

PCOS Knowledge and Screening Among Nursing Students: A Study in Jabalpur

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Abstract:

Background: Polycystic Ovarian Syndrome (PCOS) is a common endocrine disorder affecting 4-20% of reproductive-aged women worldwide. Despite its prevalence, awareness among healthcare providers, including nursing students, remains suboptimal. Early diagnosis and management can prevent complications such as infertility, metabolic syndrome, and cardiovascular diseases.

Objective: This study aimed to assess the knowledge, screening, and practices related to PCOS among nursing students at NSCB Medical College Hospital, Jabalpur.

Methodology: A cross-sectional observational study was conducted on 179 female nursing students using a semi-structured online questionnaire. The questionnaire assessed awareness of risk factors, symptoms, complications, familial inheritance, and diagnostic criteria. A screening tool was also used to evaluate participants' risk for PCOS. Data were analyzed using descriptive and inferential statistics in IBM-SPSS.

Results: The study found that 72.5% of students had a high awareness of PCOS risk factors, whereas only 49.6% understood the hereditary nature of the condition. Screening revealed that 18% of students were at high risk of developing PCOS. Lifestyle factors such as diet and exercise were acknowledged by students as key management strategies, yet knowledge gaps persisted in diagnostic methods and clinical manifestations.

Conclusion: The study highlights the need for enhancing PCOS education among nursing students to improve early diagnosis and patient care. Strengthening PCOS-related curricula and routine screening initiatives could significantly enhance healthcare outcomes for women with PCOS.

Keywords: Polycystic Ovarian Syndrome, Adolescent, Risk, Complication.

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Introduction

Polycystic Ovarian Syndrome (PCOS) is one of the most common endocrine disorders affecting women of reproductive age, with a global prevalence estimated to be between 4% and 20%, depending on the population studied and the diagnostic criteria applied. PCOS is characterized by a range of symptoms, including irregular menstrual cycles, hyperandrogenism, ovarian cysts, insulin resistance, and metabolic disturbances. The condition is also associated with long-term health complications such as type 2 diabetes mellitus, cardiovascular disease, infertility, and psychological issues like anxiety and depression. Early diagnosis, appropriate screening,

and effective management are crucial in mitigating these risks and improving the quality of life for affected individuals. (Azziz et al., 2006)

In India, the prevalence of PCOS varies significantly, with studies indicating rates ranging from 3.7% to 22.5%. This variation is attributed to differences in population characteristics, lifestyle factors, and the use of varied diagnostic criteria such as the Rotterdam, NIH, and AES guidelines. Despite the high prevalence, there remains a significant gap in awareness, knowledge, and understanding of the condition, particularly among young women,

including nursing students. Nursing students, as future healthcare providers, hold a pivotal role in the early identification, education, and management of PCOS. Their knowledge and perceptions can significantly influence patient outcomes, as they are often the first point of contact for patients in clinical settings. (Deswal et al., 2020)

Studies have consistently highlighted the inadequate knowledge and misconceptions surrounding PCOS among healthcare students. Research indicates that many nursing students possess only a moderate understanding of the syndrome, its symptoms, risk factors, and potential complications. This lack of awareness can lead to delayed diagnosis, suboptimal management, and insufficient patient education. Given that lifestyle modification is a cornerstone of PCOS management, the role of nurses in counseling patients on dietary changes, physical activity, and other behavioral interventions is critical. Therefore, strengthening the knowledge base and screening practices of nursing students is essential to enhance their competence in addressing PCOS-related challenges in clinical practice. (Rani & Maheshwari, 2015)

Furthermore, the impact of PCOS extends beyond its physical manifestations, affecting the psychosocial well-being of patients. The stigma associated with symptoms like hirsutism, acne, and obesity often leads to emotional distress, social withdrawal, and diminished self-esteem. Nurses equipped with adequate knowledge and training can play a transformative role in providing psychosocial support, thereby improving the overall care experience for PCOS patients. (Mishra & Agrawal, 2021)

This study aims to comprehensively assess the knowledge, screening practices, and attitudes towards PCOS among nursing students at NSCB Medical College Hospital, Jabalpur. The findings from this research will help identify gaps in understanding and practice, ultimately guiding the development of targeted educational interventions.

By enhancing the knowledge and skills of nursing students, the study seeks to contribute to more effective, empathetic, and holistic care for women living with PCOS. (WHO, 2016)

Material and Methodology

A cross-sectional observational study was conducted at NSCB Medical College Hospital, Jabalpur. The study included 179 female nursing students enrolled in B.Sc. and M.Sc. nursing programs. A convenience sampling method was used.

Data Collection: A pre-designed, pre-tested, semi-structured online questionnaire was used to assess:

- Awareness of PCOS risk factors, symptoms, complications, and diagnostic criteria.
- Personal screening for PCOS risk factors based on symptoms and BMI.
- Knowledge of lifestyle factors influencing PCOS.

Ethical Approval: Institutional Ethical Committee approval was obtained before conducting the study.

Statistical Analysis: Data were analyzed using IBM-SPSS software, employing descriptive and inferential statistics.

Results

A total of 179 respondents participated in this survey conducted through an online questionnaire. The study group belonged to the age group of 20-56 years, mean age being 26.88 ± 5.897 years. The majority of the study participants had normal BMI (63.1%). Only 17.9 % were underweight (<18.5), and around 15.1% were overweight (25.0-29.9). Around 3.9% of participants were obese (>30). More than 68.2 percent of the participants were currently unmarried.

Out of 179 Participants, the majority of the participants (81%) had heard about PCOS and 24.6% were already diagnosed with PCOS.

Table 1: Participant Demographics

Variable	Frequency (%)
Age (Mean \pm SD)	26.88 ± 5.897
Normal BMI	63.1%
Underweight (<18.5 BMI)	17.9%
Overweight (25.0-29.9 BMI)	15.1%
Obese (>30 BMI)	3.9%
Unmarried Participants	68.2%

Among the study participants who were aware of PCOS, the majority acquired information through doctors (30.2%), followed by teachers (22.9%), from friends (18.5%), and other sources (14.5%), and a few participants collected information from television (5.6%) and Newspaper (3.9%).

The knowledge about the risk factors for PCOS is illustrated in table 2. Regarding the knowledge about the risk factors, 74.3% of participants were aware of obesity as the risk factor, 80.4% participants knew that sedentary lifestyle and lack of physical exercise can increase the risk for PCOS. 77.7% of the

participants accepted that junk food intake is associated with PCOS. Only half of the participants

(51.4%) had the knowledge about familial inheritance of PCOS.

Table 2: Risk Factor Perception (N=179)

Risk Factor Perception	Yes	No
Obesity is associated with PCOS	133 (74.3%)	46 (25.7%)
PCOS has familial inheritance	92 (51.4%)	87 (48.6%)
Sedentary lifestyle increases PCOS risk	144 (80.4%)	35 (19.5%)
Unhealthy diet is associated with PCOS	139 (77.7%)	40 (22.3%)
PCOS can occur in lean women	113 (63.1%)	66 (36.9%)

Table 3 depicts the knowledge about clinical presentation of PCOS. On analysing the awareness about the clinical presentation, 82.7% responded menstrual irregularities as a clinical presentation, half of them had knowledge about hirsutism (abnormal male type of hair distribution) and

acanthosis nigricans (velvety patches over nape of the neck) (59.2% and 53.1% respectively). Interestingly, the majority of them (77.1%) knew that PCOS can cause infertility and (70.9%) knew that Severe acne problem during the menstrual (periods) cycle is a symptom of PCOS.

Table 3: Knowledge about clinical presentation (N=179)

Clinical Presentation	Yes	No
Menstrual abnormalities	148 (82.7%)	31 (17.3%)
Infertility	138 (77.1%)	41 (22.9%)
Hirsutism (male-pattern hair growth)	106 (59.2%)	73 (40.8%)
Acanthosis nigricans (neck patches)	95 (53.1%)	84 (46.9%)
Severe acne during menstruation	127 (70.9%)	52 (29.1%)

Knowledge about the long-term complications associated with PCOS among the study participants is shown in table 3. In view of knowledge on long term complications, 99 students (55.3%) knew about risk of development of cardiovascular disease, 113 participants (63.1%) knew about being prone to hypertension and 120 participants (67%) about being prone for diabetes mellitus, 150 students

(83.8%) knew that PCOS can lead to psychological problems like depression, anxiety, and sleep disturbances, 127 students (70.9%) about risk of cancer. However, the majority 146 (81.6%) of them knew that the lifestyle modification is the first line of management in PCOS and 119 students (66.5%) had knowledge that PCOS can be confirmed by vaginal ultrasound.

Table 4: Knowledge about the long-term complications (N=179)

Complication	Yes	No
Cardiovascular disorders	99 (55.3%)	80 (44.7%)
Hypertension	113 (63.1%)	66 (36.9%)
Diabetes/Deranged sugars	120 (67.0%)	59 (33.0%)
Psychological problems (depression, anxiety, sleep disturbances)	150 (83.8%)	29 (16.2%)
Cancer	127 (70.9%)	52 (29.1%)

A detailed Responses of respondents to Health related practice Statements is shown in Table 5. There were 72 (40.2%) respondents who claimed that they sometimes read nutrition labels, 32 (17.9%) respondents occasionally read nutrition labels, and 40 (22.3%) who always do that. Yet, there were 16 (8.9%) respondents who never read nutrition labels in their daily lives. The majority of

the respondents that occupied 164 (35.8%) sometimes incorporated low-fat foods into their diets whilst 41 (22.9%) always incorporated low-fat meals into their diets. Additionally, 24 (13.4%) of them never incorporated low-fat foods into their diets. Of all participants, 101 (56.4%) exercised regularly and nearly half (51.4%) practiced any kind of meditation.

Table 5: Health-Related Practices

Practice	Always	Never	Occasionally	Often	Sometimes
Read nutrition labels	40 (22.3%)	16 (8.9%)	32 (17.9%)	12 (6.7%)	72 (40.2%)
Incorporate low-fat foods	41 (22.9%)	24 (13.4%)	28 (15.6%)	15 (8.4%)	64 (35.8%)
Incorporate low-salt foods	49 (27.4%)	33 (18.4%)	26 (14.5%)	14 (7.8%)	50 (27.9%)
Decrease refined sugar intake	49 (27.4%)	31 (17.3%)	26 (14.5%)	23 (12.8%)	43 (24.0%)

PCOS Screening Results

A bar chart analysis indicated that 18% of participants were at high risk for PCOS, reinforcing the need for systematic screening programs.

Discussion

The study reveals that while nursing students demonstrate a fundamental understanding of PCOS, gaps exist in areas such as familial inheritance and diagnostic methods. The low awareness of clinical signs like hirsutism and acanthosis nigricans suggests a need for targeted educational programs.

Encouragingly, participants recognized the importance of lifestyle modifications such as diet and exercise in managing PCOS. However, the lack of understanding regarding diagnostic methods may lead to delayed diagnoses and suboptimal patient management.

Screening findings emphasize the need for proactive monitoring among at-risk individuals. The reliance on BMI alone as a screening tool may be inadequate, as PCOS symptoms can manifest in individuals with normal weight.

Conclusion

This study highlights the necessity of enhancing PCOS education among nursing students to improve early diagnosis and patient care. The identification of 18% of students at high risk for PCOS underscores the urgency of incorporating systematic

screening programs within healthcare curricula. Future research should explore the impact of educational interventions on improving PCOS awareness and management strategies in clinical practice.

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