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A Quasi-Experimental Study to Assess the Effectiveness of Structured Teaching Programme on Selected Reproductive Health Problems Among the Nursing Students of Mata Sahib Kaur College of Nursing District Mohali, Punjab

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Abstract

Introduction: Girls are the foundation of civilization and future women of society. Adolescence is a crucial phase of development, marking sexual maturity. Reproductive health is vital for overall well-being. Polycystic Ovarian Syndrome (PCOS) is a common endocrine disorder causing hormonal imbalances, irregular periods, and infertility. Management includes lifestyle changes, medications, and medical interventions.

Methodology: A quantitative, quasi-experimental pre-test post-test design was used to assess the effectiveness of a structured teaching program on reproductive health among 60 nursing students at Mata Sahib Kaur College of Nursing, Mohali, Punjab. Convenient sampling was used, with 30 students in the experimental and 30 in the control group. A self-structured questionnaire assessed knowledge before and after the intervention. Data were analyzed using descriptive and inferential statistics, confirming the program's effectiveness.

Results: The study assessed the effectiveness of a structured teaching program on reproductive health among nursing students. The pre-test showed that most students had moderate knowledge. Post-test results revealed a significant improvement in the experimental group, with 90% attaining adequate knowledge compared to only 20% in the control group. Paired t-tests confirmed a significant increase in knowledge for the experimental group ($p < 0.001$), while the control group showed minimal improvement. No significant association was found between socio-demographic variables and knowledge levels, except for residence ($p=0.045$) in the control group and mother's education ($p=0.056$) in the experimental group.

Conclusion: The study demonstrated the effectiveness of a structured teaching program in enhancing knowledge about reproductive health problems among nursing students. Pre-test findings indicated that most students had moderate knowledge, emphasizing the need for educational interventions. The structured teaching program improved knowledge in the experimental group, while the control group showed little change. Socio-demographic factors had no major impact. The study highlights the need for structured education to enhance reproductive health awareness among nursing students.

Keywords: Quasi-Experimental Study, Effectiveness, Structured Teaching Programme, Reproductive Health, Nursing Students, Education Intervention, Knowledge Assessment.

Introduction:

The fate of civilization lies in the hands of girls and they are the root of creation. During their lifespan, the women play the major role as a daughter, mother, mentor, sister, wife, aunt and grandmother. Girls of today are the w omen of tomorrow. [1] Adolescence is a transitional period that marks the beginning of adulthood and is a stage in life in which an individual attains sexual maturity. [2] There are 253 million adolescents in the age group 13-19 years in India. [3] Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease, in all matters relating to the reproductive system and to its functions and processes. [4] Good sexual and reproductive health is important for girl general health and well-being as they are the future mothers of our society. [5]

PCOS is a complex endocrine disorder which is most common in women of reproductive age. It is a condition in which the ovaries produce an abnormal number of androgens, male sex hormones that are usually present in women in small amounts. The name polycystic ovarian syndrome describes the numerous small cysts (fluid filled sacs) that forms in the ovaries. In PCOS various symptoms occurs such as missed periods, irregular periods, weight gam, infertility. It can be diagnosed by ultrasound, blood tests. Treatment can be done by a change in diet and activity, medications to cause ovulation, diabetes medication. [6] Teenage pregnancy is pregnancy in female adolescent under the age of 20. It is a global problem and create issues for all those concerned about young women and their children's health and wellbeing. [7] Teenage pregnancy is associated with significantly higher obstetric risks, and they are no more likely than older women to obtain antenatal care. It is associated with an adverse effect such as maternal nutrition, birth weight and survival of the offspring. [8]

Need for Study

Knowledge of reproductive health is very essential for adolescent girls as the prevalence of reproductive health problems is increasing at a fast rate. The prevalence rates of UTI, PCOS and Teenage pregnancy are 2.9%. 10 % and U.S million respectively. Therefore, reproductive health must be protected and restored by social as well as educational interventions across of lifespan of individual particularly adolescent girls by using the “lifespan approach". An effective health education program should be implemented in schools and colleges to enhance adolescents' knowledge of reproductive health, promoting positive attitudes and healthy practices. [1]

Kripa C Ket.al 2016 conducted a descriptive study among adolescent girls of Aswim college of nursing. Thrissur. Kerala. Sample size of 30 girls selected by probability random sampling technique. A standardized structured questionnaire assessed socio-demographic data and knowledge among adolescents. Results showed 93% had average knowledge, 7% had inadequate knowledge, and none had adequate knowledge. The study emphasized the need for educating adolescent girls on UTI prevention. [9] Bekalu G. Kassa. HabtameG.Bday. Aleniu D. Ayle 2021 conducted a cross-sectional study among female adolescent in Faria District, Amhara region, northwest Ethiopia to assess the prevalence associated factors of teenage pregnancy. A sample of 343 teenagers was selected using a multistage sampling technique. A structured questionnaire revealed a 25.4% prevalence of teenage pregnancy in the study area. [10]

Reproductive health is a crucial aspect of overall well-being, particularly for nursing students who will play a key role in healthcare. Lack of awareness and knowledge about reproductive health problems can impact both personal health and professional competency. This quasi-experimental study evaluates the effectiveness of a structured teaching program in enhancing knowledge among nursing students. Given the increasing prevalence of reproductive health issues, this study highlights the need for educational interventions to empower future healthcare professionals with accurate information, ultimately improving patient care and promoting preventive measures in clinical practice.

Aim of the Study:

Aim of these study to assess the effectiveness of a structured teaching program on selected reproductive health problems among nursing students, enhancing their knowledge, promoting positive attitudes, and encouraging healthy reproductive health practices.

Methodology:

The main objective of study: -

1. To assess the pre-test level of knowledge regarding selected reproductive health problems among the nursing students in both experimental group and control group of Mata Sahib Kaur College of Nursing. District Mohali. Punjab.
2. To administer the structured teaching program regarding selected reproductive health problems among the nursing students in experimental group studying in Mata Sahib Kaur College of Nursing, District Mohali. Punjab.
3. To assess the post-test level of knowledge among nursing students in experimental and control group regarding selected reproductive health problems.
4. To evaluate the effectiveness of planned leaching programme among nursing students in experimental and control group regarding selected reproductive health problems.
5. To associate the research findings with socio-demographic variable.

Research approach: Quantitative research approach.

Research design: Quasi-experimental pre-test post-test design.

Research Setting: - The study was conducted in Mata Sahib Kaur College of Nursing, district Mohali. Punjab.

Sample and Sampling techniques: - The study sample included 60 students (30 experimental, 30 control) selected using convenient sampling, a non-probability technique.

Target Population: - The target population of study were nursing students of GNM 3rd year and BSc 3rd year of Mata Sahib Kaur College of Nursing, district Mohali, Punjab, who fulfills the inclusion criteria.

Variable of study:

Independent Variable: Structured teaching programme on selected reproductive health problems among nursing students.

Dependent Variable: Knowledge regarding selected reproductive health problems among nursing students.

Inclusion Criteria:

Students who are available Available at the time of data collection.

Students who are willing to participate in study.

Exclusion Criteria: -

Students who are not available at the time of data collection

Students who are not willing to participate in study.

Development and Description of Tool:

A self-structured questionnaire was designed to assess nursing students' knowledge on reproductive health at Mata Sahib Kaur College of Nursing, Mohali.

- Section A: 10 socio-demographic items (age, class, dietary habits, housing type, sanitary habits, previous diseases, and information sources).
- Section B: 30 MCQs assessing knowledge of selected reproductive health problems.

Criterion Measure: The study assessed nursing students' knowledge of selected reproductive health problems using a structured questionnaire.

- Section A: Socio-demographic data (not scored).
- Section B: 30 MCQs, each correct answer scored 1, incorrect answers scored 0.
- Scoring Range: 0 (minimum) - 30 (maximum).

Validity of Tool: - Current validity of tool was done from the opinion of experts. The tool was given to experts in the field of Medical and Surgical Nursing and Child Health Nursing.

Reliability of Tool: - Reliability of the self-structured questionnaire was pre-determined. The reliability of tool was established by using split-half (odd-even) co-relation formula and it was found to be reliable.

Pilot Study: A pilot study at Mata Sahib Kaur College of Nursing, Mohali assessed feasibility. Permission was obtained, and verbal consent was taken. Random sampling selected participants for both groups. A pre-test was conducted, followed by a structured teaching program for the experimental group. A post-test was conducted after seven days, confirming feasibility through descriptive analysis.

Data Collection Procedure: The study followed a non-randomized control group pre-test post-test design with 60 nursing students (30 experimental, 30 control). A self-structured questionnaire was used, and verbal consent was obtained. The experimental group received a 25-30minute structured teaching program after the pre-test, with a post-test after seven days.

Permission: Written permission was obtained from the Principal of Mata Sahib Kaur College of Nursing, Mohali, after explaining the study's purpose and objectives.

Ethical Consideration: -

- Formal permission was obtained from the principal of Mata Sahib Kaur College of Nursing, district Mohali. Punjab to conduct study.
- Formal permission was obtained from the ethical committee of Mata Sahib Kaur College of Nursing, district Mohali. Punjab to conduct the study.
- Verbal consents were obtained from the participants of the study.
- All respondents were assured about their anonymity.

Plan of data analysis: - Data was collected, organised, tabulated and analysed by descriptive statistics such as mean, median, frequency percentage, standard deviation and inferential statistics such as paired in t test, chi square on the basis of objective of study was used for findings.

Result:

Section I: Frequency and percentage distribution of nursing students according to their sociodemographic variables: The socio-demographic data of 60 nursing students, divided into experimental and control groups, revealed key findings. The majority (60% experimental, 63.3% control) were aged 18-19 years. All experimental group students belonged to the GNM 3rd year, while all control group students were in B.Sc. 1st year. Most students in both groups resided in urban areas. Fathers' and mothers' education levels varied, with a higher percentage of mothers in the control group having only primary education. Family income was higher in the experimental group. Most students had regular menstrual cycles and followed a vegetarian diet. A significant association (**p=0.005**) was found in the source of information, with mass media being the primary source for most students.

Section II: Frequency and Percentage distribution of Pre-test level of knowledge score among Experimental and Control Group.

Table 1: Frequency and Percentage distribution of Pre-test level of knowledge scores among Experimental and Control Group.

N=60

Criteria Measure Of Knowledge Score		
Category Score	**Pre-Experimental (11,=30) F(%)**	**Pre-Control (11,=30)^%)**
Adequate(21-30)	4(13.3%)	5(16.7%)
Moderate(I1-20)	25(83.3%)	24(80%)
Inadequate(0-10)	1(3.3%)	1(3.3%)

The above table presents the pre-test knowledge scores of 60 nursing students, divided into experimental and control groups, indicate that the majority in both groups had moderate knowledge before the intervention. In the experimental group, 83.3% had moderate knowledge, 13.3% had adequate knowledge, and 3.3% had inadequate knowledge. Similarly, in the control group, 80% had moderate knowledge, 16.7% had adequate knowledge, and 3.3% had inadequate knowledge. These findings suggest that prior to the structured teaching program, most students had only a moderate understanding of reproductive health, highlighting the need for educational interventions.

Section III: Frequency & Percentage distribution of Post-test level of knowledge scores among Experimental and Control Group

Table No.2: Frequency & Percentage distribution of Post-test level of know ledge scores among Experimental and Control Group.

N=60

Criteria Measure Of Knowledge Score		
Category Score	**Post Experimental (N,=30)F(%)**	**Post Control (11,=30) F(%)**
Adequate(21-30)	27(90%)	6(20%)
Moderate(11-20)	3(10%)	23(76.7%)

Inadequate(O-Io)	0(0%)	1(3.3%)

The table no. 2 describes the post-test knowledge scores of the experimental and control groups reveal a significant improvement in the experimental group after the structured teaching program. In the experimental group, 90% of students achieved an adequate knowledge level, while only 10% remained in the moderate category, and none had inadequate knowledge. In contrast, in the control group, only 20% attained adequate knowledge, 76.7% remained at a moderate level, and 3.3% had inadequate knowledge. These results indicate that the structured teaching program was effective in enhancing students' knowledge of reproductive health.

Section IV: Findings related to effectiveness of structured teaching programme on selected reproductive health problems among nursing students in experimental and control group: The comparison of pre-test and post-test knowledge scores within and between groups using paired and unpaired t-tests demonstrated a significant improvement in the experimental group. In this group, the mean pre-test score was 17.23 ± 2.944, which increased to 26.77 ± 2.775 in the post-test. The paired t-test ($t = 14.790$, $p < 0.001$) confirmed a statistically significant improvement following the structured teaching program. Conversely, in the control group, the mean pre-test score was 17.067 ± 3.311, with a slight increase to 17.30 ± 3.292 in the post-test. The paired t-test ($t = 2.041$, $p = 0.05$) indicated a non-significant improvement. Additionally, the unpaired t-test comparing post-test scores between the experimental and control groups yielded a t-value of 12.042 ($p < 0.001$), signifying a significant difference in knowledge enhancement. These findings strongly suggest that the structured teaching program was highly effective in improving knowledge levels among nursing students.

Section V: Association between pretest and posttest research findings and selected socio demographic variables: The association between pre-test knowledge scores on selected reproductive health problems and socio-demographic variables in the experimental group was analyzed. The results indicated no significant association between post-test knowledge levels and age (p=0.136), residence (p=0.165), father's occupation (p=0.584), father's education (p=0.242), family income (p=0.684), menstrual cycle (p=0.361), dietary pattern (p=0.900), and source of information (p=0.156). However, a near-significant association was observed with mother's education (p=0.056), suggesting that maternal education may play a role in influencing students' knowledge acquisition. Overall, while the structured teaching program was effective in enhancing knowledge, socio-demographic variables did not have a significant impact on post-test knowledge scores.

The association between post-test knowledge scores on selected reproductive health problems and socio-demographic variables in the control group was analyzed. The results showed that residence (p=0.045) had a significant association with post-test knowledge scores, suggesting that urban students had better knowledge than those from rural areas. However, no significant association was found between post-test knowledge levels and age (p=0.193), father's occupation (p=0.682), father's education (p=0.673), mother's education (p=0.732), family income (p=0.445), menstrual cycle (p=0.722), dietary pattern (p=0.549), and source of information (p=0.894). Overall, these findings indicate that most socio-demographic variables did not significantly influence post-test knowledge scores in the control group, except for residence, which played a role in knowledge levels.

Discussion

Objective 1: To assess the pre-test level of knowledge regarding selected reproductive health problems among nursing students in both the experimental and control groups: Our study findings showed that the mean pre-test knowledge score was 57.44% in the experimental group and 56.89% in the control group. Among the experimental group, 83.3% had moderate knowledge, 13.3% had adequate knowledge, and 3.3% had inadequate knowledge. Similarly, in the control group, 80% had moderate knowledge, 16.7% had adequate knowledge, and 3.3% had inadequate knowledge. Similar study by Arunachalam et al. (2017) on 31 patients with UTI at Sree Mookambika Hospital, Kanyakumari, using a systematic random sampling technique, found that 32.3% had recurrent urinary tract infections, 35.5% had poor knowledge, 42% had moderate knowledge, and 14.5% had good knowledge about reproductive tract infections.

Objective 2: To administer the structured teaching program regarding selected reproductive health problems among nursing students in the experimental group: Our study findings indicated that after the structured teaching program, the mean knowledge score in the experimental group increased from 57.44% in the pre-test to 89.22% in the post-test, highlighting a significant improvement in knowledge levels. A similar study by MbaCl (2016) assessed the impact of health education on reproductive health issues among 180 students, demonstrating a substantial knowledge gain after six weeks of intervention, reinforcing the effectiveness of structured education programs.

Objective 3: To assess the post-test level of knowledge among nursing students in the experimental and control groups: Post-test findings revealed that 90% of students in the experimental group had adequate knowledge, while 10% had moderate knowledge, and none had inadequate knowledge. In contrast, in the control group, 76.7% had moderate knowledge, 20% had adequate knowledge, and 3.3% had inadequate knowledge. A similar study by Soumya M.A (2013) on 50 adolescent girls in Mangalore found a post-test knowledge score of 87%, confirming the effectiveness of structured teaching programs in improving reproductive health knowledge.

Objective 4: To evaluate the effectiveness of the structured teaching program among nursing students: The mean knowledge score in the experimental group increased from 57.44% to 89.22%, demonstrating the effectiveness of the structured teaching program. A quasi-experimental study Dhital A.D. assessed the effectiveness of a structured teaching program on reproductive health among 200 school adolescents. Findings showed inadequate pre-test knowledge, but the teaching program significantly improved knowledge and attitudes on reproductive health.

Objective 5: To associate post-test findings with socio-demographic variables: Our study found no significant association between post-test knowledge and socio-demographic variables, including age, class, residence, father's occupation, father's education, mother's education, family income, menstrual cycle, dietary pattern, and previous knowledge. Similarly, study by Sheela Pavithran et al. (2014) conducted a quantitative pre-test post-test control group study in Kochi to assess the effectiveness of structured teaching on UTI prevention among 119 adolescent girls. The study found a significant association between knowledge and hygiene practices, emphasizing the importance of health education programs.

Conclusion:

The study aimed to assess the effectiveness of a structured teaching program on selected reproductive health problems among nursing students. The findings highlight the importance of structured education in

enhancing awareness and knowledge regarding reproductive health. Before the intervention, students had only moderate knowledge, emphasizing the need for targeted educational initiatives. After implementing the structured teaching program, students in the experimental group demonstrated a significant improvement in their understanding, confirming the effectiveness of planned teaching interventions in promoting reproductive health awareness. The study also examined the association between socio-demographic variables and knowledge levels, revealing that most variables had no significant impact on knowledge acquisition. This suggests that structured teaching programs can effectively improve knowledge across diverse student populations, regardless of background or prior exposure. The study supports the integration of structured educational programs into nursing curricula to ensure that future healthcare professionals are well-informed about reproductive health issues.

Based on the findings, the study recommends the implementation of structured teaching programs in educational institutions to enhance reproductive health awareness among students. Strengthening health education through systematic interventions can empower nursing students with the necessary knowledge to promote reproductive health awareness in their professional and personal lives.

References:

1. qapix. Having A Girl Child Is A Blessing [Internet]. Blog | Trivitron Healthcare Solutions | Medical Device Company -. 2022 [cited 2025 Feb 25]. Available from: https://www.trivitron.com/blog/having-a-girl-child-is-a-blessing/
2. Deshmukh DD, Chaniana SS. Knowledge about sexual and reproductive health in adolescent school-going children of 8th, 9th, and 10th standards. Journal of Psychosexual Health [Internet]. 2020;2(1):56–62. Available from: https://www.researchgate.net/publication/340893988_Knowledge_About_Sexual_and_Reproductive_Health_in_Adolescent_School-Going_Children_of_8th_9th_and_10th_Standards
3. Empowering adolescent girls and boys in India. Available from https://www.unicct.org/india/uhat-wc-do/adolescent -development -participation.
4. Reproductive health in the western pacific https://wwu.w'ho.int.'western pacific /health -topics/reproductive -health.
5. Women's sexual and reproductive health. Available from https://www.better health.vic.gov.au/campaigns /women -sexual -and -reproductive -health.
6. Polycystic Ovary Syndrome (PCOS) [Internet]. Hopkinsmedicine.org. 2024 [cited 2025 Feb 25]. Available from: https://www.hopkinsmedicine.org/health/conditions-and-diseases/polycystic-ovary-syndrome-pcos
7. Whitehead E. Understanding the association between teenage pregnancy and inter-generational factors: a comparative and analytical study. Midwifery [Internet]. 2009;25(2):147–54. Available from: https://pubmed.ncbi.nlm.nih.gov/17600601/
8. Home - INDIRA GANDHI INSTITUTE OF CHILD HEALTH [Internet]. Gov.in. [cited 2025 Feb 25]. Available from: https://igich.karnataka.gov.in/english
9. Kripa CK, Rose M, Mridula KM, Reshma CR, Saleem SB, James S. Knowledge on prevention of urinary tract infection among adolescent girls. Int J Recent Sci Res. 2016;7(8):13131-2.
10. Kassa B, Belay H, Ayele A. Teenage pregnancy and its associated factors among teenage females in Farta Woreda, Northwest, Ethiopia, 2020: A community-based cross-sectional study. Popul Med

[Internet]. 2021;3(July):1–8. Available from: https://www.populationmedicine.eu/pdf-139190-67071?filename=Teenage pregnancy and its.pdf