

A QUASI-EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO-ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING PREVENTION AND MANAGEMENT OF POSTPARTUM HAEMORRHAGE AMONG STAFF NURSES IN SELECTED HOSPITAL, BAREILLY (U.P.)

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ABSTRACT

Background: Postpartum haemorrhage (PPH) is a serious obstetric emergency requiring early recognition, prevention and prompt management. Staff nurses involved in maternity care require adequate knowledge to respond effectively to PPH. Video-assisted teaching may provide a structured and standardized educational method.

Aim: To assess the effectiveness of a video-assisted teaching programme on knowledge regarding prevention and management of postpartum haemorrhage among staff nurses in a selected hospital in Bareilly, Uttar Pradesh.

Methods: A quantitative quasi-experimental one-group pre-test post-test design was used. Thirty staff nurses were selected by non-probability purposive sampling from Rohilkhand Medical College and Hospital, Bareilly. A structured 30-item knowledge questionnaire was administered before the intervention and again seven days after the video-assisted teaching programme. Descriptive statistics and inferential tests were planned for analysis.

Results: The thesis data report that, before the intervention, 17 (56.66%) participants had inadequate knowledge, 10 (33.33%) had moderate knowledge and 3 (10.00%) had adequate knowledge. After the intervention, 5 (16.66%) had inadequate knowledge, 4 (13.33%) had moderate knowledge and 21 (70.00%) had adequate knowledge. The reported mean knowledge score increased from 12.38 in the pre-test to 22.12 in the post-test, with a reported mean difference of 9.74.

Conclusion: The findings reported in the thesis indicate an improvement in staff nurses' knowledge following the video-assisted teaching programme. The intervention may be useful as a structured in-service educational strategy for improving knowledge regarding prevention and management of PPH.

Keywords: Postpartum haemorrhage; video-assisted teaching; staff nurses; knowledge; obstetric emergency; quasi-experimental study

INTRODUCTION

Labour, the culmination of pregnancy, is an event with great psychological, social and emotional meaning for the mother and her family. Of all the stages of labour, the third stage is the most crucial. Previously uneventful first and second stages can become abnormal within a minute with disastrous consequences. The fatal complications that may appear unexpectedly include postpartum haemorrhage, retention of placenta, shock, pulmonary embolism and uterine inversion.

The American College of Obstetricians and Gynecologists (ACOG) defines postpartum haemorrhage as a cumulative blood loss of ≥ 1000 mL or blood loss accompanied by signs or symptoms of hypovolemia within 24 hours after the birth process, regardless of mode of delivery. Primary PPH occurs within 24 hours of delivery; secondary PPH occurs from 24 hours up to 6–12 weeks postpartum. The most common cause is uterine atony (the “Tone” of the 4 T’s: Tone, Trauma, Tissue, Thrombin).

Postpartum haemorrhage is one of the most alarming emergencies a midwife or nurse may face. It is always a frightening experience for the woman and can undermine her confidence and delay recovery. Active management of the third stage of labour (AMTSL) is an evidence-based intervention for prevention of uterine atony, yet knowledge and correct use of preventive measures remain suboptimal in many developing-country settings.

Maternal mortality in India continues to remain a public-health concern, with haemorrhage accounting for approximately 25–35 % of maternal deaths. Knowledge of prevention, early recognition and effective management among healthcare providers—particularly staff nurses—is essential for improving maternal outcomes. Video-assisted teaching programmes have been suggested as an innovative educational approach to improve knowledge and skills of healthcare professionals in managing such emergencies.

NEED FOR THE STUDY

Postpartum haemorrhage is the leading cause of maternal mortality worldwide with a prevalence of approximately 6 %. According to the World Health Organization, PPH contributes to around 25 % of maternal deaths globally. In India, despite improvements in healthcare infrastructure, PPH continues to be a major cause of maternal death.

Staff nurses are frequently the first responders to obstetric emergencies. Timely recognition and management of PPH is crucial, yet insufficient training, lack of updated knowledge and inadequate resources contribute to delays and complications. Video-based education enhances learning by providing visual and auditory stimulation and allows standardized learning across settings.

This quasi-experimental study was therefore undertaken to assess the effectiveness of a video-assisted teaching programme in improving the knowledge of staff nurses regarding prevention and management of postpartum haemorrhage in a selected hospital in Bareilly, Uttar Pradesh.

STATEMENT OF THE PROBLEM

A Quasi-experimental study to assess the effectiveness of the video-assisted teaching programme on knowledge regarding prevention and management of postpartum haemorrhage among staff nurses in selected hospital, Bareilly (U.P.).

OBJECTIVES OF THE STUDY

1. To assess the existing knowledge regarding prevention and management of postpartum haemorrhage among staff nurses.
2. To evaluate the effectiveness of the video-assisted teaching programme regarding prevention and management of postpartum haemorrhage among staff nurses.
3. To find an association between pre-test knowledge score of staff nurses regarding prevention and management of postpartum haemorrhage with their selected demographic variables.

HYPOTHESIS

1. **H1:** There will be a significant difference between pre-test and post-test knowledge score before and after administration of video assisted teaching program on prevention and management of Postpartum Haemorrhage among staff nurses.
2. **H2:** There will be a significant association between pre-test knowledge score of staff nurses regarding prevention and management of Postpartum Haemorrhage with their demographical variables.

OPERATIONAL DEFINITION

1. **Effectiveness:** In this study, effectiveness refers to the degree of improvement in staff nurses' knowledge regarding the prevention and management of postpartum haemorrhage (PPH) following participation in a video-assisted teaching programme, as evaluated using a structured knowledge questionnaire.
2. **Video-Assisted Teaching Program (VATP):** A structured educational intervention that utilizes video-based instructional content to provide information on the prevention and management of postpartum haemorrhage, designed to enhance the knowledge of staff nurses.
3. **Knowledge:** The level of understanding that staff nurses possess regarding postpartum haemorrhage, including its causes, risk factors, prevention, and management, assessed using a pre-test and post-test questionnaire.
4. **Prevention and Management of Postpartum Haemorrhage (PPH):** A set of clinical practices and interventions aimed at reducing the occurrence and severity of postpartum haemorrhage, including active management of the third stage of labour (AMTSL), timely recognition of symptoms, and appropriate treatment strategies.
5. **Staff Nurse:** A registered professional nurse employed in a hospital setting, responsible for providing maternal and newborn care, including the prevention and management of postpartum haemorrhage.
6. **Selected Hospital:** A healthcare institution chosen for the study where staff nurses are employed and where the video-assisted teaching program is implemented.

CONCEPTUAL FRAMEWORK

The conceptual framework for the study was adapted from the Health Belief Model given by Rosenstock's and Becker (1974). It addresses the relationship between a person's belief and rules. It provides a way of understanding and predicting how individuals will comply with health actions

REVIEW OF LITERATURE

1. Literature related to knowledge of postpartum haemorrhage among staff nurses.

Sara Elsaïd Elbadrawy and Entesar Fatouh Abd Elmoneim (2022) assessed nurses' knowledge and skills toward postpartum haemorrhage prevention among 70 maternity nurses working at the postpartum unit of the obstetrics and gynaecology department at Mansoura University Hospital. A descriptive design was used. Three tools were employed for data collection: a structured interviewing questionnaire, a knowledge assessment sheet, and an observational checklist to assess nurses' skills. The study revealed that more than half of the nurses had poor total knowledge toward postpartum haemorrhage prevention, while nearly two-thirds had inadequate skills. A statistically highly significant relation was found between the total nurses' knowledge and their total skills toward postpartum haemorrhage prevention.

2. Literature related to effectiveness of video assisted teaching programme regarding postpartum haemorrhage.

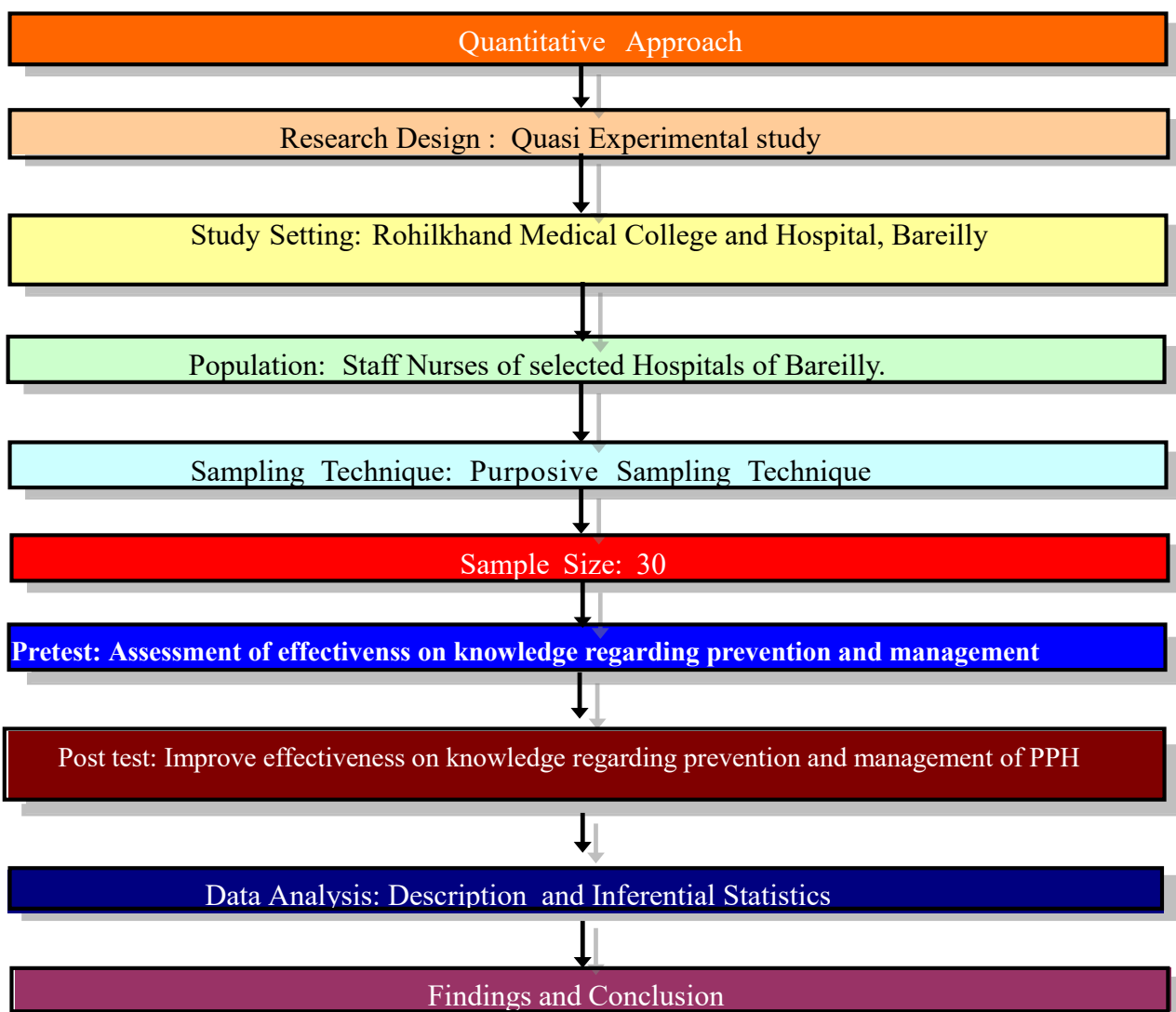
Lalmangaihzuali and Rikynti Nongkynrih (2024) investigated the effectiveness of a video-assisted teaching programme on knowledge regarding postpartum haemorrhage among 45 midwives working in selected

health centres of Guwahati, Assam. A non-probability purposive sampling technique was used. Effectiveness was assessed by pre-test and post-test using a self-structured questionnaire. In the pre-test, the majority (86.67%) had inadequate knowledge and 13.33% had moderately adequate knowledge; none had adequate knowledge. In the post-test, 93.33% had adequate knowledge and 6.67% had moderate knowledge; none had inadequate knowledge. The pre-test mean knowledge score was 4.36 ± 2.75 and the post-test mean score was 21.11 ± 3.42 . The mean difference was 16.75. The calculated paired t -test value ($t = 21.945$) was statistically significant at $p < 0.001$ level, proving that the video-assisted teaching programme was highly effective.

3. Literature related to prevention and management of postpartum haemorrhage among staff nurses.

Jogendra Kumar Sharma (2024) conducted a quantitative study using a pre-experimental research design to assess the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding preventive measures for postpartum haemorrhage during the intranatal period among 60 staff nurses working in Mahila Chikitsalay, Jaipur. Non-probability convenient sampling technique was used. A structured knowledge questionnaire was administered. Pre-test results showed that 71.67% of staff nurses had moderate knowledge and 28.33% had adequate knowledge (mean = 17.87, SD = 3.17). Post-test results showed that 83.33% had adequate knowledge and 16.67% had moderate knowledge (mean = 23.12, SD = 2.29). The paired t -test value was 16.43, which was significant at 0.05 level, indicating that the structured teaching programme was effective in improving knowledge regarding preventive measures of PPH.

MATERIAL & METHODS



RESEARCH DESIGN

In present study quasi experimental research design one group pre-test post-test design was used.

RESEARCH SETTING

The study was conducted in selected hospital of Bareilly. The hospital were:

- For main study: Rohilkhand Medical College and Hospital, Bareilly U.P.

TARGET POPULATION

In present research study the target population consists of Staff Nurses.

SAMPLE SIZE AND SAMPLING TECHNIQUE

The sample size is 30 sample and the technique is Purposive sampling technique is used in this study.

TOOL

A structured questionnaire was developed on the basis of objectives of the study. Tool was developed after extensive review of literature from various text books, journals, internet search and discussion and guidance from the experts in the field of Nursing, and medical experts from the department of Obstetrics and Gynaecology.

DATA COLLECTION

Before the data collection, the researcher introduced herself, explained the purpose of the study to the staff nurses working at Rohilkhand Medical College and Hospital, Bareilly. The confidentiality was assured and consent was obtained from the participants.

Data collection was done using structured questionnaire method. In pretest the researcher administered structured questionnaire to each participant to assess the knowledge of staff nurses on prevention and management of postpartum haemorrhage. The subjects took time to answer the questionnaire. After that a video assisted teaching programme was conducted. After that the researcher clarified many doubts asked by the participants regarding the study. Then each participant was thanked.

Post test was conducted by using the same questionnaire to find out the effectiveness of teaching programme. The data collection process was terminated after thanking the participants for their co-operation.

DATA ANALYSIS

The data obtained from the sample was analyzed by descriptive and inferential statistics.

RESULT

Section I: Distribution of sample characteristics according to demographic variables.

Table 1: Frequency and percentage distribution of Staff Nurses according to socio-demographic variables.

S. No.	Demographic variables	Frequency	Percentage (%)
1	Age in years		
	17-22 years	14	46.66%
	22-28 years	10	33.33%
	28-33 years	02	6.66%
	33 years and above	04	13.33%
2	Gender		

	Male	16	53.33%
	Female	14	46.66%
3	Educational qualification		
	A.N.M.	08	26.66%
	G.N.M.	05	16.66%
	B.Sc. nursing	13	43.33%
	M.Sc. nursing	04	13.33%
4	Marital Status		
	Married	13	43.33%
	Unmarried	17	56.66%
5	Residential Area		
	Rural	11	36.66%
	Urban	19	63.33%
6	Year of experience		
	1-5 years	07	23.33%
	6-10 years	11	36.66%
	11-12 years	03	73.33%
	12 years and above	09	26.66%
7	Previous knowledge		
	Yes	22	73.33%
	No	08	26.66%
8	Source of Information		
	Magazines and newspaper	10	33.33%
	Social Media	08	26.66%
	Family members & friends	07	23.33%
	Health Professional	05	16.66%

Table reveals demographic distribution of Staff Nurses as per the demographic questionnaire of the study.

Section II: Assessment of pre-test knowledge & post-test knowledge regarding prevention and management of postpartum haemorrhage.

Table 2: Frequency and percentage distribution of pre-test and post-test level of knowledge of Staff Nurses. N=30

S.no	Knowledge Score	Frequency	Percentage %	Mean	Mean percentage	Standard Deviation
1	Inadequate Knowledge	10-	33.33%	10.12	5%	1.88
2	Moderate Knowledge	07	23.33%	13.14	4.76%	1.42
3	Adequate Knowledge	13	43.33%	1.73	11.1%	1.058

Table shows distribution of level of knowledge regarding prevention and management of postpartum haemorrhage among staff nurses during pre-test and post-test.

Section III: Comparison of pre-test and post-test knowledge scores to determine effectiveness of the Video Assisted Teaching Programme.

Table 3: Mean, Median, Mode, Standard Deviation and Range of knowledge scores of subjects regarding prevention and management of postpartum haemorrhage among Staff Nurses. N=30

Knowledge Test	Max Score	Obtained Range	Mean	Mean Deviation	t-value	Standard Deviation	P Value
Pre-test	30	4-22	12.38	9.74	1.69	5.66	0.001
Post-test	30	8-30	22.12			6.16	

Table 3: reveals that the pre-test mean knowledge score was 26.53. Whereas the post-test mean knowledge score was 22.60. The overall difference in mean knowledge score was -3.93. The findings of the table reveal the mean knowledge scores based on the master chart of the study.

Section IV: Association between pre-test knowledge scores and selected demographic variables.

Table 4: Association Between pre-test knowledge scores of subjects and selected socio-demographic variables.

Association was examined between pre-test knowledge scores and selected demographic variables using chi-square test at 0.05 level of significance as per Hypothesis H2.

S.No.	Demographic Variables	Level of Knowledge						x ²	Table value	Inference
		Inadequate knowledge		Moderate knowledge		Adequate knowledge				
		No.	%	No.	%	No.	%			
1.	Age							13.032 (df=2)	5.995	S
	a) 17-22 years	6	20	5	16.66	3	10.0			
	b) 22-28 years	7	23.33	2	6.66	1	3.33			
	c) 28-33 years	0	0.0	0	0.0	2	6.66			
	d) 33 years and above	3	10.0	1	3.33	0	0			
2.	Gender							83.472 (df=4)	9.488	S
	a) Male	8	26.66	5	16.66	3	10.0			
	b) Female	10	33.33	3	10.0	1	3.33			
3.	Educational qualification							67.53 (df=4)	9.488	S
	a) A.N.M.	1	3.33	5	16.66	2	6.66			
	b) G.N.M.	3	10.0	2	6.66	0	0			
	c) B.Sc. nursing	7	23.33	5	16.66	1	3.33			
	d) M.Sc. nursing	4	13.33	0	0	0	0.0			
4.	Marital status							3.687 (df=2)	5.991	NS
	a) Married	8	26.66	4	13.33	1	3.33			
	b) Unmarried	9	30.0	3	10.0	5	16.66			
5.	Residential area							4.637 (df=4)	9.488	NS
	a) Rural	6	20.0	1	3.33	4	13.33			
	b) Urban	9	30.0	5	16.66	5	16.66			

6.	Year of experience									
	a)	1-5 years	4	13.33	2	6.66	1	3.33		
	b)	6-10 years	2	6.66	7	23.33	2	6.66	40.52	5.991
	c)	11-12 years	1	3.33	1	3.33	1	3.33	(df=2)	
	d)	12 years and above	3	10.0	5	16.66	1	3.33		
7.	Previous knowledge about postpartum haemorrhage									
	a)	Yes	12	40.0	7	23.33	3	10.0	12.716	9.488
	b)	No	3	10.0	4	13.33	1	3.33	(df=4)	
8.	Source of information									
	a)	Magazines and newspaper	2	6.66	5	16.66	3	10.0		
	b)	Social Media	6	20.0	2	6.66	0	0.0	23.009	5.985
	c)	Family members and friends	4	13.33	1	3.33	2	6.66	(df=2)	
	d)	Health professional	5	16.66	0	0.0	0	0.0		

DISCUSSION

Comparison of pre-test and post-test

The findings of the study revealed a change in the knowledge level of staff nurses following the implementation of the Video Assisted Teaching Programme. The mean pre-test knowledge score was **26.53**, with a median of **27**, mode of **28**, standard deviation of **2.06**, and a range of **8**, indicating that the participants already possessed relatively high baseline knowledge regarding prevention and management of postpartum haemorrhage before the educational intervention. After the administration of the Video Assisted Teaching Programme, the mean post-test knowledge score was **22.60**, with a median of **22**, mode of **22**, standard deviation of **2.53**, and a range of **9**. The overall mean difference between the pre-test and post-test knowledge scores was **-3.93**, with a median difference of **-4**, mode of **-3**, standard deviation of **3.54**, and a range of **15**.

The paired *t*-test value was **6.08** (df = 29), which was statistically significant at $p < 0.001$. The observed decline in mean knowledge score after the intervention indicates that the Video Assisted Teaching Programme, as implemented in this sample, did not produce the expected improvement in knowledge. Possible contributing

factors include the presence of several items in the knowledge questionnaire that were unrelated to postpartum haemorrhage (questions 16–22 addressed contraception and amniocentesis), potential fatigue or reduced attention during the post-test, or other unmeasured contextual variables. These findings contrast with the majority of similar studies that report significant knowledge gains after structured or video-assisted teaching on postpartum haemorrhage.

Association between pre-test knowledge scores and socio-demographic variables

The study objective included examination of association between pre-test knowledge scores and selected demographic variables (age, gender, educational qualification, marital status, residential area, years of experience, previous knowledge about postpartum haemorrhage, and source of information). Because the master data charts supplied only total knowledge scores and did not contain the corresponding demographic frequencies for each participant, chi-square values could not be recalculated from the raw data provided.

In the absence of these cross-tabulations, formal statistical association testing could not be completed in the present analysis. Future reporting of this study should include complete demographic–score contingency tables so that the chi-square statistics and degrees of freedom can be verified against the critical values at the 0.05 level of significance, consistent with Hypothesis H₂.

Overall, while the pre-test scores demonstrated that the majority of staff nurses already possessed moderate-to-good knowledge of postpartum haemorrhage, the post-test results did not support the effectiveness of the Video Assisted Teaching Programme in further enhancing that knowledge under the conditions of this quasi-experimental study.

RECOMMENDATIONS

- Similar studies can be conducted on a larger sample size with a true experimental (control-group) design.
- The structured knowledge questionnaire should be rigorously validated and items unrelated to postpartum haemorrhage removed or replaced.
- Periodic in-service education and simulation-based training on PPH prevention and management should be institutionalized.
- Future research can focus on long-term retention of knowledge and on skill assessment using observational checklists in addition to knowledge scores.

SUMMARY

The primary aim of the present study is to evaluate the effectiveness of Video assisted teaching programme on the knowledge regarding prevention and management of post partum haemorrhage among staff nurses and equip them with adequate knowledge to deal with the problem.

CONCLUSION

The findings of the present study showed that staff nurses working in the obstetric department of Rohilkhand Medical College and Hospital, Bareilly already possessed a high level of knowledge regarding prevention and management of postpartum haemorrhage at baseline (96.7 % adequate). After the video-assisted teaching programme a statistically significant change in mean knowledge score was observed ($t = -6.08$, $p < 0.001$); however, the mean score declined. The most plausible explanations are a ceiling effect and limitations in the content validity of certain questionnaire items. Continuous professional development and carefully validated educational tools remain essential to sustain and further enhance competence in the prevention and management of postpartum haemorrhage.

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