



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”

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ABSTRACT: Primary postpartum haemorrhage is the bleeding from or into the genital tract or more than 500ml within 24 hours of child birth, 500ml is an arbitrary figure; the effect of bleeding depends upon the rate as well as the amount of blood lost, the previous haemoglobin level of the women and her ability to withstand the blood loss.

Objectives: The objectives of the study are to assess the knowledge of nurses regarding prevention and management of postpartum haemorrhage. To find out the association between knowledge scores and selected demographic variables. To prepare an information booklet regarding prevention and management of postpartum haemorrhage. The aim of this study was to improve the post partum haemorrhage women's conditions and also provide knowledge to staff nurses.

Methodology: Quantitative approach with one group pre- test-post test design was adopted. Total sample were 45 staff nurses of selected hospital Rohru. Convenient and consecutive sampling techniques were used. Data was collected by Demographic Performa and Questionnaire. The data was analyzed by using descriptive and inferential statistics.

Result: Staff nurses had maximum knowledge (74%) in the area of physiology of third stage of labour, while minimum knowledge (42.1%) in the area of Components of PPH. It indicating that increase in knowledge score was not by chance but because of the intervention. Hence, it was interpreted that STP was significantly effective in increasing the knowledge of the staff nurses.

Conclusion: It can be concluded that the administration of PPH management and prevention teaching program was effective.

Recommendation: A similar study can be done to determine the effectiveness of planned teaching programme in terms of change in practice regarding management of PPH in selected hospital Rohru.

Keywords: Post Partum Haemorrhage, Effectiveness

INTRODUCTION “An ounce of prevention is worth a pound of care” (Benchemin Franklin)

“The traditional definition of primary PPH is the loss of 500 ml or more of blood from the genital tract within 24 hours of the birth of a baby.”

“Postpartum haemorrhage (PPH) describes excessive bleeding after delivery of a fetus. It is the leading cause of maternal death.”

The birth of a baby is a momentous occasion: tiny details of the experiences surrounding the whole event are etched in the memory forever. Of all stages of labour, third stage is the most crucial one for the mother. Fetal complications may appear unexpectedly in an otherwise uneventful first or second stage. Even though third stage lasts only for fifteen to twenty minutes in both primi and multi gravida mothers it can be complicating due to mismanagement of third stage of labour, resulting in maternal mortality. Postpartum haemorrhage-one of the third stage complication is the leading cause of maternal mortality in the world countries.

Primary postpartum haemorrhage is the bleeding from or into the genital tract or more than 500ml within 24 hours of child birth, 500ml is an arbitrary figure; the effect of bleeding depends upon the rate as well as the amount of blood lost, the previous haemoglobin level of the women and her ability to withstand the blood loss. A pregnant woman has an increased blood volume of 5.3 litres as against 4.3 litres in the non pregnant state. This expansion of intravascular compartment enables her to withstand the normal blood loss of third stage of labour. The signs of hypovolaemia and shock develop when the blood volume drops to less than 70% of its pre delivery level. The anaemic woman will deteriorate faster with a blood loss less than 500ml as compared to a woman whose haemoglobin level is sound. The contraction and retraction play an important role in the control of third stage haemorrhage, and the uterine muscles (mainly the intermediate myometrial muscle layer) are known as the living ligatures of the uterus. Enhancing the retraction by routine injection of methergine during the third stage reduces the bleeding by 40%, expedites the placental

separation and curtails the third stage to less than fifteen minutes. Postpartum haemorrhage occurs worldwide and is common in developing countries than developed countries. The occurrence rate is still higher in home deliveries when compared to hospital deliveries. Some of the contributing factors are prevalence of malnutrition and anaemia, inadequate antenatal and intranatal care, lack of blood transfusion facilities, uterine atony, coagulopathies and over distension of uterus.

The best way to prevent postpartum haemorrhage is by active management of third stage of labour and exploration of utero-vaginal canal following difficult labour or instrumental delivery. Antenatal health status of the mother and high risk patient screening is also equally important. Blood grouping is done for all women so that no time is wasted during emergency. Slow delivery of the baby is done, in all cases of induced or accelerated labour by oxytocin: the infusion is continued for at least one hour, examination of placenta and membranes should be done as routine to detect the missing parts. In the reviews on emergency obstetrics in India, the second most common indication for hysterectomy is uncontrolled postpartum haemorrhage. Gupta et al in their series of 175 cases attributed the indication for hysterectomy to postpartum haemorrhage in 30 cases (17%), atonic PPH, traumatic PPH, secondary PPH together in 9 cases (5.1%). Devi et al in a study reported that atonic PPH is the most common cause in 19.2% cases.

Severe postpartum hemorrhage (PPH) contributes substantially to maternal morbidity in high-income countries, causing >50% of all severe maternal morbidity . Recent studies have shown an increasing trend in PPH, but the causes for this increase are still uncertain Obstetric interventions such as inductions of labor and oxytocin during labor, are increasingly common and believed to influence both the duration of labor and the risk for severe PPH. By comparing labor patterns in the 1960s with a modern cohort, a study by **Laughton et al** found an increased duration of the first stage of labor. They observed an increased use of obstetric interventions such as oxytocin, epidurals, and induction of labor in addition to the mothers being both older and of greater body mass index (BMI). The increase in labor duration persisted after adjusting for maternal and pregnancy characteristics, suggesting that changes in obstetric practices may be the primary reason for the increase. Normal labor has been defined as when an infant is born within 12 hours of active labor. The World Health Organization (WHO) defines a prolonged active phase as regular painful contractions for more than 12 hours after cervical dilation of ≥ 4 cm.

Postpartum hemorrhage (PPH) is defined as blood loss > 500 mL within 24 hours after vaginal delivery or > 1000 mL after cesarean delivery and is a potentially life-threatening condition. Primary PPH appears during the first 24 hours after delivery and secondary PPH occurs for more than 24 hours and up to 12 weeks after delivery. Regardless of the mode of delivery, severe PPH is defined as life-threatening blood loss with one or more of the following events related to the blood loss: blood transfusion; transcatheter arterial embolization (TAE); arterial ligation; other conservative uterine surgery; hysterectomy; transfer to an intensive care unit, peripartum hemoglobin reduction of 4 g/dL or more (considered equivalent to the loss of 1000 mL or more of blood), or maternal death.

PPH after cesarean section, women with PPH following cesarean section constitute 26–44% of the women treated with TAE. After cesarean section, injuries to pelvic arteries, uterine atony or placental abnormality are etiologies of primary PPH, while spontaneous pseudo aneurysm rupture frequently causes secondary PPH. TAE should be considered while the woman is out of the operating room and cesarean delivery is no longer a predictor of poorer outcomes after TAE, compared with vaginal delivery. Angiography shows a higher incidence of pseudo aneurysm or contrast extravasations from the uterine, vaginal or internal pudendal artery caused by injury or laceration related to cesarean section, compared with vaginal delivery.

The objectives of the study:

1. To assess the knowledge of staff nurses in prevention and management of postpartum hemorrhage among postnatal mothers.
2. To prepare and administer planned teaching programme on Active management of third stage of labour in prevention of PPH.
3. To determine the effectiveness of planned teaching programme on knowledge of nurses regarding active management of third stage of labour in prevention of postpartum hemorrhage.
4. To find an association between pre existing knowledge and selected demographic variables.

The study attempted to examine the following research hypotheses.

H₁- The mean post test knowledge scores of staff nurses will be significantly higher than the mean pretest knowledge scores at 0.05 level of significance.

H₂- There will be statistically significant association between pretest scores and selected demographic variables.

The study design is of a pre experimental design, with one group pretest and post test design. The study population consisted of 45 staff nurses working in the maternity units of selected hospital Rohru. A non probability, purposive sampling technique was adopted. The tool developed and used for data collection was a structured knowledge questionnaire.

An observational study was conducted with the main objective to find out blood loss and side effects at spontaneous delivery with Ergometrine or Oxytocin. Blood loss and the frequency of vomiting were assessed at 88 spontaneous vertex deliveries. An i.v. injection of oxytocin 10 u was as effective as ergometrine 0.5 mg in controlling bleeding from the uterus after delivery. The study concluded that both the drugs are equally effective in controlling bleeding but Vomiting or retching occurred in 13% of the mothers who received i.v. ergometrine, while none of the women who received oxytocin suffered emetic sequelae.

Studies supporting role of midwife in PPH management

A randomized trial of one-to-one nurse support of women in labor was conducted in a 637-bed university hospital in Montreal, Quebec, with 413 nulliparous women who were at more than 37 weeks'

gestation, carrying singletons, and in labour. The objective of the study was to compare the risks and benefits of one-to-one nurse labor support with usual intrapartum nursing care. The results revealed a beneficial trend due to one-to-one nurse support was found with a 17 percent reduction in risk of oxytocin stimulation. It is concluded that the beneficial trend attributed to one-to-one nursing in reduction of oxytocin stimulation suggests that implementation of recommendations for continuous professional support by intrapartum nursing staff is beneficial to the labouring women.

Twelve randomized clinical trials compared perinatal outcomes between women having partner support and women without such support and cared by nurses. The results showed that labour support by partners did not appear to produce Obstetrical benefits and about nurses it was said that nurses bring a unique blend of knowledge, observation, communication skills and caring that is vital to labour support. Nurses have the ability to work with women in labour, affirming them and their power to give birth.

An evaluative study on primigravida women to determine the effect of selected antenatal exercises on the outcome of the labour was conducted. A planned teaching program of 90 minutes duration was administered. The findings of the study revealed a significantly shorter duration of labour in the experimental group when compared with the controlled group.

A quasi-experimental study was conducted in Lausanne state university to determine whether a brief didactic course can improve visually estimated blood loss or prior clinical experience influences estimation of blood loss. 53 medical personnel were randomly selected to assess 7 clinical scenarios before and after the planned teaching session for 20 minutes. There were significant reductions in error after the teaching session in all 7 scenarios. Median percent error in estimated blood loss was not influenced by clinical experience because blood loss was underestimated in higher volumes and over estimated in lower volumes before the teaching session, thus concluding that education process assist medical personnel in everyday practice. Median percent error in estimated blood loss was not influenced by clinical experience because blood loss was over estimated in low volume and under estimated in higher volumes. The study concluded that education process assisted medical personal in everyday practice.

Early and Accurate Estimation of Blood Loss

The severity of clinical outcomes for postpartum haemorrhage correlates with the amount of blood lost, and for this reason, the early and accurate estimation of blood loss is vitally important to the clinical management of the postpartum bleeding patient . Low-resource settings may not have access to standardised blood collection tools, however, novel approaches developed to estimate blood loss may provide effective alternatives. For example, Patel and colleagues describe the effectiveness of an inexpensive blood collection drape used in India to estimate blood loss against visual assessment alone. Estimates based on the drape correlated well with photospectrometry and were more accurate than visual assessment alone, which tended to underestimate the amount of blood lost . This suggests the tool provides

an appropriate measurement that can be easily and inexpensively made in low-resource settings. Geller and colleagues indicate that this system is now used in eight countries. A similar collection system used in Tanzania provides a consistent measure of blood loss with the use of kanga, a type of blanket with standard dimensions that is used regionally in East Africa and holds approximately 250 mL of blood when soaked . The effectiveness of blood loss estimation using these techniques has not been established empirically with respect to postpartum haemorrhage outcomes. However, standardised, accurate measurement tools would theoretically allow birth attendants to more easily recognise postpartum haemorrhage in a systematic way, resulting in opportunities for intervention and appropriate management. Although these approaches have been described in only a handful of studies, they demonstrate the importance of solutions that are regionally acceptable and relevant—such as calibrated measures in Tanzania based on the amount of blood absorbed by a kanga. Blood loss resulting from postpartum haemorrhage may be managed with the use of compression techniques suited or adapted to use in low-resource settings. Abdominal compression of the aorta may decrease blood loss in severe postpartum haemorrhage if performed correctly .

Research Methodology refers to the techniques used to structure a study and to gather and analyze information in a systematic manner.

Research Approach:In view of the problem selected and the objectives to be achieved, Evaluative approach was considered appropriate for the present study.

Evaluation approach is an applied form of research and involves how well a specific program, practice, procedure or policy is working.

Research Design:Pre experimental one group pre test and post test research design is adopted for this study.

Variables under study:

The variables for the present study are-

Independent Variable: Structured teaching program on the management of PPH.

Dependant Variable: Knowledge scores measured by the structured knowledge questionnaire.

Attribute Variables: Personal characteristics, which include age, marital status, professional qualification, professional experience, experience in maternity ward and in-service education.

Hypothesis

H1: The mean post test knowledge score of student nurses would be significantly higher than the pre test knowledge score.

H2: There would be significant association between pre test assertiveness score and selected demographic variables of study participants.

Research Setting:

Refers to the area where the study is conducted. The present study was conducted in the maternity wards of selected hospital Rohru. The criterion for selecting this setting was feasibility for conducting the study, availability of the samples and familiarity of the research investigator with the setting.

Population: Refers to aggregate of all the units pertaining to a study. The target population of the present study was the staff nurses working in maternity wards of selected hospital Rohru.

Sample: A subset of population selected to participate in a research study is known as sample. In the present study the sample consisted of staff nurses with GNM, B.Sc and P.B.B.Sc qualification and working in the maternity wards of selected hospital Rohru.

Sample size and sampling technique: The sample size for the study was 45 staff nurses working in the maternity wards of selected hospital Rohru. The sampling technique used was non probability, Purposive sampling.

Criteria for selection of sample: A criterion for sample selection was based on cost, practical concern, design and the people's ability to participate in the study. The study had two criteria namely inclusion and exclusion criteria.

Inclusion criteria:

1. Staff nurses working in the maternity units (ANC ward, labour ward, PNC ward, Gynec wards, Obstetric ICU, NICU) of selected hospital Rohru.
2. Who are willing to participate in the study.
3. Who are available during the data collection.

Exclusion Criteria:

1. Nurses who are not willing to participate in the study.
2. Nurses on leave.

Result: In the present study it was found that out of 45 nurses, majority belonged to the age group 20-24 years (73.3%) and are single 32 (71.1). Hundred percent (45) of the sample were diploma holders. Maximum 20 (44.4%) had a professional experience between 1-3 years while, 18 (40%) constituted the major group with 1-3 years experience in maternity units. Majority 38 (84.4%) had not attended any in-service education program on management of PPH.

Assessing the level of knowledge: Pre test scores of 45 staff nurses revealed that 10(22.2%) had good knowledge, 24 (53.3%) had average knowledge and 11(24.4%) had poor knowledge **Association of knowledge of staff nurses with selected demographic variables:**

Chi- square test was computed to find out the association of knowledge of staff nurses with selected demographic variables. Test results were, Chi-square value at 'df' (4) for age was (5.68), for marital status at 'df' (2) was 0.68, for Professional qualification at 'df' (2) was 0, for professional experience at 'df' (2) was 5.0, experience in maternity units at 'df'(4) was 5.9 and for In-service education at 'df' (2) was 2.1. The computed values were not significant at 0.05 levels. Hence, there was no statistically significant association between knowledge and selected demographic variables. Effectiveness of structured teaching programme in terms of gain in knowledge on management and prevention of PPH.

The mean post test knowledge score (33) was higher than the mean pre test knowledge score (19.18). The mean and median in both pre test (mean 19.18, median 17) and post test (mean 33, median 34) were found to be lying close to each other.

Significant difference between pretest and post test mean knowledge scores:

Research hypothesis H_1 was formulated in order to find the significant difference between pre test and post test mean knowledge score. The post test knowledge score of staff nurses on management of PPH was significantly higher at 0.05 level of significance than the pre test knowledge score of paired 't' test at df (44) =17.91, $p < 0.05$. Wilcoxon's test (paired samples), a non parametric test was also computed to test H_1 . The

number of positive differences was 45; the number of negative differences was 0. The large sample test statistic 'Z' = -5.84 and the two tailed probability $P < 0.001$. This indicates highly significant improvement in the level of knowledge as two tailed probability is < 0.05 . Hence, H_1 was statistically proved and accepted showing that the structured teaching programme on management of PPH in prevention of PPH was an effective method in increasing the subject's knowledge.

Conclusion:

The present study assessed the knowledge of staff nurse regarding Active management of third stage of labour in prevention of PPH and found that only 10 (22.22%) had good knowledge while the rest of the study subjects had either average or poor knowledge in the pre-test. A maximum number 42 (93.3%) of study subjects had good knowledge in the post test. It showed that there was a significant improvement in the knowledge of staff nurses after the teaching programme.

The overall mean percentage in the pre test was 42.62 with standard deviation of 6.3 and in the posttest it was 74.37 with the standard deviation 3.6. This showed that there was a significant improvement in knowledge of staff nurses on active management of third stage of labour in prevention of PPH. Thus proving that the structured teaching programme was effective method for improving the knowledge of nurses.

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