Original Research Article

THE MANAGEMENT OF BIRTH ASPHYXIA IN THE CONTEXT OF NURSING AND MIDWIFERY:A QUANTITATIVE STUDY IN UPPER EAST REGION OF GHANA

ABSTRACT

Background: A new-born's inability to initiate and maintain breathing immediately after birth is referred to as birth asphyxia. In developed countries, the incidence of Birth Asphyxia is 2 per 1000 births, but in developing countries, the rate can be up to 10 times higher than that figure. Globally, 130 million babies are born each year, with Birth Asphyxia accounting for 20.9 percent of all neonatal deaths occurring within the first four weeks of life during this period. Approximately 10% of these babies require some form of assistance to breathe when they are born. Nurses and midwives must have a high level of expertise in the management of birth asphyxia in order to avoid further complications.

Methods:A quantitative descriptive, cross-sectional study design was used to assess the management of Birth Asphyxia among Nurses and Midwives at the maternity department of War Memorial Hospital. Convenient sampling technique was used to select study subjects and the sample size was determined using sample size determination table.

Results: Of the total 80, 79 (98.8%) of the respondents had knowledge on the standard guidelines and protocols for the management of Birth Asphyxia. Nurses and midwives who were trained, thus 60 out of the total 80 respondents (75%), were more likely to have knowledge of Birth Asphyxia management as compared to those who didn't get training. The study revealed that 98.8% of nurses and midwives had knowledge of birth asphyxia management.

Conclusions: More than half of these health professionals had training on the management of Birth Asphyxia. Frequent trainings were recommended to improve knowledge of nurses and midwives on Birth Asphyxia management.

Key Words: ***Birth Asphyxia, Management, Knowledge, Nurses, Midwives***

INTRODUCTION

The delivery of a vigorous new-born is widely seen as a splendid manifestation of nature's inherent beauty. The birthing process, despite its relatively short duration, poses the most risk to an individual's life due to its association with the highest mortality rates compared to other stages of life (Ezenduka, Ndie, &Oburoh, 2016). Upon birth, the neonate undergoes the process of transitioning from intrauterine existence to extra uterine existence. There exist basic disparities in the physiology of the foetus and the infant, encompassing variations in both structure and function. The foetus has successfully acclimated to the intrauterine environment, which exhibits a relatively lower oxygen level compared to the external world. The survival of neonates is contingent upon the effective execution of a sequence of swift, intricate, and meticulously coordinated phases that occur during the shift from the intrauterine to the extra uterine environment. Upon the birth of an infant, it is expected that the new-born will establish regular breathing pattern within the initial minute following delivery, a critical period commonly referred to as the "golden minute." The phrase "Birth Asphyxia" refers to the condition in which a neonate is unable to initiate and sustain respiration within the initial minute of their existence (Wayessa, Belachew& Joseph, 2018).

Birth asphyxia, also known as perinatal asphyxia, is a medical disorder characterized by reduced oxygen saturation (hypoxia) and elevated blood acidity (acidaemia) in new-borns. These physiological changes occur due to the retention of carbon dioxide and the formation of lactic acid during the process of childbirth (Ezenduka, Ndie, &Oburoh, 2016). The therapy of infants affected by birth asphyxia requires a careful approach due to the significant physiological changes that occur during the transition period (Morton & Brodsky, 2016). Birth asphyxia can arise from a range of circumstances, encompassing maternal risk factors such pre-eclampsia, eclampsia, preterm rupture of membranes, anaemia, and gestational diabetes, among others. Complications during childbirth may arise due to several circumstances, such as prolonged labour, atypical presentations including breech position, precipitous labour, and cord prolapse. The occurrence of asphyxia in neonates can arise from various factors, including but not limited to severe cardiopulmonary abnormalities and prematurity (Ezenduka, Ndie, &Oburoh, 2016).

Birth asphyxia is aimportantcontributor to earlynew-born mortality on a global scale. According to Lehtonen, Gimeno, Parra-Llorca, and Vento (2017), it has been estimated that birth asphyxia is accountable for about two million perinatal deaths annually, encompassing Intrapartum Stillbirths and early Neonatal Deaths. Birth asphyxia is widely acknowledged as a substantial contributor to both neonatal morbidity and mortality, with a particular emphasis on its impact in developing countries and low- and middle-income countries (LMICs) (Adebami, 2015). The issue of Birth Asphyxia is a matter of great clinical concern, as it has a substantial influence on both infant mortality and morbidity on a global scale. This impact is particularly pronounced in

underdeveloped nations (Wayessa, Belachew, & Joseph, 2018). In contrast to infants born in affluent nations, infants born in sub-Saharan Africa face a considerably elevated likelihood of experiencing birth hypoxia and intrapartum stillbirth. According to the World Health Organization's report in 2020, the annual mortality rate resulting from Birth Asphyxia in Sub-Saharan Africa surpasses two hundred and eighty thousand (280,000) individuals.

Based on statistics provided by the Ghana Health Service, it is observed that deaths occurring during the neonatal period constitute 48 percent of the total mortality rate among children under the age of five in Ghana. According to the Ghana Health Service (2016), the data analysis also indicated that birth asphyxia played a significant role in 30 percent of the recorded fatalities. Based on prevailing statistical data, birth asphyxia emerges as a prominent factor contributing to the hospitalization and mortality of new-borns at the War Memorial Hospital. In the year 2019, a total of 652 infants were admitted to the neonatal intensive care unit (NICU). Among these admissions, 94 cases (14.4% of the total) were attributed to Birth Asphyxia, while the remaining 558 cases (85.6% of the total) were associated with various other reasons. According to the NICU Annual Performance Review of War Memorial Hospital in 2019, a total of 26 new-born deaths were recorded throughout the year. Among these deaths, 12 cases (46 percent) were attributed to Birth Asphyxia, while the other 14 cases (54 percent) were attributed to various other reasons (War Memorial Hospital, NICU Annual Performance Review, 2019).

Between January and June 2020, a cohort of 346 infants were brought to the Neonatal Intensive Care Unit (NICU). Among these admissions, 81 infants were diagnosed with Birth Asphyxia, representing approximately 23.4% of the total admissions during this period. Of the total hospitalizations, the remaining 265 infants, comprising 76.6 percent, exhibited a diverse range of various medical problems. According to the NICU First Half Year Report of 2020 from War Memorial Hospital, there were an additional 32 neonatal deaths recorded in the Neonatal Intensive Care Unit (NICU). Among these deaths, 13 cases (40.6 percent) were attributed to Birth Asphyxia, while the remaining 19 deaths (59.5 percent) were caused by various other factors.

The objective of this study was to assess the management of Birth Asphyxia by nurses and midwives in the maternity department of War Memorial Hospital, Navrongo. Additionally, this study aims to assess the present circumstances and explore the obstacles faced by nurses and midwives in the management of patients with birth asphyxia. The anticipated outcomes of this study are expected to contribute to the facilitation of initiatives such as workshops and training programs. These initiatives aim to enhance the competencies and expertise of nurses and midwives in the effective management of Birth Asphyxia. Additionally, they seek to empower healthcare professionals at the War Memorial Hospital in Navrongo, Ghana, by equipping them with the requisite skills and knowledge to address challenges associated with the management of Birth Asphyxia.

METHODS

Study Design

The study employed a quantitative descriptive, cross-sectional design in order to collect data. A descriptive study design entails the accurate portrayal of the characteristics of a specific individual, situation, or group of participants (Mustapha, 2014). A cross-sectional study design is one in which all variables, including the independent variable and the dependent variable, are measured at the same time (Mustapha, 2014). It has been suggested that cross-sectional studies are appropriate for describing the current status of phenomena or for describing the relationships that exist between phenomena at a specific point in time (Polit& Beck, 2008).

A cross-sectional study, according to Olsen and George (2015), is one in which either the entire population or a subset of the population is selected, and data is collected from these individuals in order to help answer the research questions that are being investigated. It also allows the researcher to examine relationships between study variables within the population under investigation without having to manipulate any of the variables in question. As a result, this design was determined to be appropriate for the current investigation.

Study Setting

The setting for this study was the maternity department of War Memorial Hospital. The War Memorial hospital is a municipal hospital in the Kesena-Nankana municipal assembly of the upper east region of Ghana that serves as a referral point for other health facilities in the municipality and beyond. The hospital has the following units; Outpatient Department (OPD), Emergency ward, Male and Female general wards, Paediatric ward, Theatre, Maternity Department (Antenatal and Postnatal Clinics, Child Welfare Clinic, Gynaecology ward, Lying-in ward, Labour ward, Family Planning unit and NICU), COVID-19 centre, ART Clinic, ENT clinic, Dental clinic, Eye clinic, Mental health unit and the Public Health Unit. The hospital has specialist nurses in the fields of public health, paediatrics, ophthalmology, ENT, dental nursing, emergency management of cases and perioperative nursing. The hospital has over 190 nurses and midwives of various ranks that run 24-hours care in the facility in shifts. The staff strength of the maternity department which includes nurses and midwives is 100.

Target Population

The study population consisted mainly of nurses and midwives who worked at the maternity department of War Memorial Hospital

Inclusion Criteria

The inclusion criteria comprised of nurses and midwives at the maternity department who are working in the clinical setting. This included nurses and midwives aged 18 years and above who were capable and of sound mind and could participate in the study. The setting of the study was confined to only nurses and midwives at the maternity department of War Memorial Hospital.

Exclusion Criteria

These criteria excluded nurses and midwives who were not of sound mind and did not fall into the selection criterion and nurses and midwives who were not working in the maternity department of War memorial hospital.

Study Population and Sample size

This study's population comprised of registered nurses and midwives regardless of gender or years of experience, who worked at the maternity department of war memorial hospital. The population of nurses and midwives at the maternity department of War Memorial Hospital is 100.

3.7 Sampling Technique

Ideally, every researcher would want to study the whole population to get the view of every single individual who qualifies to be part of the study. However, it is usually impossible to do this in some research studies, thereby calling for the need to choose a sample from the population. According to (Creswell & Clark, 2017), a sample is a portion of elements taken from a population, which is considered to be representative of the population. For the purpose of this study, a convenient sampling (80 participants) of the population of nurses and midwives at the maternity department was used based on the inclusion and exclusion criterion.

3.8 Study Instrument

Data was collected using a well-structured questionnaire. The questionnaire was designed to suit and answer the research questions. The questionnaire was divided into sections to address the various objectives of the study. The questionnaire was developed based on literature review and items structured in English language. The instrument for data collection in this study was well-structured written questionnaire designed by the researcher to meet the study objectives. The main aim of the questionnaire was to obtain facts and opinions about a phenomenon from people who were informed on a particular issue. The questionnaire consisted of three sections;

Section A elicited socio-demographic data from the respondents such as age, marital status, level of education, and religious affiliation;

Section B comprised of a set of items to assess the level of knowledge on standard guidelines and protocols for the management of Birth Asphyxia among nurses and midwives at the maternity department of War Memorial Hospital;

Section C sought to find out whether or not nurses and midwives adhered to standard guidelines and protocols in the management of Birth Asphyxia;

The final section was made up of a set of items to identify the barriers to effective management of Birth Asphyxia among nurses and midwives. Items in this section were arranged on an appropriate likert scale upon consultation with the research supervisor.

After developing the instrument, it was pretested to ascertain its reliability and validity. The justification for the pretesting was to demonstrate the effectiveness of the instrument in being able to produce consistent results when used among nurses and midwives from different settings.

3.9 Data Collection Procedure

Informed consent was obtained before questionnaires were administered to participants. Questionnaire were in plain language for respondents understanding. The purpose of the study was explained in simple language to the understanding of the participants who met the inclusion criteria. If respondents agreed to participate in the study, they would be required to sign a consent form to which they reserved the right to withdraw from the study at any point in time they wished. After obtaining the consent of respondents, the written questionnaire was the main instrument for data collection.

3.10 Date Analysis

Data was analyzed using Statistical Package for Social Sciences (SPSS) Version 24. Descriptive statistics was used in answering research questions one and three. For question two, percentages, graphs, frequencies, pie-charts and bar graphs were used in establishing the association between socio-demographic characteristics and the overall level of knowledge on the management of Birth Asphyxia.

3.11 Ethical Consideration

Ethical consideration is a very important aspects of the research process. The ethical principles underlying researches are general and concern issues such as privacy, anonymity, confidentiality, honesty, and respect for fundamental human rights (Williamson & Prosser, 2002). The principle of anonymity and confidentiality was adhered to, hence, the identity of participants was not a requirement on the questionnaire and the information obtained was kept strictly confidential. Additionally, an introductory letter from the School of Nursing and Midwifery, University For Development Studies was submitted to the management of War Memorial Hospital to seek for permission to conduct the study. All participants‟ right to self-determination and autonomy was accorded the needed respect. Participation was voluntary and participants were given the opportunity to withdraw from the study at any time they so wished.

RESULTS

Table 1: Sociodemographic characteristics of respondents

Variables	Frequency (N)	Percentage (%)
Age		
21-30	34	42.5
31-40	45	56.3
41 and above	1	1.2
Sex		
Female	61	76.2
Male	19	23.8
Educational qualification		
Diploma	69	86.2
Bsc. Nursing/Midwifery	11	13.8
Rank		
Staff Nurse	19	23.8
Staff Midwife	23	28.7
Senior staff Nurse/Midwife	25	31.3
Nursing/Midwifery	10	12.5

officer		
Senior Nursing/Midwifery officer	2	2.5
Principal Midwifery officer	1	1.2
Marital status		
Married	57	71.2
Single	23	28.8
Religion		
Christians	70	87.5
Muslims	10	12.5
Category of staff		
Registered Nurses	33	41.2
Registered Midwive	45	56.3
Paediatric Nurses	2	2.5
Years of service at the maternity block		
Less than 1 year	21	26.2
1-5 years	48	60
6-10 years	10	12.5
11-15 years		
16-20 years	1	1.3
Unit of respondent		
NICU	24	30
Labour ward	16	20
Lying in/Gynaecology	18	22.5
Postnatal Clinic	10	12.5
Antenatal Clinic	6	7.5
Child Welfare Clinic	4	5
Family planning unit	2	2.5

Source: Field data 2021

4.1 Sociodemographic characteristic of respondents

From the sample, a greater number of the respondents 45, representing 56.3% (n=80) were between 31-40 years, 34 respondents representing 42.5% were between 21 to 30 years and 1 respondent representing 1.2% was between 41 to 59 years old. The minimum and maximum ages of the respondents were 21years and 59 years respectively.

In relation to sex, majority of the respondents, 61 representing 76.2% were females while the remaining 19, representing 23.8% were males. For educational qualification, 69 respondents representing 86.2% had diploma in

nursing and midwifery and 11 respondents representing 13.8% had Bachelor of Science in midwifery and nursing.

With respect to marital status, a greater proportion of the respondents 57, representing 71.2% were married and 23 respondents, representing 28.8% were single.

Religion is a major cultural factor affecting delivering of care hence respondents were asked to indicate the religion they were affiliated to. The results showed that majority of the respondents 70, representing 87.5% were Christians while 10 respondents, representing 12.5% were Muslims. With reference to the category of staff, 45 of the respondents representing 56.3% were registered midwives, 33 of the respondents representing 41.2% were registered Nurses and 2 respondents representing 2.5% were paediatric nurses. In the rank category, 25 of the respondents representing 31.3% were senior staff nurses or midwives, 23 of the respondents representing 28.7% were staff midwives, 19 of the respondents representing 23.8% were staff Nurses, 10 respondents representing 12.5% were nursing or midwifery officers, 1 respondent each for senior Nursing and midwifery officers and principal midwifery officer representing 1.2% each. In terms of working experience at the maternity department, 48 of the respondents representing 60% had between 1 to 5 years working experience, 21 of the respondents representing

26.2% had less than 1 year working experience, 10 of the respondents representing 12.5% had between 6 to 10 years working experience and 1 respondent representing 1.3% had between 16 to 20 years working experience. The data collected also revealed that 24 of the respondents, representing 30% worked at the NICU, 18 of the respondents representing 22.5% worked at the

Lying-in or gynaecology ward,16 of the respondents representing20.0% Worked at the labour ward, 10 respondents representing 12.5% worked at the postnatal clinic, 6 of the respondents representing 7.5% worked at the antenatal clinic, 4 of the respondents representing 5% worked at the child welfare clinic and 2 of the respondents, representing 2.5% worked at family planning unit.

The table above presents details of socio demographic characteristics of respondents in the study

Table 2: Level of knowledge on standard guidelines and protocols for the management of Birth Asphyxia

Variable	Frequency	Percentage (%)
Knowledge level (Awareness) of standard guidelines and protocols		
Aware	79	98.8
Unaware	1	1.2
Confidently know the steps of neonatal resuscitation		
Strongly disagree	2	2.5
Disagree	6	7.5
Neither agree nor disagree	24	30
Agree	2	2.5
Strongly agree	42	52.5
Training on neonatal resuscitation		
Yes	60	75
No	20	25
Form of training		
Theory	9	15
Practical	14	23.3
Both theory and practical	37	61.7
Number of trainings on neonatal resuscitation		
Once (1)	33	55
Twice (2)	16	26.7
Thrice (3)	7	11.7
Four (4) times or more	4	6.6
Period of last training		
Less than 1 year	10	16.7
1-2 years	30	50
3 years and above	20	33.3

Source: Field data 2021

4.2 Level of knowledge on standard guidelines and protocols for the management of Birth Asphyxia among nurses and midwives.

Generally, the level of knowledge on standard guidelines and protocols for the management of Birth Asphyxia was found to be almost universal: 79 of the respondents (n=80) representing 98.8% had awareness or had heard of standard guidelines and protocols for the management of Birth Asphyxia while

1 respondent representing 1.2% had no knowledge on the standard guidelines and protocols for the management of birth asphyxia. Out of 80 respondents, 42 of them representing 52.5% strongly agreed that they confidently knew the steps of neonatal resuscitation, 24 of the respondents representing 30% neither agreed nor disagreed that they confidently knew the steps of neonatal resuscitation, 6 of the respondents representing 7.5% disagreed that they confidently knew the steps of neonatal resuscitation, 2 of the respondents representing 2.5% agreed that they knew the steps of neonatal resuscitation and a further 2 respondents, representing 2.5 % strongly disagreed that they confidently knew the steps of neonatal resuscitation. With respect to the training on neonatal resuscitation, 60 of the respondent, representing 75% have had training on neonatal resuscitation while 20 respondents, representing 25% had no training on neonatal resuscitation. With the form of training, 37 of the respondents (n=60), representing 61.7% had both theoretical and practical trainings, 14 of the respondents, representing 23.3% had only practical training and 9 respondents representing 15% had only theoretical training. With respect to the number of trainings on neonatal resuscitation (n=60), 33 respondents representing 55.5% had been trained once, 16 respondents representing 26.7% had been trained twice, 7 respondents representing 11.7%

received training three times, 4 respondents representing 6.6% had four or more trainings. Concerning period of last training, out of the 60 respondents who received training, 10 presenting 16.7% received training less than a year ago, 30 representing 50% received training between 1 to 2 years ago while the remaining 20 representing 33.3% received training 3 or more years ago.

Table 3: Level of adherence to standard guidelines and protocols for the management of Birth Asphyxia among nurses and midwives

Variable	Frequency	Percentage (%)
Important to adhere to standard guidelines and protocols.		
Yes	80	100
Standard guidelines and protocols available in respondents unit		
Yes	58	72.5
No	22	27.5
Respondents who have carried out neonatal resuscitation before		
Yes	66	82.5
No	14	17.5
Respondents who referred to standard guidelines and protocols when carrying out neonatal resuscitation		
Yes	40	61.6
No	26	39.4

Source: Field data 2021

4.3 Level of adherence to Standard Guidelines and Protocols for the Management of Birth Asphyxia among Nurses and Midwives.

In respect to the assessment of level of adherence to standard guidelines and protocols on the management of Birth Asphyxia, all the respondents (n=80), said it was important to adhere to standard guidelines and protocols. A greater number of the respondents, 58 representing 72.5% had standard guidelines and

protocols available in their units while 22 respondents representing 27.5% said standard guidelines and protocols were not available in their units. Again, majority of the respondents, 66 representing 82.5% said they have carried out neonatal resuscitation before while 14 respondents representing 17.5% said they have not carried out neonatal resuscitation before. Out of the 66 respondent who have carried out neonatal resuscitation before, 40 respondents representing 60.6% said they referred to standard guidelines and protocols when carrying out neonatal resuscitation while 26 respondents, representing 39.4% did not refer to the standard guidelines and protocols when carrying out a neonatal resuscitation.

Table 4: The barriers to the practice and use of standard guidelines and protocols for the management of Birth Asphyxia

Variable	Frequency	Percentage (%)
Lack of training on neonatal resuscitation as a barrier		
Yes	62	77.5
No	18	22.5
Lack of access to essential resuscitating equipment as a barrier		
Yes	59	73.8

No	21	26.2
Non-adherence to standard guidelines and protocols as a barrier		
Yes	47	58.8
No	33	41.2
Inadequate staffing as a barrier		
Yes	60	75
No	20	25
Delay in seeking higher care as a barrier		
Yes	55	68.8
No	25	31.2
Late referrals as a barrier		
Yes	55	68.8
No	25	31.2
Inadequate documentation during referral for post resuscitation care as a barrier		
Yes	44	55
No	36	45

Source: Field data 2021

4.4 The Barriers to the Practice and use of Standard Guidelines and Protocols for the Management of Birth Asphyxia among Nurses and Midwives.

To determine whether nurses and midwives encountered barriers to the practice and use of standard guidelines and protocols for the management of

Birth Asphyxia among nurses and midwives, respondents were asked whether or not lack of training on neonatal resuscitation was a barrier, 62 of the respondents (n=80), representing 77.5% said it was a barrier and 18 of the respondents, representing 22.5% said it was not a barrier, 59 of the respondents representing 73.8% said lack of access to essential resuscitating equipment was a barrier and 21 respondents representing 26.2% said it wasnot a barrier, 47 respondents representing 58.8% said non-adherence tostandard guidelines and protocols were a barrier and 33 respondentsrepresenting41.2% said it was not a barrier,60 of the respondents,representing75% said inadequate staffing was a barrier and20 of therespondents, representing 25% said it was not a barrier, 55 respondents, representing 68.8% said delay in seeking higher care was a barrier and 25 respondents, representing 31.2% said it was not a barrier, 55 respondents, representing 68.8% said late referrals was a barrier and 25 respondents, representing 31.2% said it was not a barrier, 44 respondents representing 55% considered inadequate documentation during referrals as a barrier and 36 respondent representing 45% said it was not a barrier.

DISCUSSION

Association of Socio-Demographic factors with Awareness and Knowledge of Standard Guidelines and Protocols for the Management of Birth Asphyxia.

The educational level of nurses and midwives was a significant variable associated with their practice. The vast majority of nurses and midwives, 86.2 percent (n=80), held diploma certificates, with only 13.8 percent (n=20) holding degree certificates. Within the category of staff, registered nurses accounted for 41.2 percent, registered midwives accounted for 56.3 percent, and paediatric nurses made up only 2.5 percent. Interestingly, according to the findings of the study by (Enweronu-Laryea, Adedemy, Okonkwo, Lee & Robertson, 2018), hospitals that provided comprehensive obstetric and newborn care were more likely to have a paediatric team responsible for the newborn around the time of birth and management than hospitals that did not offer such care. This study's findings did not agree with those of (Ezenduka, Ndie, &Oburoh, 2016), who found that increasing the number of paediatric nurses involved in the management of birth asphyxia resulted in better outcomes for the babies. When it came to the category of staff, the majority of respondents (97.5 percent, or 80 people) were registered nurses/midwives, with 2.5 percent being paediatric nurses as well. The findings of this study were higher, but nearly identical to those of a study conducted in Nigeria by (Ezenduka, Ndie, and Oburoh, 2016), in which the majority of respondents (42 percent) were registered nurses or midwives and 10% were paediatric nurses, with the majority of respondents being registered nurses or midwives.

As for working experience, 60 percent of the respondents (n=80) had between 1 and 5 years of professional experience, 26.2 percent had less than 1 year of professional experience, 12.5 percent had between 6 and 10 years of professional experience, and

1.3 percent had between 16 and 20 years of professional experience. This study finding was in contrast to the findings of a study conducted in Nigeria by (Ezenduka, Ndie, &Oburoh, 2016), which found that the majority of participants (34 percent) had been practicing for 6 to 10 years, 11 to 15 years, 16 to 20 years, and 21 to 30 years, respectively.

Awareness and Knowledge of Standard Guidelines and Protocols for the Management of Birth Asphyxia.

As a result of the current study, it was discovered that almost everyone was aware of and knowledgeable about standard guidelines and protocols for the management of birth asphyxia, with 98.8 percent of respondents stating that they were knowledgeable about standard guidelines and protocols for the management of birth asphyxia and only 1.2 percent stating that they were not knowledgeable about standard guidelines and protocols for the management of birth asphyxia.

According to the findings of a study conducted in Ethiopia by Fekede (2017), more than half (66.3 percent) of nurses and midwives had good knowledge about the management of birth asphyxia. However, this result was higher but comparable to the level of knowledge reported in the study by (Fekede, 2017). Nursing and midwifery training is an important factor in not only improving the knowledge of nurses and midwives, but also in improving their ability to provide high-quality care. This can also help to improve the skills and knowledge of those who are managing birth asphyxia. The vast majority of respondents (75 percent of the 80 total) received some form of training, while the remaining 25 percent did not receive any training at all.

A study conducted by (Fekede, 2017) in Ethiopia found that only 29.4 percent of nurses and midwives had received training, which was in stark contrast to the findings of this study. The findings were, on the other hand, nearly identical to those obtained in Malawi, where 85.3 percent of Nurses and Midwives had received training in the field. On the subject of training frequency, 55 percent of the respondents (n=60) stated that they had received training only once, 26.7 percent had received training twice, 11.7 percent had received training three times, and 6.6 percent had received training four or more times. On the subject of recent training, 16.7% of the

respondents (n=60) had their training less than a year ago, 50% of the respondents had their training between one and two years ago, and 33.3 percent had their training three or more years ago.

This study's findings were incongruent with those of a study conducted by Fekede (2017), which found that 19.6 percent of Nurses and Midwives had received two trainings and 32.5 percent had received their most recent training less than a year ago, respectively. In terms of the type of training received, 15 percent of those who answered the survey had only theoretical training, 23.3 percent had only practical training, and 61.7 percent had both theoretical and practical training. A study conducted by (Fekede, 2017) in Ethiopia found that more than half of those who participated in the study received both theoretical and practical training.

The level of adherence to standard guidelines and protocols for the management of Birth Asphyxia among nurses and midwives.

When asked about the level of adherence to standard guidelines and protocols for the management of birth asphyxia among nurses and midwives in the current study (n=80), all of the respondents stated that it was critical to follow standard guidelines and protocols. Approximately 72.5 percent of those who answered the survey questions said they had standard guidelines and protocols available in their units, while the remaining 27.5 percent said they did not have standard guidelines and protocols available in their units. In accordance with (American Academy of Pediatrics, 2016) and (Ani-Amponsah, 2016), the findings of this study support the availability of standard guidelines and protocols for neonatal interventions in health-care settings.

The findings of this study were almost identical to those of a study conducted in Ethiopia by (Abrha, Asresu, Araya, &Weldearegay, 2019), which found that 65.2 percent of respondents had guidelines on neonatal resuscitation in their units (Abrha et al., 2019). Neonatal resuscitation was performed by the vast majority of respondents (82.5 percent, or n=66), with the remaining 17.5 percent not having done so. According to an observational study conducted by the American Academy of Paediatrics (2016) on the practice and outcomes of neonatal resuscitation for

newborns with Birth Asphyxia in Kenya, 72.5 percent of the Nurses had performed neonatal resuscitation at some point during their career.

Sixty-six percent of those who had ever performed neonatal resuscitation referred to standard guidelines and protocols, while only 26 percent of those who had never performed neonatal resuscitation did not refer to standard guidelines or protocols. This finding was lower but comparable to a study conducted by the American Academy of Paediatrics (2016) on the level of adherence to standard guidelines and protocols on neonatal resuscitation for newborns with birth asphyxia in Kenya, which found that 86.2 percent of positive outcomes were achieved as a result of Nurses adhering to standard guidelines and protocols.

The Challenges or Barriers associated with the Management of Birth Asphyxia among Nurses and Midwives.

The majority of respondents (77.5 percent, or 80 respondents) stated that a lack of training in neonatal resuscitation was a barrier, while 22.5 percent stated that it was not a barrier; 73.8 percent of respondents stated that a lack of access to essential resuscitating equipment was a barrier, while 26.2 percent stated that it was not a barrier; 58.8 percent of respondents stated that non-adherence to standard guidelines and protocols was a barrier, while 41.2 percent stated that. According to the findings of a study conducted by the World Health Organization in 2020 in low-income countries, lack of training in newborn care, lack of access to essential resuscitation equipment, nonexistence or inappropriate resuscitation algorithms, and noncompliance with guidelines in the management of Birth Asphyxia were identified as barriers to effective management of Birth Asphyxia.

According to a recent study conducted in Kenya (Amy and colleagues, 2017), 85 percent of Sub-Saharan African facilities lacked supplies or qualified personnel to perform neonatal resuscitation, which is in line with the findings of the current study. Similarly to a study by (Amoakoh et al., 2020), where a lack of staff nurses, a lack of equipment, and a high workload on nurses and midwives were all challenges to which standard protocols could not be followed in the management of Birth Asphyxia, this study could be compared to that study.

The findings of this study could be compared to those of (Maaloe et al., 2018), who found that a lack of human resources and substandard care were the most significant challenges in the management of birth asphyxia in the developing world. This was emphasized in studies conducted by (Enweronu-Laryea, Adedemy, Okonkwo, Lee, and Robertson, 2018) and (Ani-Amponsah, 2016), in which limited human resources, a lack of training in neonatal resuscitation, and a lack of basic resuscitation equipment were identified as major challenges or barriers to the management of Birth Asphyxia in newborns. The findings of this study were consistent with those of (Moyer, McLaren, Adanu, and Lantz, 2013), in which delays in seeking higher level of care and late referrals (Awoonor-Williams, et al., 2015) were identified as challenges and barriers to the management of birth asphyxia.

CONCLUSION

Results of the study revealed that the level of knowledge about standard guidelines and protocols for the management of birth asphyxia in the maternity department of War Memorial Hospital was almost universal, with 98.8 percent of those surveyed having heard of standard guidelines and protocols for the management of birth asphyxia and only 1.2 percent having never heard of these guidelines and protocols. The level of awareness is consistent across all demographics, including age, marital status, religious affiliation, educational level, job category, and rank of employees, among others. Participants' confidence in knowing the steps involved in neonatal resuscitation, training on neonatal resuscitation, the form of training they received, the duration of their most recent training, and their total number of trainings were all found to be significantly associated with the management of birth asphyxia in this study.

Accordingly, a review of the current neonatal resuscitation training module is required, with a more comprehensive training module on neonatal resuscitation as a key component for the management of Birth Asphyxia being developed in order to address the gaps identified by this study. Since their last training was a year or more ago, the findings of this study suggest that the vast majority of respondents may not have had up-to-date knowledge on the management of birth asphyxia when they were surveyed. The vast majority of those who answered the survey had only received one

or two hours of Neonatal Resuscitation training, and a significant number had no training at all.

The degree holders were more likely than diploma holders to have more knowledge of standard guidelines and protocols for the management of Birth Asphyxia when compared with those with a diploma in the field. As a result, there was a significant difference in the knowledge of standard guidelines and protocols for the management of birth asphyxia between Nurses and Midwives. Specifically, it was emphasized by (Abrha et al., 2019) that adequate knowledge of standard guidelines and protocols championing the management of Birth Asphyxia was critical to improving health outcomes in newborns suffering from asphyxia. (Abrha et al., 2019) stated that. If some staff members did not receive training, it could be due to a lack of prioritization for job training on birth asphyxia on the part of the employer, funder interest in training where appropriate training logistics would be provided, or a lack of interest on the part of health care providers in receiving training.

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