Syndrome on quality of life of Women in Modern times: An Anthropological Perspective

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Keywords: PCOS, endocrine abnormality, metabolic disorder, infertility, reproduction



I. Introduction

PCOS is a diverse syndrome characterized by clinically and biochemically excess androgen, dysfunction in ovulation, and polycystic ovaries, all of which are caused by a complicated hereditary disease. Polycystic ovary syndrome (PCOS) also known as the Stein-Leventhal syndrome, is a prevalent endocrine disorder affecting women of reproductive age. It is estimated that this condition is diagnosed in one out of 10 women of reproductive age [1–5]. Ten to fifteen percent of all women suffer from this disease. While the primary cause of the disorder is an abnormality in the ovaries, additional factors such as obesity and environmental influences contribute to the development of specific symptoms and signs of disease. Polycystic ovary syndrome (PCOS) is a heterogeneous disorder characterized by hyperandrogenism and chronic anovulation. Depending on diagnostic criteria, 6% to 20% of reproductive aged women are affected. Symptoms of PCOS arise during the early pubertal years. Both normal female pubertal development and PCOS are characterized by irregular menstrual cycles, anovulation, and acne.

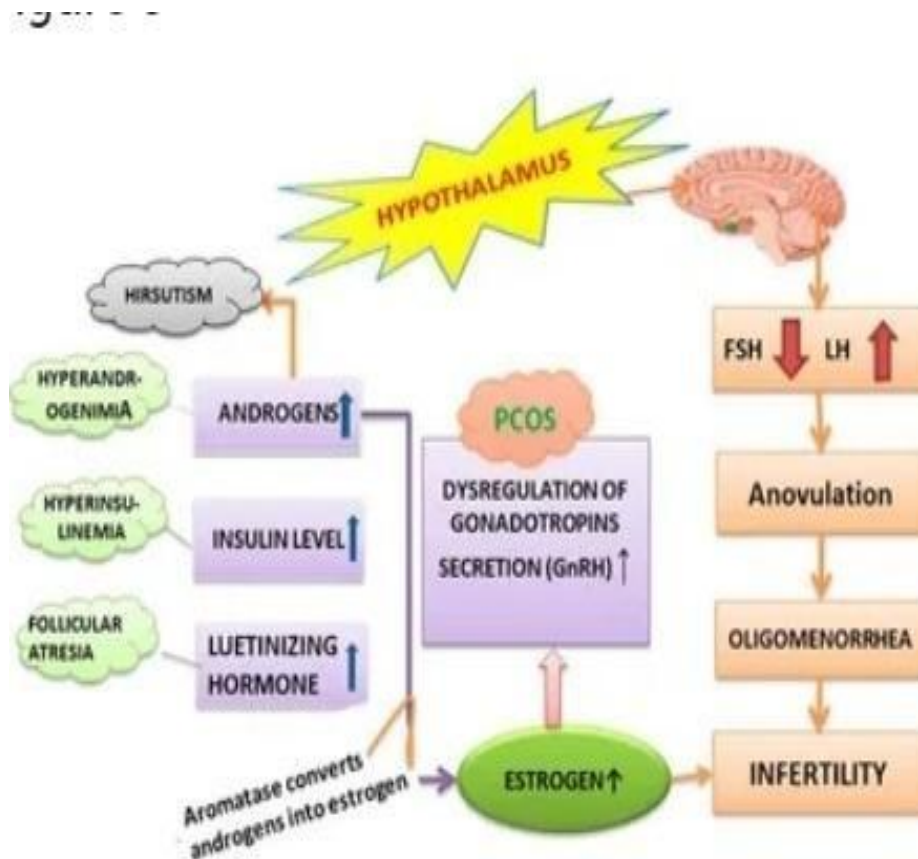
II. Objectives

1. To assess the level of knowledge regarding Polycystic Ovarian Syndrome among nursing students.
2. To administer the Information Education and Communication regarding Polycystic Ovarian Syndrome.
3. To determine the effectiveness of Information Education Communication on the level of knowledge regarding Polycystic Ovarian Syndrome among nursing students.
4. To find out association between post test level of knowledge regarding Polycystic Ovarian Syndrome among nursing students and their selected demographic variables.
5. Identify the need for timely diagnosis of polycystic ovarian syndrome.
6. Screen patients with polycystic ovarian syndrome for comorbid conditions.
7. Implement appropriate management for patients with polycystic ovarian syndrome.

8. Apply interprofessional team strategies to improve care coordination and outcomes in patients with polycystic ovarian syndrome.

III. Research And Methodology

The present researcher collected all the information from secondary resources like published articles, published journals, published chapters etc.



IV. Methods and Discussion

PCOS is caused by several factors, including environmental factors, genetics, eating habits, an improper lifestyle, using personal care products containing cancerous preservatives, family history, inflammatory factors, altered steroidogenesis, obesity, etc. . Several reports suggest that triclosan, an antibacterial agent present in toothpaste, triggers PCOS due to its hormone-disrupting action . Some of correlated symptoms, signs and different diseases in PCOS patient given below in figure

1.Genetic factors

The genetic factors associated with the etiology of PCOS. These factors provide an additional insight to determine the epidemiology, prevalence, and presence of PCOS.

Based on these factors, PCOS is divided into four different types.

- 1) Insulin resistance PCOS: high level of insulin is the common and highly prevalent reason for PCOS (Diamanti-Kandarakis and Christakou, 2009).
 - 2) Adrenal PCOS: stimulation of adrenal secretions during early puberty causes adrenal PCOS; patients with adrenal PCOS generally experience more stress due to excess DHEAS (dehydroepiandrosterone sulfate, an androgen of adrenal glands) (Carmina, 2006).
 - 3) Inflammatory PCOS: chronic low-grade inflammation is generally found in PCOS patients (Duleba and Dokras, 2012).
 - 4) Post pill PCOS: e.g., caused by contraceptive pills and hormonal disturbances (Lara Briden, 2015).
- Increased insulin levels and insulin resistance also contribute to the pathogenesis of PCOS.

2.Environmental factors

The environmental factors associated with the etiology of PCOS are depicted in detail in figure below.

3.Hormonal Imbalance

Some major hormones that play a key role in the pathogenesis of PCOS are discussed as follows, as shown in figure

4.Androgen

The ovary of an adolescent with PCOS produces androgens excessively (hyperandrogenism), e.g., testosterone, which prevents the maturation of ovarian follicles. So, an immature ovum will be formed that does not release properly, thus leading to anovulation.

5.Insulin

Hyperinsulinemia and insulin resistance are two common contributing factors of anovulation in PCOS patients. Hyperinsulinemia is higher insulin levels in blood, and it mostly happens when production of insulin is higher than its clearance.

6.Luteinizing Hormones

It was suggested from different studies that an increased level of insulin is also a contributing factor for anovulation in women with PCOS; it induces premature arrest of follicle development by interacting with LH to augment steroidogenesis. If an unexpected ovulatory cycle occurs and the LH level was monitored regularly for several weeks, it could be seen that the serum LH concentrations suddenly dropped to the standard range.

5.Obesity

Obesity is a key in low-grade chronic inflammation [72]. Accumulation of adipocytes in visceral fat leads to hypoxia and consequent necrosis, which causes inflammatory cytokines production.

Pcos diagnosis

There are different diagnostic criteria used to identify PCOS, their comparison, and evaluation .

The Rotterdam criteria, established in 2003, are the most widely utilized and relevant criteria for diagnosing pcos.Diagnosis of the disorder requires the fulfilment of two out of the three specified conditions are as follows

1.Hyperandrogenism, detected through clinical and/or biochemical assessments.

2.Ovulation abnormalitie

3.The presence of 12 or more cysts on one ovary or an ovarian volume exceeding 10m.

According to the Rotterdam criteria, PCOS can be categorized into four phenotypes:

1. Classic, characterized by hyperandrogenism, ovulation disorders and polycystic ovaries detected through ultrasound (HOP);
2. With hyperandrogenism and ovulation disorders, but a normal ovarian ultrasound image (HO);
3. With hyperandrogenism and polycystic ovaries observed through ultrasound, but without ovulation disorders (HP);
4. With ovulation disorders and polycystic ovaries, but without evidence of hyperandrogenism .

Diagnostic criteria	Rotterdam (2003)	National Institutes of Health (NIH, 2009)	Androgen Excess Society (2006)
Hyperandrogenism	Yes	Yes	Yes
Exclusion of other androgen excess causes	No	Yes	No
Ovulation disorders	Yes	Yes	No
Ovarian dysfunction (oligoovulation, anovulation) and/or presence of polycystic ovaries on ultrasound	No	No	Yes
Cysts on one ovary or an ovarian volume exceeding 10mL	Yes	No	No
Number of occurrences	2 out of 3	3 out of 3	2 out of 2

Apart from the Rotterdam criteria, there are two other definitions of PCOS. Androgen Excess Society (2006) considers hyperandrogenism as the fundamental PCOS disorder and a prerequisite for diagnosis, in combination with one of the remaining Rotterdam criteria. The National Institutes of Health (NIH) criteria from 2009 involve the identification of clinical or biochemical hyperandrogenism and chronic ovulation disorders. It is crucial to exclude other conditions such as Cushing's syndrome, congenital adrenal hyperplasia and androgensecreting tumours before diagnosing PCOS. Despite the apparent clarity of these criteria, the etiology of PCOS remains unknown, and standardized treatment protocols have yet to be established. As a result, PCOS continues to be an active area of research and scientific inquiry. This paper explores the postulated causes and potential consequences of the clinical and biochemical syndrome, along with currently accepted and emerging therapeutic approaches.

Mental Health During PCOS

1. **Depression and Anxiety**-The intersection of PCOS and mental health is complex, with individuals often grappling with heightened risks of depression and anxiety. The hormonal imbalances characteristic of PCOS can contribute to mood disturbances, amplifying the risk of depressive symptoms and anxiety disorders. Beyond the physiological factors, the emotional toll of managing a chronic condition, coupled with societal pressures and potential fertility concerns, can further contribute to the heightened prevalence of depression and anxiety among those with PCOS. Recognizing and addressing these mental health implications is crucial for fostering a holistic approach to PCOS care. PCOS is associated with an increased risk of a diagnosis of depression, anxiety, bipolar disorder, and obsessive compulsive disorder. Studies have shown that women with PCOS are more likely to have a clinical diagnosis of depression and experience worse symptoms of depression and anxiety. The prevalence of anxiety and depressive disorders among women with PCOS ranges from 28% to 39% for anxiety and 11% to 25% for depression.

2. **Body Image Issues and Self-Esteem**-PCOS has profound effects on body image and self-esteem, as individuals may contend with physical symptoms such as weight gain, acne, and hirsutism. Societal beauty standards often exacerbate these challenges, perpetuating unrealistic expectations that can be particularly distressing for individuals with PCOS. The visible manifestations of the syndrome can lead to a negative self-perception and, in some cases, contribute to the development of eating disorders. A comprehensive understanding of the impact of PCOS on body image is essential for implementing supportive interventions that address both the physical and psychological aspects of well-being.

3. **Relationship and Fertility Concerns**-The psychosocial impact of PCOS extends to interpersonal relationships, with potential ramifications on both romantic and familial connections. Fertility concerns, a common worry for individuals with PCOS, can strain relationships and contribute to emotional distress. The challenges associated with fertility treatments, coupled with the uncertainty surrounding conception, can further intensify the strain on relationships. Acknowledging and addressing the emotional toll on both individuals and their partners is crucial for providing holistic support and fostering open communication within relationships affected by PCOS.

4. The Link Between Hormonal Fluctuations and Mood-

Hormonal fluctuations in PCOS, particularly irregular menstrual cycles, have been identified as strong predictors of mental health issues, including anxiety and depression. The condition's symptoms, such as body hair and menstrual problems, have been found to strongly predict anxiety, while obesity is associated with hostility. PCOS has significant mental health implications, including an increased risk of depression, anxiety, and other psychiatric disorders, as well as challenges related to body image, self-esteem, relationships, and fertility. Understanding and addressing these impacts are crucial for providing comprehensive care to individuals with PCOS.

□ Diet for pcos

An important dietary recommendation for patients with PCOS is to follow a low glycaemic index (GI) diet and control carbohydrate intake. This is especially important because women with PCOS often suffer from obesity, and reducing energy consumption can lead to weight reduction, which in turn can impact menstrual cycle regulation, restore ovulation, reduce chronic inflammation, and have a beneficial effect on the cardiovascular system and reduce the risk of cancer. In addition to dietary therapy, regular physical activity is also significant in the weight reduction process. Studies have shown that individuals following a low GI diet experienced greater weight loss and fat tissue reduction compared to a control group without such recommendations. Even a slight weight loss of just 5% of initial body weight can lead to improvements in lipid parameters, carbohydrate metabolism and insulin profile.

A study conducted on the diet of patients with PCOS showed excessive consumption of saturated fatty acids, cholesterol and simple sugars, especially sucrose, which has a negative impact on the cardiovascular system and may contribute to the development of diabetes. In the same study, a majority of patients had insufficient dietary fibre levels and did not consume adequate amounts of cobalamin, calcium, zinc and magnesium. Low GI diet with controlled carbohydrate intake, along with regular physical activity, is recommended for patients with PCOS. It is important to reduce the consumption of simple carbohydrates, control lipid profile and increase fibre intake.

V. Conclusion

Metformin is now recommended for patients suffering from PCOS since it has been shown to modulate the menstruation and boost conception rates in both non-androgenic and androgenic types of the condition. The injection of gymnemic acid, myo-inositol and L-methylfolate, according to a recent study, results in a substantial reduction in levels of testosterone, particularly in the people who are obese or overweight patients. Above all of this, because PCOS patients have a slower metabolism. To avoid the obesity, diabetes, CVD, and other all of the morbidities, they should maintain an active lifestyle. Women with PCOS, in addition to anovulation and infertility, have an increased risk of developing hypertension and cardiovascular disease in association with metabolic syndrome. The diagnosis of PCOS is fundamentally clinical. Treatment of PCOS is limited to management of signs and symptoms since the etiology of the disorder is unknown. There is a need for further studies to understand the pathophysiology of PCOS and the development of high blood pressure in women suffering from the disorder.

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