



Access the article online



Quick Response Code

**Corresponding Author:****Anju Philip Thurkkada**

Professor, Department of Obstetrical and Gynecological Nursing, Amrita College of Nursing, Kochi-41, Kerala  
Email: anjuphilip@nursing.aims.amrita.edu

**Keywords:**

Information, education and communication, Polycystic ovarian syndrome; Undergraduates.

**Article History:**

Received Date: 22 Aug, 2023

Acceptance Date: 23 Nov, 2023

**Citation:**

Monisha U, Sreelekshmi L, Thurkkada AP. Effectiveness of Information, Education and Communication (IEC) on Awareness Regarding Polycystic Ovarian Syndrome (PCOS) Among Undergraduates at A Selected Nursing College, South India. *Nep J Obstet Gynecol.* 2023;18(2):2-6.

**Copyrights & Licensing © 2023 by author(s).**

This is an Open Access article distributed under Creative Commons Attribution License (CC BY NC)



## Effectiveness of Information, Education and Communication (IEC) on Awareness Regarding Polycystic Ovarian Syndrome (PCOS) Among Undergraduates at A Selected Nursing College, South India

**Monisha U, Sreelekshmi L, Anju Philip Thurkkada**

Amrita College of Nursing, Amrita Vishwa Vidhyapeetham, Kochi-41, Kerala, India.

### Abstracts

**Aims:** Polycystic Ovarian Syndrome is the most common endocrine disorder among women between the ages of 18 and 44 years. The signs and symptoms of polycystic ovarian syndrome include menstrual irregularities, excess body and facial hair, acne, pelvic pain, difficulty getting pregnant, and patches of thicker, darker, velvety skin. The primary objective was to evaluate the effectiveness of information, education, and communication on awareness regarding polycystic ovarian syndrome among undergraduates.

**Methods:** A quantitative pre-experimental approach was adopted and the research design used was a one-group pre-test-post-test design. The study was conducted at a selected nursing college in South Kerala. A total of 104 samples were selected by total enumerative sampling. The socio-demographic variables were gathered by self-reporting. The awareness was assessed by a structured questionnaire. The sample was provided with an education session using video and leaflets, and the post-test was conducted 45 days after the pretest.

**Results:** The pretest mean + SD score of awareness was 12.91 + 3.16, the posttest mean score was 14.79 + 2.74. The mean difference was statistically highly significant ( $p < 0.001$ ). It showed there was a significant difference in awareness among undergraduates after the implementation of Information, Education and Communication.

**Conclusions:** Information, education and communication had a significant effect in improving the awareness regarding polycystic ovarian syndrome among undergraduates.

### Introduction

Polycystic ovarian syndrome (PCOS) is the most common endocrine disorder among women aged 18 to 44 years; affecting 1 in every 15 women worldwide.<sup>1</sup> It begins in adolescence and primarily affects adult females of childbearing age. A family history of PCOS is the most important risk factor. Because of the significant link between diabetes and PCOS, a family history of diabetes may increase the chance of developing PCOS.<sup>2</sup>

Polycystic ovary syndrome is a group of symptoms caused by high androgen levels in women. Menstrual abnormalities, extra body and facial hair, acne, pelvic pain, difficulties getting pregnant, and areas of thicker darker velvety hair are all signs and symptoms of PCOS. Type 2 diabetes, obesity, obstructive sleep apnea, heart disease, mental disorders, endometrial cancer, hypertension, dyslipidemia, hyperinsulinemia, and infertility are all associated conditions. Many women have PCOS but are unaware of it. Up to 70% of PCOS women had not been diagnosed.<sup>3</sup>

The first step in controlling PCOS is to make lifestyle modifications. It consists of good eating habits, physical activity, and weight loss. Spreading awareness regarding the knowledge and management of PCOS therefore has a vital place in the prevention of

this condition. This study was conducted to assess the impact of an information, education, and communication (IEC) campaign on PCOS awareness among undergraduates.

## Methods

A quantitative- pre-experimental one group pretest and posttest design was conducted from September 2022 to November 2022 in order to evaluate the effectiveness of an IEC on awareness regarding PCOS among undergraduates. For this study a non-probability, total enumerative sampling technique was used for selecting samples from a selected nursing college in South India. The inclusion criteria were undergraduate students of first and second years pursuing Bachelor in Science (B. Sc.) in Nursing. Those students who were already diagnosed with PCOS were excluded.

Based on the results of proportion from previous study observed in an earlier publication with 20% relative precision and 95% confidence, the minimum sample size was calculated to be 98.

Ethical approval was obtained from the Institutional Review Board (IRB) of AIMS, Kochi and formal administrative permission was obtained from the Head of Institution to conduct the study within the selected setting. The voluntary nature of participation was well explained to the participants and informed consent obtained from them. Confidentiality of the data collected was ensured throughout the study.

Based on prior research, a structured questionnaire was established to assess the success of an IEC campaign on PCOS awareness among undergraduates. A committee of specialists in the subject tested the questionnaire form for face and content validity. The expert views were then compiled and edited. Eventually, the necessary changes were made to the questionnaire. The first section includes a Socio personnel data sheet for evaluating the socio personnel variables. It includes age, year of education, religion, family kinds, food pattern, menstrual cycle, body mass index (BMI), and socioeconomic

patterns. The second section includes a structured knowledge questionnaire to assess nursing students' knowledge on PCOS, which includes 20 multiple choice questions about the basic structure and function of the ovary, definition, risk factors and etiology, signs and symptoms, diagnosis, management, prevention, complication, and effects of PCOS on infertility.

Following that, the questionnaire was pilot tested on 10 undergraduate students to assess its structure, clarity, length, and overall impression, which resulted in numerous small changes to the original.

The socio-demographic variables were gathered by self-reporting. The awareness regarding PCOS among nursing students was assessed by the structured questionnaire. The participants were provided with an education session using video and leaflets on the day of pre-test and the post-test were conducted after 45 days of the pretest.

The data collected was analyzed using descriptive and inferential statistics. Frequency and percentage distribution were used to analyze socio-demographic variables and knowledge regarding PCOS. Paired t test was used to assess the effectiveness of awareness session regarding PCOS among nursing students. Chi-square test was used to identify the association between knowledge regarding PCOS among nursing students and socio-personal variable. Statistical Package for Social Sciences (SPSS™) software version 20 was used for statistical analysis. A p-value <0.05 was considered statistically significant.

## Results

Section I: Distribution of subjects based on socio-demographic characteristics.

A total of 104 participants were enrolled in the study. Out of them, 72.1% belonged to the age group of 20-21years and 83.7% of them were in the second year of their study. Most (69.2%) of them were Hindu and 97.1% were from middle class family. Normal BMI was found in 78.8% of the participants (Table 1).

**Table 1:** Frequency and percentage distribution of participants based on demographic characteristics (N=104).

Sample characteristics	Frequency	Percentage
Age in years		
a) 18-19 years	20	19.2
b) 20-21years	75	72.1
c) Above 21 years	9	8.7
Years of study		
a) 1 <sup>st</sup> year	17	16.3
b) 2 <sup>nd</sup> year	87	83.7
Religion		
a) Hindu	72	69.2
b) Christian	32	30.8

Table 1 continue...

Type of Family		
a) Joint Family	17	16.3
b) Nuclear Family	87	83.7
Socio economic status		
a) High class	1	1
b) Middle class	101	97.1
c) Low class	2	1.9
Dietary Pattern		
a) Vegetarian	1	1
b) Non-Vegetarian	8	7.7
c) Mixed diet	95	91.3
Menstrual Cycle		
a) Regular Cycle	88	84.6
b) Irregular Cycle	16	15.4
BMI		
a) Below 18	2	1.9
b) 18.5 – 24.9	82	78.8
c) 25.0- 29.9	17	16.3
d) Above 30	03	2.9
Source of Information		
a) Health Personal	1	1
b) Parents	54	51.9
c) Teacher	3	2.9
d) Mass Media	6	5.8
e) No information	40	38.5

Section II: Effectiveness of an Information Education and Communication (IEC) on awareness regarding Polycystic Ovarian Syndrome among students.

The pretest mean score of awareness was 12.91±3.16 and the posttest mean score was 14.79±2.74, the mean difference being 1.88 (p<0.001). It showed there was a statistically significant difference in awareness among undergraduates after the implementation of Information Education and Communication (IEC) at p < 0.001.

Pre-test knowledge regarding PCOS

Of 104 participants, the majority (71%) of the subjects had average knowledge regarding PCOS, 22% had good knowledge and 7% had poor knowledge regarding PCOS (Fig. 1).

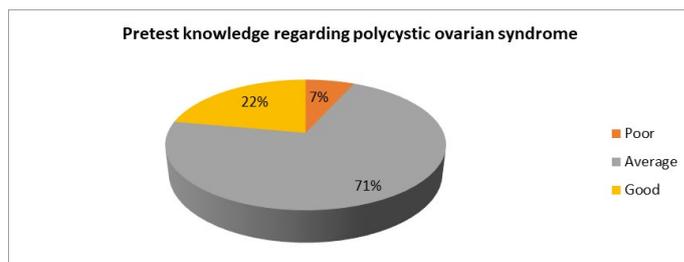
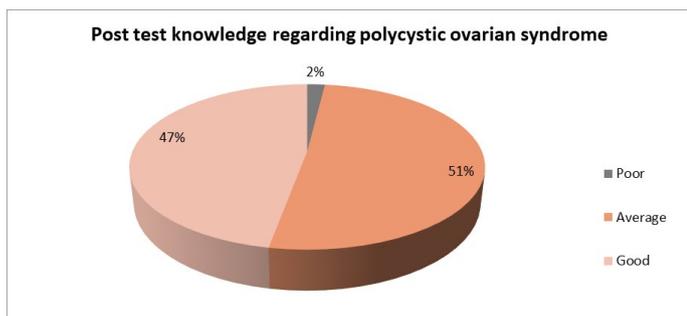


Fig. 1: Distribution of participants based on pretest knowledge.

Post-test knowledge regarding polycystic ovarian syndrome

Out of 104 participants, 51% had average knowledge, 47% had good knowledge and only 2% had poor knowledge regarding PCOS.



**Fig. 2:** Distribution of participants based on posttest knowledge.

Section III: Association between awareness regarding Polycystic Ovarian Syndrome with socio demographic variable

There was a significant association between the knowledge score with menstrual cycle and source of information of the subjects.

**Table 2:** Association between awareness regarding Polycystic Ovarian Syndrome with socio-demographic variables (N=104)

Variables	Chi square value	P value
Age	7.171	0.127
Religion	1.014	0.602
Type of family	.598	0.742
Socio economic status	3.467	0.483
Dietary pattern	1.574	0.813
Menstrual cycle	5.985	0.050
BMI	3.639	0.725
Source of information	18.825	0.016

**Discussion**

The present study was conducted to assess the effectiveness of an information education and communication (IEC) on awareness regarding polycystic ovarian syndrome (PCOS) among undergraduates at selected college, south India. In the present study, 71% of the participants had average knowledge regarding PCOS, 22% subjects had good knowledge and 7% of the subjects had poor knowledge regarding PCOS. The pretest mean score of awareness was 12.91±3.16 and the posttest mean score was 14.79±2.74, the mean difference was 1.88 (p<0.001).

The findings are congruent with a quasi-experimental one group pre-test and post-test design study conducted among 60 adolescent girls in a higher secondary school, Uttar Pradesh, India. The post-test mean score (19.6) was high when compared to the pre-test mean (7.1) score of knowledge regarding polycystic ovarian syndrome among adolescent girls.<sup>4</sup>

In a study conducted among adolescent girls in selected colleges at Madurai, a quasi-experimental pretest-posttest

control group design was used and found that in control group, the pretest mean score of awareness was 11.43 ±3.07 and the posttest mean score was 12.27± 2.65. The mean difference was not statistically significant. In the experimental group, the pretest mean score of awareness was 11.70 ±2.48 and the posttest mean score was 21.03±1.42. The mean difference was statistically highly significant. The findings was consistent with the present study.<sup>5</sup>

The findings are congruent with the study conducted among adolescent girls in selected schools at Madurai. In the experimental group, 78% had inadequate knowledge in pre-test and after video assisted teaching only 4% had inadequate knowledge in post-test. There was significant improvement in mean post-test knowledge score (23.1) in the experimental group which was higher than that of the control group (15.3) (p<0.05).<sup>6</sup>

A similar study was conducted among 30 adolescent girls in selected schools in Chennai. The findings revealed that majority (60%) of adolescent girls had moderate knowledge and 33% had adequate knowledge level and only 7% had inadequate knowledge on PCOS in the post-test. The study concluded that adolescent girl’s knowledge on PCOS was improved after the video assisted teaching programme and no significant association was noted between knowledge level and selected demographic variables of adolescent girls.<sup>7</sup>

This study emphasizes the importance of counseling the parents to take care of their adolescent girls related to reproductive health problems. This study reveals the fundamental responsibility of the gynecological nurses to educate and support adolescent girls on various gynecological problems to improve the health related quality of life. As a part of reproductive system assessment, nursing students need to be educated and trained to identify the risk factors of PCOS in community settings. Post graduate gynecological nursing specialization students should be trained to impart awareness regarding various gynecological problems.

There are a few limitations of the study. The study design did not include the control group. Similarly, inclusion of participants from a single institution undermined the benefits of a comparative study involving adolescent girls in rural and urban areas.

**Conclusions**

After information, education and communication, there was a significant increase in the post-test mean knowledge scores regarding prevention and management of PCOS. Information, education and communication thus had a great impact on the knowledge regarding prevention and management of PCOS.

**Acknowledgement:** Amrita College of Nursing

**Funding:** None

**Conflict of interest:** None

## REFERENCES

1. Shukla A, Verma T. To assess the effectiveness of structured teaching programme on knowledge regarding polycystic ovarian syndrome (PCOS) among nursing students. *Int J Clin Obstet Gynaecol.* 2021;5(4):01-05. DOI: [10.33545/gynae.2021.v5.i5a.1005](https://doi.org/10.33545/gynae.2021.v5.i5a.1005)
2. Nidhi R, Nagaratna R, Amrithanshu R. Prevalence of polycystic ovarian Syndrome in Dubey A. *Health and nutrition for adolescent girls* 2008;4(4). URL:[www.vigyamprasar.gov.in](http://www.vigyamprasar.gov.in) 2
3. Amanda Kallen. Polycystic Ovary Syndrome (PCOS): Symptoms, Causes, and Treatment. April 2021 URL: <https://www.healthline.com/health/polycystic-ovary-disease#what-is-pcos>
4. Mayura V, Manu J. A study to assess the effectiveness of video assisted teaching programme on knowledge regarding prevention and management of pcos among adolescent girls at selected higher secondary school, uttar Pradesh.IJCRT.Available from; [papers/IJCRT2210180.pdf](https://www.researchgate.net/publication/354111180/papers/IJCRT2210180.pdf)
5. Arathi A. A study to assess the effectiveness of video assisted teaching programme on awareness and attitude regarding early identification and management of polycystic ovarian syndrome among adolescent girls in selected colleges at Madurai. Available from; <http://repository-tnmgrmu.ac.in/18721/>
6. Suji A, Kumari J R, Santha J N. A Quasi Experimental study to assess the Effectiveness of the Video assisted Teaching Programme on Knowledge and Self Reported Practices Related to concepts of Polycystic Ovary Syndrome among Adolescent girls in Selected Schools, Madurai, Tamil Nadu. DOI: [10.5958/2349-2996.2016.00010.0](https://doi.org/10.5958/2349-2996.2016.00010.0)
7. Valarmathi E R, Metilda M. Effectiveness of Video Assisted Teaching Programme on Knowledge About Polycystic Ovarian Syndrome Among Adolescent Girls in a Selected School, Chennai. *International J midwifery nursing.* Available from: <https://nursing.journalspub.info/x.?journal=ijmn&page=article&op=view&path%5B%5D=2144>