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Article

Knowledge, Attitude and Practice On Polycystic Ovary Syndrome Among Female Medical Student

Article History:

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Abstract: **Introduction**: Polycystic Ovarian Syndrome (PCOS) is a prevalent endocrine and metabolic disorder that affects women of reproductive age, typically between 15 and 49 years. The condition arises from a combination of genetic, environmental, and lifestyle factors, although its exact cause remains unclear. **Aim**: To assess the knowledge, attitude, and practice regarding polycystic ovary syndrome among female medical students. Methodology: This institution-based cross-sectional study was conducted to assess the knowledge, attitude, and practice regarding polycystic ovary syndrome (PCOS) among female medical students. The study was carried out at Sardar Patel Medical College and A.G. of Hospital, Bikaner. Result: In our study, most participants had average KAP scores (63%), with strong positive associations between knowledge, attitude, and practice ($p<0.005$). While knowledge and attitudes were generally high, practice scores lagged behind. This highlights the need for targeted interventions to help translate knowledge into effective PCOS management behaviors. **Conclusion**: The study concludes that enhancing PCOS knowledge among female medical students can foster positive attitudes and improve management practices. Focused educational interventions are essential for effective long-term PCOS care.

Keywords: Knowledge, attitude, practice, PCOS.

INTRODUCTION

Polycystic Ovarian Syndrome (PCOS) is a prevalent endocrine and metabolic disorder that affects women of reproductive age, typically between 15 and 49 years. The condition arises from a combination of genetic, environmental, and lifestyle factors, although its exact cause remains unclear.[1] PCOS is characterized by hormonal imbalances, including hyperinsulinemia and hyperandrogenism, which disrupt the menstrual cycle and lead to the formation of ovarian cysts. Globally, PCOS affects approximately 5% to 18% of women of reproductive age and about 3% to 11% of adolescents. Between 2007 and 2017, the number of women affected rose to 1.55 million, with 0.43 million experiencing disability-adjusted life years (DALYs)[2]. The disorder may begin around menarche but is most commonly diagnosed in women aged 20 to 24 years, placing university students at a higher risk.Despite this risk, studies have shown that most university students lack awareness and have unsatisfactory knowledge about PCOS. Many are unaware of the symptoms and do not recognize the need for medical intervention until complications arise. This lack of awareness often results in delayed diagnosis and poor health outcomes.[3] According to the Rotterdam Criteria, a PCOS diagnosis requires two of the following: clinical or biochemical hyperandrogenism, ovulatory dysfunction (amenorrhea or irregular cycles), and polycystic ovaries on ultrasound. The 2023 ESHRE guidelines emphasize a more evidence-based approach, recommending ultrasound or anti-mullerian hormone (AMH) testing only when irregular cycles and hyperandrogenism are absent. In adolescents, both hyperandrogenism and ovulatory dysfunction must be present for diagnosis, with ultrasound and AMH not recommended due to poor specificity.Once diagnosed, PCOS must be managed holistically, addressing reproductive, metabolic, dermatological, cardiovascular, psychological, and sleep-related complications. PCOS is the leading cause of anovulatory infertility due to ovulation disruptions

caused by hyperandrogenism[4]. Additionally, it increases the risk of endometrial cancer, type 2 diabetes, obesity, hypertension, dyslipidemia, and cardiovascular diseases. Mental health is also significantly affected, with higher incidences of anxiety, depression, low self-esteem, and eating disorders reported, which in turn diminish quality of life. Due to these wide-ranging effects, PCOS should be considered a lifelong condition requiring comprehensive and individualized care.Management strategies include lifestyle modifications, weight control, and pharmacological treatments tailored to symptom severity and fertility desires[5]. These may involve hormonal contraceptives for menstrual regulation, anti-androgens for hirsutism, and insulin-sensitizing agents like metformin. Early diagnosis is crucial to prevent complications and allow timely lifestyle adjustments. However, a concerning number of university students underestimate the seriousness of PCOS, often delaying medical consultation until symptoms become severe[6]. This negligence stems from a belief that the symptoms are not serious or require attention, leading to poor health-seeking behavior and attitudes toward treatment.Given the rising prevalence of PCOS and its impact on multiple aspects of health, particularly among university-aged women, it is vital to explore their knowledge, attitudes, and practices regarding the disorder.[7] This is further underscored by the researcher's personal experience, as both the researcher and close friends have been diagnosed with PCOS[8]. Therefore, this study aims to bridge the knowledge gap and improve awareness and attitudes among female undergraduate students, encouraging timely diagnosis, effective management, and better quality of life.[9]

AIM

To assess the knowledge, attitude, and practice regarding polycystic ovary syndrome among female medical students.

METHODOLOGY

This institution-based cross-sectional study was conducted to assess the knowledge, attitude, and practice regarding polycystic ovary syndrome (PCOS) among female medical students. The study was carried out at Sardar Patel Medical College and A.G. of Hospital, Bikaner. The study duration spanned from the approval of the research plan by the ethical committee until the completion of data collection. The study population comprised female medical students enrolled at the aforementioned institutions. Inclusion criteria for participation in the study included female students currently studying at Sardar Patel Medical College and A.G. of Hospital, Bikaner, who were above 17 years of age and willing to participate. Students were excluded if they refused to give consent, were male, or were above the age of 40 years.

RESULT

Table 1. Age distribution of the study population

Age Range (in years)	Number	Percentage
18 – 20 years	121	40.33
21 – 23 years	147	49.00
24 – 26 years	32	10.67
Grand Total	300	100.00
Mean ± SD	23.1 ± 5.41	

In our study, the age of study population ranged between 18 to 26 years. The most commonly observed age group was between 21 -23 years with 49.00% cases, followed by 18-20 years with 40.33% cases, and lastly, 24-26 years with 10.67% cases. Mean age of study population was 23.1 ± 5.41 yr.

Table 2: Distribution of study population according to Menstrual history

Menstrual H/O	Number	Percentage
Regular	218	72.67
Irregular	82	27.33
Total	300	100.00

A majority of subjects 72.67% had regular cycle while the remaining 27.33% had irregular menstrual cycles.

Table 3: Distribution of cases according to knowledge score

Knowledge score	Number of patients	Percentage
0 – 5	7	2.33
6 – 10	34	11.33
11 – 15	48	16.00
16 – 20	211	70.33
Grand Total	300	100.00
Mean ± SD	16.1 ± 2.8	

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The knowledge score of cases was graded between 0-20. A detailed analysis of the knowledge section of the questionnaire revealed that 2.33% had a score of 0-5, 11.33% had a score of 6-10, 16.00% had a score of 11-15, while a majority of cases, 70.33%, had a score of 16-20. Mean knowledge score was 16.1 ± 2.8.

Table 4: Distribution of cases according to attitude score

Attitude score	Number of patients	Percentage
0 – 10	12	4.00
11-20	85	28.33
21-30	203	70.33
Grand Total	300	100.0%
Mean ± SD	22.36 ± 5.42	

The attitude score of cases was graded between 0-30. A detailed analysis of the attitude section of the questionnaire revealed that 4.00% had a score of 0- 10 and 28.33% had score of 11-20 while a majority of cases, 70.33%, had a score of 21-30. Mean attitude score was 22.36 ± 5.42.

Table 5: Distribution of cases according to practice score

Practice score	Number of patients	Percentage
0 – 10	14	4.67
11-20	211	70.33
21-30	75	25.00
Grand Total	300	100.0%
Mean ± SD	17.78 ± 3.52	

The practice score of cases was graded between 0-30. A detailed analysis of the practice section of the questionnaire revealed that 4.67% had a score of 0-10, 70.33% had a score of 11-20, while 25.00% subjects had a score of 21-30. Mean score was 17.78 ± 3.52.

Table 6: KAP score of cases

KAP score	No. of patients	Percentage
Poor	38	12.67
Average	189	63.00
Good	73	24.33
Total	300	100%

Finally, a composite analysis of the KAP score revealed that 12.67% had a poor KAP score, 63.00% had an average KAP score while the remaining 24.330% had a good KAP score.

Table 7: Knowledge and attitude

Attitude towards PCOS	Knowledge towards PCOS			
	Poor	**Average**	**Good**	**P value**
Poor	22	2	0	
Average	8	151	19	
Good	0	28	70	0.0001*

In our study, a maximum of 22 cases with poor knowledge had poor attitude towards PCOS, average knowledge 151 cases had average attitude and good knowledge 70 cases had good attitude. The association between knowledge and attitude was found to be statistically significant. ($p<0.005$)

Table 8: Knowledge and practice

Practice towards PCOS	Knowledge towards PCOS			
	Poor	**Average**	**Good**	**P value**
Poor	26	11	3	
Average	4	160	39	
Good	0	10	47	0.0001*

In our study maximum 26 cases with poor knowledge had poor practice towards PCOS, average knowledge 160 cases had average practice and good knowledge 47 cases had good practice. The association between knowledge and practice was

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found to be statistically significant. (p<0.005)

Table 9: attitude and practice

Practice towards PCOS	Attitude towards PCOS			
	Poor	**Average**	**Good**	**P value**
Poor	20	16	4	
Average	4	153	46	
Good	0	9	48	0.0001

In our study maximum 20 cases with poor attitude had poor practice towards PCOS, average attitude 153 cases had average practice and good attitude 48 cases had good practice. The association between attitude and practice was found to be statistically significant. (p<0.005)

DISCUSSION

Ovaries are bilateral gonadal organs of female reproductive systems possessing an anatomic location at the pelvic region. Being a dynamic organ, it is exposed to many hormonal substrates and also centrally controlled by axis mechanisms (hypothalamo-pituitary-ovarian axis). It has been observed that incidence of non-neoplastic lesions of the ovary dominates more than its counterpart neoplastic lesions owing to many underlying aetiologies.

In our study, the age of study population ranged between 18 to 26 years. The most commonly observed age group was between 21 -23 years with 49.00% cases, followed by 18-20 years with 40.33% cases, and lastly, 24-26 years with 10.67% cases. Mean age of study population was 23.1 ± 5.41 yr. Similarly Jahnavi Nallavothu et al. (2024)[10] conducted a study on three hundred eighty-two female adolescents. The mean age was 18.19 years (±0.92 SD).

A majority of subjects 72.67% had a regular cycle while the remaining 27.33% had irregular menstrual cycles.
In our study, the knowledge score of cases was graded between 0-20. A detailed analysis of the knowledge section of the questionnaire revealed that 2.33% had a score of 0-5, 11.33% had a score of 6-10, 16.00% had a score of 11-15, while a majority of cases, 70.33%, had a score of 16-20. Mean knowledge score was 16.1 ± 2.8. Accordingly, we found that 10.00% of subjects had poor knowledge, 60.33% had average knowledge and the remaining 29.67% had good knowledge. Similarly Jahnavi Nallavothu et al. (2024)[10] found that over 89% of participants demonstrated good knowledge across various PCOS domains.

In our study, the attitude score of cases was graded between 0-30. A detailed analysis of the attitude section of the questionnaire revealed that 4.00% had a score of 0- 10 and 28.33% had a score of 11-20 while a majority of cases, 70.33%, had a score of 21-30. Mean attitude score was 22.36 ± 5.42. In our study, 8.00% of subjects had a poor attitude, 59.33% had an average attitude, while the remaining 32.67% had a good attitude. A similarly descriptive study conducted by Fortuna and Herdiman (2023)[11] among 696 female undergraduate students in Indonesia reported that nearly all the participants (95%) had a good attitude towards PCOS. Similarly, a cross-sectional study conducted in India among 154 nursing students showed majority of the participants (57.1%) had neutral attitude while 40.9% had positive attitude and the remaining 1.9% had negative attitude (Devi and Susila, 2022)[12]

In our study, the practice score of cases was graded between 0-30. A detailed analysis of the practice section of the questionnaire revealed that 4.67% had a score of 0-10, 70.33% had a score of 11-20, while 25.00% subjects had a score of 21-30. Mean score was 17.78 ± 3.52. Also 13.33% had poor practices, 67.67% had average practices and the remaining 19.00% had good practices. Similarly Ranjana S. R. et al. (2024)[13] found that the majority of subjects had good knowledge (85.8%), attitude (69.8%) and practice (53.7%) towards the PCOS.

Finally, a composite analysis of the KAP score revealed that 12.67% had a poor KAP score, 63.00% had an average KAP score while the remaining 24.330% had a good KAP score.

In our study, a maximum of 22 cases with poor knowledge had poor attitude towards PCOS, average knowledge 151 cases had average attitude and good knowledge 70 cases had good attitude. The association between knowledge and attitude was found to be statistically significant.(p<0.005). The present findings correspond with a descriptive study conducted by Mohamed Reda, et al. (2022)[14] among 239 late adolescent girls, which reported a moderately positive correlation between total knowledge and attitude scores regarding PCOS (p<0.001). The study findings suggest that the participants developed a more favourable attitude towards PCOS following their educational sessions. The improved understanding gained from these sessions highlights the need to promote PCOS knowledge to foster positive attitudes.

In our study maximum 26 cases with poor knowledge had poor practice towards PCOS, average knowledge 160 cases had average practice and good knowledge 47 cases had good practice. The association between knowledge and practice was found to be statistically significant.(p<0.005) Ranjana S. R et al. (2024)[13] found

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that there were strong positive associations between knowledge and both attitude and practice levels.

In our study maximum 20 cases with poor attitude had poor practice towards PCOS, average attitude 153 cases had average practice and good attitude 48 cases had good practice. The association between attitude and practice was found to be statistically significant.($p<0.005$) Similarly Ranjana S. R et al. (2024)[13] found that there were strong positive associations between attitude and practice levels.

Findings of recent study showed, there was a statically significant association between attitude and knowledge towards PCOS. These findings have important implications for PCOS management and patient education.

The high levels of knowledge and positive attitudes among patients suggest that current educational efforts are effective to some extent. However, the lower practice scores indicate a need for strategies to help patients translate their knowledge into action. This could involve more practical, hands-on education about lifestyle modifications, medication adherence, and symptom management.

CONCLUSION

PCOS is a common and unrecognized condition. Therefore, assessing the knowledge, attitude, and practice towards PCOS is important. The present study provides variable insights into the knowledge, attitude and practice towards PCOS among female medical students, and offers guidance and resources for the future study. The study findings revealed there were strong positive associations between knowledge and both attitude and practice levels. In this study, improving understanding of PCOS could lead to more positive attitudes and better management practice. Healthcare providers should focus on delivering clear, accurate information about PCOS, its long-term implications, and effective management strategies.

REFERENCE

1. Bulsara, J., Patel, P., Soni, A. and Acharya, S., 2021. A review: Brief insight into polycystic ovarian syndrome. Endocrine and Metabolic Science, [e journal] 3, p.100085. https://dx.doi.org/10.1016/j.endmts. 2021.100085.
2. Rosenfield, R.L., 2020. Current concepts of polycystic ovary syndrome pathogenesis. Current Opinion in Pediatrics, [e-journal] 32(5), p.698. https://dx.doi.org/10.1097/MOP.0000000000000945.
3. Joham, A.E., Norman, R.J., Stener-Victorin, E., Legro, R.S., Franks, S., Moran, L.J., Boyle, J. and Teede, H.J., 2022. Polycystic ovary syndrome. The Lancet Diabetes & Endocrinology, [e-journal] 10(9), pp.668-680. https://dx.doi.org/10.1016/S2213-8587(22)00163-2.
4. Liu, J., Wu, Q., Hao, Y., Jiao, M., Wang, X., Jiang, S. and Han, L., 2021. Measuring the global disease burden of polycystic ovary syndrome in 194 countries: Global burden of disease study 2017. Human Reproduction, [e- journal] 36(4), pp.1108-1119. https://dx.doi.org/10. 1093/humrep/deaa371.
5. Siti Normiyah Hussin and Nur Hafizah Kadir, 2020. A study on knowledge, attitude and perception of polycystic ovary syndrome (PCOS) among young students in higher educational institutions, Perak. Journal of Social Science Advanced Research, 1(2), pp.160-181.
6. Haq, N., Khan, Z., Riaz, S., Nasim, A., Shahwani, R. and Tahir, M., 2017. Prevalence and knowledge of polycystic ovary syndrome (PCOS) among female science students of different public Universities of Quetta, Pakistan. Imperial Journal of Interdisciplinary Research, 35(6), pp.385-92.
7. Umaisa, S., Devi, A.M., Yadav, S. and Devi, H.M., 2021. Effectiveness of planned teaching program regarding polycystic ovarian disease in terms of knowledge and attitude among students of SGT University. Indian Journal of Forensic Medicine & Toxicology, [e-journal] 15(3), pp.4332-4338. https://dx.doi.org/10.37506/ijfmt.v15i3.15972.
8. Srujana, C., Vasundhara, R. and Miryani, J., 2018. A study to assess the knowledge of nursing college students regarding polycystic ovarian syndrome in selected college at Guntur District, Andhra Pradesh.
9. International Journal of Advances in Nursing Management, [e-journal] 6(3), pp.210-214. https://dx.doi.org/10.5958/2454-2652.2018.00046.X.
10. Nallavothu J, Thimmapathini H, Janagama A, Fathima D, Indracanti M. Prevalence and Knowledge Levels of Polycystic Ovarian Syndrome among Female Adolescents in Educational Institutions in Hyderabad, India: A Cross-sectional Study. Ethiop J Health Sci. 2024 Nov;34(6):520527. doi: 10.4314/ejhs.v34i6.12. PMID: 40438435; PMCID:
11. PMC12110261

