ORIGINAL ARTICLE

EFFECTS OF CLINICAL INTERVENTIONS ON NURSING CARE PRACTICES REGARDING INCIDENCE OF PRIMARY POST-PARTUM HAEMORRHAGE

Iram Khadim, Adnan Yaqoob, Kousar Perveen, Sadia Khan

Lahore School of Nursing, The University of Lahore, Pakistan

Background: Postpartum haemorrhage (PPH) is a common obstetric haemorrhage. That is one of the leading causes for maternal mortality. This study aims to assess the effect of clinical interventions on nursing care practices regarding primary postpartum haemorrhage. **Methods:** This quasi-experimental study was conducted in Gynaecology Department of Allied Hospital, Faisalabad. Eighty-five license holder nurses who work in morning, and evening shifts, aged 25–50 were included. Nurses who had PPH training and/or teach obstetrics, gynaecology and midwifery students, were excluded. Purposive sampling technique was used. A 16-items adopted validated checklist was used to assess the practices of nurses pre- and post-educational training about primary PPH. **Results:** Demographic and skill related variables were checked for frequency and percentages. All of nurses (n=85) had poor practices before clinical interventions. In post-intervention assessment, results revealed that 11 (12.9%) nurses had good and 74 (87.3%) showed excellent practices, and no one had poor practices. **Conclusion:** Educational trainings had prominent effect in improving skill performances and practices of maternity nurses regarding the management of labour to prevent primary post-partum haemorrhage.

Keywords: Postpartum haemorrhage, PPH, Spontaneous vaginal delivery, SVD, nurses, practice

INTRODUCTION

A blood loss of 500 ml within the 24 hours of childbirth is termed as postpartum haemorrhage (PPH). It is the primary cause of almost one quarter of maternal deaths around the globe and central cause of maternal mortality in developing countries.[1] One of the most unanticipated consequences of childbirth is postpartum maternal morbidity. It is estimated by the World Health Organization (WHO), United Nations Population Fund, United Nations International Children Fund, United Nations, (UN) and World Bank Group that around 303,000 maternal deaths happened in 2015 in developing countries accounting for 99% of the global maternal deaths.[2] Abnormal uterine atony, retained products of placenta, laceration of genital area can be categorized as PPH. After delivery, lack of fundal message and delay administration of Pitocin can lead to uterine atony and haemorrhage.[3]

One of the preventable cause of maternal mortality and morbidity is Post-partum haemorrhage. In low income countries high prevalence rate indicate the need for evidence based practice among healthcare providers to prevent and manage PPH. Obstetric nurses should carried appropriate knowledge and skill to meet the patients demand.[4] Improper implementation of labour room guidelines by nursing professionals propose that there is vast difference between recommendations and actual practice. Proper implementation of guidelines for postpartum haemorrhage prevention and management can significantly reduce incidence rate of PPH.[5]

Appropriate duty performance by nurses can significantly reduce the incidence of PPH, however, at project site labour room negligence is noted in nursing responsibilities. Routine examination of perineal area to find out and laceration is important because sometimes sphincter lacerations go unidentified by obstetrician and lead to postpartum haemorrhage.[6] Blood pressure monitoring, heart rate, position and fundal tone, per vaginal blood loss every 15 minutes interval should be included in nursing observation. A typical method for assessing blood loss is by weighing sanitary pads hourly and assess the lochia for blood clotting. These duties are performed by labour room nurses but there performance is not sufficient in term of preventing postpartum haemorrhage.[7]

Blood loss after delivery is continuously miscalculated by labour and delivery room nurses, they do not perform fundal massage appropriately, which could be the reason to delay in providing care during PPH.[8] The goal of this study is to assess the effect of clinical interventions on nursing care practices regarding primary postpartum haemorrhage prevention.

METHODOLOGY

This quasi-experimental study investigated the nursing care practices of 85 registered nurses from Gynaecology Department of a teaching hospital in Faisalabad Pakistan from September to February 2022. Seventy one License holder Nurses who work in morning, and evening shifts, aged 25–50 years were included. Nurses who had PPH training and those who were teaching Obstetrics, Gynae, and Midwifery students, were

excluded. Purposive sampling technique was used. Following formula was used to calculate the sample size, and 194 was calculated with 95% confidence interval, 0.7% margin of error, and expected percentage of improved practice score as 55.4%.[9]

$$n = \frac{z_{1-\alpha/2}^2 \; P(1-P)}{d^2} \qquad 1 - \alpha = 95 \quad d = 0.07$$
$$n = 194 \quad P = 0.554^9$$

After adjustment of the calculated sample size, i.e., 194 due to small population size (110) the sample size was taken as 71. After adding up 20% drop out rate the sample size was 85.

$$n = \frac{n_0}{\left(1 + \left(\frac{n_0}{N}\right)\right)}, \text{ where } n_0 = 194, N = 10, n = 71$$

Clinical assessor observed the participants in pre-assessment, for care practice at their job place by using checklist. Eight weeks of educational training regarding Primary Post-Partum Haemorrhage was delivered. Validated educational training was delivered by the relevant doctors of the related field. In 16 weeks clinical intervention nurses were taught for skill competence by the simulation, videos, notes and live performance on patients. Intervention was given into two groups for 2 hours in a week. For improving practices, 4 weeks were given. Then changes in their care practice, participants were reassessed.

Sixteen items validated Practice Checklist was used. Accurately performed practices were ticked under the column of 'Yes' and the score was marked as 1, missed or wrong one step as '0' under the category of 'No'. Categories of skill competency was made as Poor practices if score was ≤50% (≤8 points), Good practices with >50–75% (9–12 Points), and Excellent practices as >75% (>12 points).[9]

For ethical concerns, institutional review board approval was taken from the University of Lahore, Lahore. From all participants signed consent was taken and information was kept confidential.

SPSS-20 was used for data entry and analysis. For professional and demographic variables, frequency and percentage were checked. Pre and post educational training, data regarding competence of skill was taken two times, from one group. Pre data was coded as 1 and post data as 2, and $p \le 0.05$ was considered significant.

RESULTS

Total 85 nurses were chosen from a teaching hospital of Faisalabad. Ages of 30 (35.3%) participants were 25–30 years, 34 (40.0%) was between 31–35 years, 15 (17.6%) was between 36–40 years of age and 6 (7.1%) were between 40–45 years, all were females. Education status revealed that 4 (4.7%) nurses were diploma holder, 30 (35.3%) research participants had Bachelor degree in nursing, and 51 (60%) research participants had Post Rn nursing degree. Job experience showed that 17 (20.0%)

nurses had their experience less than 1 year, 20 (23.5%) research participants had 1–2 years, 28 (32.9%) nurses job experience was between 3–4 years and 20 (23.5%) study subjects had working experience ≥5 years.

Table-1 shows the frequency and percentage of correctly performed nursing care skills during spontaneous vaginal delivery, pre- and post-clinical intervention. Table-2 depicts the comparison of nursing care categories (poor, good and excellent practices) pre and post educational training to nurses working in gynaecology department. In Table-3 mean of post clinical intervention, nursing care competency score was higher than the mean of pre intervention skill competency scores.

Table-1: Pre and Post Clinical intervention, care practices of nurses about Primary PPH [n=85, n(%)]

Items of Checklist	Before Intervention Correct Practices	After Intervention Correct Practices
Checked presence of another foetus	30 (35.3)	73 (85.9)
Accurate timing for administration of uterotonic drug	27 (31.7)	76 (89.4)
Uterotonic drugs types given, i.e., Oxytocin or Ergometrine	71 (83.5)	69 (81.2)
Correct dose of uterotonic drugs given	22 (25.7)	73 (85.9)
Uterotonic drugs, correct mode of administration	38 (44.7)	69 (81.2)
Correct timing of cord clamping	34 (40.0)	72 (84.7)
Waited 2–3 min for uterine contraction, to apply CCT	29 (34.1)	67 (78.8)
To apply cord control traction, wait for gush of blood	14 (16.5)	74 (87.1)
Placenta delivered before uterotonics administration	24 (28.2)	74 (87.1)
CCT performed as protocol	41 (49.4)	64 (75.3)
Placenta was supported by both hands	35 (41.2)	68 (80.0)
With lateral movement, membrane extracted gently	30 (35.3)	71 (83.5)
Uterine massage immediately after delivery of placenta	35 (41.2)	79 (92.9)
Placenta assessed for completeness	29 (34.1)	69 (81.2)
Uterine relaxation ensured	35 (41.2)	77 (90.6)
Inform and demonstrate the mother massage uterus	29 (34.1)	71 (83.5)

Table-2: Comparison of pre and post clinical intervention, care practices of nurses regarding primary PPH [n=85, n (%)]

Categories of nurses' practices	Scores	Pre-intervention scores	Post-intervention scores
Poor	≤8 points (≤50%)	85 (100%)	0 (0%)
Good	9–12 points (51–75%)	0 (0%)	11 (12.9%)
Excellent	>12 points (≤75%)	0 (0%)	74 (87.3%)

Table-3: Paired *t*-test between before and after intervention clinical practices of nurses (n=85)

Score	Mean±SD	Mean difference	Paired *t*-test	*p*
Pre intervention	6.282±1.12	-7.4	-41.44	0.00
Post intervention	13.494±0.995			

DISCUSSION

Skilful nursing management during and after labour is among lifesaving interventions. Educational interventions have been evidenced to decrease the stress and anxiety in emergency scenarios and enhance the nurses confidence to manage patients during labour. Educational trainings is a helpful way to improve practices of maternity nurses. It may enhance their skills and self-confidence.[10]

Results of present study proved that, before educational intervention all maternity nurses had poor practices during the management of labour to prevent mothers from primary postpartum haemorrhage. After educational training their practices improved to good and excellent. No one maternity nurse had poor practices. These findings are aligned with Shakur et al[11] who found that pre simulation training, nurses had unsatisfactory skills in management of labour, while after intervention there was significant improvement. Another study showed same results that simulation based interventions improved nurses' practices during labour to prevent from postpartum haemorrhage.[12]

A few studies contradict the findings of current study, their results showed that there was no effect of educational interventions on maternity nurses knowledge and practices regarding management of third stage of labour to prevent primary postpartum haemorrhage.[13,14]

CONCLUSION

Clinical educational trainings had prominent effect in improving skill performances and practices of maternity nurses regarding the management of labour to prevent from primary postpartum haemorrhage.

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Address for Correspondence:
Iram Khadim, PG Scholar, Lahore School of Nursing, The University of Lahore, Pakistan. **Cell:** +92-316-7443638
Email: iramkhadim1920@gmail.com