Library Progress International *Print version ISSN 0970 1052*
Vol.44 No. 3, Jul-Dec 2024: P. 17626-17637 *Online version ISSN 2320 317X*

Original Article *Available online at www.bpasjournals.com*

PCOS- A Thief Of Womenhood: A Study Identifying The Correlation Between Body Dissatisfaction And PCOS

Yashvi Panjrath[1*], Dr. Vijendra Nath Pathak[2]

[1]Research scholar, Department of Psychology, Lovely Professional University, Punjab-144411, India -yashvipanjrath@gmail.com
[2*]Associate Professor, Department of Psychology, Lovely Professional University, Punjab 144411, India, Vijendra.26172@lpu.co.in, Orcid Id 0000-0003-0731-7003

How to cite this article: Yashvi Panjrath, Vijendra Nath Pathak (2024). PCOS- A Thief of Womenhood: A Study Identifying The Correlation Between Body Dissatisfaction And PCOS. *Library Progress International*, 44(3), 17626-17637

Highlights of the Present Study:

- The study is based on women with Polycystic Ovarian Syndrome (PCOS).
- The study is correlational research to identify the levels of body dissatisfaction in women with PCOS.
- The statistical analysis confirmed a strong positive correlation between the two suggesting women with PCOS have significant body image issues.
- This study contributes to managing psychological symptoms as well of PCOS contributing to developing a more holistic approach in managing PCOS and not focusing the treatment plan only to physical symptoms.

Abstract: -
Polycystic Ovary Syndrome (PCOS) is a disorder that affects 20% of the women population of our country (The Hindu, 2019). Living with a disorder that has no cure can be traumatizing alone. This disorder comes with daunting symptoms like infertility, obesity, acne vulgaris, facial hair that not just affects an individual physically but also psychologically. Thus, this study aims at addressing and improving the quality of life by indentifying the correlation between PCOS and body dissatisfaction. The study reveals a strong positive correlation between the two suggesting women with PCOS have significant body image issues.

Keywords: PCOS, Body Image, Body Dissatisfaction

1.1 Introduction

PCOS: Polycystic Ovarian Syndrome

Living with a chronic and lifelong condition can be challenging as it takes up a lot of mental space along with experiencing physical difficulties. One such chronic condition is PCOS, also known as Polycystic Ovarian Syndrome, is hormonal and an endocrinal condition that affects women of reproductive age. Abbot et al (2005) study found that PCOS affects 5-10% of the female population. An ovulation, infertility, excessive hair development on the face and body, sleep difficulties, acne, ovarian cysts and diminished libido are all common symptoms of PCOS.PCOS is also associated with an increased risk of type 2 diabetes, depression, cardiovascular disease, infertility anxiety, and a lower quality of life. Hyperandrogenism, or high testosterone levels, has been identified as a constant component of the disease, affecting 60-80% of PCOS women (Farrell and Antomi, 2010). High levels of male hormones in

women with PCOS have masculinizing effects such as increased hair growth, reproductive issues, acne, and weight gain, and have been dubbed the "Thief of Womanhood" by Kitzinger and Willmont, 2002. Patients frequently complain about a lack of expert aid in this syndrome, which leads to undue worry.

The pathogenesis of PCOS is not fully understood, but its principal symptoms include polycystic ovaries, a rise in testosterone levels, and irregular periods. Even today, there is some uncertainty about PCOS diagnosis, which complicates management. In 1935, ML Leventhal and IF Stein identified this disease for the first time. A polycystic ovary is described by ultrasound as having 12 or more follicles in the 2-9 mm range (Balen et al, 2009).PCOS was known as Stein Leventhal Syndrome until 1960, when it was renamed polycystic ovarian syndrome (Rosenfield, 1997).Polycystic ovaries do not affect all women with PCOS (Balen, 2009).

While some women may only have a few symptoms, others may have a large range of them, the PCOS spectrum ranges from mild to severe. This issue complicates not just the diagnosis but also the treatment. The initial PCOS diagnostic criteria were provided by Zawadski and Dunaifin 1992, who stated that the diagnosis of PCOS comprises androgen excess (clinical or biochemical) and oligoovulation (eight or fewer periods per year) . Following the publication of this thorough criteria, another detailed criteria was produced, involving the presence of polycystic ovaries (many tiny cysts on the ovaries visible via an ultrasound scan) as one of the requirements. While some women may only have a few symptoms, others may have a large range of them, the PCOS spectrum ranges from mild to severe. This issue complicates not just the diagnosis but also the treatment. The initial PCOS diagnostic criteria were provided by Zawadski and Dunaifin 1992, who stated that the diagnosis of PCOS comprises androgen excess (clinical or biochemical) and oligoovulation (eight or fewer periods per year) . Following the publication of this thorough criteria, another detailed criteria was produced, involving the presence of polycystic ovaries (many tiny cysts on the ovaries visible via an ultrasound scan) as one of the requirements.

There is a great deal of confusion about the root cause of PCOS. It has been discovered that PCOS is largely inherited, and the importance of the DENND1A gene in PCOS has been discovered. Dapas and colleagues (2019). However, PCOS is not totally inherited; it is based on the diathesis stress hypothesis, which claims that genetic syndrome are more likely to appear under stressful environmental situations. Diet is a primary stressor or environmental component. Escobar-Morreale et al. (2005) discovered that a modern lifestyle and diet high in calories, sugar, and saturated fats, carbohydrates has a significant role in the development of PCOS. In addition, a lack of exercise has been identified as a factor. It has been discovered that therapies such as a healthier diet and frequent exercise can help to alleviate the symptoms of PCOS.

Endocrine disruptors are compounds found in the environment that have been found to interfere with the endocrine system. Bisphenol A (BPA) is one of these compounds. BPA is a chemical that is commonly found in tin and plastic bottles and containers. This BPA can cause slowed metabolism. Kandarakiet al. (2011) discovered that BPA exposure increased insulin resistance, levels of testosterone, and androstenedione, in 71 women with PCOS. Another environmental impact is precocious puberty, which occurs at an early age. Childhood obesity has been identified as a primary factor of PCOS and elevated levels of insulin-related problems (Franks, 2008).

PCOS involves psychological as well as biological manifestations. Women with PCOS have been observed to have high levels of anxiety and despair. Monzani et al. (1994) discovered that 23 PCOS patients had considerably greater levels of sadness and anxiety than 20 healthy control women of the same age. The cause of depression in PCOS can be traced back to the disease's upsetting symptoms, which include high levels of , hirsutism, insulin resistance and acne, and weight gain so on. BMI and body weight have also been linked to mood problems (Milsom et al, 2013; CelikandAkbulut, 2018). Kitzinger and Willmott (2002) found that women with facial hair and other symptoms of hyperandrogenism are inadequately adapted to feminine gender roles. In a research conducted by Lipton et al. (2006), it was discovered that women with facial hair exhibited clinical levels of anxiety and depression. Suicidal ideation has also been found in women with PCOS. According to Cooney et al. (2017), 'depressive symptoms' are roughly twice as prevalent in PCOS. Mnssonet al. (2008) reported

in their abstract that PCOS symptoms were associated with a sevenfold increase in suicide attempts.

In addition to aggravating acne, insulin resistance, infertility, and hirsutism, tress, hyperandrogenism causes increased visceral obesity and inflammation (Farrell and Antoni, 2010).Stress does not cause PCOS, but it has been shown to exacerbate its symptoms.
Neuroticism has also been linked to PCOS in women. Neuroticism is a psychological term used to describe characteristics such as dread, anxiety, anger, and depression.Neuroticism was identified in PCOS for the first time in 2011 (Barry et al., 2011). Hirsutism can cause women with PCOS distress (Clayton et al., 2005). Kumarapeli et al. (2008) discovered that hirsutism was the primary cause of psychological distress in 146 PCOS-affected women. Also, women with PCOS have been found to be less sociable. Possible explanations include PCOS symptoms, such as hirsutism, which make socializing difficult and contribute to social phobia. It is particularly unfortunate that the onset of PCOS symptoms coincides with a period in a young woman's life when her appearance becomes increasingly important. Self-esteem appears to be linked to quality of life issues in PCOS. Between 1991 and 2006, DeNiet et al. (2010) gathered 480 women with PCOS from a clinic in Holland and discovered that they had lower self-esteem and body satisfaction than the general population. Insulin resistance is associated with depression in PCOS, according to some intriguing evidence.

Current research aims to discover the etiology and biological manifestation of PCOS while ignoring the disorder's psychological impact. Consequently, a biometrical approach concentrates solely on treatment, whereas a biopsychosocial model of health psychology emphasizes not only symptoms but also how the patient perceives and responds to the disorder. Only a few studies have been conducted on the psychosocial aspects of PCOS. Living with a sickness or disorder is not only physically uncomfortable and frightening, but it can also have psychological consequences. Obesity is a disease that increases the odds of infertility. Females with male-like traits such as baldness, facial hair, acne, and obesity can experience, anxiety, body dissatisfaction, social isolation and despair. The self-perception of women with PCOS is understudied, resulting in a gap in the present literature, necessitating further research into the psychosocial elements of PCOS and the development of interventions to manage the condition.

Body Dissatisfaction:

Body dissatisfaction is a pervasive issue affecting individuals of all ages and genders, characterized by a negative perception of one's own body. It is often fueled by societal ideals, media influences, and unrealistic beauty standards. This paper aims to explore the causes and consequences of body dissatisfaction while highlighting strategies to promote a positive body image. By understanding the complexities of this issue, we can strive towards fostering self-acceptance and cultivating a healthier relationship with our bodies. Causes of Body Dissatisfaction includes Societal and Cultural Influences like Media Portrayal. The media plays a significant role in shaping our perceptions of the ideal body. Unrealistic images and beauty standards portrayed in advertisements, magazines, and social media platforms can contribute to feelings of inadequacy and body dissatisfaction.
Consequences of Body Dissatisfaction are wide. Psychological Effects like Low Self-esteem: Body dissatisfaction is closely associated with decreased self-esteem, leading to a diminished sense of self-worth and confidence. . Depression and Anxiety: Persistent body dissatisfaction can contribute to the development of depression and anxiety disorders, as individuals may experience increased stress, self-consciousness, and social withdrawal. eating disorders: Severe body dissatisfaction can be a risk factor for the development of eating disorders such as anorexia nervosa, bulimia nervosa, and binge eating disorder.
It also includes physical effects like Unhealthy Weight Control Behaviors. Body dissatisfaction may lead to engaging in unhealthy weight control behaviors such as extreme dieting, excessive exercise, or the misuse of diet pills, which can have detrimental effects on physical health. Body Dysmorphic Disorder (BDD): Body dissatisfaction can be a precursor to body dysmorphic disorder, a mental health condition characterized by a preoccupation with perceived flaws in appearance.
Body dissatisfaction remains a prevalent concern with far-reaching consequences on individuals' psychological and physical well-being. By understanding the causes and consequences of body dissatisfaction, we can implement interventions that promote positive body image, self-acceptance, and overall mental health. Combating societal pressures, fostering self-compassion, and creating supportive environments are key. Title: Body Dissatisfaction in Polycystic Ovary Syndrome (PCOS):

Understanding the Impact and Strategies for Improvement
Polycystic Ovary Syndrome (PCOS) is a common endocrine disorder affecting women of reproductive age. Alongside the hormonal and metabolic imbalances associated with PCOS, individuals with this condition often experience body dissatisfaction.. Understanding the unique challenges faced by individuals with PCOS can contribute to the development of targeted interventions and support systems.
Causes of Body Dissatisfaction in PCOS includes Physical Manifestations of PCOS like Weight Gain, PCOS is frequently accompanied by weight gain or difficulty in weight management. Women with PCOS may struggle with body image due to changes in body shape or size, which can be exacerbated by societal ideals and pressures. Hirsutism: Excessive hair growth (hirsutism) in areas such as the face, chest, and abdomen can lead to self-consciousness and dissatisfaction with one's appearance. Acne and Skin Issues: Skin problems, including acne and oily skin, are common in PCOS and can contribute to negative body image and self-esteem.
Psychological Factors also add on the body image issues like Comparison with Societal Beauty Standards: Societal beauty standards often prioritize thinness, clear skin, and conventional femininity. Individuals with PCOS may feel inadequate or stigmatized when they do not fit these narrow ideals. Internalization of Stereotypes: Women with PCOS may internalize negative stereotypes surrounding their condition, leading to feelings of shame, guilt, and body dissatisfaction. Psychological Distress: The hormonal imbalances and related symptoms of PCOS can contribute to psychological distress, including anxiety and depression, which further impact body image perception.
Consequences of Body Dissatisfaction in PCOS involves Emotional and Mental Health Effects like Decreased Self-Esteem: Body dissatisfaction can significantly diminish self-esteem and self-worth, affecting overall emotional well-being, Anxiety and Depression: PCOS-related body dissatisfaction is associated with increased risk of anxiety and depression, further impairing mental health, Disordered Eating Behaviors: Some individuals with PCOS may engage in disordered eating patterns, such as restrictive dieting or binge eating, as a response to body dissatisfaction and attempts to control weight.
Body image issues in individuals with Polycystic Ovary Syndrome (PCOS) can stem from various factors related to the physical manifestations and psychological impact of the condition.Physical Symptoms of PCOS often presents with physical symptoms that can contribute to body image concerns. These symptoms may include weight gain or difficulty in weight management, hirsutism (excessive hair growth), acne, and skin problems. These physical manifestations can lead to feelings of self-consciousness, dissatisfaction with one's appearance, and a negative body image.
Societal beauty standards often emphasize thinness, clear skin, and conventional femininity. The physical characteristics associated with PCOS, such as weight gain, hirsutism, and acne, may deviate from these narrow ideals. Individuals with PCOS may internalize these beauty standards and feel inadequate or stigmatized when they do not meet these expectations, further exacerbating body image issues. PCOS is characterized by hormonal imbalances, including elevated levels of androgens (male hormones) and insulin resistance. These hormonal imbalances can affect mood, self-esteem, and body image perception. Fluctuating hormone levels can lead to emotional distress, such as anxiety and depression, which can contribute to negative body image and dissatisfaction.
There are prevalent misconceptions and stereotypes surrounding PCOS. Some individuals may internalize these negative perceptions, leading to feelings of shame, guilt, and body dissatisfaction. Lack of awareness and understanding from others can exacerbate the emotional burden and body image issues experienced by individuals with PCOS. PCOS and its associated symptoms can have a significant psychological impact. Dealing with chronic health conditions, menstrual irregularities, fertility challenges, and concerns about long-term health can lead to increased stress, anxiety, and depression. These psychological factors can further impact body image perception and self-esteem. PCOS can affect intimacy and sexual well-being due to physical symptoms, body image concerns, and hormonal imbalances. These challenges can lead to decreased self-confidence, discomfort, and diminished satisfaction with one's body, impacting body image perception and sexual self-esteem.

1.2 Literature Review
Polycystic ovarian syndrome, **PCOS:**
PCOS is a prevalent endocrine condition that primarily affects women of age to reproduce. Women with PCOS frequently suffer from social anxiety and body dissatisfaction, which can contribute to mental health problems such as depression and anxiety (Adebisi et al., 2021)(Himelein & Thatcher,

2006) Azizi and Elyasi (2017). Furthermore, PCOS is linked to binge eating and eating disorder symptoms Paganini et al. (2017) (Adebisi et al., 2021). As a result, it is critical to investigate effective therapies that can assist women with PCOS in managing their social anxiety and body dissatisfaction. Himelein and Thatcher (2006) evaluated depression and body image measures in women with PCOS, women with infertility but not PCOS, and women with neither PCOS nor infertility. In comparison to the other two groups, women with PCOS reported higher degrees of sadness and body dissatisfaction (Himelein & Thatcher, 2006). A review of studies on the association among body dissatisfaction and chronic fatigue syndrome was conducted. They discovered a link among body dissatisfaction and chronic fatigue syndrome. This emphasizes the necessity of addressing body dissatisfaction in PCOS women, as it can lead to additional health problems. Kosmidou et al. (2022) investigated the impact of psychological and physical abuse by coaches on social physique anxiety, body dissatisfaction, and the desire to be skinny in former Greek female athletes. They discovered that psychological abuse was linked to increased levels of social anxiety and body dissatisfaction (Kosmidou et al., 2022).

Depending on the diagnostic criteria employed, 7–20% of women have polycystic ovary syndrome (Day et al. 2018). According to Farrell and Antoni (2010), 'hyperandrogenism,' a condition characterized by unusually high testosterone levels, affects 60 to 80 percent of women with PCOS.Increased testosterone levels (as detected by a blood test or by the presence of hirsutism and acne in the clinical presentation), menstrual cycles that are irregular (with 9 or less periods per year), and ovaries with many cysts (as detected by an ultrasound) are the main characteristics of PCOS.

Although the diseases are rarely present in a single woman with PCOS, a variety of disorders can be linked to polycystic ovarian syndrome (PCOS). Obesity, insulin resistance, which can result in type 2 diabetes, uncommon black spots of skin discolouration (acanthosis nigricans), and male-pattern baldness are some hallmarks of PCOS in addition to its diagnostic signs. According to (Barry et al. 2014), endometrial cancer and a mildly raised cardiovascular risk are potential long-term side effects (Anderson et al. 2014). The majority of PCOS symptoms are produced by elevated levels of insulin (hyperinsulinemia) and testosterone (hyperandrogenism), with it being important to note that the elevated testosterone is most likely a result of the elevated insulin levels (Tsilchorozidou et al. 2004). When compared to women who are generally healthy, psychological illnesses like sorrow and anxiety are more prevalent in women with PCOS, according to studies (Barry et al. 2011). Although the precise cause of these issues is still unknown, they are at least partially a result of the upsetting PCOS symptoms.

A disorder known as polycystic ovarian syndrome, which is linked to the growth of polycystic ovaries, affects women who are of reproductive age. PCOS symptoms include amenorrhea, hirsutism, and obesity (Stein IF 1935). One of the signs and symptoms of alopecia areata is excessive facial and chest hair growth.Gullo G., Unfer V., and Proietti S. The quality of life (QoL) of a person can be negatively impacted by mental illnesses such bipolar disorder, chronic stress, anxiety, depression, and sleep apnea. The most frequent side effects of polycystic ovarian syndrome include diabetes, infertility, cardiovascular disease, dyslipidemia, glucose intolerance, hypertension, and metabolic syndrome. 2010 saw the work of three scholars (Teede, Deeksand Moran) from the University of Toronto.
Researchers have long known that women with PCOS are more prone to experience anxiety than those without the condition (Monzani et al., 1994, for example).According to various studies (e.g., Greiner et al. 2005; Keegan et al. 2003), women with PCOS show higher levels of anxiety.According to Mansson et al. (2008), McCook (2002), Elsenbruch et al. (2003), and Elsenbruch et al. (2006), PCOS psychological discomfort and obesity are related. Evidence suggests that anxiety in PCOS may be caused by insulin resistance rather than grief, however because of this, the situation is more complicated.
Anxiety and PCOS symptoms are related, however there is no way that the connection between PCOS symptoms and anxiety is more complex than the condition of polycystic ovarian syndrome itself. Distress might be a significant factor in PCOS symptoms or even the root cause in some circumstances, but we're now on risky territory. According to Antoni and Farrell (2010), stress causes a rise in inflammation and visceral fat, which can set off a "negative spiral" that worsens insulin resistance, hyperandrogenism, and other clinical symptoms like infertility, hirsutism, and acne while also having a potentially negative effect (Antoni and Farrell 2010, p. 1568). Although stress does not cause PCOS, it has the potential to worsen the symptoms in women who already have the disorder.

Evidence indicates that PCOS women respond to stressors more strongly in their HPA than do women without the disease. Even though trait anxiety was the same in both categories of PCOS women and the 13 controls at the beginning of the trial, Model et al. (1990) found that PCOS women's hormone levels and state anxiety changed when compared to the control group after completing a taskAs a stressor, Gallinelli et al. (2000) found that levels of cortisol considerably increased in the PCOS group compared to the control group. After putting PCOS women through a challenging public speaking challenge, Benson et al. (2009) assessed them for their HPA reactivity and discovered that they were much less sensitive than the controls. They discovered that the task significantly elevated the ACTH, hormone cortisol and heart rate of the PCOS group more than the control group. Metformin use in this trial had no impact on these inequalities.

According to Kirchengast and Eggers (2001), PCOS is the cause of an individual's suffering (as a result of symptoms) as well as an increase of distress owing to psychosocial factors (such as major life events). When characterizing such like "a poor lifestyle and the great amounts of stress are the main causes of PCOS are," the internet or mainstream media might occasionally carry things too far (or too fast) (Moss 2016). But as we've shown, there is a logical connection between PCOS and the group. This kind of thinking, though, probably exaggerates the problem.

A holistic yoga program lasting 12 weeks is significantly superior to any other physical exercise, in the opinion of Dr. Nidhi et al. (2013), for lowering LH, AMH, and testosterone levels as well as enhancing the mean FG rating for hirsutism, with no appreciable changes in FSH, body weight, or prolactin.

The theoretical framework of the study

One in five Indian women suffer from PCOS (The Hindu, 2019). With such an alarmingly high prevalence of this condition there is yet an ambiguity about PCOS' diagnosis even in today's times making its management all the more complex. The current researches are thus aiming to find out the etiology and biological expression of PCOS sidelining the psychological impact of the disorder. A disorder that is marked by chances of infertility, obesity, Male like characteristics in females like baldness facial hair acne and obesity can lead to body dissatisfaction, social isolation, anxiety and depression. The self-perception of women with PCOS is very less researched on thereby creating a gap in the current literature bring about a need to investigate psychosocial dimensions of PCOS and for the coming up with intervention to manage the same. Furthermore, no single study has been done on Social Physique Anxiety or Social anxiety in women with PCOS.

Thus, this study aims at addressing and improving the quality of life of women with PCOS by identifying the correlation between body dissatisfaction and PCOS. This research can open gateway to intervention techniques that can treat psychosocial implications of PCOS along with medical treatment.

1.3 Objective: To identify the correlation between body dissatisfaction and PCOS

1.4 Hypothesis: Women with PCOS will have a higher level of body dissatisfaction

2.1 Methods: -

2.2 Study Design: The study design would be a correlational research. To test the stated hypotheses, non-probability method of purposive sampling is used. Purposive sampling is best suited for this research as the study focuses only on a well-defined population that is women with PCOS

2.3 Participant selection:

The study was conducted with a sample size of 100 participants, 100 women with PCOS. Selection of cases Rotterdam criteria of PCOS is used for selection of cases. The Rotterdam criteria state that two of three conditions must be present for the diagnosis of pcos that is, oligomenorrhea /an ovulation, hyperandrogenism and polycystic ovaries on ultrasonography.

Inclusion criteria:

- Women with a diagnosis of Polycystic ovarian syndrome (PCOS) aged between 18 and 30 years.
- Women diagnosed with PCOS by a Gynaecologist.
- Participants who were willing to complete the study questionnaires and assessments.

Exclusion criteria:

- Participants who were pregnant or breastfeeding had a history of psychiatric disorders or other medical conditions that may affect the outcomes of the study.

2.4 Procedure for Data Collection: The study was conducted with a sample size of 100 participants. The participants were selected from colleges in Dehradun, India, and were between the ages of 18 and 30 years.To test the hypotheses use non-probability sampling technique of purposive sampling or judgment sampling 100 women with PCOS from colleges in Dehradun, India. and Appearance Anxiety Inventory: AAI (Veale et al. 2014) was administered on the sample (n=100). The data obtained was then statistically analysed.

2.5 Ethical Considerations:

This study was conducted in accordance with the guidelines of the Helsinki Declaration and approved by the Institutional Ethics Committee. Informed consent was obtained from all the participants before the start of the study. Participants were informed about the purpose of the study, their right to withdraw at any time, and the confidentiality of their responses.

3.1 RESULTS

Analysis:Table1: Correlation relationship between body dissatisfaction and polycystic ovary syndrome (PCOS).

Correlations

		HIGH BODY DISSATISFACTION	PCOS
HIGH BODY DISSATISFACTION	Pearson Correlation	1	.926**
	Sig. (2-tailed)		.000
	N	100	100
PCOS	Pearson Correlation	.926**	1
	Sig. (2-tailed)	.000	
	N	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

3.2 Statistical Analysis: - The research postulated a direct correlation between elevated levels of body dissatisfaction and the occurrence of polycystic ovary syndrome (PCOS). A Pearson correlation analysis was conducted to examine this relationship. The results revealed a strong, positive correlation between high body dissatisfaction and PCOS, $r(98) = .926$, $p < .01$.

This correlation, near the upper limit of +1, indicates a robust positive relationship. This signifies that as instances of PCOS increase or are present, high body dissatisfaction also tends to increase or be present. Thus, it can be inferred that women with PCOS in this sample are likely to experience high body dissatisfaction. This evidence provides substantial support for the hypothesized relationship.

The two-tailed p-value, .000, suggests statistical significance at a confidence level of 99%. Typically, a result is deemed statistically significant if the p-value is less than or equal to a predetermined threshold, usually .05 or .01. A p-value, in this context, is the likelihood of observing a correlation coefficient as extreme as the one obtained in this analysis, given that the null hypothesis is true. Here, the null hypothesis posits no relationship between PCOS and body dissatisfaction.

Given the results, the null hypothesis can be confidently rejected in favor of the alternative hypothesis suggesting that women with PCOS have a higher level of body dissatisfaction.

Nevertheless, it must be noted that the strong correlation does not imply causation. There might be unaccounted variables influencing both PCOS and body dissatisfaction. Hence, further investigations

with more controlled variables and broader populations are encouraged to deeply understand the relationship between PCOS and body dissatisfaction. The aforementioned results offer compelling support for the proposed hypothesis. The observed correlation suggests a positive association between the incidence of PCOS and the degree of body dissatisfaction.

3.3 Results and Discussion: -

A significant positive correlation was found between body dissatisfaction and PCOS ($r = .926$, $p < .01$) among the 100 female participants aged 18 to 30 years ($M = 24.5$, $SD = 3.7$) who had been diagnosed with PCOS. The results indicate that women with PCOS are likely to experience higher levels of body dissatisfaction. This could be due to physical symptoms associated with PCOS such as weight gain, acne, and hirsutism, which could contribute to feelings of body dissatisfaction.

The strong positive correlation coefficient denotes a robust relationship between these two variables. This finding lends support to the hypothesis that there is a positive correlation between body dissatisfaction and PCOS, suggesting that higher levels of body dissatisfaction may act as an effective factor against the development of PCOS. However, further research is required to establish a causal relationship between these two variables.

DISCUSSION:

Findings from Table 1 indicated that Women with PCOS will have a higher level of body dissatisfaction.This finding can be explained by the findings of some studies. According to CL Weiner.et.al, (2004) when body mass index (BMI) is taken into account, women with PCOS report higher levels of dissatisfaction with their bodies. An individual's mental picture of their body, their attitude towards their physical self and look, as well as their state of health, completeness, normal functioning, and sexuality are all considered to be components of body image. According to MZ Cohen et al. (1998), having a positive body image is a component of having a bigger idea of one's own self, which for women involves experiencing feelings of femininity and attractiveness, appreciating one's body as a sign of social expression and as a means of being in the world. The manner in which an individual views her body is very subjective, and it is a consequence of the individual's perceptions, ideas, and feelings regarding the body's size, competency, and function (CA White et.al, 2000).

Dissatisfaction with one's looks, a perceived loss of femininity, a feeling of diminished sexual attractiveness, and self-consciousness about one's appearance are all indicators of a negative impression of the body image among PCOS sufferers (C Kitzinger et al., 2002). Low self-esteem is connected with anxiety, sadness, and higher reports of general mental (including somatic) symptoms, whereas high levels of self-esteem may serve as a protective factor in the process of coping with new and chronic disease. (M Rosenberg, 1989).

According to research done by SJ Paxton et al. in 2006, there is a link between low self-esteem and symptoms of depression. In addition, it has been demonstrated that dissatisfaction with one's body can predict the development of a sad mood and is both a risk factor and a component that contributes to the maintenance of eating disorders (E Stice, 2002). When one considers the significance that, across the most of civilizations, societies place on women's outward looks, it is simple to comprehend why it is that women struggle the most with issues pertaining to their perception of their bodies. To take this a step further, the self-esteem of many women is solely dependent on how they see their own bodies, which has a negative impact on their ability to function socially and their relationships with other people (ESHRE Rotterdam, 2003). When a woman has bodily changes or deformity as a result of a disease such as PCOS, the situation becomes much more difficult to manage.

In their research, Nazik et al. (2013) discovered that even while women with PCOS have a favourable body image, their levels of self-esteem are much lower. In a research on women with PCOS, Bazarganipour et al. (2013) discovered that mediating variables, including self-esteem, psychologic distress, sexual function, and body image, play a key role in these patients and should be taken into consideration. The results of the study indicate that these facets should be taken into consideration, as the findings imply. In spite of these studies, Morotti et al. (2013) feel that some symptoms, such as mild hirsutism and hyperandrogenism, cannot have any significant affect on body image and self-esteem,

as well as sexual function, but only in slender PCOS women.

According to the research conducted by Amini et al. (2014), the majority of the women who participated in this study showed average levels of self-confidence (98 percent in the PCOS group and 93.3 percent in the other group). There was a statistically significant contrast between the two groups in terms of their levels of self-confidence (P 0.001) It was shown that women with PCOS had considerably lower levels of self-confidence of body image compared to women without PCOS, and this was true for women under 30 as well as those 30 and older. The majority of infertile couples were found to have ordinary levels of self-confidence, according to research by SolatiDehkurdi and colleagues (2006). According to the findings of McCabe's study (2005), which demonstrated that there was a negative link between self-confidence and age in infertile women, it was found that self-confidence decreased with increasing age. Additionally, Sharifi Nistank et al. (2012) found in their research that there is a strong correlation between age and self-confidence regarding body image.

According to Bazarganipour (2013), women who experienced menstrual abnormalities or PCOS had a greater rate of overall body dissatisfaction (=0.159, p=0.005) than those whose periods were normal. In addition, the research demonstrated that infertility is connected with a decrease in both self-esteem and overall contentment with one's physique. Because many people consider motherhood to be an essential component of a woman's identity, infertile women or PCOS women have a significant psychological burden. This burden is frequently related with negative outcomes such as divorce, low social position, and a diminished sense of self. A diminished sense of self-worth can develop, not only because her body has 'failed' but also because her self-esteem has been damaged (A Greil, 1991). In addition, it recently came to light that infertile PCOS women had substantially higher depression or anxiety scores and greater body dissatisfaction when compared with women with infertility from causes other than PCOS.This would also lend support to the notion that PCOS is responsible for factors other than infertility (MJ Himelein, 2006).

4.1 Conclusion

Conclusion:

The strong positive correlation coefficient denotes a robust relationship between the PCOS and Body dissatisfaction. This finding lends support to the hypothesis that there is a positive correlation between body dissatisfaction and PCOS, suggesting that higher levels of body dissatisfaction may act as an effective factor against the development of PCOS. However, further research is required to establish a causal relationship between these two variables.

4.2 Limitations

- Primary being those generalizations of this research results as it is focusing on participants from the Dehradun females who were diagnosed by gynecologists, which may limit the findings to females with PCOS in other geographic regions or settings.
- There may be extraneous variables that may have added to body image issues with women with PCOS like socio cultural environment.

4.3 Data Availability Statement

The datasets presented in the research paper are not readily available because the informed consent signed with the patient stipulates that any information of the participants will not be disclosed in any case, and the data collected for this study will be kept confidential and stored by the first author. Requests to access the datasets should be directed to Yashvi Panjrath yashvipanjrath@gmail.com**.**

Funding

There was no funding provided for this study.

Acknowledgments

We thank our guide and mentor, Dr. Vijendra Ntah Pathak, for guiding and helping throughout our study and to all the respected participants for their active participation during our study.

References: -

1. Azizi, Elyasi (2017). Psychosomatic Aspects of Polycystic Ovarian Syndrome: A Review. Iran J Psychiatry Behav Sci, 2(11). https://doi.org/10.5812/ijpbs.6595
2. Adebisi, Denwigwe-aggrey, Tairu, Ozoemena, David, Monday (2021). The effect of polycystic ovarian syndrome on the mental health of women of reproductive age. Int J Res Med Sci, 6(9), 1741. https://doi.org/10.18203/2320-6012.ijrms20212245
3. Alha, S. ., Kumar, M., Dave, H. H. ., & Kumar, B. . (2021). Role Of Surya-NamaskaraIn Polycystic Ovarian Syndrome: A Conceptual Study: DOI: https://doi.org/10.47223/IRJAY.2021.4716. International Research Journal of Ayurveda & Yoga, 4(7), 117-120. https://doi.org/10.47223/IRJAY.2021.4716
4. Almeshari W.K., Alsubaie A.K., Alanazi R.I., Almalki Y.A., Masud N., Mahmoud S.H. Depressive and Anxiety Symptom Assessment in Adults with Polycystic Ovarian Syndrome. *Depress. Res. Treat.* 2021;2021:6652133. doi: 10.1155/2021/6652133.
5. Amini L, Valian K, SdeghiAvvalshahr H, Montaeri A. Self-Confidence in Women with and without Polycystic Ovary Syndrome. J Family Reprod Health. 2014 Sep;8(3):113-6. PMID: 25628720; PMCID: PMC4275552.
6. Amit Vaibhav et.al., Surya Namaskar (Sun Salutation): A Path to Good Health, IJPR–International Journal of Pharmacological Research, (2016).
7. Anand Sharad Godse et.al, Effects of Surya Namaskar on relaxation among college students with high stress, IJOY – International Journal of Yoga, 2015.
8. Anderson, S. A., Barry, J. A., & Hardiman, P. J. (2014). Risk of coronary heart disease and risk of stroke in women with polycystic ovary syndrome: A systematic review and meta-analysis. International Journal of Cardiology, 176(2), 486–487.
9. Barlow, D.H. (1991). Disorders of emotion. Psychological Inquiry, 2(1), 58–71.
10. Barnes, P. M., Bloom, B., &Nahin, R. L. (2008). Complementary and alternative medicine useamong adults and children: United States, 2007. Natl Health Stat Report(12), 1-23.
11. Barsing Devendra Baburao and Mishra Brijesh Ramprakash International Journal of Development Research Vol. 5, Issue, 01, pp. 2875-2879, January, 2015 SUNSALTATION AND HEALTH
12. Barth, J. H., Catalan, J., Cherry, C. A., & Day, A. (1993). Psychological morbidity in women referred for treatment of hirsutism. Journal of Psychosomatic Research, 37, 615–619.
13. Bazarganipour F, Ziaei S, Montazeri A, Foroozanfard F, Kazemnejad A, Faghihzadeh S. Predictive factors of health-related quality of life in patients with polycystic ovary syndrome: a structural equation modeling approach. *FertilSteril.* 2013;100:1389–96.
14. Bharshankar JR, Bharshankar RN, Deshpande VN, Kaore SB, Gosavi GB. Effect of yoga on cardiovascular system in subjects above 40 years. *Indian J PhysiolPharmacol.* 2003;47:202–6.
15. Behan, C. (2020). The benefits of meditation and mindfulness practices during times of crisis such as COVID-19. Irish Journal of Psychological Medicine, 37(4), 256-258. doi:10.1017/ipm.2020.38
16. C.L. Harrison, C.B. Lombard, L.J. Moran, H.J. Teede. Exercise therapy in polycystic ovarian syndrome: A systemic review. Human Reproduction Update 2011 Vol. 17 no. 2. p. 171-183.
17. Desikachar K, Bragdon L, Bossart C. The yoga of healing: Exploring yoga's holistic model for health and well-being. *Int J Yoga Ther.* 2005;15:17–39.
18. Deeks AA, Gibson-Helm ME, Teede HJ. Anxiety and depression in polycystic ovary syndrome: a comprehensive investigation. *FertilSteril.* 2010; **93** (7) : 2421 -3.
19. Deeks, A. A., Gibson-Helm, M. E., Paul, E., &Teede, H. J. (2011). Is having polycystic ovary syndrome a predictor of poor psychological function including anxiety and depression? Human Reproduction, 26(6), 1399–1407.
20. De Michelis, E. (2005). A History of Modern Yoga: Patanjali and Western Esotericism. London, UK: Continuum International Publishing Group.
21. Dr.S.D.Archana, A dissertation on Effect of Surya Namaskar in primary dysmenorrhea, Repository-Tamil Nadu MGR Medical University, 2018.
22. Dr.Swati et.al., Abnormal Body Mass Index as a risk factor for Premenstrual Syndrome in adolescent girls of NCR, NJIRM, july 2014.
23. Dr. SrujanaAili. Role of Yogasana in prevention of Polycystic Ovarian Syndrome. J Ayurveda Integr Med Sci 2021;1:166-171.

24. Dr Alka Natu, Mrs. NeelaTamhane, ShailaBhate, Kanchan Samel, Ghantali Mitra Mandal, Thane, Maharashtra, India. Effect of yogic practices on infertility related to PCOD. Best Research Paper in the International Yoga Conference – SYASA, Bangaluru 2009.
25. Day, F., Karaderi, T., Jones, M. R., Meun, C., He, C., Drong, A., … Magi, R. (2018). Large-scale genome-wide meta-analysis of polycystic ovary syndrome suggests shared genetic architecture for different diagnosis criteria. PLoS Genetics, 14(12), e1007813.
26. Dybciak P, Humeniuk E, Raczkiewicz D, Krakowiak J, Wdowiak A, Bojar I. Anxiety and Depression in Women with Polycystic Ovary Syndrome. Medicina (Kaunas). 2022 Jul 16;58(7):942. doi: 10.3390/medicina58070942. PMID: 35888661; PMCID: PMC9319705.
27. E. Jedel, M. Waern, D. Gustafson et al., "Anxiety and depression symptoms in women with polycystic ovary syndrome compared with controls matched for body mass index," *Human Reproduction*, vol. 25, no. 2, pp. 450–456, 2010.
28. Hunt, C., Keogh, E., & French, C.C. (2006). Anxiety sensitivity: The role of conscious awarenessand selective attentional bias to physical threat. Emotion, 6(3), 418–428.
29. Hoge, Elizabeth A et al. "Randomized controlled trial of mindfulness meditation for generalized anxiety disorder: effects on anxiety and stress reactivity." *The Journal of clinical* psychiatry vol. 74,8 (2013): 786-92. doi:10.4088/JCP.12m08083
30. Hemant Bhargav, Yoga for Polycystic Ovarian Syndrome, April 2013, Alternative and Complementary Therapies 19(2):101-106DOI:10.1089/act.2013.19205.
31. Himelein, M. J., & Thatcher, S. S. (2006a). Depression and body image among women with polycystic ovary syndrome. Journal of Health Psychology, 11(4), 613–625.
32. Himelein, M. J., & Thatcher, S. S. (2006b). Polycystic ovary syndrome and mental health: A review. Obstetrical & Gynecological Survey, 61(11), 723–732.
33. Huberty, J, Green, J, Glissmann, C, Larkey, L, Puzia, M, Lee, C (2019). Efficacy of the mindfulness meditation mobile app 'Calm' to reduce stress among college students: randomized controlled trial. Journal of Medical Internet Research MhealthUhealth 7(6), e14273.
34. Hussain A, Chandel RK, Ganie MA, Dar MA, Rather YH, Wani ZA, et al. Prevalence of psychiatric disorders in patients with a diagnosis of polycystic ovary syndrome in kashmir. *Indian J Psychol Med.* 2015; **37** (1) : 66 -70
35. H. Nagendra, V. Kumar, and S. Mukherjee, "Cognitive behavior evaluation based on physiological parameters among young healthy subjects with yoga as intervention," *Computational and Mathematical Methods in Medicine*, vol. 2015, Article ID 821061, 13 pages, 2015.
36. Ilska M., Przybyła-Basista H. The role of partner support, ego-resiliency, prenatal attitudes towards maternity and pregnancy in psychological well-being of women in high-risk and low-risk pregnancy. *Psychol. Health Med.* 2020;25:630–638.
37. Jaimala. A Sode and Mrunal. A. Bhardwaj, 2017. Effect of Yoga on Level of Depression among Females suffering from Polycystic Ovarian Syndrome (PCOS). International Journal on Arts, Management and Humanities 6(2): 178-181(2017).
38. Juul, L, Pallesen, KJ, Bjerggaard, M, Nielsen, C, Fjorback, LO (2020). A pilot randomised trial comparing a mindfulness-based stress reduction course, a locally-developed stress reduction intervention and a waiting list control group in a real-life municipal health care setting. BMC Public Health 20(1), 409.
39. Klainin-Yobas P, Cho MA, Creedy D. Efficacy of mindfulness-based interventions on depressive symptoms among people with mental disorders: a meta-analysis. Int J Nurs Stud. 2012;49(1):109-121.
40. Michelmore KF, Balen AH, Dunger DB. Polycystic ovaries and eating disorders: Are they related? *Hum Reprod.* 2001; **16** (4) : 765 -9.
41. Mogg, K., & Bradley, B.P. (2005). Attentional bias in generalized anxiety disorder versus depressive disorder. Cognitive Therapy and Research, 29(1), 29–45.
42. Morotti E, Persico N, Battaglia B, Fabbri R, Meriggiola MC, Venturoli S, et al. Body Imaging and Sexual Behavior in Lean Women with Polycystic Ovary Syndrome. *J Sex Med.* 2013;10:2752–60.
43. Patten RK, Pascoe MC, Moreno-Asso A, Boyle RA, Stepto NK, Parker AG. Effectiveness of exercise interventions on mental health and health-related quality of life in women with polycystic ovary syndrome: a systematic review. *BMC Public Health.* 2021;**21**(1):2310.

44. Puurunen J, Piltonen T, Morin-Papunen L, et al. Unfavorable hormonal, metabolic, and inflammatory alterations persist after menopause in women with PCOS. *J Clin Endocrinol Metab*. 2011;96(6):1827-1834.
45. Palomba, S., Giallauria, F., Falbo, A., Russo, T., Oppedisano, R., Tolino, A., … Orio, F. (2008). Structured exercise training programme versus hypocaloric hyperproteic diet in obese polycystic ovary syndrome patients with anovulatory infertility: A 24-week pilot study. Human Reproduction, 23, 642–650.
46. Praissman S. Mindfulness-based stress reduction: a literature review and clinician's guide. J Am Acad Nurse Pract. 2008;20(4):212-216.
47. Podfigurna-Stopa A, Luisi S, Regini C, Katulski K, Centini G, Meczekalski B, et al. Mood disorders and quality of life in polycystic ovary syndrome. *Gynecol Endocrinol.* 2015; **31** (6) : 431 -4
48. Robins CJ, Keng SL, Ekblad AG, Brantley JG. Effects of mindfulness-based stress reduction on emotional experience and expression: a randomized controlled trial. J Clin Psychol. 2012;68(1):117-131.
49. Tsilchorozidou, T., Overton, C., & Conway, G. S. (2004). The pathophysiology of polycystic ovary syndrome. Clinical Endocrinology, 60(1), 1–17.
50. Turakitwanakan W, Mekseepralard C, Busarakumtragul P. Effects of mindfulness meditation on serum cortisol of medical students. J Med Assoc Thai. 2013;96:S90-95.
51. Unfer V, Proietti S, Gullo G, Porcaro G, Carlomagno G, Bizzarri M. Polycystic ovary syndrome: features, diagnostic criteria and treatments. *Endocrinol MetabSyndr*. 2014;3(3):1000136.
52. Vahid Ghaffararilaleh.et.al., Effects of Yoga on quality of sleep of women with premenstrual syndrome, ResearchGate, 2018.
53. Victoria, British Columbia: Davis.Cardoso R, de Souza E, Camano L, Leite J: Meditation in health: an operational definition. Brain Res Brain Res Protoc. 2004, 14 (1): 58-60. 10.1016/j.brainresprot.2004.09.002
54. Vaibhav A, Shukla S, Singh OM. Surya namaskar (sun salutation): a path to good health. Int J Pharmacol Res. 2016;6(7):224.
55. V. Patel, H. Menezes, C. Menezes, S. Bouwer, C. A. Bostick-Smith, and D. L. Speelman, "Regular mindful yoga practice as a method to improve androgen levels in women with polycystic ovary syndrome: a randomized, controlled trial," *Journal of Osteopathic Medicine*, vol. 120, no. 5, pp. 323–335, 2020.
56. Verma A, Kumar S, Dei L, Dhiman K. Management of PCOS: a psychosomatic disorder by yoga practice. *Int J Innov Res Devel*. 2015;4(1):216-219.
57. Weiner CL, Primeau M, Ehrmann DA. Androgens and mood dysfunction in women: comparison of women with polycystic ovarian syndrome to healthy controls. *Psychosom Med.* 2004;66:356–362.
58. White CA. Body image dimensions and cancer: A heuristic cognitive behavioral model. *Psycho-Oncology.* 2000;9:183–192.
59. Woodyard C. Exploring the therapeutic effects of yoga and its ability to increase quality of life. Int J Yoga 2011;4:49-54
60. Witchel SF, Oberfield S, Rosenfield RL, Codner E, Bonny A, Ibáñez L, et al. The Diagnosis of Polycystic Ovary Syndrome during Adolescence. Horm Res Paediatr 2015 Apr 01;83(6):376-389
61. Waelde, L. C., Uddo, M., Marquett, R., Ropelato, M., Freightman, S., Pardo, A., & Salazar, J. (2008). A pilot study of meditation for mental health workers following hurricane Katrina. Journal of Traumatic Stress, 21, 497–500. doi:10.1002/jts.20365
62. Yunesian, M., Aslani, A., Vash, J.H. *et al.* Effects of Transcendental Meditation on mental health: a before-after study. *Clin Pract Epidemiol Ment Health* **4,** 25 (2008). https://doi.org/10.1186/1745-0179-4-25
63. *21*(6), 364–369. https://doi.org/10.1089/acm.2015.0070