Emergency Obstetric Care: Knowledge of Nurses and Midwives of Management of Primary Postpartum Haemorrhage

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Abstract

Background: haemorrhage is the third highest direct cause of maternal death. Haemorrhage emerges as the major cause of severe maternal morbidity in almost all 'near miss' audits in both developed and developing countries. In Sudan, more than 1 in 3 women who deliver suffer from prolonged labour, and 1 in 4 women experiences excessive bleeding. Two thirds of maternal death cases reviewed indicates delay in women's decision to seek care and a delay in identifying and reaching medical facility. One third of deaths well relate to not receiving adequate care once hospitalized.

Aim: The present study aimed to measure the knowledge of nurses and midwives in Khartoum state regarding the management of primary postpartum haemorrhage.

Method:A descriptive cross-sectional, hospital based-study, the current study was conducted at specialized maternity government hospitals in Khartoum state. The sample of the study consisted of 81nursesand midwives selected using the simple random sampling method. The data were collected by a questionnaire and were analyzed by the Statistical Packages for Social Sciences (SPSS), version 25, and then the data were presented in form of simple frequency tables and cross-tabulations to explore the relationship between variables. P-value ≤ 0.05 was considered statistically significant. Ethical approval was obtained from ethical committees and administrative authorities of hospitals, and verbal consent was obtained from the respondents enrolled in the sample of the study.

Results: The findings illustrated that almost halfof the nurses and midwives (49.4%) had fair knowledge about obstetric emergency during labor.Slightly above half of the studyparticipants(55.6%) had good knowledge regarding the role of midwives in obstetric emergency during labor.**Conclusion:** The study concluded that nurses and midwives had fair knowledge about obstetric emergency during laborand had good knowledge regarding the role of midwives in obstetric emergency during labor.

Key words:Emergency obstetric care, Knowledge, Midwives, Primary Postpartum Haemorrhage

المستخلص

الخلفية:النزف هو ثالث أكبرسبب مباشرلوفيات الأمهات.ويظهرالنزف باعتباره السبب الرئيسي لاعتلال الأمهات الوخيمف يجميع المراجعات "الوشيكة" تقريبًا في كلمنا لبلدان المتقدمة والنامية. في السودان،أكثرمن واحدة من كل ثلاث نساء يضعن مولودًا يعانين من المخاض المطول،وواحدة منك لأربع نساء تعاني من النزيف المفرط. يشير ثلث حالات وفيات الأمهات التي تماس تعراضها إلى

التأخر في قرارالمرأة التماسا لرعاية الصحية وتأخيرًا في تحديد المرفق الطبي والوصول إليه. ويرتبط ثلث الوفيات ارتباطًا وثيقًا بعدم تلقي الرعاية الكافية بمجرد دخول المستشفى.
الهدف: هدفت الدراسة الحالية إلى قياس معرفة الممرضات والقابلات بالنزف الأولي بعد الولادة في إثنتين من مستشفيات الولادة المتخصصة في ولاية الخرطوم.
المنهجية:إن الدراسة الحالية هي دراسة مقطعية وصفية،مستشفوية،أجريت في مستشفيات التوليد الحكومية المتخصصة بولاية الخرطوم. تكونت عينة الدراسة من 81 ممرضة وقابلة تم اختيارهنب استخدام طريقة أخذ العينات العشوائية البسيطة. وقد تم جمع البيانات باستخدام استبيان وتم تحليلها بواسطة الحزم الإحصائية للعلوم الاجتماعية (SPSS) الإصدار 25،ثم تم تقديم البيانات في شكل جداول تكرارية بسيطة وجداول متقاطعة لاستكشاف العلاقة بين المتغيرات. اعتبرت قيمة الإحتمالية P-value أقل أو اكثر من 0.05 ذات دلالة إحصائية. وقد تم الحصول على الموافقة الأخلاقية من اللجان الأخلاقية والسلطات الإدارية للمستشفيات، كما تم أخذ الموافقة الشفهية من المستجيبات المدرجات في عينة الدراسة.
النتائج:أوضحت النتائج أن مايقرب من نصف الممرضات والقابلات (49.4٪) لديهن معرفة جيدة بالطوارئ التوليدية أثناء المخاض. مايزيد قليلاً عن نصف المشاركات في الدراسة (55.6٪) لديهن معرفة جيدة في مايتعلق بدورالقابلات في حالات الطوارئ التوليدية أثناء المخاض.
الخلاصة:خلصت الدراسة إلى أن الممرضات والقابلات لديهن معرفة جيدة بطوارئ الولادة أثناء المخاض ولديهن معرفة جيدة بدور القابلات في حالات الطوارئ التوليدية أثناء المخاض.
الكلمات المفتاحية:رعاية التوليد في حالات الطوارئ،المعرفة،القابلات،النزف الأولي بعد الولادة.

Introduction

Background: pregnancy and childbirth is a normal process, complications may occur any time during antenatal or post-natal period. The ability of the midwife or nurse to deal competently with the obstetric emergencies depends on the prompt action taken by her. The speed of this action while calling for medical assistance will often help to determine the outcome for the mother and the baby. Every delivery must be managed as an obstetrical emergency and all the preparation must be done to deal these emergencies[1]. At times, the midwife may face an emergency such as collapse, which is not directly related to the mother's pregnancy. This requires that she should remain alert to the possibility of such a situation. Conditions such as severe hypertensive disorder, haemorrhage, and embolism threaten the life of the mother while the prolapse of the umbilical cord, vasa privea directly threatens the life of the fetus. Shoulder dystocia is an emergency, an often-unexpected complication that can result in significant neonatal and maternal morbidity. It is one of the most anxiety-provoking emergencies encountered in labor.Failure of the shoulders to deliver spontaneously places both the woman and the fetus at risk of injury. Fetal risksinclude asphyxia, nerve damage, clavicle fracture, central nervous system (CNS) injury or dysfunction, and death.Poor maternal outcomes may include postpartum hemorrhage, extensive lacerations, uterine rupture, infection, fistulas, bladder injury, and psychological trauma[2]. Once the fetal head has emerged, the primary care provider explores the fetal neck to see if the umbilical cord is wrapped around it. If it is, the cord is slipped over the head to facilitate delivery. As soon as the head emerges, the health care provider suctions the newborn [3]. The majority of maternal deaths take place during childbirth and the immediate postpartum period. The major causes of maternal deaths due to direct

obstetric complications are hemorrhage, sepsis, prolonged and obstructed labor, hypertensive disorders and abortion complications. At least 15 percentof all pregnancies are expected to require an emergency medical intervention; therefore, access toEmergency Obstetric care (EMOC) is crucial to saving women's lives and preventing disabilities [(4)].

Postpartum haemorrhage (PPH) is the leading cause of maternal death worldwide. In the developing countries, it is responsible for the death of about 125,000 women each year. Death from postpartum haemorrhage is eminently preventable. It is essential that first-line staff members are able to prevent, make early diagnosis and provide prompt management of primary PPH. [(5)]

The present study aimed to assess the knowledge of nurses and midwives regarding the management of primary postpartum hemorrhage

Methodology

The current study is a descriptive cross-sectional, hospital-based study which was conducted at two specialized maternity governmental hospitals in Khartoum State, namely: Omdurman Maternity Teaching Hospital and Omdurman New Saudi Hospital.For the purposes of the study, 81 nurses and midwives were enrolled by using a total coverage, as the total census was less than 200 [(6)]. The dependent variable of the study is the knowledge of nurses and midwives of postpartum haemorrhage, including knowledge of items such as: definition of the term postpartum haemorrhage, early identification of obstetrical emergency during labor, appropriate time of diagnosis, signs and symptoms of postpartum haemorrhage and initial management of obstetrical emergency during labor. The independent variables included: age, years of experience, training and qualification of the nurses and midwives enrolled in the sample of the study.The data required for the purposes of the present study were collected by a questionnaire to assess the knowledge of nurses and midwives regarding obstetrical emergency care during labor.

The questionnaire adopted Likert scale scored from one to three: 70-100% being good knowledge, 50-69%being fair knowledge and 0-49% being poor knowledge [(7).].After being collected, the data were analyzed by the Statistical Package for Social Sciences (SPSS), version 25. Then, the data were presented in form of simple frequency .

Results

Table (1): distribution of the study participants according to their age

	Frequency	Percentage (%)
20-29	24	29.7
30-39	14	17.3
40-49	10	12.3
>50	33	40.7
Total	81	100.0

Mean	**40.91**

Looking at the above table, it is clear that the largest age group among the participants of the study were nurses and midwives whose ages were 50 years and above, with a percentage of 40.7%, representing more than a third of the participants in selected sample.

Table (2): distribution of the study participants according to their years of experience

	Frequency	Percentage (%)
0< 1	9	11.1
1-5	21	25.9
6-10	9	11.1
>10	42	50.9
Total	81	100.0

Table (2) above shows that half of the participants in the study sample had more than 10 years of experience, followed by those who had between 1 to 5 years of experience, representing about the quarter of the sample (25.9%).

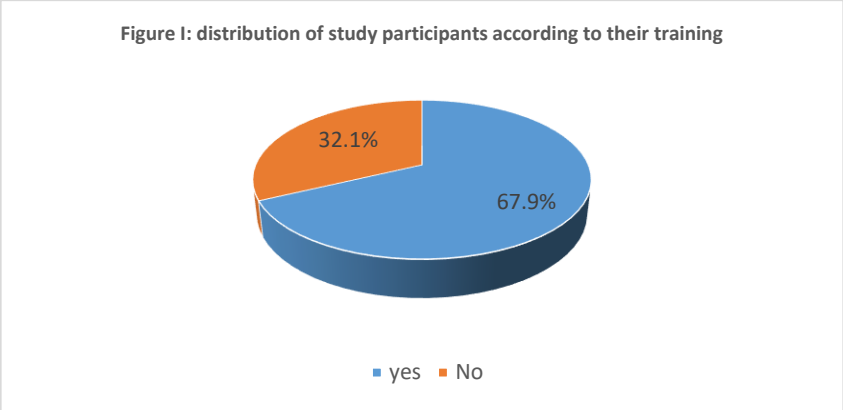

Figure I: Distribution of study participants according to their training

The above figure – Figure I – shows that two-thirds (67.9%) of the study participants, nurses and midwives enrolled in the sample, had received training on obstetrical emergency care, whereas the remaining one-third of them had not received such training.

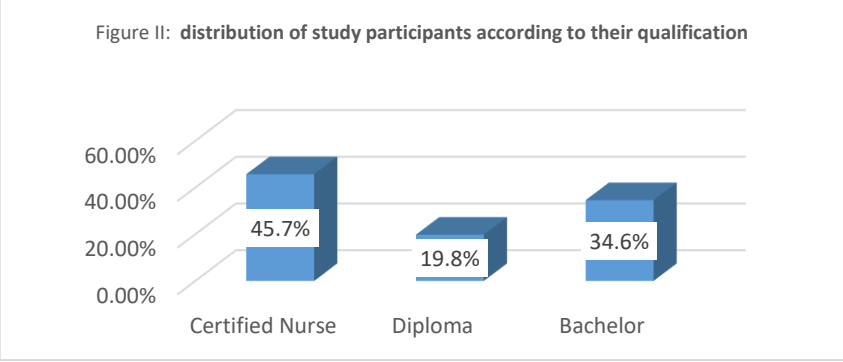

Figure II: **distribution of study participants according to their qualification**

Figure II above reveals that the bulk of the participants in the study were certified nurses (45.7%), followed by those with a bachelor's degree, representing about one-third of the

sample (34.6%), whereas a minority of 19.8% of the participants had a diploma in nursing, as their academic qualification.

Table (3): distribution of the study participants according to the knowledge of conditions that are considered as obstetric emergency during labor

No	Items	
	Bleeding	
	shoulder dystocia	
	Prolonged labor	
	prolapsed umbilical cord	
	placenta accrete	
	rupture of the uterus	
	inversion of the uterus	
	amniotic fluid embolism	
	Obstructed labor	
.	Fetal distress	
.	Sever pregnancy induced hypertension /eclampsia	

	Frequency	Percentage (%)
Poor	4	4.9
Fair	40	49.4
Good	37	45.7
Total	81	100.0

As it is shown in Table (3) above, almost half of the participants in the sample of the current study (49.4%) had fair knowledge of the of conditions that are considered as obstetric emergency

during labor, followed by those who had good knowledge of the of these conditions (45.7 %), while a minority of only 4.9% had poor knowledge of the of conditions that are considered as obstetric emergency during labor.

Table (4): distribution of study participants according to the initial management of an obstetric emergency during labor.

No	Items	
1	Call for help	
2	Resuscitation Assess airway Assess breathing Assess circulation Oxygen by mask at 10–15 liters/minute Keep the woman warm using appropriate available measures	
3	Try to control bleeding by uterine massage.	
4	Explore the causes	
5	putting and IV line and IV fluid if needed	
6	Peppier for oxytocin administration	
7	The nurse and midwife will be ready to catch the baby.	
8	monitor vital signs	
9	Potison of patient is necessary.	
10	Prepared for **Normal birth**	
11	Episiotomy and it repair	
12	Repair of uterine , cervical and perineal tear (if needed)	
13	Prepped for cesarean section if obstetric emergency occurs and do : Direct pressure to visible bleed Encourage breast-feeding fundus massage aortic/suprapubic compression if required	
14	Prepared for blood transfusion (If needed).	
15	Relief pain fluid therapy as required monitor blood pressure	
16	Evaluate the client	
17	Forceps or Ventouse application (if needed)	
18	Re-evaluate	
19	Transport Patient: To Emergency department if the gestational age less than 20 weeks To obstetric unit if gestational age more than 20 weeks	
20	Examination of Newborn	

21	Neonatal Recitation	

	Frequency	Percentage%
Poor	5	6.2
Fair	42	51.9
Good	34	42.0
Total	81	100.0

As it is shown in Table (4) above, more than half of the participants in the sample of the current study (51.9%) had fair knowledge according to the initial management of an obstetric emergency during labor., followed by those who had good knowledge according to the initial management an obstetric emergency during labor of these conditions (42,0 %), while a minority of only 6.2 % had poor knowledge of the initial management of an obstetric emergency during labor.

Table (5): distribution of study participants according to basic management of obstetrics emergency during labor

	Administered parenteral antibiotics as prescribed	
	Administered utrotonics drugs as prescribed	
	Administered parental anticonvulsants for preeclampsia and eclampsia (magnesium sulphate)	
	Manual removal of placenta	
	Removed retained products (vacuum extractors or dilation and curettage.	
	Perform assisted vaginal delivery (e g vacuum extraction or forceps	
	Perform basic neonatal resuscitation	

	Frequency	Percentage%
Poor	5	6.2
Fair	18	22.2
Good	58	71.6
Total	81	100.0

Table (6): distribution of study participants according to Comprehensive management of emergency obstetrics during labor.

No	Items	
	Perform basic management (1to 7 above)	
	Perspired for caesarean section	
	Prepared for blood transfusion	

	Frequency	Percentage%
poor	12	14.8
fair	12	14.8
good	57	70.4
Total	81	100.0

As it is shown in Table (5) a minority of only 14,8% had poor, fair sequence knowledge according to comprehensive management of emergency obstetrics during labor.

Followed by those who had good knowledge of comprehensive management (70.4 %)

Discussion

Approximately one-quarter of deaths related to pregnancy and childbirth are caused by complications of the third stage of labour, that is, excessive bleeding within the first 24 hours after delivery,.[8]

In the present study,about half of the participants (49.4%) had fair knowledge of postpartum haemorrhage (PPH) as show in **table(3).**

Regarding age, the present study showed in **table (1)** the largest age group among the participants of the study were nurses and midwives whose ages were 50 years and above, with a percentage of 40.7%, representing more than a third of the participants in selected sample. This result is in disagreement with the study done by Eman Mohammed 2017 in Egyptwhich revealed that the majority of the participants were within the 21 to 30 age range (n= 29, 64.4%) and were mostly females (n=39, 86.7%). [9]

Regarding qualification of the participants in **table (2),** nearly half (n=81, 45.7%) of the participants in the present study were certified nurses and midwives, and about one-third (34.6%) of them had a bachelor degree in Nursing and Midwifery. This result disagrees with a result aimed to develop nursing management protocol for maternity nurses regarding obstetric emergencies which showed that alarge number of participants (n=34, 75.4%) had a Diploma in Nursing and Midwifery, but it is in agreement with the above mentioned study conducted byEman Mohammed 2017 in Egyptwhich showed that most of the participants 77.5% had secondary school diploma and only 5.0% had bachelor degree.[9].

In terms of years of experience, half of the participants (50.9%) in the study sample had 10 or more than 10 years of experience, followed by those who had between 1 to 5 years of experience, representing about the quarter of the sample (25.9%), whereas only 11.1% of the participants had between 3 and 5 years working experience and between 6 to 10 years of experience. So, it is evident that there was variation in terms of years of work. .[9]

As show in **figure I** regards training, the results of the present study showed that two-thirds (67.9%) of the study participants, nurses and midwives enrolled in the sample, had received training on obstetrical emergency care, whereas the remaining one-third of them had not received such training. This result is in utter disagreement with the study done by Eman Mohammed 2017 in Egypt, which showed that majority of the studied nurses 87.5% did not receive any training program regarding obstetric emergencies in the department. .[9]

Recommendations:

Based on the findings of the study and the relevant literature, the following recommendations

are proposed to improve the management and care of obstetric emergencies in general, especially women with a history of postpartum haemorrhage.

Obstetric emergency care guidelines for all members of maternity hospitals and all maternity wards.

Notification of risk management teams for women with postpartum haemorrhage;

Appropriate regular training for obstetric teams (midwives and medical staff).

Conclusion: The study concluded that nurses and midwives had fair knowledge about obstetric emergency during labor.

Conflict of interest

The authors have stated explicitly that there are no conflicts of interest in connection with this paper. The authors alone are responsible for the content and writing of the paper.

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