



# Knowledge and Attitude Regarding Polycystic Ovarian Syndrome among Undergraduate Nursing Students of Teaching Hospital Bharatpur, Nepal

Namita Yadav ,<sup>1</sup>Prativa Sedain <sup>2</sup>

<sup>1</sup>Department of Nursing, College of Medical Sciences and Teaching Hospital, Bharatpur, Chitwan, Nepal,

<sup>2</sup>Department of Nursing (ENT ward), B.P. Koirala Memorial Cancer Hospital, Bharatpur, Chitwan, Nepal.

## ABSTRACT

### Background

Polycystic ovarian syndrome (PCOS) is a hormonal disorder of reproductive age and affects 6 to 22% of women worldwide. A limited study was conducted to explore knowledge and attitude toward PCOS among undergraduate students in Nepal. This research specifically aimed to assess the knowledge and attitudes regarding PCOS among undergraduate nursing students at a teaching hospital in Bharatpur, Nepal.

### Methods

This was a cross-sectional study, conducted among 113 undergraduate nursing students studying at the College of Medical Sciences and Teaching Hospital, Bharatpur, Chitwan, Nepal. All eligible undergraduate nursing students at the college were included. Data were collected using a structured questionnaire after obtaining informed consent. The data were analyzed with SPSS version 16 and expressed using descriptive statistics (frequency and percentage).

### Results

The age of the participants ranged from 17 to 23 years, with a mean age of  $19.83 \pm 1.24$ . All the participants were unmarried. The majority of participants (98.2%) heard about PCOS. The major sources of knowledge were the internet (72.6%), followed by teachers (17.7%), then other sources such as radio, TV, and newspapers (6.2%), and least from parents (3.5%). Most of the participants had adequate knowledge (61.1%), followed by moderate knowledge (34.5%), and 4.4% had inadequate knowledge about PCOS. Most of the undergraduate nursing students showed a neutral attitude (57.5%), followed by a favorable attitude (46.7%), and the least had an unfavorable attitude (1.8%) towards PCOS.

### Conclusions

This study found that undergraduate nursing students had adequate knowledge and a favorable attitude towards PCOS.

**Keywords:** knowledge; attitude; polycystic ovarian syndrome; undergraduate nursing students.

**Correspondence:** Mrs. Namita Yadav, Department of Nursing, College of Medical Sciences and Teaching Hospital, Bharatpur, Chitwan, Nepal. Email: atimanray@gmail.com, Phone: +977-9808163330. **Article received:** 2025-04-16. **Article accepted:** 2025-08-12. **Article published:** 2025-09-15.

## INTRODUCTION

Polycystic ovarian syndrome (PCOS) is a hormonal disorder affecting 6 to 22% of women of reproductive age worldwide. It is characterized by ovulatory dysfunction, hyperandrogenism, and polycystic ovarian morphology.<sup>1</sup> PCOS can emerge as early as menarche, but is most frequently diagnosed in the twenties and thirties.<sup>2,3</sup> Consequently, undergraduate students represent a higher risk population for developing PCOS. Previous studies have revealed a concerning lack of awareness, a majority of students reported never having heard of PCOS and possessed unsatisfactory knowledge of the disorder.<sup>4-6</sup> This lack of awareness has created a troubling situation in which many young women experience symptoms without recognizing they may have PCOS.<sup>4,5</sup> Furthermore, studies indicate that students often delay seeking medical advice until their condition becomes severe or life-threatening.<sup>5,7</sup> Therefore, this study aimed to assess the knowledge and attitudes toward PCOS among undergraduate nursing students at a teaching hospital in Bharatpur, Nepal.

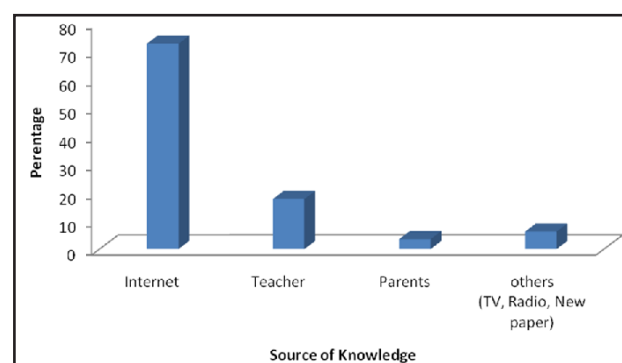
## METHODS

This was a cross-sectional study, conducted among 113 undergraduate nursing students studying at the College of Medical Sciences and Teaching Hospital, Bharatpur, Chitwan, Nepal. Students from other undergraduate programs (MBBS, Bachelor of Physiotherapy, Bachelor of Laboratory Medicine and Bachelor of Imaging Technology) were excluded. Prior to data collection, ethical approval was obtained from the Institutional Review Committee of COMS-TH (Ref. No.: COMSTH-IRC/2025-019). The structured questionnaire was prepared and validated. The data were collected regarding sociodemographic variables (age, heard about PCOS, source of information), knowledge of PCOS, and attitude towards PCOS. Written informed consent was obtained from all participants prior to data collection. Data were collected using a structured questionnaire. The raw data were entered into Microsoft Excel and subsequently imported into SPSS version 16 for analysis. Descriptive statistics

were used, with results expressed as frequencies and percentages. Knowledge levels were categorized as follows: Inadequate knowledge: <50%, moderately adequate knowledge: 50-70%, adequate knowledge: >75%. Similarly, attitudes were categorized as: unfavorable attitude: <50%, neutral attitude: 50-70% and favorable attitude: >75%.

## RESULTS

The age of participants ranged from 17 years to 23 years, with a mean age of  $19.83 \pm 1.24$ . All the participants were unmarried. The majority of participants (98.2%) had heard about PCOS. The major sources of knowledge were from the internet (72.6%), followed by teachers (17.7%), then from other sources like radio, TV, newspaper (6.2%), and least from parents (3.5%) (Figure 1).



**Figure 1. Source of Knowledge.**

The findings indicated a high level of awareness regarding the core features of PCOS. The vast majority of nursing students (96.4%) correctly identified PCOS as a hormonal disorder affecting women of reproductive age. Similarly, 92.9% recognized the presence of multiple ovarian cysts, and all participants (100%) identified irregular or absent menstruation as a key symptom. Furthermore, most nursing students correctly acknowledged physical inactivity, obesity, hair loss and diabetes mellitus as risk factors for PCOS. A high percentage (87.6%) was also aware of elevated androgen levels in affected patients. Awareness of the diagnostic criteria and potential complications of PCOS was variable. Most nursing students (80.5%) were aware that PCOS is typically diagnosed in women in their twenties and thirties. Furthermore, 60.2% correctly identified vaginal ultrasound as a

diagnostic tool, while 56.6% recognized that specific blood tests are used for diagnosis. Regarding long-term complications, approximately half of the nursing students understood the association between PCOS and an increased risk of diabetes mellitus and cardiovascular diseases. Notably, nearly all nursing students (98.2%) were aware that PCOS can lead to infertility (Table 1).

**Table 1. Frequency and percentage for participants by their knowledge about PCOS. (n=113)**

Knowledge about PCOS	Yes n(%)	No n(%)
Polycystic ovarian syndrome is a common hormonal condition that affects women of reproductive age.	109(96.5)	4(3.5)
Patient suffering from PCOS have multiple small cysts in their ovaries.	105(92.9)	8(7.1)
Symptoms of PCOS are irregular or absent menstrual periods	113(100)	-
Physical inactivity is a risk factor for the development of PCOS	89(78.8)	24(21.2)
Obesity is a risk factor for the development of PCOS	100(88.5)	13(11.5)
Diabetes mellitus is a risk factor for the development of PCOS	76(67.3)	37(32.7)
In PCOS, there is an increased level of the androgen hormone	99(87.6)	14(12.4)
A diagnosis of PCOS is made when a person has at least two of these: 1). irregular periods, 2). Too much androgen and, 3). Polycystic ovaries	108(95.6)	5(4.4)
PCOS is commonly diagnosed in their twenties and thirties, with the peak age being 20 to 24 years.	91(80.5)	22(19.5)
Hair loss from the scalp more than normal is a symptom of PCOS	91(80.5)	22(19.5)
PCOS diagnosis can be confirmed by a vaginal ultrasound	68(60.2)	45(39.8)
A specific blood test can be used for the diagnosis of PCOS	64(56.6)	49(43.4)
PCOS may lead to diabetes mellitus	78(69.0)	35(31.0)
PCOS may lead to heart disease	57(50.4)	56(49.6)
PCOS may lead to infertility or reduced fertility	111(98.2)	2(1.8)

Most of the undergraduate nursing students had adequate knowledge (61.1%), followed by moderate knowledge (34.5%), and 4.4% had inadequate knowledge about PCOS (Table 2).

**Table 2. Knowledge regarding PCOS among undergraduate nursing students. (n=113)**

Knowledge variable	Inadequate knowledge n(%)	Moderately adequate knowledge n(%)	Adequate knowledge n(%)
Knowledge of undergraduate students regarding PCOS	5(4.4)	39(34.5)	69(61.1)

Most of the undergraduate nursing students showed a neutral attitude (57.5%), followed by a favorable attitude (46.7%), and the least had an unfavorable attitude (1.8%) regarding PCOS (Table 3).

**Table 3. Attitude of undergraduate nursing students regarding PCOS. (n=113)**

Attitude variables	Unfavorable attitude (<50%) n(%)	Neutral Attitude (50-75%) n(%)	Favorable attitude (>75%) n(%)
Attitude of undergraduate nursing students regarding PCOS	2(1.8)	65(57.5)	46(46.7)

## DISCUSSION

The participants in this study were younger undergraduate nursing students. The vast majority (98.2%) reported having heard of PCOS. The primary source of knowledge was the internet (72.6%), followed by teachers (17.7%), other media such as radio, TV, or newspapers (6.2%), and finally, parents (3.5%). These findings are consistent with, yet show a notable evolution from, previous international studies. For instance, Farrao et al., reported that 56.3% of nursing students had received primary information on PCOS, with 19.4% receiving it from relatives and 16% from mass media.<sup>8</sup> Similarly, Al Bassam et al. found that 71% of students at Qassim University, Saudi Arabia, were aware of PCOS.<sup>7</sup> However, a study by Eswi et al. indicated different primary information sources, 34.7% from internet, 24.5% from healthcare providers, 18% from family/friends, and 18% from academic learning.<sup>9</sup> According to Sehar et al., 95% of nursing students had prior knowledge of PCOS,<sup>10</sup> a figure closely aligned with the high awareness level found in the present study. Similarly, Sills et al., reported, nearly all respondents

(97%) were familiar with PCOS, a small minority (1.9%) had never heard of it, and less than 1% were uncertain.<sup>11</sup> Correspondingly, Upadhye et al. concluded that while a majority (72%) of medical students were aware of PCOS, a significant portion (28%) remained unaware.<sup>12</sup>

In this study, the majority of nursing students identified multiple ovarian cysts and irregular or absent menstrual periods as symptoms of PCOS. Most students recognized physical inactivity, obesity, hair loss, and diabetes mellitus as risk factors for developing the condition and were aware that androgen levels are elevated in PCOS patients. Furthermore, most were familiar with the diagnostic criteria for PCOS and PCOS were primarily diagnosed in patient's twenties and thirties age. Similarly, 60.2% of the nursing students correctly believed that PCOS can be confirmed by vaginal ultrasound and specific blood tests. Around half of the students thought that PCOS may lead to diabetes mellitus and cardiovascular diseases. The majority of students responded that PCOS may lead to infertility. The study conducted by Sasikala et al.,<sup>13</sup> and Piltonen et al.,<sup>14</sup> reported that most participants were aware that menstrual abnormalities are a common clinical presentation, followed by obesity and infertility in patients with PCOS.

In this study, undergraduate nursing students had adequate knowledge (61.1%), 34.5% had moderately adequate knowledge and 4.4% had inadequate knowledge on PCOS. The study conducted by Farrao et al. reported that 87.4% of the adolescent girls had adequate knowledge, whereas 12.4% had inadequate knowledge on PCOS study from Mangaluru, India.<sup>8</sup> Similarly, a study conducted by Sunanda and Nayak in Mangalore, showed that most of the students (76%) had average knowledge, 13.3% had poor knowledge, and 11.6% had good knowledge.<sup>15</sup> Another similar study conducted by Begum and Sheeba in Coimbatore among adolescent girls showed that 77% had inadequate knowledge on PCOS, 23% had moderately adequate knowledge, and none had adequate knowledge on PCOS.<sup>16</sup> The study conducted

by Brar et al. among teenage girls reported that 61.5% had fair knowledge, and only 0.5% had an excellent level of knowledge, and 17.5 of % girls had good knowledge on PCOS.<sup>17</sup> Similarly, a study conducted by Sehar reported that 60% nursing students had average knowledge, 38.33% had good knowledge, and 1.66% had poor knowledge on PCOS.<sup>10</sup> Similarly, Priya et al. study among young female adults reported that 38.4% had inadequate knowledge, 48.3% had moderate knowledge, and 13.3% had adequate knowledge regarding polycystic ovarian syndrome.<sup>18</sup> The study conducted by Mohamed Reda et al.,<sup>19</sup> and Begum et al.,<sup>20</sup> reported that more than half of adolescent girls had unsatisfactory knowledge about polycystic ovarian syndrome.

In this study, most of the undergraduate nursing students showed a neutral attitude (57.5%), followed by a favorable attitude (46.7%), and the least had an unfavorable attitude (1.8%) regarding PCOS. The conducted in Shimla, India, among B.Sc. Nursing students by Chauhan et al., reported that 75 % had an unfavorable attitude, 25% had a moderately favorable attitude, and none of them had a favorable attitude in the pre-test on PCOS.<sup>21</sup> Similarly, the study conducted by Mohamed among adolescent girls reported 55% had a favorable attitude and 45 % had an unfavorable attitude on PCOS in the post-test.<sup>22</sup> The study conducted by Mohamed Reda et al. reported that more than half of late adolescent girls had unsatisfactory knowledge (69.8%) about polycystic ovarian syndrome.<sup>19</sup> The undergraduate nursing students are a future pillar of the health care system. They will be in direct contact with patients and healthcare takers. They can educate the reproductive age group regarding PCOS and its related complications and risk factors associated with PCOS. Their efforts can help reduce infertility cases.

### Limitations

This study was limited by its small sample size and its confinement to a single institution.



## CONCLUSIONS

PCOS is a hormonal disorder with a varied presentation. In this study, undergraduate nursing students demonstrated adequate knowledge and a favorable attitude toward PCOS. Adequate knowledge among adolescent girls helps them identify the condition at an early stage, which can prevent complications and improve future fertility outcomes. Therefore, targeted education is crucial for preventing the long-term complications associated with PCOS.

## ACKNOWLEDGEMENTS

I would like to thank the Institutional Review Committee of the College of Medical Sciences and Teaching Hospital for granting permission to conduct this research. I am also deeply grateful to all the participants involved in present study.

**Conflict of interest:** None

**Funding:** None

## REFERENCES

- Guo F, Gong Z, Fernando T, Zhang L, Zhu X, Shi Y. The lipid profiles in different characteristics of women with PCOS and the interaction between dyslipidemia and metabolic disorder states: a retrospective study in Chinese population. *Frontiers in Endocrinology*. 2022; 13:892125. [DOI]
- Malini N, George KR. Evaluation of different ranges of LH: FSH ratios in polycystic ovarian syndrome (PCOS)–Clinical based case control study. *General and comparative endocrinology*. 2018; 260:51-7. [DOI]
- Motlagh Asghari K, Nejadghaderi SA, Alizadeh M, Sanaie S, Sullman MJ, et al. Burden of polycystic ovary syndrome in the Middle East and North Africa region, 1990–2019. *Scientific Reports*. 2022 Apr 29;12(1):7039. [DOI]
- Rizvi M, Islam MA, Aftab MT, Naqvi AA, Jahangir A, Ishaqui AA, Iqbal MZ, Iqbal MS. Knowledge, attitude, and perceptions about polycystic ovarian syndrome, and its determinants among Pakistani undergraduate students. *Plos one*. 2023 May 25; 18(5):e0285284. [DOI]
- Kiran S, Sarwar H, Masih S. The Knowledge and awareness on polycystic ovarian syndrome among lady health visitors in public health nursing school Lahore: Knowledge and awareness on PCOSs. *Pakistan Journal of Health Sciences*. 2023 May 31:140-4. [DOI]
- Nelson AM, Viswanath L. Awareness and Predictors of PCOD among Undergraduate Students. *Indian Journal of Public Health Research & Development*. 2017 Oct 1;8(4). [Google Scholar]
- Al Bassam NM, Ali S, Rahman SR. Polycystic ovarian syndrome (PCOS), awareness among female students, qassim university, Qassim Region, Saudi Arabia. *Int J Res Granthaalayah*. 2018;6(9):395-406. [DOI]
- Ferrao WI, Fernandes VM, Thomas T, Baretto VR, Sequera SK. Knowledge on PCOS among the nursing students of a selected college, Mangaluru. *Journal of Health and Allied Sciences NU*. 2023 Jul; 13(03):436-9. [DOI]
- Eswi A, Baqatada NO, Alsubaie NF, Alabduljabbar OA, Alamoudi OM, et al. Knowledge of Polycystic Ovarian Syndrome Among Undergraduate Nursing and Midwifery Students in Princess Nourah Bint Abdulrahman University. *African Journal of Biomedical Research*. 2024 Nov 28; 27(3):855-68. [DOI]
- Sehar S. Assessment of knowledge regarding polycystic ovary syndrome (PCOS) among nursing students. *International Journal of Nursing & Midwifery Research*. 2020 Mar; 7(3):42-5. [DOI]
- Sills ES, Perloe M, Tucker MJ, Kaplan CR, Genton MG, Schattman GL. Diagnostic and treatment characteristics of polycystic ovary syndrome: descriptive measurements of patient perception and awareness from 657 confidential self-reports. *BMC Women's Health*. 2001; 1(1): 3. [DOI]
- Upadhye JJ, Shembekar CA. Awareness of

- PCOS (polycystic ovarian syndrome) in adolescent and young girls. *Int J Reprod Contracept Obstet Gynecol*. 2017 May 25; 6(6):2297-301. [DOI]
13. Sasikala R, Shanmugham D, Varghese J, Saravanan DK. A study of knowledge and awareness on polycystic ovarian syndrome among nursing students in a tertiary centre in South India. *The New Indian Journal of OBGYN*. 2021 Jul; 8(1):121-5. [DOI] [Link]
  14. Piltonen TT, Ruokojärvi M, Karro H, Kujanpää L, Morin-Papunen L, Tapanainen JS, Stener-Victorin E, Sundrström-Poromaa I, Hirschberg AL, Ravn P, Glintborg D. Awareness of polycystic ovary syndrome among obstetrician-gynecologists and endocrinologists in Northern Europe. *PloS one*. 2019 Dec 26; 14(12):e0226074. [PubMed]
  15. Sunanda B, Nayak S. A Study to Assess the Knowledge Regarding PCOS (Polycystic Ovarian Syndrome) among Nursing Students at NUINS. *Journal of Health and Allied Sciences NU*. 2016 Sep; 6(03):24-6. [DOI]
  16. Begum H, Sheeba X. Level of Knowledge on Polycystic Ovarian Syndrome among Adolescent Girls. *J Nurse Midwifery Maternal Health*. 2019; 5(03):111-4. [Link]
  17. Brar K, Kaur T, Ramanadin PV. Knowledge regarding Poly Cystic Ovarian Syndrome (PCOS) among the Teenage Girls. *International Journal of Nursing Education and Research*. 2016; 4(2):136-40. [DOI]
  18. Priya PN, Shwetha MN. Knowledge regarding Polycystic Ovarian Syndrome among Young Female Adults. *Asian Journal of Nursing Education and Research*. 2019; 9(1):84-6. [Google Scholar]
  19. Mohamed Reda A, Ahmed Hassan A, Abdalla El Sayed H, Mohammed Salama A. Knowledge and Attitude of Late Adolescent Girls regarding Polycystic Ovarian Syndrome. *Journal of Nursing Science Benha University*. 2022 Jan 1; 3(1):889-906. [DOI]
  20. Begum H, Sheeba X. Level of Knowledge on Polycystic Ovarian Syndrome among Adolescent Girls. *J Nurse Midwifery Maternal Health*. 2019; 5(03):111-4. [Link]
  21. Chauhan K, Rilta R, Sharma S. Assessment of the attitude regarding polycystic ovarian syndrome among B. Sc. nursing students in selected nursing colleges of Shimla: A quasi experimental Study. *International Journal of Advances in Health Sciences (IJHS)*. 2023;10(1):1-9. [DOI]
  22. Mohamed HA. Effect of Educational Program on The Level of Knowledge regarding Polycystic Ovarian Syndrome among Adolescent Girls. *Journal of Nursing Education and Practice*. 2016 Jun 3; 6(10):80-7. [DOI]

**Citation:** Yadav N, Sedain P. Knowledge and Attitude Regarding Polycystic Ovarian Syndrome among Undergraduate Nursing Students of Teaching Hospital Bharatpur, Nepal. *JCMS Nepal*. 2025; 21(3): 296-301.