

A Study to Assess the Effectiveness of Planned Teaching Program on Knowledge Regarding Polycystic Ovarian Disorder (PCOD) Among Adolescent Girls of GNM 1st Year and BSc Nursing 1st Semester at Narayan Nursing College, Jamuhar, Rohtas, Bihar.

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Abstract—Polycystic ovarian disorder (PCOD), a common endocrine issue affecting 5-10% of reproductive-age women, presents with irregular menses, ovarian cysts, hirsutism, infertility, and metabolic complications like type 2 diabetes—particularly rising among Indian adolescents due to sedentary lifestyles and dietary shifts. This pre-experimental one-group pretest-posttest study evaluated a 45-minute planned teaching program (PTP) using PowerPoint and flashcards on PCOD causes, symptoms, diagnosis, prevention, and management. Among 60 adolescent girls (GNM 1st year/BSc Nursing 1st semester) selected via convenient sampling at Narayan Nursing College, pretest knowledge was poor in 32 (53.3%) and moderate in 28 (46.7%), mean score 7.23±3.316. Posttest shifted to good in 43 (71.7%) and moderate in 17 (28.3%), mean 18.70±2.011. Paired t-test: $t=11.47$, $df=59$, $p<0.0001$ (highly significant). Chi-square analysis revealed no associations with demographics (age $\chi^2=3.65$, $p=0.30$; education $\chi^2=1.21$, $p=0.75$; etc., all $p>0.05$). The PTP significantly enhanced knowledge, supporting its role in nursing education for early PCOD intervention.

Keywords —Planned Teaching Program, Polycystic Ovarian Disorder, Adolescent Girls, Knowledge Assessment, Pre-experimental Design, Nursing Students

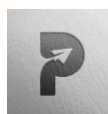
INTRODUCTION

Polycystic ovarian syndrome (PCOS) is a condition where a woman experiences an imbalance in her female sex hormones. This hormonal imbalance can result in alterations to the menstrual cycle, the presence of cysts in the ovaries, difficulties in conceiving, and other health issues. It is a prevalent health concern among teenagers and young women, affecting approximately 5% to 10% of women during their reproductive years. These complications can lead to infertility.

Statement of Problem: A study to assess planned teaching program effectiveness on PCOD knowledge among GNM 1st/BSc 1st girls at NNC Jamuhar.

Objectives:

1. To assess the pretest knowledge regarding PCOD among adolescent girls of GNM 1st year and B.Sc Nursing 1st semester.



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2. To assess the post-test knowledge regarding PCOD among adolescent girls of GNM 1st year and B.Sc Nursing 1st semester.
3. To evaluate the effectiveness of planned teaching program by comparing the pre-post and post-test knowledge score.
4. To determine the associate between post-test knowledge scores with selected demographic variables.

Hypotheses

H1: Significant pre-post difference;

H2: Significant demographic associations.

Assumptions: Inadequate baseline knowledge; planned teaching program improves it.

Delimitations: One-week study; limited to GNM/BSc 1st at NNC.

Conceptual Framework: Imogene King's Goal Attainment Theory (Input: Demographics + planned teaching program ; Process: Teaching; Output: Knowledge gain; Feedback: Scores).

METHODOLOGY

Component	Details
Approach	Quantitative
Design	Pre-experimental pretest-posttest
Setting	NNC Jamuhar, Rohtas (60 girls)
Sample Size	60 (Convenient sampling)
Tool	Self-structured questionnaire (20 knowledge items)
Scoring	Poor (0-6), Moderate (7-12), Good (13-20)
Intervention	45-min PTP (PPT, flashcards, English/Hindi)

Table 1.1: Brief Methodology Overview

Research Design: Pre-experimental one-group pretest-posttest (no control/randomization).^[1]Setting: Classroom at NNC



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Jamuhar (permission obtained).

Population: GNM 1st/BSc 1st adolescent girls (16-22 years, post-menarche).

Sample: 60 via convenient sampling (inclusion: willing, present; exclusion: absent/unwilling).

Tool Development:

• **Section A:** Demographics (age, education, family, religion, residence, diet, prior PCOD info).

• **Section B:** 20 MCQs (e.g., causes: insulin resistance; symptoms: acne/hirsutism; prevention: exercise/diet).^[1]Validity: 3 experts (Ob/Gyn, nursing); content validity certificate.^[1]Reliability:

• Test-retest $r=0.77$ ($n=10$, 14-day gap).^[1]Pilot Study:

10 girls (14 days); refined clarity, 10-min completion; excluded from main.

Procedure:

1. Permissions (Institutional Ethics, Principal).
2. Informed consent (voluntary, confidential).
3. Pretest (face-to-face, 10-15 min).
4. Planned teaching program (Day 1: 45 min—causes, symptoms, diagnosis via USG/insulin tests, lifestyle management).
5. Posttest (Day 7, same tool).

Ethical Considerations: Autonomy (consent/withdrawal), beneficence (education benefit), non-maleficence, justice, confidentiality.

Data Analysis: SPSS—descriptive (frequency/mean/SD), inferential (paired t-test, chi-square).

Figure 1: Schematic Representation (Text-based): Pre-test → planned teaching program → Post-test → Analysis.

DATA ANALYSIS AND INTERPRETATION

Section I: Demographic Profile ($n=60$) Table 1.2: Frequency Distribution

Demographic	Category	f (%)
Age (years)	17	21 (35)
	18-19	29 (48.3)
	≥ 20	10 (16.7)
Education	GNM 1 st	30 (50)
	BSc 1 st	30 (50)
Family Type	Nuclear	37 (61.7)
	Joint	19 (31.7)



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	Extended	4 (6.7)
Residence	Urban	34 (56.7)
	Rural	20 (33.3)
	Semi-urban	6 (10)
Diet	Vegetarian	18 (30)
	Non-veg	11 (18.3)
	Mixed	31 (51.7)

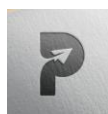
Section II & III: Knowledge Levels Table 2: Pre/Post-test Distribution

Knowledge Level	Pre-test f (%)	Post-test f (%)
Poor	32 (53.3)	0 (0)
Moderate	28 (46.7)	17 (28.3)
Good	0 (0)	43 (71.7)

Table 3: Mean/SD & Paired t-test

Test	Mean $\pm$ SD	Mean Diff	df	t-value	p-value
Pretest	7.23 $\pm$ 3.316	-11.47	59	11.47	<0.0001
Posttest	18.70 $\pm$ 2.011				

Interpretation: Massive gain (71.7% good posttest); t significant (H1 accepted).



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Variable	χ^2	df	p-value
Age	3.65	4	0.30
Education	1.21	1	0.75
Family	2.34	4	0.51
Residence	4.12	4	0.39
Diet	1.87	4	0.76

Section IV: Demographic Associations Table 4: Chi-Square (Posttest Knowledge)

DISCUSSION

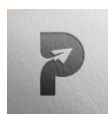
Table 03 illustrates that the mean post-test knowledge score (18.7 ± 2.011) was higher than the mean pre-test knowledge score (7.23 ± 3.316). The paired 't' test value was 11.47, and the p-value (0.0001) was less than the level of significance (0.005). Therefore, the null hypothesis (H_0) was rejected and the research hypothesis (H_1) was accepted. This indicates that the structured teaching program was highly effective in improving the knowledge of adolescent girls regarding polycystic ovarian disease (PCOD).

Table 04 depicts that the chi-square test shows no significant association between post-test knowledge scores and selected demographic variables such as age, education, type of family, residence, and dietary habits.

Shilpa R., Mathew S., and Janet M. (2024) conducted a pre-experimental study among 60 adolescent girls aged 16–19 years in a selected college at Mangalore. The findings showed a significant improvement in post-test knowledge scores (81.61%) compared to pre-test scores (39.56%) after the structured teaching program, proving the effectiveness of STP in improving knowledge regarding PCOS.

SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS, LIMITATIONS

Summary: Planned teaching program transformed knowledge (53.3% poor $\rightarrow$ 71.7% good; $t=11.47$, $p<0.0001$) via King's model, no demographic ties. Objectives met; H_1 accepted.



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Conclusion: Planned teaching program is highly effective for PCOD awareness in nursing adolescents.

Nursing Implications:

- Practice: Nurses deliver school planned teaching programs; monitor PCOD risks.
- Education: Planned teaching program modules in BSc/GNM curricula.
- Administration: Fund CNE; collaborate for mass programs.
- Research: RCTs, longitudinal, multi-center.

Recommendations:

1. Larger samples with controls.
2. Video/Power BI planned teaching program variants.
3. Bihar adolescent health policy integration.
4. Parental/teacher modules.

Limitations: 1-week; NNC-only; English/Hindi; no follow-up.

Plan for Utilization/Dissemination: IJIRT submission; NNC workshops; conferences.

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