EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAM ON KNOWLEDGE REGARDING POSTPARTUM HAEMORRHAGE AMONG MIDWIVES WORKING IN SELECTED HEALTH CENTRES OF GUWAHATI, ASSAM- AN EVALUATIVE STUDY

C. LALHMANGAIHZUALI[1], RIKYNTI NONGKYNRIH[2]

[1]M.Sc Nursing, Department of Obstetrics and Gynaecological Nursing, Asian Institute of Nursing Education, North Guwahati, Assam, India

[2]Assistant Professor, Department of Obstetrics and Gynaecological Nursing, Asian Institute of Nursing Education, North Guwahati, Assam, India

ABSTRACT:
BACKGROUND:

Postpartum haemorrhage (PPH) is commonly defined as blood loss exceeding 500 mL following vaginal birth and 1000 mL following caesarean section. As the effect of blood loss is more important rather than the amount of blood lost, the clinical definition, which is more practical states, "any amount of bleeding from or into the genital tract following birth of the baby up to the end of the puerperium, which adversely affects the general condition of the patient evidenced by a rise in pulse rate and falling blood pressure is called postpartum haemorrhage".[1]

WHO has also issued a guideline to provide a foundation for the implementation of interventions shown to have been effective in reducing the burden of PPH, while emphasizing that in the developed world, PPH is a largely preventable and manageable condition.[2]

OBJECTIVES:

- To assess the pretest and posttest level of knowledge regarding PPH among Midwives working in selected health centres of Guwahati, Assam.
- To determine the effectiveness of video assisted teaching program on knowledge regarding PPH among Midwives working in selected health centres of Guwahati, Assam.
- To find out the association between the pretest level of knowledge of PPH among Midwives with the selected demographic variables in selected health centres of Guwahati, Assam.

METHODS AND MATERIALS:

The investigator conducted an evaluative study to identify the effectiveness of video assisted teaching program on knowledge regarding postpartum haemorrhage among midwives working in selected health centres of Guwahati, Assam in order to accomplish the objectives of the study. To obtain the adequate sample for the study, non-probability purposive sampling technique was used. The study was undertaken on 45 midwives who were working in selected health centres of Guwahati, Assam. Participants were selected on the basis of inclusion and exclusion criteria. Effectiveness of video assisted teaching program on knowledge regarding postpartum haemorrhage among midwives working in selected health centres were assessed by pre-test and posttest self structured questionnaire to the respondents.

RESULT:

Result showed that out of 45 respondents majority i.e., 24(53.3%) respondents were between the age group of 31-40 years, Majority i.e., 38(84.4%) were married, majority i.e., 45(100%) of the respondents were female, majority i.e., 36(80%) of respondents have passed out G.N.M, majority i.e., 23(51.1%) of respondents have 5-10 years experience, majority i.e., 17(37.8) of respondents have conducted 21-30 deliveries, majority i.e., 33(73.3%) did not have any exposure to cases related with Postpartum Haemorrhage and majority i.e., 42(93.3%) have not attend any specialized midwifery training related to Postpartum Haemorrhage.

In the pre-test knowledge, majority i.e., 39(86.67%) had inadequate knowledge and 6(13.33%) had moderately adequate knowledge regarding PPH and none of the respondents have adequate knowledge. In post-test knowledge, majority i.e., 42(93.33%) had adequate knowledge and 3(6.67%) had moderate knowledge regarding PPH and none of the respondents have inadequate knowledge. In pretest, the mean score of knowledge was 4.36 and standard deviation 2.75 and the posttest mean score of knowledge was 21.11, standard deviation 3.421. The mean difference score was 16.75. The calculated paired "t" test value of value of t=21.945 was statistically significant at $p<0.001$ level. This clearly infers that after the administration of Video Assisted Teaching regarding postpartum haemorrhage among midwives was found to be effective and the midwives gained adequate knowledge in the posttest. The analysis depicted that the demographic variables- any exposure to cases related with Postpartum Haemorrhage (p=0.035) and any specialized midwifery training attended related to Postpartum Haemorrhage (p=0.043) had statistically significant association with pretest level of knowledge regarding postpartum haemorrhage among midwives at $p<0.05$ level. The other demographic variables did not show statistically significant association with pretest level of knowledge regarding postpartum haemorrhage among midwives at $p<0.05$ level.

CONCLUSION:

From this study, the investigator concluded that there was significant difference in the pretest and posttest knowledge score and therefore the video assisted teaching program among midwives working in selected health centres in Guwahati, Assam was effective.

Keywords: Effectiveness, Postpartum Haemorrhage, Video assisted, Midwives.

INTRODUCTION:

Severe bleeding after childbirth- postpartum haemorrhage (PPH) - is the leading cause of maternal mortality worldwide. According to WHO, PPH accounts for 127,000 deaths annually out of which India accounted for over 20% in 2015. Healthcare professionals, especially the nurse should play an important role in the management of PPH.[3]

There are two clinical types of postpartum haemorrhage i.e. primary postpartum haemorrhage and secondary postpartum haemorrhage. Primary postpartum haemorrhage is defined as bleeding that occurs within 24 hours of the birth of the baby. This is again divided into two types: third stage haemorrhage- this is primary haemorrhage that occurs after the delivery of the baby but before the expulsion of the placenta. True primary postpartum haemorrhage- this is a haemorrhage that occurs after the delivery of the placenta at any time within 24 hours of the birth of the baby. The majority of the cases of postpartum haemorrhages fall in this category. Secondary postpartum haemorrhage: Bleeding that occurs after 24 hours of the delivery of the placenta up to 6 weeks after the delivery is called secondary postpartum haemorrhage.[4]

OBJECTIVES:

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- To find out the association between the pretest level of knowledge of PPH among Midwives with the selected demographic variables in selected health centres of Guwahati, Assam.

METHODOLOGY:

An evaluative study design was used to accomplish the objectives using non-probability purposive sampling technique for obtaining adequate sample for the study. The study was done on 45 midwives working in selected health centres of Guwahati, Assam. The study was conducted in 4 health centres namely- Azara BPHC, Rani CHC, Mirza CHC and Changsari PHC. Respondents were selected on the basis of inclusion and exclusion criteria; self structured questionnaire was used to assess the effectiveness of video assisted teaching program regarding postpartum haemorrhage among midwives.

DESCRIPTION OF THE TOOL:

In order to meet the objectives of the study, the following tools were constructed which consists of two sections:

- **Section A: Demographic tools:** It consists of 8 items, those are- age, marital status, gender, educational qualification, total year of working experience, number of deliveries conducted, exposure to cases related with PPH, and training attended related to PPH.
- **Section B: Self-structured knowledge questionnaire:** This part of the tool consisted of 24 questions regarding knowledge on Postpartum Haemorrhage. These questions were based on 10 aspects which include:

  1. Introduction

  2. Causes of PPH

  3. Immediate management of PPH

  4. Steps in emergency management for shock

  5. Procedures in performing bimanual compression

  6. Steps in aortic compression

  7. Uterine balloon tamponade

  8. Bleeding tear of vaginal tissue

  9. Steps in monitoring after bleeding stop

DATA COLLECTION PROCEDURE:

Data collection was scheduled from 30/09/2023 to 5/10/2023 and from 8/11/2023 to 23/11/2023.

Prior to data collection, permission was taken from the Joint Director of Health Services, Kamrup, Amingaon, Guwahati. The permission letter states the purpose and title of the study the investigator will conduct. The permission was given by the Joint Director of Health Services to four Health Centres. A brief introduction and purpose of the study were explained to the sample prior to data collection, keeping in mind the ethical aspect of research, the data was collected after obtaining the informed consent of the sample for their willingness to participate in the study. The samples were selected using non-probability purposive sampling technique and also according to the inclusion criteria. The samples were assured anonymity and confidentiality of information provided by them. The knowledge of the study was assessed through a self-structured questionnaire in which the respondents took 30-45 minutes to complete the questionnaire and video assisted teaching was given on the same day which took 8 minute and 45 second to complete the video. The post-test data collection was done after 7 days of video-assisted teaching. The respondents took 30-40 minutes to complete the questionnaire.

RESULTS:

SECTION-I: Frequency and percentage distribution of demographic variables of midwives.

TABLE-1   n=45

Demographic Variables	Frequency (f)	Percentage (%)
Age in years		
21 – 30	8	17.8
31 – 40	24	53.3
41 – 50	13	28.9
Marital status		
Married	38	84.4
Unmarried	7	15.6
Gender		
Male	-	-
Female	45	100.0
Educational qualification		
G.N.M	36	80.0
B.Sc. (Nursing)	-	-
Post Basic B.Sc. (Nursing)	-	-
A.N.M	9	20.0
Total years of working experience		
<1year	3	6.7
1 – 5 years	3	6.7
5 – 10 years	23	51.1
>10 years	16	35.5
Number of delivery conducted		
<10 deliveries	7	15.6
11 – 20 deliveries	11	24.4
21 – 30 deliveries	17	37.8
>30 deliveries	10	22.2
Any exposure to cases related with Postpartum Haemorrhage?		
Yes	12	26.7
No	33	73.3
Any specialized midwifery training attended related to Post Partum Haemorrhage?		
Yes	3	6.7
No	42	93.3

The table 1 portrays that most of the midwives, 24(53.3%) were aged between 31 – 40, 38(84.4%) were married, 45(100%) were female, 36(80%) were G.N.M., 23(51.1%) had 5 – 10 years of working experience, 17(37.8%) had conducted 21 – 30 deliveries, 33(73.3%) were not exposed to cases related with postpartum haemorrhage and 42(93.3%) were not specialized midwifery training attended related to post partum haemorrhage.

SECTION-II: Assessment of knowledge score regarding postpartum haemorrhage among midwives before and after administration of video assisted teaching program.

TABLE-2   n=45

Level of Knowledge	Pretest		Post Test	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Inadequate knowledge (≤33%)	39	86.67	-	-
Moderate knowledge (34 – 66%)	6	13.33	3	6.67
Adequate knowledge (>66%)	-	-	42	93.33

The table 2 findings show the frequency and percentage distribution of pretest and post test level of knowledge regarding PPH among midwives.

It shows that in the pretest, 39(86.67%) had inadequate knowledge and 6(13.33%) had moderately adequate knowledge regarding PPH.

After the video assisted teaching, 42(93.33%) had adequate knowledge and 3(6.67%) had moderate knowledge regarding PPH.

SECTION-III: Evaluation of effectiveness of video assisted teaching on knowledge regarding post partum haemorrhage among midwives.

TABLE-3   **n=45**

Variables	Mean	S.D	Score range	Level of significance	Mean Difference	Calculated t-value
Pretest	4.36	2.75	1-13	p=0.0001		21.945
PostTest	21.11	3.42	8-24		16.75	

***p<0.001, S – Significant

The data presented in Table 3 depict the pretest mean score of knowledge was 4.36 and a standard deviation of 2.75. The posttest mean score of knowledge was 21.11 and the standard deviation of 3.421. The score range in pre-test was 1-13 and in posttest 8-24. The mean difference score was 16.75. The calculated paired "t" test value of value of t=21.945 was statistically significant at p<0.001 level. Therefore, the research hypothesis H1 is accepted and H01 is rejected, there is a significant difference between pretest and posttest level of knowledge regarding PPH among midwives working in selected health centres of Guwahati, Assam. This clearly infers that the administration of Video Assisted Teaching regarding postpartum haemorrhage among midwives was found to be effective and the midwives gained adequate knowledge in the posttest.

SECTION-IV: Association of pretest level of knowledge regarding postpartum haemorrhage among the midwives with their selected demographic variables.

TABLE-4   **n=45**

Demographic Variables	Inadequate		Moderate		Total		Fisher Exact test p-value	Remarks
	f	%	f	%	f	%		
Age (in years)								
21 – 30	7	15.6	1	2.2	8	17.8	p=0.845	N.S
31 – 40	20	44.4	4	8.9	24	53.3		
41 - 50	12	26.7	1	2.2	13	28.9		
Total	39	86.7	6	13.3	45	100.0		
Marital Status								
Married	33	73.3	5	11.1	38	84.4	p=1.000	N.S
Unmarried	6	13.3	1	2.2	7	15.6		
Total	39	86.7	6	13.3	45	100.0		
Gender								

Demographic Variables	Inadequate		Moderate		Total		Fisher Exact test p-value	Remarks
	f	%	f	%	f	%		
Male	-		-					
Female	39	86.7	6	13.3	45	100.0		
Total	39	86.7	6	13.3	45	100.0		
Educational Qualification								
G.N.M	30	66.7	6	13.3	36	80.0	p=0.323	N.S
B.Sc. (Nursing)	-		-					
Post Basic B.Sc. (Nursing)	-		-					
A.N.M	9	20.0	0	0.0	9	20.0		
Total	39	86.7	6	13.3	45	100.0		
Total years of working experience								
< 1year	2	4.4	1	2.2	3	6.7	p=0.748	N.S
1 – 5 years	3	6.7	0	0.0	3	6.7		
5 – 10 years	10	44.4	3	6.7	13	51.1		
> 10 years	14	31.1	2	4.4	16	35.6		
Total	29	86.6	6	13.3	35	100		
Number of delivery conducted								
< 10 deliveries	6	13.3	1	2.2	7	15.6	p=0.646	N.S
11 – 20 deliveries	9	20.0	2	4.4	11	24.4		
21 – 30 deliveries	16	35.6	1	2.2	17	37.8		
> 30 deliveries	8	17.8	2	4.4	10	22.2		
Total	39	86.7	6	13.3	45	100.0		
Any exposure to cases related to Postpartum Haemorrhage								
Yes	8	17.8	4	8.9	12	26.7	p=0.035	S*
No	31	68.9	2	4.4	33	73.3		
Total	39	86.7	6	13.3	45	100.0		
Any specialized midwifery training attended related to Postpartum Haemorrhage								
Yes	1	2.2	2	4.4	3	6.7	p=0.043	S*
No	38	84.4	4	8.9	42	93.3		
Total	39	86.7	6	13.3	45	100.0		

*p<0.05, S – Significant, p>0.05, N.S – Not Significant

Table 4 depicted the pretest level of knowledge regarding postpartum haemorrhage among the midwives. It was observed that the demographic variables any exposure to cases related to Postpartum Haemorrhage (p=0.035) and any specialized midwifery training attended related to Postpartum Haemorrhage (p=0.043) had

statistically significant association with pretest level of knowledge regarding postpartum haemorrhage among midwives at $p < 0.05$ level.

The other demographic variables did not show statistically significant association with pretest level of knowledge regarding postpartum haemorrhage among midwives at $p < 0.05$ level.

Hence, the research hypothesis (H_2) was accepted, and the null hypothesis (H_{02}) was rejected and infers that there is an association of pretest knowledge with the selected demographic variables like exposure to cases related to postpartum haemorrhage and any specialized midwifery training attended related to postpartum haemorrhage.

The null hypothesis (H_{02}) was accepted, and the research hypothesis (H_2) was rejected with the demographic variables like age, marital status, gender, educational qualification, total years of working experience, demographic variables, number of deliveries conducted.

Hence, there will be no association between the level of knowledge regarding postpartum haemorrhage among midwives with their selected demographic variables like age, marital status, gender, educational qualification, total years of working experience, number of deliveries conducted.

AGE:

The table shows that the obtained Fisher exact p-value was 0.845, since the p-value is greater than 0.05, there was no association between the level of knowledge and the age of the respondents.

MARITAL STATUS:

The table shows that the obtained Fisher exact p-value was 1.000, since the p-value is greater than 0.05, there was no association between level of knowledge and marital status of the respondents.

GENDER:

The table shows that 100% of the respondents were female. Therefore, there will be no association between level of knowledge and gender of the respondents.

EDUCATIONAL QUALIFICATION:

The table shows that the obtained Fisher exact p-value was 0.323, since p-value is greater than 0.05, there was no association between level of knowledge and educational qualification of the respondents.

TOTAL YEARS OF WORKING EXPERIENCE:

The table shows that the obtained Fisher exact p-value was 0.748, since p-value is greater than 0.05, there was no association between level of knowledge and total years of working experience.

NUMBER OF DELIVERY CONDUCTED:

The table shows that the obtained Fisher exact p-value was 0.646, since p-value is greater than 0.05, there was no association between level of knowledge and the number of deliveries conducted.

ANY EXPOSURE TO CASES RELATED WITH PPH:

The table shows that the obtained Fisher exact p-value was 0.035, since the p-value is less than 0.05, there is an association between level of knowledge and any exposure to cases related to PPH.

ANY SPECIALIZED MIDWIFERY TRAINING ATTENDED RELATED TO POSTPARTUM HAEMORRHAGE:

The table shows that the obtained Fisher exact p-value was 0.043, since the p-value is less than 0.05, there is association between level of knowledge and any specialized midwifery training attended related to postpartum haemorrhage.

DISCUSSION:

The outcome of this research have provided insight into the acoustic differences between the pretest and posttest level of knowledge regarding postpartum haemorrhage. It was discussed that an addition teaching program or an in-service program have to be conducted frequently in order to increase the knowledge regarding PPH among midwives working in selected health centres of Guwahati, Assam.

CONCLUSION:

Based on the analysis of the findings of the study, the following inferences were drawn:

In the pre-test knowledge, majority i.e., 39(86.67%) had inadequate knowledge and 6(13.33%) had moderately adequate knowledge regarding PPH and none of the respondents have adequate knowledge. In post-test knowledge, majority i.e., 42(93.33%) had adequate knowledge and 3(6.67%) had moderate knowledge regarding PPH and none of the respondents have inadequate knowledge. In pretest, the mean score of knowledge was 4.36 and standard deviation 2.75 and the posttest mean score of knowledge was 21.11, standard deviation 3.421. The mean difference score was 16.75. The calculated paired "t" test value of value of t=21.945 was statistically significant at $p<0.001$ level. This clearly infers that after the administration of Video Assisted Teaching regarding postpartum haemorrhage among midwives was found to be effective and the midwives gained adequate knowledge in the posttest. The analysis depicted that the demographic variables- any exposure to cases related with Postpartum Haemorrhage (p=0.035) and any specialized midwifery training attended related to Postpartum Haemorrhage (p=0.043) had statistically significant association with pretest level of knowledge regarding postpartum haemorrhage among midwives at $p<0.05$ level. The other demographic variables did not show statistically significant association with pretest level of knowledge regarding postpartum haemorrhage among midwives at $p<0.05$ level.

Through this study, the investigator concluded that there was significant difference in the pretest and posttest knowledge score and therefore the video assisted teaching program among midwives working in selected health centres in Guwahati, Assam was effective.

REFERENCES:

1. Konar H. "D.C Dutta's Textbook of Obstetrics" 8th Edition. Jaypee Brothers Medical Publishers(P) Ltd. 2018
2. WHO recommendations for the prevention and treatment of postpartum haemorrhage 1 January 2012 | Guideline. Available at: https://www.who.int/publications/i/item/9789241548502
3. World Health Organization (WHO) Reducing the global burden: postpartum haemorrhage. Making Pregnancy Safer. 2007;1(4):8. [Google Scholar] [Ref list] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9715762/
4. Bhaskar N. "Midwifery and Obstetrical Nursing" 3rd Ed. Emmess Medical Publishers 2022
5. Video-Assisted Learning: Using Educational Videos to Teach (ViewSonic), Oct 3, 2023. Available at- https://www.viewsonic.com/library/education/video-assisted-learning-using-educational
6. Srivastava J a study to assess the effectiveness of video assisted teaching program on knowledge regarding prevention and management of postpartum haemorrhage among Staff Nurses at selected hospitals, Lucknow. International Journal of Science and Research (IJSR) [serial online] 2019 [cited on Feb 2024]. Available from: https://www.ijsr.net/archive/v10i2/SR21214200110.pdf
7. WHO Postpartum Haemorrhage Summit, 7-10 March 2023, Dubai, United Arab Emirates. Available at- URL: https://www.who.int/news-room/events/detail/2023/03/07/default-calendar/who-postpartum-haemorrhage-summit
8. Amanuel T, Dache A, Dona A. Postpartum Haemorrhage and its Associated Factors Among Women who Gave Birth at Yirgalem General Hospital, Sidama Regional State, Ethiopia. Health Serv Res Manag Epidemiol. 2021 Nov 26;8:23333928211062777. doi: 10.1177/23333928211062777. PMID: 34869791; PMCID: PMC8640320. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8640320/
9. Habitamu D, Goshu YA, Zeleke LB. The magnitude and associated factors of postpartum haemorrhage among mothers who delivered at Debre Tabor general hospital 2018. BMC research notes. 2019 Dec;12:1-6. Available at- https://link.springer.com/article/10.1186/s13104-019-4646-9
10. Gora K, Depan A, Yadav K, Benwal D. Causes and management of post-partum haemorrhage at tertiary care center, Rajasthan, India. Int J Reprod Contracept Obstet Gynecol2019; 8:2425-8. Available at- https://www.ijrcog.org/index.php/ijrcog/article/view/6601/4584

11. Sharma A, Priya ML. A community-based study on maternal mortality in Bongaigaon district, Assam. International Journal of Community Medicine and Public Health. 2022 May;9(5):1. Available at- https://www.researchgate.net/profile/Anand-Sharma-25/publication/359913176_

12. Special bulletin on maternal mortality in India 2018-20, Nov 2022[Online]. Available at- URL: https://censusindia.gov.in/nada/index.php/catalog/44379

13. The Times of India: 34% decline in maternal deaths in Assam: NHM, Mar 6, 2023. Available at- URL: https://timesofindia.indiatimes.com/city/guwahati/34

14. PolitFD, HunglerPB Nursing research and principles and methods. 7th ed. Philadelphia: J.B. Lippincott company;2012.

15. Mary Fraser. Using conceptual nursing in practice. 1st ed. London: Haper and Row Ltd; 1990.

16. Muyanga DL, Joho AA. Knowledge and skills on active management of third stage of labor for prevention of post-partum haemorrhage among health care providers in Lake Zone, Tanzania: a cross sectional study. BMC Womens Health. 2022 Feb 11;22(1):36. doi: 10.1186/s12905-022-01616-1. PMID: 35148752; PMCID: PMC8832659. Available at- https://pubmed.ncbi.nlm.nih.gov/35148752/

17. Mlata, Sonia & Chaudhary, Dr. (2021). PROBLEM STATEMENT: "A Study to evaluate the effectiveness of structured teaching programme on knowledge regarding postpartum Haemorrhage and its Management among Staff Nurses in selected Hospital Rohru". 10.13140/RG.2.2.19281.61288. available at- URL: https://www.researchgate.net/publication/358234427_PROBLEM_STATEMENT

18. Nishimwe, A., Ibisomi, L., Nyssen, M. et al. The effect of an mLearning application on nurses' and midwives' knowledge and skills for the management of postpartum haemorrhage and neonatal resuscitation: pre–post intervention study. Hum Resour Health 19, 14 (2021). https://doi.org/10.1186/s12960-021-00559-2