ASSESSMENT OF KNOWLEDGE AND PRACTICE AMONG NURSES RELATED TO PRIMARY POSTPARTUM HEMORRHAGE DURING DELIVERY

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ABSTRACT

Background: The term postpartum hemorrhage (PPH) refers to blood loss of 500 mL or more within 24 hours of childbirth. PPH is the main factor in roughly one-fourth of all maternal deaths worldwide and the top cause of maternal mortality in low-income countries. **Objective:** To assess knowledge and practice among nurses related to primary post partum hemorrhage during delivery. **Methods:** This study employed a descriptive study approach. A sample size of 85 nurses with a 95% confidence interval was established for the study of nurses working in the gynecology department of Allied Hospital Faisalabad, Pakistan (Faisalabad Medical University).The study was completed in 4 months, i.e., November 2021-January 2022, after Institutional Review Board (IRB) approval. The study participants were chosen using a purposeful sampling strategy. Nurses working in the Gynecology department of Allied Hospital Faisalabad were included in this study. Nurses with PPH training were excluded from the study. Those nurses who were teaching Obstetrics and gynecology were also excluded from the study. An adopted questionnaire was used to collect data from nurses. This questionnaire included 27 items. **Results:** A total of 84 Nurses were participating at the time of data collection. Therefore, it was concluded that 87% of nurses had Sufficient Knowledge and 89.7% had Excellent Practice related to primary PPH. The findings also showed that the majority of nurses had learned about PPH management. **Conclusion:** The study's participants expressed confidence in the techniques for handling PPH during the third stage of labor.

INTRODUCTION:

When a blood loss exceeds 500 mL within 24 hours of delivery is known as Primary Post-Partum Hemorrhage (PPH). In contrast to primary PPH if bleeding persists from 24 hours to six weeks after the delivery, then is considered secondary PPH. Primary PPH usually occurs during; the birth of an infant with a placenta, and two hours after deliveryin the third and fourth stages of labor. Primary PPH is responsible for 40% of maternal deaths in low-income developing countries.[1]It

has been frequently seen that even when the amount of hemorrhage is very low and gradual, it can still progress to remarkable blood loss which can lead to shock. It might happen due to the remaining tissues inside the reproductive organs, if not removed completely.PPH is the primary cause of roughly one-fourth of all maternal deaths worldwide and the top cause of maternal mortality in low-income countries, according to the WHO.[2] . Due to factors like maternal age, caesarean section, and numerous

pregnancies, the number of maternal mortality from PPH has grown in many countries. Many organizations such as WHO, International confederation of midwives and American college of obstetrician helped in managing PPH by releasing guidelines to help people.[3] Postpartum hemorrhage has been associated with poor service quality and weak health systems in Pakistan, including failure to address anemia during prenatal care (ANC), delays in care due to inefficient hospital transfers, and insufficient staff training in obstetric crises. The researcher noted that there are limited resources or information on experience and knowledge of student nurses regarding management of PPH.[4]

Out of the three most commonly reported causes of PPH i.e. retained placenta, genital tract laceration, and uterine atony, the two are from the primary PPH. As an aim to prevent uterine atony, reduced fundal massage can be one clinical intervention. Furthermore, the second most concern is a delay in Pitocin injection administration immediately after birth, which might result in primary post-partum hemorrhage. These causes can be minimized with a sufficient quantity of healthcare providers such as nurses. However, nurses experience several problems while working in these clinical areas with a heavy workload and busy schedule.[5] Primary PPH can be prevented through identifying signs and symptoms, proper assessment of blood loss, and better practices by healthcare providers such as sound knowledge and skills. During spontaneous vaginal delivery, nurses are responsible for administering intravenous (IV) fluids; volume expanders; blood products as instructed; and obtaining blood samples for essential baseline lab invest-igations.[6] To improve nursing care practices, a nurse should be assigned to a limited number of patients with training to regularly examine and record the mother's vital signs, calculate vaginal blood loss, and assess uterine tone and size.[7] The knowledge, attitude, and experience of nurses in adopting and implementing the practice will be clarified through study of this subject. Therefore this study rationale was to assess knowledge, attitude and practice among nurses related to primary post partum hemorr-hage during delivery.

MATERIAL AND METHODS

Study Design: This study employed a descriptive cross-sectional study design.

Setting: The study was conducted on nurses working in the Gynecology department of Allied Hospital Faisalabad, Pakistan (Faisalabad Medical University).

Duration:

The study was completed in 4 months i.e November 2021-January 2022 after Institu-tional Review Board (IRB) approval.

Sample Size:

Based on the small population size (110), the adjusted sample size was 71. After adding a 20% drop-out rate. Final sample size was 84 nurses.[8]

Sampling Technique:

To recruit the study participants Purposive sampling technique was used.

Inclusion Criteria:

Nurses working in the Gynecology department of Allied Hospital Faisalabad were included in this study.

Exclusion Criteria:

- Nurses having PPH training were excluded from the study.

- Those Nurses were teaching Obstetrics and Gynecology also excluded from the study.

Data collection Procedure:

All the participants who met the selection criteria were recruited after obtaining informed written consent. After a brief introduction, the researcher briefly discussed the purpose and objectives of the study and clarified that if they want, they can freely withdraw at any point in time during the study, without any consequences.

After the assurance of their understanding of the study's purpose, adopted questionnaire were used to collect the data from nurses. This Questionnaire was included 27 items. The Questionnaire was consisted of demographic, Knowledge and practice information. The demographic information included participants' age, gender, education and years of experience.[9]

Whereas, nursing care Knowledge were based on 10 items. The correct answer was given a score of 1 while the incorrect marked as 0. Following cutoffs were used to categorize the Knowledge:

Scores 6 or >75% were considered "Sufficient Knowledge"

Scores between 1 to 5 or <75% were considered "insufficient Knowledge"

Whereas, nursing care practices were based on 13 items. The correct answer was given a score of 1 while the incorrect marked as 0. Following cutoffs were used to categorize the practice:

Scores >7or >75% were considered "Excellent practice"

Scores between 4 to 7 or 50% to75% were considered "Good practice"

Scores less than <50% were considered Poor practices.[10]

Data Analysis:

Data were collected through a structured checklist. It was entered and analyzed in SPSS version 24. Quantitative variables were presented in Frequencies, Percentages, mean & P value < 0.05 was considered statistically significant.

RESULTS

This study results were entered and analyzed in SPSS v.24. This chapter follows the following sequence. Firstly, the demographic characteristics of the nurses (as participants) are presented, and then the categories of nurses K&P were discussed.

Table 1 shows that the majority of participants 30 (35.7%) were between 25-30 years, 33(39.2%) were between 31-35 years, 15 (18%) were between 36-40 years whereas, only 6 (7.1%) were between 40-45 years of age. In regards to the gender, all 84(100%) participants were females concerning the nature of the study. Furthermore, regarding qualifications, the majority of participants 50(59.5%) had a Post-RN BS Nursing, 30(35.8%) participants had a Bachelor of Science in Nursing (BSN), whereas only 4(4.8%) nurses were a diploma (General Nursing) holders. In regards to experience, 17 (20.3%) participants were having < 1 year of experience, 20 (23.8%) had 1-2 years of experience, 27 (32.1%) participants had 3-4 years of experience, whereas, 20 (23.8%) had 5 and more years of experience working in the same department. As shown in Table 2, all the participants Knowledge scores of 73(87%) and 11(13%) participants into Sufficient and Insufficient respectively. As shown in Table 2, all the participants Practice scores of 75(89.3%) and 9(1.7%) participants into good and excellent respectively.

Table:1 Demographic Characteristic of Nurses. (Nurses, n=84)

Demographic Characteristics	Frequency	Percentage
Age (Years)		
25-30	30	35.7
31-35	33	39.2
36-40	15	18
41-45	6	7.0
Gender		
Females	84	100
Education Status		
General Nursing (Diploma)	4	4.8
Bachelor of Science in Nursing (BSN)	30	35.7
Post Rn BS Nursing	50	59.5
Experience (Years)		
< 1 Year	17	20.3
1-2 Year	20	23.8
3-4 Year	27	32.1
> 5 Year	20	23.8
Total (in each characteristic)	84	100

Table: 2 Averageknowledge of Nurses Related to Primary PPH. (Nurse,n=84)

Knowledge	Frequency	Percentage
Insufficient	11	13
Sufficient	73	87
Total	**84**	**100**

Table: 3 Average Practices of Nurses Related to Primary PPH. (Nurse ,n=84)

Practices	Frequency	Percentage	Mean
Poor Practices (<=50%)	0	0	
Good Practices (51-75%)	9	10.7	13.47
Excellent Practices(>=75%)	75	89.3	
Total	84	100	

DISCUSSION:

The total of 85 Nurses took part in the study. One them were drop due to family Issues. Therefore 84 were participating at the time of data collection. Therefore it is concluding that 87% nurses had Sufficient Knowledge & 89.7% Nurses had Excellent Practice related to primary PPH. The findings also showed that the majority of nurses had learned about PPH management. PPH was defined by the sellers as persistent postpartum hemorrhage of 500 cc or more up to 42 weeks after delivery. Ante partum hemorrhage is the medical term for genital tract bleeding that occurs after 24 weeks of pregnancy. Sellers defines primary PPH as vaginal bleeding that happens within 24 hours of birth, while secondary PPH happens between 24 hours and 12 weeks following birth.[11] This outcome demonstrated that the nurses are aware of the significance of administering IV fluids. A woman who is at risk of PPH should have at least one intravenous line implanted, and women who are really at risk may benefit from a second line. WHO estimates that oxytocin (10). Majority of the Nurses had solid understanding of PPH management.In order to prevent PPH. Active management of third stage of labor (AMTSL) uses early cord cramping, control cord traction, and exogenous oxytocin delivery.[12] The findings indicate that most nurses had a good understanding of PPH and that, in the absence of oxytocin, Methylergometrine or oral misoprostol 600Ug is advised for the management of PpH. It is advised to utilize oral misoprostol (600 mg) or another injectable uterotonic (if applicable, ergometrine/methylergometrine, or the fixed medication combination of oxytocin and ergometrine) in situations when oxytocin is unavailable.[13] The findings indicate that most nurses had a good understanding of PPH and that, in the absence of oxytocin, Methylergometrine or oral misoprostol 600Ug is advised for the management of PPH. It is advised to utilize oral misoprostol (600 mg) or another injectable uterotonic in situations when oxytocin is unavailable.[14] The study's findings showed that the majority of nurses were aware of the value of administering IV fluids, blood, blood products, and oxygen to treat PPH. Treatment of postpartum hemorrhage involves replacing lost blood and fluid.[15] The findings in this area indicate that the majority of nurses have great understanding of PPH management. To ensure adequate management of any potential PPH, it is critical that the clinical setting has nurses who have received the necessary training.[16] The majority of nurses (89.7%) had excellent primary practices.10.3% of the nurses showed Good Practices for main PPH, though.[17] According to a previous study, obstetric hemorrhage is the leading cause of maternal mortality globally, accounting for 27.1% of all maternal fatalities. This shows that the vast majority of nurses had effective PPH prevention practices. In order to prevent PPH, all pregnant women should receive oxytocin during the third stage of labor, according to the WHO. Sellers claim that PPH can be brought on by trauma to the uterus, cervix, vagina, and perineum. PPH is characterized by a well-contracted uterus and blood clots emerging from the vagina, and it may be brought on by

forceps, vacuum, large babies and cervical tears, high vaginal tears, incomplete uterine ruptures, and uterine inversion.[18] This showed that the majority of the individuals were skilled at massaging their uteruses to ward off PPH. The uterus should be massaged after giving delivery, according to the WHO, and PPH should be treated as soon as it is discovered.[19] A previous study showed that a full bladder displaces the uterus and thus prevents the uterus from effectively contracting and re-tracting. Breast-feeding helps increase the level of oxytocin in the blood. Primary PPH is vaginal bleeding that occurs within 24 hours after birth. While secondary PPH occurs between 24 hours and 12 weeks after birth. Therefore, both primary and secondary postpartum hemorrhages are treated in the same way. Most of the participants in this study know how to diagnose PPH and were therefore considered competent.[20]

CONCLUSION(S):

According to this study, the majority of nurses are skilled in treating PPH and use similar techniques on all expectant mothers. The study's participants expressed confidence in the techniques for handling PPH during the third stage of labor. Participants demonstrated excellent understanding of the PPH concept and delivery technique.

RECOMMENDATIONS:

• Mostly Nurses from other departments have little education related to PPH handling during and after livery. These areas warrant detailed research.

• Further study needed to be conducted on a large sample and different geographical settings to generalize the results of the study.

• Only nurses work during PPH occur are not sufficient to improve the patient's condition. Therefore, there is need to enhance nurse's knowledge and practice regarding prevention of PPH and proper handling during and after delivery.

• Government should conduct awareness session on primary PPH prevention, complications and treatment at PVT & Govt Hospitals.

• Free of cost teaching sessions for nurses should provide in the health care settings.

LIMITATIONS:

• The study was conducted on the nurses working at Gynae department of Government Allied Hospital Faisalabad that was only Limitations of current study. Therefore, the results of this study cannot be generalized to all nurses from other hospitals Private or Government.

AUTHORS CONTRIBUTION

IK: Topic selection and write up, **NH:** Compilation of article and paraphrasing, **RK:** Data collection, proof reading

REFERENCES

1. Wormer KC, Jamil RT, Bryant SB. Acute postpartum hemorrhage. StatPearls [Internet]: StatPearls Publishing; 2022.

2. Escobar MF, Nassar AH, Theron G, Barnea ER, Nicholson W, Ramasauskaite D, et al. FIGO recommendations on the management of postpartum hemorrhage 2022. Int J Gynaecol Obstet. 2022;157 Suppl 1(Suppl 1):3-50.

3. Bazirete O, Nzayirambaho M, Umubyeyi A, Karangwa I, Evans M. Risk factors for postpartum haemorrhage in the Northern Province of Rwanda: A case control study. PLoS One. 2022;17(2):1-20.

4. Omotayo MO, Abioye AI, Kuyebi M, Eke AC. Prenatal anemia and postpartum hemorrhage risk: a systematic review and meta-analysis. J Obstetr Gynaecol Res. 2021;47(8):2565-76.

5. Panda S, Das A, Mallik A, Baruah SR. Normal puerperium. Midwifery: IntechOpen; 2021.

6. Muñoz M, Stensballe J, Ducloy-Bouthors AS, Bonnet MP, De Robertis E, Fornet I, et al. Patient blood management in obstetrics: prevention and treatment of postpartum haemorrhage. A NATA consensus statement. Blood Transfus. 2019;17(2):112-36.

7. Leifer G. Introduction to Maternity and Pediatric Nursing-E-Book: Introduction to Maternity and Pediatric Nursing-E-Book: Elsevier Health Sciences; 2022.

8. Abd Elhakm EM, Elbana HM. Effect of simulation based training on maternity nurses' performance and self-confidence regarding primary postpartum hemorrhage management. American Journal of Nursing. 2018;6(6):388-97.

9. Shinyongo V, Nashandi HL, Amakali-Nauiseb T. Assessment of knowledge, attitude and practice towards management of postpartum hemorrhage among third year nursing students at University of Namibia, main campus. Int J Community Med Public Health. 2022;9(5):1-7.

10. Wake GE, Wogie G. Assessment of Midwife Knowledge, Practice, and Associated Factors towards Active Management of the Third Stage of Labor at Governmental Health Institutions in Tigray Region, Northern Ethiopia, 2018. Biomed Res Int. 2020;2020:1-10.

11. Trikha A, Singh PM. Management of major obstetric haemorrhage. Indian J Anaesth. 2018;62(9):698-703.

12. Brenner A, Ker K, Shakur-Still H, Roberts I. Tranexamic acid for post-partum haemorrhage: What, who and when. Best Pract Res Clin Obstet Gynaecol. 2019;61:66-74.

13. Akter S, Lorencatto F, Forbes G, Miller S, Althabe F, Coomarasamy A, et al. Perceptions and experiences of the prevention, identification and management of post-partum haemorrhage: a qualitative evidence synthesis. Cochrane Database Syst Rev. 2020;2020(12).

14. Visser GH, Thommesen T, Di Renzo GC, Nassar AH, Spitalnik SL, FIGO Committee for Safe Motherhood NH, et al. FIGO/ICM guidelines for preventing Rhesus disease: A call to action. Int J Gynecol Obstet. 2021;152(2):144-7.

15. Blawn KD. Postpartum Hemorrhage Recognition And Treatment. 2021:1-45.

16. Akter S, Forbes G, Miller S, Galadanci H, Qureshi Z, Fawcus S, et al. Detection and management of postpartum haemorrhage: Qualitative evidence on healthcare providers' knowledge and practices in Kenya, Nigeria, and South Africa. Front Glob Womens Health. 2022;3:1-19.

17. Adisasmita A, Izati Y, Choirunisa S, Pratomo H, Adriyanti L. Kangaroo mother care knowledge, attitude, and practice among nursing staff in a hospital in Jakarta, Indonesia. PLoS One. 2021;16(6):1-13.

18. James AH, Federspiel JJ, Ahmadzia HK. Disparities in obstetric hemorrhage outcomes. Res Pract Thromb Haemost. 2022;6(1):1-8.

19. Saccone G, Caissutti C, Ciardulli A, Berghella V. Uterine massage for preventing postpartum hemorrhage at cesarean delivery: Which evidence? Eur J Obstet Gynecol Reprod Biol. 2018;223:64-7.

20. Güngördük K, Olgaç Y, Gülseren V, Kocaer M. Active management of the third stage of labor: A brief overview of key issues. Turk J Obstet Gynecol. 2018;15(3):188-92.