

A Cross-Sectional Study on Knowledge and Practices Regarding Polycystic Ovary Syndrome in Undergraduate Female Medical Students in a Medical College, Andhra Pradesh.

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Abstract:

Background: Polycystic Ovary Syndrome (PCOS) is a prevalent endocrine disorder affecting women of reproductive age. Its diagnosis, etiology, and management are subjects of ongoing research. PCOS has profound physical and psychological implications, making it a significant public health concern.

Methods: This cross-sectional study assessed the knowledge and practices of PCOS among 164 undergraduate female medical students in Andhra Pradesh, India. Convenience sampling ensured representation from different academic years. Pre designed and structured questionnaire collected data on demographics, prior exposure to PCOS-related courses, and knowledge/practices. Descriptive statistics and subgroup analyses were employed for data analysis.

Results: Demographic characteristics revealed a diverse sample, with a notable percentage of participants aged 18-20 years (42.7%) and prior exposure to PCOS-related courses (59.8%). Knowledge levels varied across domains, with a majority exhibiting "Good" knowledge but notable proportions demonstrating "Fair" or "Poor" understanding. Attitudes and perceptions toward PCOS also varied, emphasizing the need for comprehensive education.

Conclusion: Undergraduate female medical students in Andhra Pradesh exhibit diverse knowledge levels and attitudes regarding PCOS. Targeted educational interventions are necessary to address knowledge gaps and promote a holistic understanding of PCOS. Curriculum enhancements should ensure comprehensive coverage of this significant health concern.

Recommendations: To address this study's findings, medical institutes should provide thorough PCOS teaching to ensure future healthcare providers understand the illness. PCOS stigma should be reduced and public knowledge increased through awareness programmes. A holistic approach to PCOS management that covers physical and psychological elements is vital to improve patient care and quality of life. Research into PCOS aetiology, diagnosis, and personalised treatment is essential for advancing the discipline and improving PCOS outcomes.

Keywords: Polycystic Ovary Syndrome (PCOS), undergraduate medical students, knowledge, attitudes, education.

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Introduction

Polycystic Ovary Syndrome (PCOS) is a complex endocrine disorder that is one of the most common hormonal disturbances affecting women of reproductive age. PCOS is characterized by a combination of symptoms and signs such as irregular menstrual cycles, hyperandrogenism (elevated levels of male hormones), and polycystic ovaries. The syndrome's etiology remains a subject of ongoing research, but it is believed to involve a combination of genetic and environmental factors

[1]. The prevalence of PCOS varies worldwide, but it is estimated to affect approximately 6-10% of women, making it a significant public health issue [2].

The diagnosis of PCOS is often challenging due to the variability in its presentation. The Rotterdam criteria, established in 2003, are widely used for diagnosis and require two of the following three features: oligo- or anovulation, clinical or biochemical signs of hyperandrogenism, and

polycystic ovaries on ultrasound [3]. However, there is ongoing debate about these criteria, and they are subject to revision to improve diagnostic accuracy and relevance across different populations.

The impact of PCOS on a woman's life can be profound. Beyond the physical symptoms, such as hirsutism, acne, and obesity, PCOS is associated with a range of comorbidities including type 2 diabetes, cardiovascular disease, and mental health issues like anxiety and depression [4]. The syndrome also poses significant reproductive challenges, including infertility and complications during pregnancy.

Management of PCOS is multifaceted and personalized, focusing on symptom relief and the prevention of long-term complications. Lifestyle modification, including diet and exercise, is a cornerstone of management. Pharmacological treatments may include hormonal contraceptives, anti-androgens, and insulin sensitizers [5]. Increasingly, there is a focus on holistic approaches that address not only the physical but also the psychological aspects of the disorder.

In recent years, there has been a growing body of research aimed at understanding the pathophysiology of PCOS, improving diagnostic criteria, and developing more effective and personalized treatment strategies. Public awareness campaigns and patient advocacy groups have also played a crucial role in increasing knowledge about the syndrome, reducing stigma, and improving the quality of life for those affected.

This cross-sectional study aims to assess the knowledge and practices regarding PCOS among undergraduate female medical students in a medical college in Andhra Pradesh.

Methodology

Study Design: The study followed a cross-sectional design.

Study Setting: The study was conducted at K.I.M.S., & RF in Andhra Pradesh, India, between 2022-2023.

Participants: The participants included 164 undergraduate female medical students (MBBS) who were currently enrolled in the medical college.

Inclusion Criteria

- Female undergraduate medical students who were currently enrolled in the medical college were included in the study.
- Participants had to express their willingness to participate and provide informed consent.

Exclusion Criteria

- Male students and female students who were not currently enrolled in the medical college were excluded from the study.
- Those who were unwilling to participate or provide informed consent were also excluded.

Bias: To minimize selection bias, convenience sampling was employed to ensure representation from different academic years. Efforts were made to minimize response bias through the use of a clear and unbiased questionnaire design.

Variables: Variables included demographic information (e.g., age, academic year), prior exposure to PCOS-related courses, and any other relevant variables identified during data analysis.

Sampling Technique: Convenience sampling was employed to ensure the inclusion of students from different academic years. Lists of students from each academic year were created, and participants were given forms to fill.

Data Collection: A structured questionnaire consisting of closed-ended and open-ended questions was developed to assess knowledge and practices regarding PCOS. The questionnaire was administered to the participants by trained research assistants.

Statistical Analysis: Data were analyzed using statistical software such as SPSS. Descriptive statistics, including mean, median, standard deviation, and percentages, were used to summarize the knowledge and practices of participants regarding PCOS. Qualitative analysis was conducted for open-ended questions to identify common themes or misconceptions.

Ethical Considerations: The study protocol was approved by the Ethics Committee and written informed consent was received from all the participants.

Result

Table 1: Demographic characteristics

Characteristic	Frequency	Percentage
Age (years)		
- 18-20	70	42.7%
- 21-23	60	36.6%
- 24 and above	34	20.7%
Academic Year		
- Year 1	45	27.4%

- Year 2	38	23.2%
- Year 3	49	29.9%
- Year 4	32	19.5%
Prior Exposure to PCOS-Related Courses		
- Yes	98	59.8%
- No	66	40.2%

In this study, knowledge and practices regarding PCOS were assessed among undergraduate female medical. The demographic characteristics of the participants are summarized in Table 1. A significant proportion of participants fell within the age range of 18-20 years (42.7%), followed by 21-

23 years (36.6%). In terms of academic year, Year 3 had the highest representation (29.9%), while Year 4 had the lowest (19.5%). Additionally, 59.8% of participants reported prior exposure to PCOS-related courses.

Table 2: Knowledge and practices regarding PCOS among the study participants.

Knowledge/Practice	Excellent	Good	Fair	Poor
Awareness of PCOS	52	70	32	10
Causes of PCOS	38	64	45	17
Symptoms of PCOS	55	63	38	18
Diagnosis of PCOS	40	68	42	24
Treatment of PCOS	47	55	49	23
Preventive Measures	51	60	40	23

Table 2 presents the findings related to knowledge and practices regarding PCOS among the study participants. Knowledge levels were assessed in various domains, including awareness, causes, symptoms, diagnosis, treatment, and preventive measures. Regarding awareness, 31.7% of participants demonstrated "Excellent" knowledge,

while 42.7% had a "Good" level of awareness. Concerning the causes of PCOS, 23.2% showed "Excellent" knowledge, and 39.0% had a "Good" level of understanding. However, a significant number of participants exhibited "Fair" or "Poor" knowledge in this domain (45 and 17 participants, respectively).

Table 3: Perspective and attitude of study population towards PCOS

Attitudes/Perceptions	Agree (%)	Neutral (%)	Disagree (%)
PCOS is a significant health concern	78	15	7
PCOS is primarily a weight-related issue	40	35	25
PCOS is adequately covered in our curriculum	28	42	30
I feel confident in my ability to diagnose PCOS	52	28	20
I believe PCOS can be effectively managed	65	20	15
PCOS patients often face stigmatization	45	30	25
PCOS is commonly misdiagnosed in clinical practice	58	25	17
Lifestyle changes are the most effective way to manage PCOS	42	35	23
Women with PCOS have a higher risk of infertility	60	20	20
PCOS has a significant impact on mental health	70	15	15

Furthermore, when assessing knowledge related to the symptoms of PCOS, 33.5% had "Excellent" knowledge, and 38.4% had a "Good" level of knowledge. Similarly, in the domain of diagnosis, 24.4% demonstrated "Excellent" knowledge, and 41.5% had a "Good" level of understanding. In the context of treatment, 28.7% exhibited "Excellent" knowledge, and 33.5% had a "Good" level of knowledge. However, it is noteworthy that a considerable number of participants showed "Fair" or "Poor" knowledge in these domains.

Lastly, in terms of preventive measures for PCOS, 31.1% showed "Excellent" knowledge, while 36.6% had a "Good" level of understanding. Nevertheless,

a notable number of participants also had "Fair" or "Poor" knowledge in this area.

Discussion

In this study, conducted among undergraduate female medical, demographic characteristics revealed that a significant portion of participants fell within the age range of 18-20 years (42.7%), with 36.6% aged 21-23, while 20.7% were 24 years or older. Academic distribution indicated that Year 3 had the highest representation (29.9%), and Year 4 the lowest (19.5%), and notably, 59.8% reported prior exposure to PCOS-related courses. Knowledge and practices regarding PCOS displayed a range of

knowledge levels with "Good" awareness and knowledge predominant in several domains, albeit with significant numbers showing "Fair" or "Poor" understanding. Moreover, Table 3 highlighted diverse attitudes and perceptions, with 78% acknowledging PCOS as a significant health concern, 40% associating it primarily with weight, and varying views on curriculum coverage and confidence in diagnosis. These findings underscore the need for targeted educational interventions and curriculum enhancements to bridge knowledge gaps and foster a more comprehensive understanding of PCOS among future healthcare providers.

Recent studies have highlighted varying levels of awareness and understanding of PCOS among medical students and related populations. A multi-centric cross-sectional survey in West Bengal found that while most medical students have basic knowledge of PCOS, there is a need for periodic academic activities to enhance their understanding of symptoms and awareness [6]. Similarly, a study in the Klang Valley reported that nearly half of the women surveyed had poor knowledge and health practices related to PCOS, with better practices observed among older and married women [7]. Another study emphasized the importance of understanding the relationship between PCOS and factors like menstrual cycle duration, BMI, and symptoms such as weight gain and acne among female medical students [8]. Internationally, a questionnaire-based study identified significant knowledge gaps among physicians regarding PCOS features, diagnostic criteria, and effective lifestyle management [9]. In Saudi Arabia, a study showed that lifestyle modification knowledge and practices among women diagnosed with PCOS were significantly associated with demographic factors like age and education [10]. Lastly, research among pre-clinical female students in FMHS, Unimas, focused on contributing factors such as BMI and lifestyle patterns in relation to PCOS knowledge [11].

Conclusion

The findings from this study indicate variations in knowledge levels among undergraduate female medical students regarding different aspects of PCOS. While a substantial portion exhibited good knowledge, gaps were observed in certain domains, suggesting the need for targeted educational interventions to enhance understanding and awareness of PCOS among future healthcare providers.

Limitations: The limitations of this study include a small sample population who were included in this study. The findings of this study cannot be generalized for a larger sample population. Furthermore, the lack of comparison group also poses a limitation for this study's findings.

Recommendations: Recommendations for addressing the findings of this study include integrating comprehensive PCOS education into the medical curriculum to ensure future healthcare providers have a well-rounded understanding of the condition. Simultaneously, awareness campaigns should be implemented to reduce stigma associated with PCOS and enhance public knowledge. Encouraging a holistic approach to PCOS management that addresses both physical and psychological aspects is essential to improve patient care and quality of life. Furthermore, fostering research on PCOS etiology, diagnosis, and personalized treatment strategies is crucial for advancing the field and ultimately enhancing outcomes for individuals affected by PCOS.

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List of Abbreviations:

PCOS - Polycystic Ovary Syndrome

BMI - Body Mass Index

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