



KNOWLEDGE, ATTITUDE, AWARENESS, AND PREVALENCE OF LIFESTYLE PROBLEMS AMONG UNDERGRADUATES AT THE RISK OF POLYCYSTIC OVARIAN DISORDER (PCOD)

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ABSTRACT

Introduction: Polycystic ovarian disorder (PCOD) is a condition of hormonal imbalance that disrupts the normal fertility cycle in women, causing them lifestyle problems such as acne, hirsutism, alopecia, and metabolic issues. But it is such that lifestyle changes in one's day-to-day life can lead to the reversal of the symptoms being caused by PCOD, due to which identifying the symptoms, which are the lifestyle problems is so necessary. With regards to the prevalence of PCOD and associated mental and physical as well as the effects of changes in sex hormones in the development of this disease, we aim to check the symptoms and do lifestyle interventions. **Aims & Objectives:** This research aims to find out the Knowledge, Attitude, Awareness, and Prevalence (KAAP) of PCOD-caused lifestyle problems among undergraduates. **Material & Methods:** A self-reported Google questionnaire form with 15 questions was employed among the 123 female undergraduate medical students. **Result:** Our Study revealed critical insights into the challenges faced by young women with PCOD. Despite the high prevalence of PCOD symptoms in the sample, many participants demonstrated insufficient awareness and knowledge about the disorder, which can lead to delays in diagnosis and treatment. The findings also highlight the impact of lifestyle factors, such as poor eating habits, irregular sleep patterns, and difficulty managing weight, which exacerbate the symptoms of PCOD.

KEYWORDS : PCOD, Hormonal imbalance, Undergraduates, Lifestyle problems

INTRODUCTION

Menstruation is an important milestone in any female's development. It marks a time of change, of transition from childhood to adulthood. During this time, any imbalance in the body can lead to a variety of disorders of the female reproductive system.

Polycystic ovarian disorder (PCOD) is a common endocrine disorder that affects several women, especially during their reproductive years. It is a symptom complex arising due to anovulation, leading to a range of reproductive and metabolic issues [1,2]. Beyond the reproductive concerns caused due to PCOD, it also manifests in a variety of lifestyle-related challenges including acne, excessive hair growth (hirsutism), hair thinning or alopecia, and significant struggles with weight gain and obesity [3,4].

Acne is a common skin condition associated with PCOD as due to the overproduction of androgens there is an increase in sebum production, clogging skin pores and contributing to the development of acne. Women with PCOD often experience persistent, severe acne, particularly on the face, chest, and back [5].

This type of acne is typically resistant to standard treatments because it is hormonally driven. Hirsutism refers to the excessive growth of dark, coarse hair in areas where women typically have minimal hair, such as the face, chest, and back is a condition occurs that due to an imbalance in hormones, particularly the increased production of androgens, which stimulate hair growth in a male-pattern distribution. PCOD causes more severe forms of hirsutism in the patients involved [6].

It can also lead to alopecia, which is a common but distressing symptom for many women. The hormonal imbalance in PCOD, particularly elevated levels of androgens, can cause androgenic alopecia, a condition where hair thins primarily at the crown and temples. This type of hair loss occurs because androgens shrink hair follicles, leading to shorter hair growth cycles and thinner, more fragile hair strands [7].

PCOD and obesity are often closely linked, as many women with PCOD struggle with weight gain and difficulty losing weight. The hormonal imbalances associated with PCOD, especially elevated insulin levels, can lead to insulin resistance, making it harder for the body to regulate blood sugar [8]. This causes the body to store more fat, particularly around the abdomen, leading to obesity. Additionally, the hormonal disruption affects metabolism, further contributing to weight gain. Obesity can exacerbate PCOD symptoms, including irregular periods, fertility issues, and an increased risk of conditions

like type 2 diabetes [9].

These symptoms can have a profound impact on a woman's physical and emotional well-being, affecting their confidence, self-esteem, and overall quality of life. While the condition has no definitive cure, it is increasingly recognized that lifestyle modifications—such as adopting a balanced diet, engaging in regular physical activity, and managing stress—can significantly mitigate the symptoms and, in some cases, help reverse the hormonal imbalances caused by PCOD. Therefore, early identification of the symptoms is crucial for managing the disorder effectively [10,11].

Given the increasing prevalence of PCOD and its impact on women's lives, especially among young adults, it becomes imperative to understand how well-informed this population is about the condition [12]. This research aims to explore the Knowledge, Attitude, Awareness, and Prevalence of lifestyle problems associated with PCOD among undergraduate students. By examining their level of awareness about the disorder and their attitudes toward managing its symptoms, this study seeks to ultimately contribute to more effective strategies for promoting better health outcomes for women with PCOD.

MATERIAL & METHODS

Participants: The study involves 123 female undergraduate medical students.

Questionnaire Development: A comprehensive questionnaire was developed based on the common lifestyle problems that result from PCOD. It covers variables such as knowledge, attitude, awareness, and prevalence of PCOD among the students.

Data Collection: Data collection was conducted via a pre-validated questionnaire containing relevant questions like dietary habits, physical activity level, and the presence of signs or symptoms of PCOD. The questionnaire was distributed to the participants via close groups, and they were requested to complete it within a specified time frame. The data collection form contained details on demographics, and anthropometric measurements including height, and weight) and detailed responses to the questionnaire. All participants in the study completed the data collection at a predetermined time.

Data Analysis: Descriptive statistics such as percentages will then be calculated to summarize the data. The analysis will provide rich insights into participants' KAAP about PCOD.

Exclusion Criteria:

1. Students who are on medications for irregular periods
2. Students on oral hypoglycaemic drugs
3. Students who are married or pregnant

RESULTS

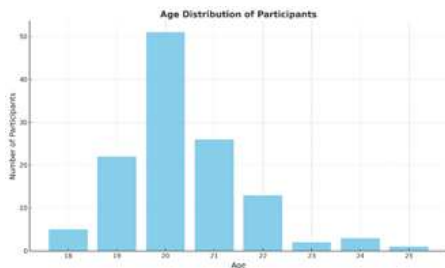
This section presents the findings of the study on the knowledge, attitude, awareness, and prevalence of lifestyle problems among undergraduates at risk of polycystic ovarian disorder (PCOD). The results are structured to address the study's key objectives, providing a detailed analysis of participants' levels of understanding, perceptions, and behaviours related to PCOD, as well as the prevalence of associated lifestyle risk factors.

Quantitative data from the survey and clinical assessments are supplemented with visual representations to highlight significant trends and patterns.

1] Demographic Information

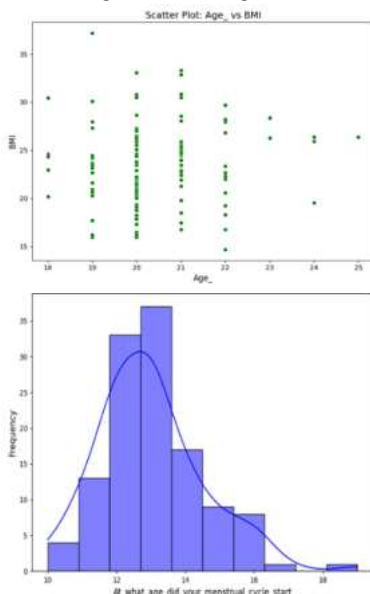
The age distribution of 123 participants shows a predominant concentration in the 20-year age group, which forms the majority. Ages 21 and 19 are the next most common. The data spans 18 to 25 years, highlighting a sample primarily composed of young adults in late adolescence to early adulthood.

The scatter plot depicts the relationship between age (18–25 years) and BMI (15–35). Normal BMI values, as defined by the World Health Organization, range from 18.5 to 24.9, but many participants fall outside this range. Higher BMI values, particularly those in the overweight or obese categories, may be linked to conditions such as PCOD, which is commonly associated with weight-related issues in young adults.



2] Age of Menarche

The data shows that most participants experienced the onset of menarche between the ages of 12 and 14, mostly at 13. There were very few participants reporting menarche before the age of 11 or after 15. The age of menarche is closely linked to PCOD, with early onset (before 12) increasing the risk due to prolonged exposure to hormonal fluctuations. This early hormonal activity can contribute to irregular cycles and the development of PCOD symptoms later in life. Understanding this correlation helps identify individuals at higher risk and allows for earlier diagnosis and management.

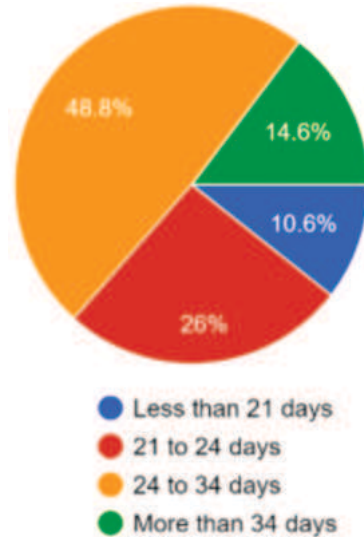


3] Duration Of Their Last Period Cycle And Keeping Track

48.8% of participants had their cycles last 24 to 34 days 26% had cycles of 21 to 24 days, 14.6% said more than 34 days, and 10.6% said less than 21 days.

The duration of the last menstrual cycle is crucial for identifying irregularities, especially in individuals with PCOD. Cycles shorter than 21 days or longer than 34 days often indicate hormonal imbalances or ovulatory issues, which are hallmark symptoms of PCOD and require medical attention.

74.8% of the people said yes to tracking their cycles, 17.9% people said they do sometimes while 7.3% of them said they do not.



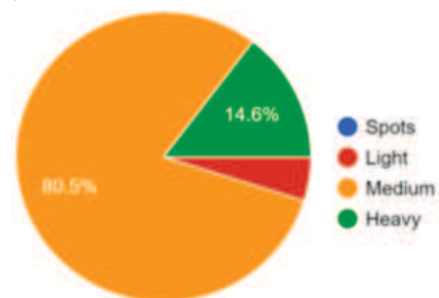
5] PCOD Prevalence And Awareness

76.4% of participants reported not having PCOD, though 2.4% were unaware of their condition. Meanwhile, 23.6% acknowledged having PCOD, with 4.1% expressing limited knowledge about it. These findings highlight the prevalence of PCOD and reveal gaps in awareness, underscoring the need for better education and resources to promote understanding and early diagnosis.

6] Nature Of Blood Flow

In 80.5% flow is medium, 14.6% said it was heavy, and 4.9% said it was light. There was no report of spotting.

The nature of blood flow during menstruation is often correlated with PCOD, as individuals with PCOD commonly experience heavy, irregular, or scanty bleeding due to hormonal imbalances and disrupted ovulation.



7] Association Of Pain With Periods

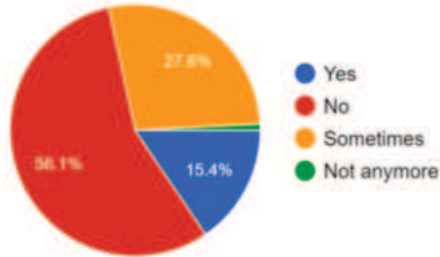
90.2% of the participants experienced pain with periods and when asked how frequently the pain occurs 21.9% said they experience pain all the time, 29.8% said they experience the pain often, 34.2% experience it sometimes while 14% experience it rarely.

Painful periods, or dysmenorrhea, are common in individuals with PCOD due to hormonal imbalances, irregular ovulation, and associated conditions like endometriosis. These cramps can range from mild discomfort to severe pain, significantly impacting daily activities and quality of life.

And when inquired about if they take any medication for this pain they

are experiencing, 56.1% of them said no and only 15.4% of them said yes, while 27.6% only take it sometimes.

People with period pain who avoid medication often endure unnecessary discomfort, which can impact their productivity and mental health. This reluctance may stem from fear of side effects, lack of access, or limited awareness of safe pain management options.



8| Sleep & PCOD

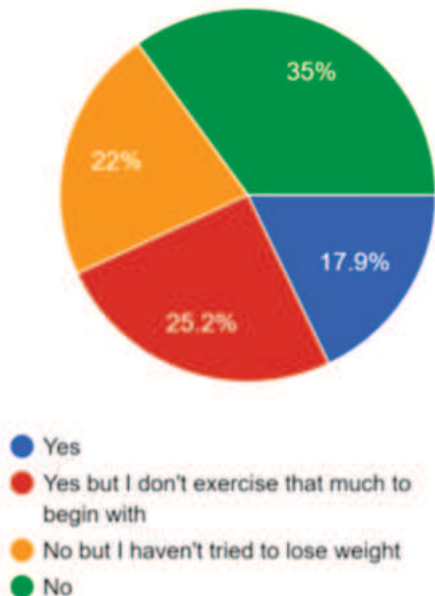
Inquiring about the sleep patterns of the participants, 65.9% of them receive 6 to 8 hours of sleep every day, 19.5% have less than 6 hours, 4.9% have more than 8 hours and 9.8% of them have variable amounts. PCOD can disrupt sleep patterns due to hormonal imbalances, leading to insomnia or poor-quality sleep. Poor sleep, in turn, can exacerbate symptoms like fatigue, mood swings, and weight gain, creating a cycle that affects overall health.

9| Involvement Of A Healthcare Professional

Among those who visited, 64% were prescribed medication, but only 12% adhered to the prescribed regimen regularly. This low adherence could be due to a lack of awareness about the importance of consistent medication for managing their condition. Additionally, some individuals may have underestimated the severity of their symptoms or preferred alternative treatments, further contributing to irregular medication intake.

10| Eating Habits, Weight & PCOD

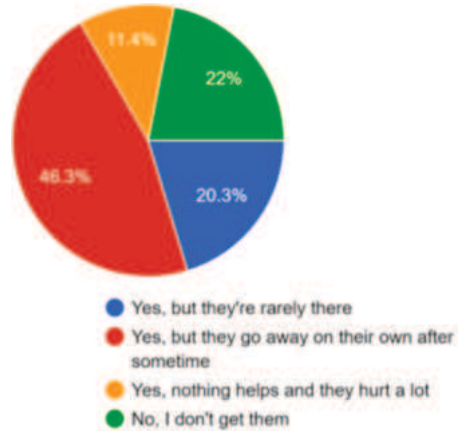
Participants were asked if they had trouble losing weight, with 17.9% agreeing they had trouble. Additionally, 25.2% acknowledged having difficulty but also mentioned they didn't exercise much to begin with. On the other hand, 35% reported not having weight loss issues, while 22% stated they hadn't attempted to lose weight yet.



PCOD often leads to difficulty in weight loss due to hormonal imbalances, such as insulin resistance and elevated androgen levels, which can increase fat storage and reduce the body's ability to burn calories effectively. This makes it harder for individuals with PCOD to lose weight despite regular diet and exercise efforts, requiring specialized management strategies to address these underlying metabolic challenges.

11| Acne/Pimple Problems with PCOD

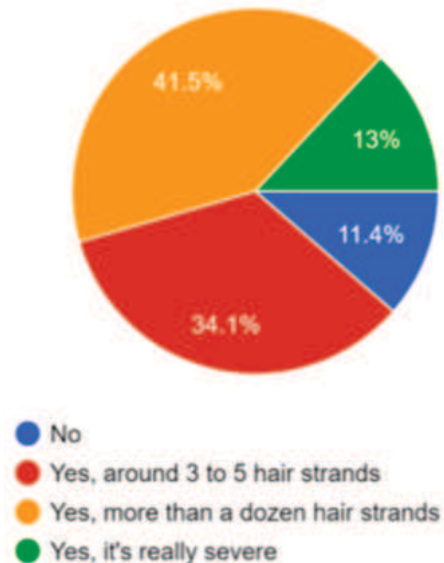
When asked about acne or pimple problems, 46.3% of participants reported experiencing them, but manage on their own at times. 20.3% said they face acne rarely, while 11.4% reported persistent acne that is difficult to treat and painful. 22% stated they don't experience acne. These responses highlight the varying severity and persistence of acne among individuals, with many struggling to manage symptoms on their own, which could be linked to hormonal imbalances commonly seen in PCOD.



12| Hair Fall Issues With PCOD

Since hair fall is a significant lifestyle issue, we asked participants if they experience it. 41.5% reported losing more than a dozen hairs, while 34.1% experienced the loss of only 3 to 5 strands. Additionally, 13% reported severe hair loss, and 11.4% stated they don't experience hair fall.

These responses highlight the widespread issue of hair fall, which is common in PCOD due to hormonal imbalances, and further emphasize the need for targeted interventions and awareness.



DISCUSSIONS

Our study revealed a significant lack of awareness about Polycystic Ovary Disorder (PCOD) among participants, despite its high prevalence within the sample. This critical gap in understanding extends to the symptoms, long-term implications, and necessary management strategies for the condition. Supporting this finding, research by Teede et al. (2018) [13] indicates that poor awareness and delayed diagnosis are common, often resulting in postponed treatment and exacerbation of reproductive and overall health issues.

A prominent observation was the prevalence of irregular menstrual cycles, a hallmark symptom of PCOD. This finding aligns with Azziz et al. (2004) [14], who demonstrated that hormonal imbalances in PCOD contribute to irregular cycles, heavy or prolonged bleeding, and other menstrual disturbances. Another concerning insight was the widespread reporting of menstrual pain, with many participants refraining from seeking medical treatment. This reluctance is

troubling, as untreated menstrual pain can contribute to heightened stress, anxiety, and diminished quality of life. Cherlin T. et al. (2024) [15] identified factors such as fear of side effects, financial barriers, and limited understanding of the long-term benefits of treatment as significant contributors to medication non-adherence.

Furthermore, a substantial number of participants had never consulted a gynaecologist for evaluation or management of their symptoms or had not followed professional advice. This lack of engagement highlights a gap in awareness about the importance of specialized care and potential dissatisfaction with the healthcare experience. Similar findings were reported by Blackshaw LCD et al. (2019) [16], who noted delays in seeking medical help among individuals with PCOD due to these barriers.

Sleep disturbances were also widely reported, with many participants struggling to maintain regular sleep patterns. Fernandez RC et al. (2018) [17] have linked PCOD to sleep disorders such as insomnia and poor sleep quality, exacerbated by hormonal imbalances, stress, and metabolic disturbances. These disruptions create a vicious cycle, worsening other PCOD-related symptoms and impacting daily functioning. Weight management emerged as another significant challenge, with many participants struggling to achieve desired results despite efforts to maintain diet and exercise regimens. Gambineri A. et al. (2002) [18] highlighted the association between PCOD and weight gain, attributing it to hormonal imbalances and metabolic dysfunctions. Additionally, poor dietary habits, as identified by Farshchi H. et al. (2007) [19], further compound these challenges. Diets high in refined sugars and unhealthy fats are linked to insulin resistance, increased androgen levels, and worsening PCOD symptoms.

Lastly, acne and hair fall were prevalent concerns among participants. Elevated androgen levels, commonly seen in PCOD, contribute to oily skin, acne, and hair thinning, as supported by findings from Enrico Carmina et al. (2020) [4]. Beyond physical symptoms, these issues can significantly impact self-esteem and emotional well-being.

CONCLUSIONS

In conclusion, this study on the knowledge, attitude, awareness, and prevalence of lifestyle problems among undergraduates at risk of Polycystic Ovarian Disorder (PCOD) reveals critical insights into the challenges faced by young women with this condition. Despite the high prevalence of PCOD symptoms in the sample, many participants demonstrated insufficient awareness and knowledge about the disorder, which can lead to delays in diagnosis and treatment. The findings also highlight the impact of lifestyle factors, such as poor eating habits, irregular sleep patterns, and difficulty managing weight, which exacerbate the symptoms of PCOD. Furthermore, a significant number of participants refrained from seeking medical advice or adhering to prescribed treatments, which could contribute to long-term health complications.

These results emphasize the need for increased awareness and education about PCOD, particularly in the university setting, where young women are at a higher risk. By improving knowledge and access to care, we can better support individuals at risk of PCOD and promote healthier lifestyles, ultimately improving their overall well-being and quality of life.

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Conflict Of Interest

The authors declare no conflicts of interest.

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