Obstetrical Emergency care: knowledge of Nurses and Midwife toward Comprehensive Management of Obstetrical Emergency Care during labor at Khartoum State Sudan 2022

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Abstract

Background: Globally providing quality emergency obstetric care (EmOC) reduces the risk of maternal and newborn mortality and morbidity. There is evidence that over 50% of maternal health programs that result in improving access to emergency obstetric care and reduce maternal mortality have an emergency obstetric care-training component. The ability of the midwife or nurse to deal competently with the obstetric emergencies depends on the prompt action taken by her. In Sudan, more than 1 in 3 women who deliver suffer from prolonged labor, and 1 in 4 women experiences excessive bleeding.

 Aim: The present study aimed to assess the knowledge of nurses and midwives regarding the management of obstetrical emergency care during labor.

Method: A descriptive cross-sectional, hospital based-study, the current study was conducted at specialized maternity government hospitals in Khartoum State , 81 nurses and midwives were enrolled using a total coverage technique. 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 most(70.4%) of nurses and midwives had good knowledge about comprehensive management of emergency obstetrics during labor and half of the nurses and midwives (51.9%) had fair knowledge about initial management of an obstetric emergency during labor. Slightly above half of the study, participants (58 %) had good knowledge regarding the basic management of obstetrics emergency during labor, also there have strong significant association between level of total knowledge and training of midwifes /nurses P value 0.0 and no association between qualification and the total knowledge, P-value 0.17

 Conclusion: The study concluded that most of nurses and midwives had good knowledge about comprehensive management of emergency obstetrics during labor High-quality, comprehensive emergency obstetrics care , provided primarily by nurses and midwives, has resulted in significant improvements in the availability and utilization of life-saving care at birth.

Key words: Emergency obstetric care, Knowledge, Midwives, Comprehensive Management

المستخلص:

الخلفية: على الصعيد العالمي، يمثل تحسين توافر خدمات الرعاية الصحية، وجودتها، واستخدامها لعلاج مضاعفات الحمل والولادة إحدى أهم الطرق للحد من وفيات الأمهات. تُسهم رعاية التوليد الطارئة الجيدة في تقليل مخاطر وفيات الأمهات والمواليد. تشير الأدلة إلى أن أكثر من 50٪ من برامج صحة الأم التي تحسن الوصول إلى رعاية التوليد الطارئة تشمل عنصر التدريب في هذا المجال. في السودان، تعاني أكثر من 1 من كل 3 نساء من المخاض الطويل، و1 من كل 4 نساء من النزيف المفرط. ثلثا وفيات الأمهات ترتبط بتأخير طلب الرعاية والوصول إلى المرافق الصحية، في حين يرتبط الثلث الآخر بعدم تلقي الرعاية الكافية داخل المستشفى.

الهدف: هدفت الدراسة إلى قياس معرفة الممرضات والقابلات بالإجراءات العلاجية أثناء التوليد الطارئ خلال المخاض وما بعد الولادة في مستشفيين متخصصين بولاية الخرطوم.

المنهجية: أجريت دراسة مقطعية وصفية في مستشفيات التوليد الحكومية بولاية الخرطوم على عينة شملت 81 ممرضة وقابلة، باستخدام استبيان لتحصيل البيانات، التي حُللت باستخدام

الإصدار 25 من برنامج SPSS. تم تقديم النتائج باستخدام جداول تكرارية وبحث العلاقة بين المتغيرات، مع اعتبار القيمة الاحتمالية $P < 0.05$ دالة إحصائيًا.

النتائج: أظهرت النتائج أن

- 70.4٪ من الممرضات والقابلات لديهن معرفة جيدة بالرعاية الشاملة لحالات الطوارئ التوليدية أثناء المخاض.
- 49.4٪ لديهن معرفة جيدة بالطوارئ التوليدية أثناء المخاض.
- 55.6٪ لديهن معرفة جيدة بدور القابلات في الطوارئ التوليدية أثناء المخاض. هناك ارتباط قوي بين مستوى المعرفة الكلية وتدريب الممرضات والقابلات ($P = 0.0$)، وعدم وجود ارتباط بين المؤهل والمعرفة الكلية ($P = 0.17$).

الخلاصة: خلصت الدراسة إلى أن معظم الممرضات والقابلات يتمتعن بمعرفة جيدة حول الرعاية الشاملة والطوارئ التوليدية أثناء المخاض، بالإضافة إلى دورهن الحيوي في التعامل مع هذه الحالات.

الكلمات المفتاحية: الشاملة، رعاية التوليد في حالات الطوارئ، المعرفة، القابلات، الرعاية

Introduction

Background. The management of emergencies is usually the responsibility of hospital obstetricians. As more maternity care is now given in the community, however, midwives, general practitioners, and paramedics may be involved and must know the outlines of management of emergencies and the possible side effects. If such a situation occurs outside the hospital then arrangements must be made to transport the woman to the obstetric unit safely and promptly [1].

Availability and use of emergency obstetric care services as one of the integral components of the safe motherhood program. And has been identified as one of the important process indicators of the safe motherhood program and the Emergency obstetric care services have been divided into basic emergency obstetric care services and comprehensive emergency obstetric care services [2]

Improving availability and accessibility of Comprehensive Emergency Obstetric and Neonatal Care (CEmONC) services to all women is one of the known high impact interventions in reducing maternal and neonatal mortality. CEmONC refers to care provided in health facilities to treat direct obstetric and neonatal emergencies that cause the vast majority of maternal and neonatal deaths during pregnancy, at delivery and during the postpartum period (3)

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 [4].

At times, the midwife may face an emergency, 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,

hemorrhage, and embolism threaten the life of the mother while the prolapse of the umbilical cord, vasa privea directly threatens the life of the fetus. Obstetrical emergencies are life threatening medical condition that occurs during pregnancy, labor, or the postpartum period. Globally, every year an estimated 287,000 women die of complications during pregnancy or childbirth There are a variety of obstetrical emergencies of pregnancy that can threaten the well-being of both mother and child. [5]

The five major global causes of maternal death or dysfunction, and death. Poor maternal outcomes may include postpartum hemorrhage, extensive lacerations, uterine rupture, infection, fistulas, bladder injury, and psychological trauma [6]. 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 [7]. 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 percent of all pregnancies are expected to require an emergency medical intervention; therefore, access to Emergency Obstetric care (EMOC) is crucial to saving women's lives and preventing disabilities [8].

The present paper deals with comprehensive Management of Obstetrical Emergency Care during labor.

Methods:

A Descriptive cross- sectional, hospital based-study, was conducted at the specialized maternity governmental hospitals in Khartoum State. In Omdurman maternity teaching hospital and Omdurman New Saudi Hospital, 81 nurses and midwives were enrolled by using a total coverage technique, as the total census was less than 200 [9]. Variables under study included: independent variables: age, years of experience, training and qualification of the nurses and midwives and dependent Variables included: Initial management, comprehensive management ,complication of obstetrical emergency care during labor. 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, range of scored from one to three: 70-100% being good knowledge, 50-69% being fair knowledge and 0-49% being poor knowledge [10] Data analyzed by statistical packages of social sciences SPPS version 25. Data presented in form of simple frequency table and cross table to explore the relationship between variables. A significance test was checked by chi-square test and the results were accepted when the p-value was 0.05% or less. Ethical approval was obtained from ethical committees and administrative authorities of hospitals.

Results

Table (1): Distribution of the study participants according to their age (N=81)

	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 (N=81)

	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%).
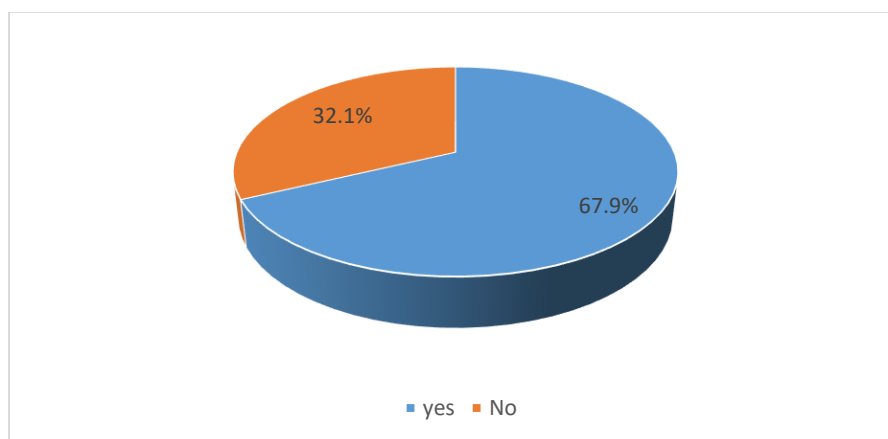

Figure I: Distribution of study participants according to their training

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.
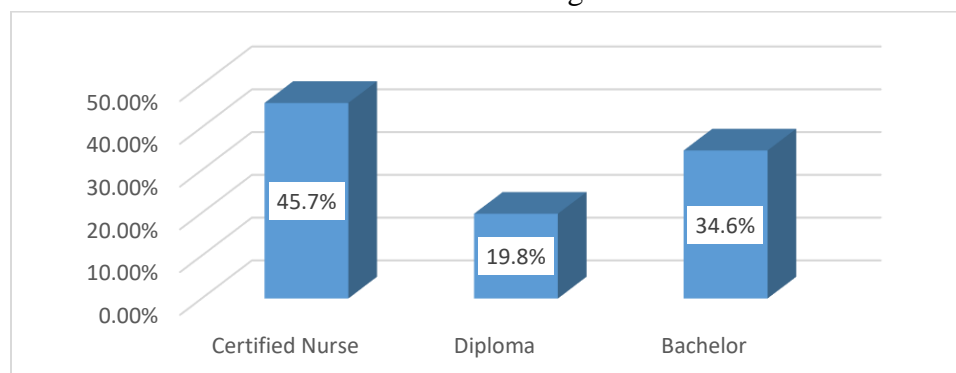

Figure II: Distribution of study participants according to their qualification

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): Level of knowledge of nurses and midwives about initial management of an obstetric emergency during labor. (N=81)

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

Table (4): Level of knowledge of nurses and midwives according to basic management of obstetrics emergency during labor . (N=81)

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

Table (5): Level of knowledge of nurses and midwives about comprehensive management of emergency obstetrics during labor. (N=81)

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

Table (6): Distribution of study participants according to their knowledge of complication of an obstetric emergency during labor .(N=81)

	Frequency	Of Percentage%
Poor	14	17.3
Fair	40	49.4
Good	27	33.3
Total	81	100.0

Table (7): Association between training and the total knowledge

			Total knowledge			Total
			poor	fair	good	
Training	yes	Count	9	10	36	55
		% of Total	11.1%	12.3%	44.4%	67.9%
	no	Count	1	13	12	26
		% of Total	1.2%	16.0%	14.8%	32.1%
Total		Count	10	23	48	81
		% of Total	12.3%	28.4%	59.3%	100.0%

P value 0.00

Table (8): Association between qualification and the total knowledge.

			Total knowledge			Total
			poor	fair	good	
Qualification	certified nurse diploma	Count	3	8	26	37
		% of Total	3.7%	9.9%	32.1%	45.7%
		Count	3	3	10	16
		% of Total	3.7%	3.7%	12.3%	19.8%
	bachelor	Count	4	12	12	28
		% of Total	4.9%	14.8%	14.8%	34.6%
Total		Count	10	23	48	81
		% of Total	12.3%	28.4%	59.3%	100.0%

P-value 0.17

Discussion:

Regarding age, the present study showed 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. This result is in disagreement with the study done by Eman Mohammed 2017 in Egypt which 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) [11]

Regarding qualification of the participants, 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 a large 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 by Eman Mohammed 2017 in Egypt which showed that most of the participants 77.5% had secondary school diploma and only 5.0% had bachelor degree. [11]

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. [11]

As 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. [11]

Current study revealed that the distribution of the study participants according to basic management of obstetrics emergency during labor, is good this result disagrees with a result of Study aimed to assess Obstetric care providers' knowledge, practice and associated factors towards active management of third stage of labor in Ethiopia found that the knowledge and practice of obstetric care providers towards active and basic management of EmONC care during labor is unsatisfactory,

with a percentage of 71.6%, representing more than a fifty percent of the participants in selected sample , with a percentage of 71.6%, representing More than half of the study participants 70,4%had a good knowledge toward comprehensive management of emergency obstetrics during labor. [12]

Basic EmONC interventions include administration of parenteral antibiotics, utrotonics, and parenteral anticonvulsants; manual removal of placenta (MRP); removal of retained products; assisted vaginal delivery (AVD); and basic neonatal resuscitation. Comprehensive EmONC includes two additional services: performance of obstetric surgeries (e.g., cesarean delivery) and performance of blood transfusion. Comprehensive EmONC interventions include two additional services: ability to perform obstetric surgery (e.g., cesarean delivery) and blood transfusion. [1]

In the present study distribution of study participants according to their knowledge of complication of an obstetric emergency during labor have Fair knowledge in compared with the study done by Mgbekem MA, Nsemo AD and et. al Report that about 80% of maternal deaths especially in developing countries are as a result of obstetric complication such as haemorrhage, infection, obstructed labour, unsafe abortion and high blood pressure. [13]

The result indicated that there were statistically significant differences association between training and the total knowledge of study, this finding is supported by study done in 2022 at India - Shimla District, there is no significant association between pre- and post-test knowledge and selected demographic variables. 70% of participants had General Nursing and Midwifery (GNM) as a professional qualification. The majority (51.7%) had one to five years of work experience; 46.7% of staff nurses had good knowledge in the pre-test

assessment and 95% had good knowledge in the post-test evaluation.[14]

Recommendations: based on the finding of the study the researcher recommended that:

• Training programs is needed for nurses and midwives about obstetric emergency care

• Stakeholders included in several procedures and approaches that are comprehensive and ongoing for a scaling up knowledge and practice for nurses and midwives about obstetric emergency care.

• Controlling the Emergency Obstetrics Department with precise policies for managing obstetrical emergencies care.

Conflict of Interests

The authors declare that they have no competing interests.

Acknowledgment:

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