EFFECTIVENESS OF POSTPARTUM HEMORRAHAGE
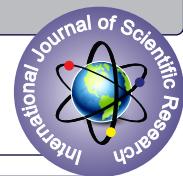
Nursing

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ABSTRACT

Postpartum hemorrhage (PPH) is a major obstetric emergency causing rapid and life-threatening blood loss after childbirth. Its unpredictable nature makes prevention and management difficult. Globally, about 140,000 women die annually due to PPH-one every four minutes. This study aimed to improve nursing students' knowledge to reduce maternal deaths related to PPH. **Background And Objectives:** The objectives were to assess knowledge of PPH among 4th-year B.Sc. nursing students, develop and implement a structured teaching program, evaluate its effectiveness, and find associations with demographic factors. A quasi-experimental design was used with 60 randomly selected students from college of nursing, Tumkur. Data were collected using structured questionnaires before and after the teaching program. **Results:** Post-test results showed a significant improvement in knowledge compared to pre-test scores. The mean post-test score (26.80, 79.05%) was higher than the pre-test score (13.96, 41.05%). The calculated *t*-value (3.81, p < 0.01) confirmed statistical significance. Thus, the structured teaching program effectively enhanced students' knowledge on postpartum hemorrhage.

KEYWORDS

Knowledge, effectiveness, postpartum hemorrhage

INTRODUCTION
Postpartum hemorrhage (PPH) is the leading cause of maternal mortality worldwide, accounting for nearly a quarter of pregnancy-related deaths. The World Health Organization estimates 515,000 women die annually from pregnancy and childbirth complications, with 99% in developing countries. PPH—excessive bleeding within 24 hours after childbirth is a major contributor, especially in the first week postpartum.

Risk factors in low-resource settings include anemia,home deliveries, lack of skilled attendants, and delays in emergency care.Severe cases may require surgery or blood transfusions,which are often limited or risky. PPH is defined as blood loss over 500 ml after vaginal delivery or 1000 ml after cesarean, and can be primary (within 24 hours) or secondary (up to 12 weeks postpartum).Even in high-income countries, PPH rates are rising, highlighting the need for affordable,evidence-based preventive measures to reduce maternal deaths globally.

NEED FOR THE STUDY
Maternal mortality reflects the quality of a country's healthcare system, and India accounts for over 20% of global maternal deaths with about 136,000 women dying each year many from postpartum hemorrhage.Every five minutes,an Indian woman dies due to complications of PPH, and many more suffer long-term disabilities.As severe bleeding is the leading cause of maternal death worldwide,responsible for over half of deaths within 24 hours after childbirth,there is an urgent need for effective prevention and timely management through skilled care and proper medical resources.

Midwives and nurses are key to reducing PPH-related deaths by providing skilled, compassionate, and evidence-based care.Continuous training,updated knowledge and access to essential equipment are critical for improving maternal outcomes.Global efforts,such as the Millennium Development Goals,stress the importance of political commitment, increased skilled birth attendance,and stronger healthcare systems to lower maternal mortality and enhance the quality of maternal care.

OBJECTIVES
1. To assess the existing knowledge of postpartum hemorrhage among 4[th]year B.Sc. Nursing students.
2. To develop and implement a structured teaching program on postpartum hemorrhage.
3. To evaluate the effectiveness of the structured teaching program in enhancing students' knowledge regarding postpartum hemorrhage.
4. To identify the association between pre-existing knowledge and selected demographic variables among the participants.

RESEARCH METHODOLOGY

Research Approach
An evaluative research approach was adopted to assess the effectiveness of a structured teaching program on knowledge regarding postpartum hemorrhage among 4th-year B.Sc. Nursing students at college of nursing,Tumkur.This approach focuses on collecting and analyzing information about a program's functioning to determine its impact and effectiveness, thereby assisting in evidence-based decision-making and improving educational practices.

Research Design
A pre-experimental one-group pretest–posttest design was used for the study. The pretest assessed the students' baseline knowledge of postpartum hemorrhage, followed by the administration of a structured teaching program.A posttest was conducted one week later using the same tool to evaluate the improvement in knowledge and determine the program's effectiveness.

POPULATION
The population for the present study comprised all 4th-year B.Sc. Nursing students studying at a selected nursing college in Tumakuru who met the specified inclusion criteria.These students shared common academic and educational characteristics relevant to the objectives of the study.

VARIABLES UNDER THE STUDY
Variables are characteristics or attributes that can change or vary among individuals, objects, or situations in a research study.
- **Dependent Variable:** Knowledge level of 4th-year B.Sc. Nursing students regarding postpartum hemorrhage.
- **Independent Variable:** Structured Teaching Programme on postpartum hemorrhage.
- **Extraneous Variables:** Factors such as age, religion, type of family, marital status, domicile, sources of information, and academic performance at the pre-university level.

Criteria For Sample Selection
The sample for this study was selected based on availability and suitability of participants, following specific inclusion and exclusion criteria.

Inclusion Criteria:
- 4th-year B.Sc. Nursing students enrolled at college of nursing, Tumkur
- Students available during the study period.
- Students able to read and write in English.
- Students willing to participate in the study.

Exclusion Criteria:
- 4th-year B.Sc. Nursing students selected for the pilot study.
- Students who have previously attended any special training

program on postpartum hemorrhage outside the current nursing curriculum.

Data Collection Instrument

A structured knowledge questionnaire, developed by the investigator using literature review and expert opinions,was used to assess 4th-year B.Sc. Nursing students' knowledge of postpartum hemorrhage.

Tool Description:
- **Section A:** Demographic data (age, religion, family type,marital status,domicile, information sources,academic performance).
- **Section B:** 30 multiple-choice questions on PPH knowledge, scored 1 mark per correct answer. Knowledge levels were classified as <50% inadequate, 50–75% moderate, and >75% adequate.

Validity And Reliability: Content validity was confirmed by nursing experts, and reliability was established using the split-half method (r = 0.82), indicating the tool was consistent and reliable.

CONCEPTUAL FRAMEWORK OF THE STUDY

The study uses the CIPP (Context, Input, Process, Product) evaluation model to assess and enhance 4th-year B.Sc. Nursing students' knowledge of postpartum hemorrhage.

Section A: Demographic Variables (Context Evaluation)

Assessed the environment and needs of students using a pre-test questionnaire covering age, religion, type of family, marital status,domicile, sources of information and academic performance.

Section B: Knowledge Assessment (Knowledge Evaluation)

Evaluated students' knowledge regarding postpartum hemorrhage. The **Input Evaluation** involved planning and developing the structured teaching program. **Process Evaluation** included implementation and monitoring of the program.**Product Evaluation** measured outcomes such as knowledge gain,understanding of PPH management and effective dissemination of information,guiding future teaching improvements.

DEVELOPMENT OF THE STRUCTURED TEACHING PROGRAMME

A structured teaching program on postpartum hemorrhage for 4th-year B.Sc. Nursing students was developed based on literature review and expert consultation.The program and lesson plan were reviewed by experts for clarity,adequacy, and relevance,with suggestions incorporated, including simplification of content and modification of AV aids,resulting in a validated final teaching package.

DATA COLLECTION PROCEDURE

The main study included 60 students selected via convenient sampling.Written permission and informed consent were obtainedand confidentiality assured.A pre-test was conducted, followed by a 30-minute structured teaching session on postpartum hemorrhage.After one week, a post-test using the same questionnaire was administered, and the data were compiled for analysis.

Plan For Data Analysis

Data will be systematically analyzed to test hypotheses and meet study objectives.

Baseline demographic data will be summarized using **frequency and percentage**. Pre-test and post-test knowledge scores will be analyzed using **frequency, percentage, mean, median, and standard deviation**, with differences tested by **paired t test**.Associations with demographic variables will be assessed using **chi-square test**, and results will be presented in **tables and graphs**.

Table1: Distribution Of Variables , Demographic Variables And Knowledge Frequency, Percentage

SI. No	Variables	Demographic Variable	Respondent Knowledge	
			Frequency	Percentage
1.1	AGE	21 years	22	36.6%
1.2		22 years	37	61.6%
1.3		23 years	1	1.6%
1.4		Above 24 years	0	0%
2.1	RELIGION	Hindu	20	33.3%
2.2		Muslim	5	8.3%
2.3		Christian	35	58.3%
2.4		Others	0	0%
3.1	TYPE OF FAMILY	Nuclear	28	46.66%
3.2		joint	32	53.33%
3.1	MARITAL STATUS	Yes	0	0%
3.2		No	60	100%
4.1	DOMICLE	Rural	42	70%
4.2		Urban	18	18%
5.1	SOURCE OF INFORMATION	Mass media	34	56.6%
5.2		Peer group	11	18.3%
5.3		Health workers	6	10%
5.4		Family	9	15%
6.1	ACADAMIC PERFORMANCE OF 4^{TH}YEAR BSC Nsg STUDENTS	Distention	5	8.3%
6.2		1st class	46	76.6%
6.3		2nd class	8	13.3%
6.4		3rd class	1	1.6%

COMPARISION OF PRE TEST AND POST TEST
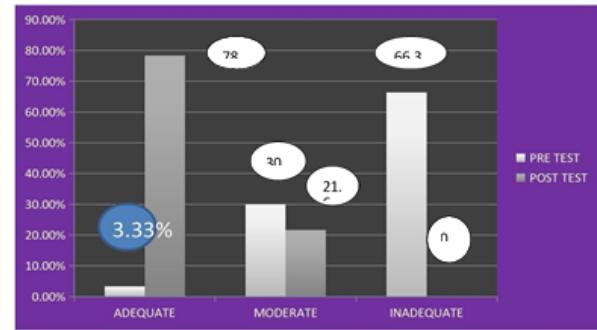
Nursing Implications

The findings of the present study have significant implications for nursing practice, education, administration, and research.

Nursing Practice

Health promotion and illness prevention are core nursing responsibilities. In maternal health, nurses must recognize conditions like morning sickness, leg cramps, and especially postpartum hemorrhage (PPH) early. Timely identification of PPH enables prompt interventions, reducing maternal morbidity and mortality. Nursing and medical education should emphasize early detection and management of such complications to ensure nurses are well-prepared.

Nursing Education

Nursing educators should focus on improving students' knowledge and skills regarding PPH. Classroom discussions,debates and community-based health programs should be integrated into the curriculum to reinforce learning. The study revealed that nursing students currently have inadequate knowledge about PPH, including its prevention and management. Awareness programs and structured educational activities can enhance students' understanding and practical competence in managing PPH,ultimately improving patient care.

Nursing Administration

A nurse administrator can plan periodic population-based surveys on postpartum hemorrhage and conduct in-service education for nurses on early detection and reporting of minor disorders. Staff and students should be encouraged to carry out small population-based projects to understand these disorders.This supports organizing educational programs, health debates, exhibitions, checkups, and counseling on postpartum hemorrhage.

Nursing Research

This study assessed nursing students' knowledge and practice regarding postpartum hemorrhage (PPH),highlighting the importance of managing minor disorders. The findings may inspire similar research in different settings and populations. It also provides a foundation for further maternal health research.The tools used structured questionnaires and observation checklists can be applied in future studies to effectively gather data on knowledge, practice, prevention, and management of minor disorders.

Recommendations:
1. Conduct similar studies on larger populations.
2. Compare rural and urban populations regarding postpartum

hemorrhage (PPH) knowledge and practices.

3. Assess and compare PPH knowledge and practices among nursing students and other healthcare professionals.

4. Evaluate practices and interventions for the prevention and early detection of PPH.

5. Implement video-assisted teaching programs to improve PPH awareness and management.

CONCLUSION

The purpose of the study was to evaluate the effectiveness of a structured teaching programme (STP) on the knowledge of 4th-year B.Sc. Nursing students regarding postpartum hemorrhage in college of nursing ,Tumkur. The pre-test findings indicated that the students had inadequate knowledge about postpartum hemorrhage.After the administration of the STP, the post test scores demonstrated a significant improvement in their knowledge levels. Therefore,it can be concluded that the structured teaching programme was an effective method for enhancing the knowledge of 4th-year B.Sc. Nursing students regarding postpartum hemorrhage.

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