

Original Research Article

# Study to Evaluate the Effectiveness of Structured Teaching Programme in Knowledge Regarding Polycystic Ovarian Syndrome (PCOS) among 1st Year B.Sc. Nursing Student of Smt. Nagarathamma College of Nursing

Ms. Geeta K. Malavad<sup>1\*</sup>, Mr. Mirjahan<sup>2</sup>

<sup>1</sup>Assistant Professor, Department of Obstetrics and Gynecological Nursing, Smt. Nagarathamma College of Nursing, Bengaluru, India

<sup>2</sup>Assistant Lecturer, Smt. Nagarathamma College of Nursing, Bengaluru, India

\*Corresponding Author: Ms. Geeta K. Malavad

Assistant Professor, Department of Obstetrics and Gynecological Nursing, Smt. Nagarathamma College of Nursing, Bengaluru, India

## Article History

Received: 03.10.2024

Accepted: 09.11.2024

Published: 16.11.2024

**Abstract:** *Background of Study:* Polycystic Ovarian Syndrome or disease (PCOS/PCOD), originally described in 1935 by Stein and Leventhal, is a complex, heterogeneous disorder of uncertain etiology, with a large degree can be classified as a genetic disease. It is thought to be the most frequent endocrine problem of women in reproductive age. In India nearly 40% of the women are affected by polycystic ovarian syndrome or disease (PCOD). But among them only 60% come to hospital for treatment, when they recognize that they have got infertility. *Method:* Evaluative approach is adopted to study as its aim is to test hypothesis that establishes relationship between polycystic ovarian syndrome (PCOS) and reduction in conditions. Pilot study was conducted with six samples in selected college to refine methodology and to find feasibility of study. *Result:* There was significant improvement in the knowledge of students following the administration of structured teaching program on Polycystic Ovarian Syndrome. *Conclusion:* The present study attempted to assess knowledge regarding polycystic ovarian syndrome. The study findings showed that the post test score was higher than the pre-test score and was concluded that structure teaching program on polycystic ovarian syndrome was effective.

**Keywords:** Effectiveness, Structured Teaching Programme, Prevention, Polycystic Ovarian Syndrome.

## 1. INTRODUCTION

“Female adolescence is universally an emotionally and psychologically intense period”

- Caitlin Flanagan.

“A study to evaluate the effectiveness of structured teaching programme on knowledge regarding Polycystic Ovarian Syndrome (PCOS) among 1<sup>st</sup> year B.Sc nursing students of Smt. Nagarathamma College of nursing, Bengaluru.”

### Anatomy and Physiology:

Polycystic ovarian syndrome (PCOS) is set of symptoms caused by problem with woman's hormones. It affects ovaries. These are small organs that stores woman's eggs. But it can also affect rest of body. PCOS is very common condition in women of childbearing age. In some cases, it can lead to serious health issues if not treated [1].

### Definition:

Polycystic ovarian syndrome (PCOS) is hormonal disorder common among women of reproductive age. Women with PCOS have infrequent or prolonged menstrual periods or excess male hormone (androgen) levels. Ovaries develop numerous small collections of fluid (follicles) and fail to release eggs regularly [2, 3].

**Copyright © 2024 The Author(s):** This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

**CITATION:** Geeta K. Malavad & Mirjahan (2024). Study to Evaluate the Effectiveness of Structured Teaching Programme in Knowledge Regarding Polycystic Ovarian Syndrome (PCOS) among 1st Year B.Sc. Nursing Student of Smt. Nagarathamma College of Nursing. *South Asian Res J Nurs Health Care*, 6(5): 75-81. 75

**Causes:**

- Excess insulin Secretion
- Low-grade inflammation
- Heredity
- Excess androgen

**Sign and Symptoms:**

1. Irregular or Absence of menstrual period
2. Heavy periods
3. Excess body and facial hair
4. Acne
5. Pelvic pain
6. Difficulty to getting pregnant
7. Patches of thick, darker, velvety skin
8. Menstrual disorders
9. Infertility
10. High levels of masculinizing hormones
11. Metabolic syndrome
12. Polycystic Ovaries

**Treatment:**

PCOS has no cure, as of 2020. Treatment involve lifestyle changes such as weight loss and exercise. Metformin and anti-androgens also help. Other typical acne treatments and hair removal techniques may use. Efforts to improve fertility include weight loss, clomiphene, or metformin [4, 5].

**Review of Literature**

A prospective cohort study was conducted among adolescent girls to assess the presentations, diagnosis and outcomes of the menstrual abnormalities in Hong Kong (2011). A total Of 577 adolescents aged between 14 to 19 years with menstrual disorders were reviewed and their menstrual outcome were determined by telephone survey. In all, 47% presented with menorrhagia, prolonged mensuration and short menstrual cycle; 27% had secondary amenorrhea, 12% had dymenorrhea, 11% had oligo menorrhea and 3% had primary menorrhea. Polycystic ovarian syndrome was diagnosed in 16% of the cohort. Study concluded that adolescent menstrual disorders should not be ignored. Long cycle, diagnosis of polycystic ovarian syndrome at first consultation and a current body mass index of 23kg/m<sup>2</sup> or higher were statically associated with persistent problems [6].

A study conducted among obese girls aged between 12 to 18, to analyze the impact of lifestyle intervention on menses irregularities, hyperandrogenemia, and Intimanmedi8a (IMT) in adolescent girls with PCOS in Germany (2011). Study included 59 obese girls intervention was a 1 year lifestyle modification based on nutrition education and exercise training. The study found that weight loss due to lifestyle intervention is effective to treat menses irregularities, normalize androgens and intima-media thickness in obese adolescent girls with PCOS [7].

A case control study was done among adolescent girls to find out “Polycystic ovarian syndrome in In Urban area” in Delhi (2011). A total of 65 (33 PCOS, 32 controls) were selected for the study. A semi-structured questionnaire was administered to collect data. The studies found that obesity is major risk factor in developing PCOS in adolescent girls [8].

A study was conducted among oligohypomenorrhea patients to investigate the prevalence of PCOS with Hirsutism in Lahore (2010). Study consisted of 90 eligible couples and they were divided into two groups. Group-1 oligohypomenorrhea with hirsutism and Group-2 oligohypomenorrhea without hirsutism. A questionnaire was used to collect data. The result that prevalence of PCOS higher among patients having both oligohypomenorrhea and hirsutism.

A retrospective study was done among 60 adolescent girls between the age group of 13-19 years to assess the quality of diagnostic work-up received by patients with “possible” polycystic ovarian syndrome (PCOS) in New York (2009). Adolescent girls with a primary ICD- 9 diagnosis of ovarian dysfunction (256), menstrual irregularity (629), or hirsutism (704) were randomly selected for evaluation. Twenty five percent (15/60) of the patients were evaluated for PCOS according to Rotterdam criteria, only 2 were evaluated for common co- morbidities associated with PCOS of the 28 patient who presented with two or more signs of PCOS (54%), but only 7% were associated for common co-morbidities. These findings suggests that PCOS is under evaluated and possibly under diagnosed and the pediatric population, which raises concerns regarding the potential for major long term, public health consequences.

A cross sectional study was conducted among urban adolescent girls to find out the prevalence of PCOS in Mumbai (2008). Sample consisted 300 college going adolescents. Questionnaire was administered to collect data. Biochemical test and ultrasonography was administered to collect data. Biochemical and ultrasonography was done. The study found the prevalence of PCOS is 6.5-8%.

## 2. MATERIALS AND METHOD

Evaluative approach is adopted to study as its aim is to test hypothesis that establishes relationship between polycystic ovarian syndrome (PCOS) and reduction in conditions. Pilot study was conducted with six samples in selected college to refine methodology and to find feasibility of study. The setting of study is selected nursing colleges, Bangalore. Main study samples were about 60 in number. Non probability convenient sampling technique was used to select samples. Research design adopted for study was pre-experimental, one group pre-test post-test design. Polycystic ovarian syndrome (PCOS) which includes definition, causes, risk factors, signs and symptoms, diagnostic evaluation, preventive measures, and management.

### Research Approach

According to nature of problems selected for study, an evaluative research approach was appropriate. Evaluatory approach was used in study, it aimed to assess knowledge regarding polycystic ovarian syndrome.

### Research Design

It is defined as “A research overall for obtaining answer to research questions or testing hypothesis”

The research design is plan, structure and strategy of investigations of answering research questions in overall plan or blueprint of researchers select to carry out their study.

Pre experimental one group pre-test and post-test design was adapted for study.

Subjects	Pre-test Day 1	Treatment Day 1	Post-Test Day 7
Students studying in 1 <sup>st</sup> year B.Sc. Nursing. Smt. Nagarathamma college Nursing, Bengaluru.	Assessment of knowledge regarding Polycystic Ovarian Syndrome (PCOS) among 1 <sup>st</sup> year B.Sc. Nursing students by structured knowledge Questionnaire.	Administration of structured teaching programme on Polycystic ovarian syndrome (PCOS)	Assessment of knowledge regarding Polycystic ovarian syndrome (PCOS) among 1 <sup>st</sup> year B.Sc. Nursing students by using structured knowledge questionnaire.

**Variables Under Study:** In study key variables are knowledge of students regarding polycystic ovarian syndrome.

**Attributed Variables:** Demographic characteristics such as age, religion, family monthly economic status, residential area, Nationality, previous knowledge and source of previous knowledge.

**Independent Variables:** Structured teaching program, student psychology.

**Dependent Variables:** Student’s knowledge.

**Setting of the Study:** Setting is physical location and condition in which data collection take place in study. Study was conducted in SMT. NAGARATHNAMMA College of nursing, Bengaluru.

**Study Population:** Population is total number of people who meet criteria that researcher has established for study from whom subjects will be selected and to whom findings will be generalized. Target population- students Accessible population- 1st year B.sc nursing students.

### Sampling and Sampling Techniques:

**Sample Size:** The sample is small portion of population for observation and analysis. In present study, sample size consists of around 40 students of 1st year B.Sc. nursing in Smt. Nagarathamma College of nursing, Bengaluru.

**Sampling Techniques:** Non probability purposive sampling technique was used for study.

### 1.1 Tables

#### SECTION 2: Assessment of knowledge of subjects on polycystic ovarian syndrome

A. Overall and aspect wise pre & post knowledge score of subjects on polycystic ovarian syndrome.

**Table 1: Overall pretest score on knowledge of subjects on PCOS**

Group	Mean	Mean %	Standard deviation
Overall pre-test score	10.7	53.5%	3.09

The above table shows mean, mean percentage and standard deviation for pretest knowledge of subjects on PCOS.

**Table 2: Distribution of subjects by level of knowledge on PCOS (pre-test)**

Level of knowledge	Category	No. of respondents	Percentage
Inadequate	< 50% score	19	47.5%
Moderate	51-75% score	20	50%
Adequate	>75% score	1	2.5%
<b>Total</b>		40	100%

The above table shows pretest level of subjects is adequate in all respondents.

The above table shows inadequate (category 1) is of 47.5%, Moderate (category 2) is of 50%, adequate (category 3) is of 2.5%.

**Table 3: Distribution of subjects by level of knowledge on prevention of polycystic ovarian syndrome (post-test)**

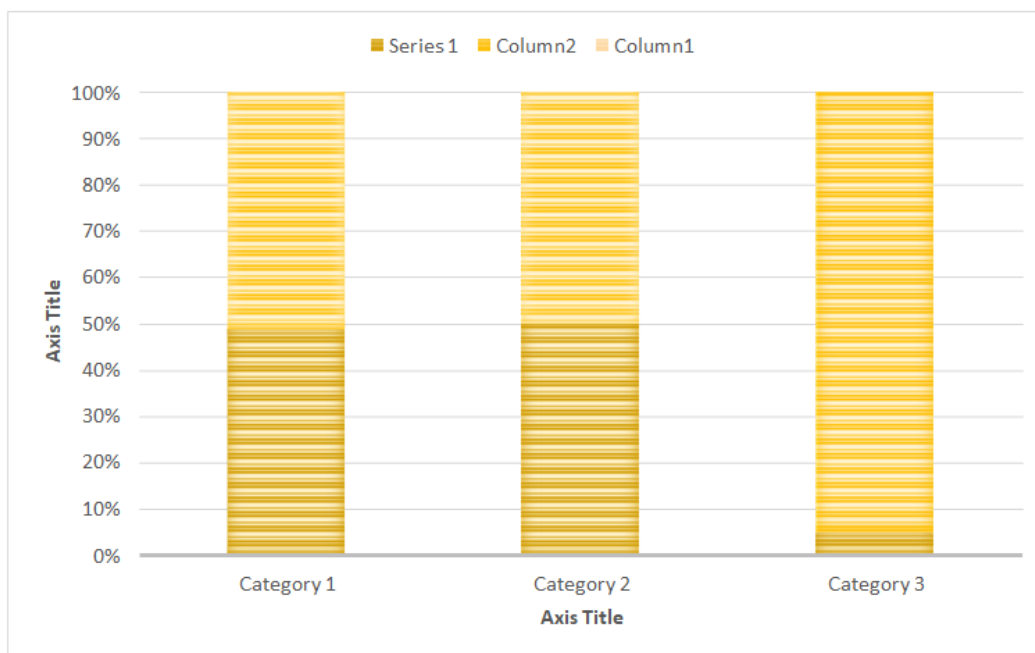
Knowledge level	Category	No. of respondents	Percentage
Inadequate	< 50% score	02	5%
Moderate	51-75% score	05	12.5%
Adequate	>76% score	33	82.5%
<b>Total</b>		<b>40</b>	<b>100%</b>

The above tables reveal majority of subjects 02 (5%) gained inadequate knowledge, 05(12.5%) gained moderate knowledge, 33(82.5%) gained adequate knowledge on polycystic ovarian syndrome (PCOS).

**Table 4: Comparison of knowledge score percentage on polycystic ovarian syndrome (PCOS) before and after administration of structured teaching programme**

Pre-Test			Post-Test			Knowledge Enhancement %
Mean	Mean %	SD	Mean	Mean %	SD	
10.7	53.5%	3.09	17.6	88%	2.09	34.5%

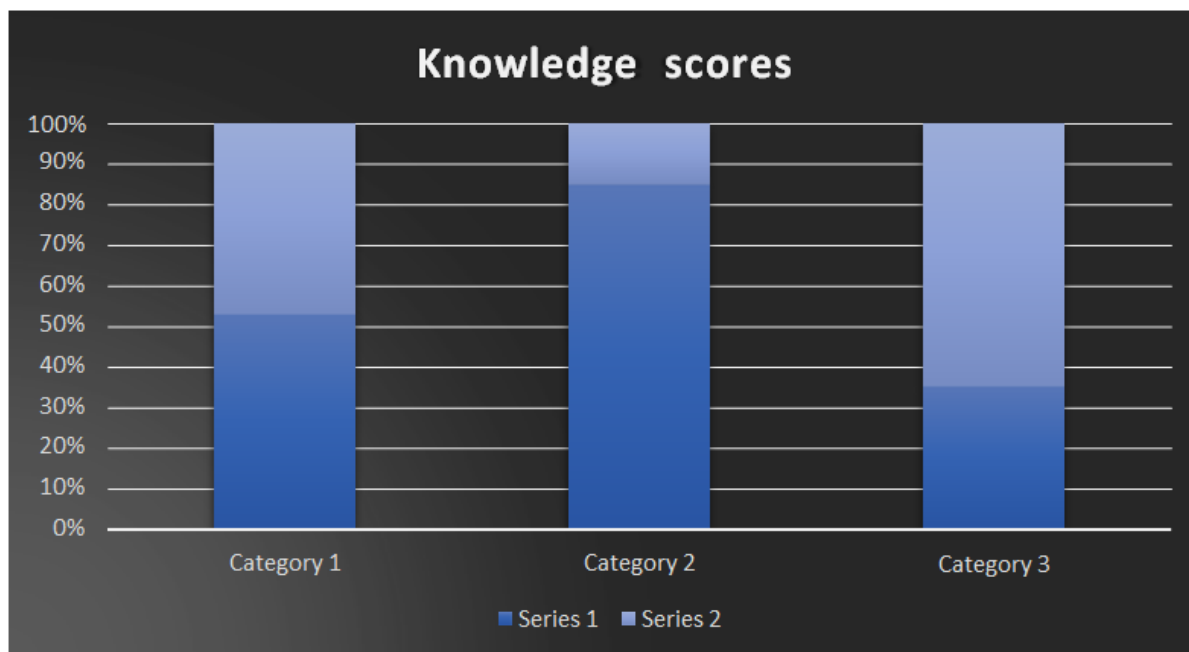
### 1.2 Figures and Graphics



**Figure 1: Pre-Test Knowledge Score**

The above table shows that inadequate (category 1) is of 47.5%, Moderate (category 2) is of 50%, adequate (category 3) is of 2.5%.

Figure 2 below graph shows the total mean percentage of the pre-test and post- test and the level of knowledge enhancement.



**Figure 2: Total mean percentage of the pre-test and post- test and the level of knowledge enhancement**

### 3. RESULT AND DISCUSSION

Data was analyzed by applying Descriptive and Inferential statistics. Study findings suggested that structured teaching programme is an effective instructional method in improving knowledge regarding Lamaze technique among antenatal mothers.

The overall mean percentage knowledge score in pre-test and post-test were 53.5% and 88% respectively. Enhancements in mean percentage score were found 34.5%. The statistical paired't' test indicates that enhancement in mean percentage knowledge score was found to be significant at 0.05 level for all the aspects under study. The association found to be partly significant between post-test knowledge scores and selected socio-demographic variables at 0.05 level ( $p < 0.05$ ).

This chapter discusses major findings of study and reviews them in relation to findings from results of previous studies. Present study was aimed to evaluate effectiveness of structured teaching programme on knowledge regarding Polycystic Ovarian Syndrome (PCOS) among 1<sup>st</sup> year B.Sc. nursing student of Smt. Nagarathamma College of nursing, Bengaluru.

**The objectives of “A study to evaluate the effectiveness of structured teaching program on knowledge regarding Polycystic Ovarian Syndrome (PCOS) among 1<sup>st</sup> year B.Sc. nursing student of Smt. Nagarathamma college of nursing, Bengaluru.”**

- To assess existing knowledge regarding Polycystic Ovarian Syndrome among the students of 1st year B.Sc. nursing students of Smt. Nagarathamma college of nursing, Bengaluru.
- To calculate effectiveness of structured teaching program on knowledge regarding Polycystic Ovarian Syndrome among 1st year B.Sc. nursing students of Smt. Nagarathamma College of nursing.
- To find an association between pre-test and post-test knowledge score regarding Polycystic Ovarian Syndrome among 1<sup>st</sup> year B.Sc. nursing students of Smt. Nagarathamma College of nursing.

**The study was attempted to examine the following hypothesis:**

**H<sub>1</sub>:** There will be significant difference between pre and post-test knowledge scores on knowledge regarding Polycystic Ovarian Syndrome (PCOS) among 1<sup>st</sup> year B.Sc. nursing student of Smt. Nagarathamma College of nursing, Bengaluru.

**H<sub>2</sub>:** There will be significant association between post-test level of knowledge on Polycystic Ovarian syndrome and selected demographic variables of 1<sup>st</sup> year B.Sc. nursing student of Smt. Nagarathamma College of Nursing.

### Major Findings in the Study

#### Sample Characteristics:

1. **According to Age:** About 10% were 18 years old and 90% was 19 years old and above.
2. **According to family's Monthly Economic Status:** 67.5% has more than Rs.10000 per month and 27.5% have 5000-10000rs and 7.5% are in 3000-5000 per month.
3. **According to Religion:** 42.5% were Christian, 37.5% were Hindu, 17.5% were Islam and 2.5% were Others.
4. **According to Residential Area:** 52.5% of the subjects resided in rural areas and 47.5% in urban areas.
5. **According to Nationality:** 100% were Indian Nationals
6. **According to Previous Knowledge:** 35% had previous knowledge regarding polycystic ovarian but 65% didn't have previous knowledge about the disease.
7. **According to source of Knowledge:** 43% of the subjects got the knowledge from social media, 43% from friends and family, 0% from health personnel and 14% from others.

#### Pre-test knowledge of Polycystic Ovarian Syndrome (PCOS) among 1<sup>st</sup> year B.Sc. nursing student of Smt. Nagarathamma College of nursing, Bengaluru

The levels of knowledge were seen into 3 categories, inadequate, moderate and adequate. All of the subjects had inadequate knowledge about the prevention of polycystic ovarian syndrome.

#### Post-test knowledge of Polycystic Ovarian Syndrome (PCOS) among 1<sup>st</sup> year B.Sc. nursing student of Smt. Nagarathamma College of nursing, Bengaluru

In the post-test, only 5% had inadequate knowledge regarding the prevention of polycystic ovarian syndrome, 12.5% obtained moderate knowledge and 82.5% obtained adequate knowledge.

## 4. CONCLUSION

This chapter enlightens importance of research and reveals that significant lack of knowledge regarding Polycystic Ovarian Syndrome among 1<sup>st</sup> year B.Sc. nursing student of Smt. Nagarathamma College of nursing, Bengaluru and Structured Teaching Programme had significant role in improving knowledge.

## ACKNOWLEDGEMENT

This research here by prepared is not only result of ours effort but of collective efforts of many around me. We have made considerable effort to acknowledge many persons to whom we owe ours gratitude. First of all we express my sincere thanks to Almighty God for his grace, his kindly help and blessings throughout study without which nothing would have been possible. His presence gave me strength to successfully complete study.

It is ours privilege to be a part of institution and would like to express my sincere thanks and gratitude.

We express my sincere and heartfelt thanks to Prof. Devinanjappan, Principal, Smt. Nagarathamma College of nursing, Bangalore, for her constant support and valuable guidance, throughout period of study.

#### Author Contributions

1. **First Author:** Problem statement formation, objectives, Research methodology, Questionnaire, STP Administration, Etc.,
2. **Second Author:** Contributed to Collect Review of literature, statical analysis.

#### Funding Statement

“This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.” (NB: this does not apply to protocols).

**Competing Interest:** A declaration of interests of all author received before an article reviewed and accepted for publication.

**Ethical Clearance:** We received ethical clearance from institution.

## REFERENCES

1. (N. d.). Mehndiratta.net. Retrieved September 21, 2024, from <http://www.mehndiratta.net/teenage>
2. Goswami, S., Dutta, R., & Sengupta, S. (2005). *J Obstet Gynaecol India*, 55(4), 35.
3. Teenage girls. Available from: URL: [http://www.mehndiratta.net/teenage\\_yrh02.htm](http://www.mehndiratta.net/teenage_yrh02.htm)

4. Azizz, R., Dunaif, A., & Ehrmann, D. Polycystic ovary syndrome. The Hormone Foundation: Available from: URL: <http://www.hormone.org>.
5. Trent, M. E., Rich, M., Austin, S. B., & Gordon, C. M. (2002). Quality of life in adolescent girls with polycystic ovary syndrome. *Archives of pediatrics & adolescent medicine*, 156(6), 556-560. Available from [www.archpediatrics.com](http://www.archpediatrics.com).
6. Norman, R. J., Dewailly, D., Legro, R. S., & Hickey, T. E. (2007). Polycystic ovary syndrome. *The Lancet*, 370(9588), 685-697.
7. Rotterdam ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group. (2004). Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome (PCOS). *Human reproduction*, 19(1), 41-47.
8. Kiddy, D. S., Hamilton-Fairley, D., Bush, A., Short, F., Anyaoku, V., Reed, M. J., & Franks, S. (1992). Improvement in endocrine and ovarian function during dietary treatment of obese women with polycystic ovary syndrome. *Clinical endocrinology*, 36(1), 105-111.