

# Newborn Safety and Delivery Practices Among Midwives in Selected Hospitals in Ibadan, Oyo State

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## Abstract:

The study examined newborn safety and delivery practices among midwives in selected hospitals in Ibadan, Oyo state. The research design was a descriptive cross sectional survey design. The study setting is two of the oldest hospitals for maternal care in Ibadan, Oyo State, with a bias towards maternal and child care. The sample size used to represent the whole population was determined using the Yaro Yamane formular. Sample size of 133 midwives was used as respondents from both general hospitals. Multistage sampling procedure was used to select the sample size. The instrument for data collection was a self-designed questionnaire. The questionnaire was validated for content by experts in the field of nursing science and Tests & Measurement. Twenty copies of the validated questionnaire was pre-tested in a pilot study and the data obtained was tested using Cronbach alpha to get reliability value of 0.807. The questionnaire was self-administered, with the help of trained research assistants. The findings of the study revealed that factors that affect midwives and newborn safety practices include nurses' attitude towards expanding their knowledge, patient not cooperating with nurse but relying on physician judgments, lack of instruments use for delivery, poor ante-natal care attendance by mothers and incompetent skills by midwives. It was recommended among others that health care facilities should allow nurses to work

IJMNHS

Accepted 15 November 2020  
Published 30 November 2020  
DOI: 10.5281/zenodo.4404594



according to their area of specialization and qualification within the hospitals to enhance midwives to practice their work more often and build more on their knowledge about their practices and safety of a newborn.

**Keywords:** Newborn Safety, Delivery Practices, Midwives,

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## Introduction

The newborn transition from intrauterine life is a dramatic one and demands effective physiological alteration by the baby in order to ensure survival. The foetus leaves the uterine environment, which has been completely life sustaining for oxygenation, nutrition, excretion and thermoregulation (Fikree et al., 2015). Newborn outcomes have been linked to maternal health and, therefore, to the quality of care a mother receives during labour, delivery and in the immediate postpartum period, which is the highest risk period for both mothers and babies. Maternal complications and maternal deaths significantly have impact on the newborns ability to survive and thrive after delivery (Awasthi, et al., 2016).

At birth a baby is transposed from the warm containment of the uterine to the outside world where the role of independent existence is assumed. Until the time of birth, the foetus depends upon maternal blood for gas exchange through the maternal lungs and the placenta. Before the birth of a foetus, foetus relies solely on the placenta for all gas exchanges and excretion of metabolic waste, at birth the baby circulatory system must make major adjustment in order to divert deoxygenated blood to the lung for lungs to regain oxygen. The remaining temporary structure of the foetal circulation is the umbilical vein, ductus venosus and hypogastric arteries which close functionally few minute after birth and constriction of the cord (Parlato, et al., 2014).

The baby enters into a cooler atmosphere at delivery with a birthing room temperature of 21°C contrasting sharply with an intrauterine temperature of 37.7°C. The heat regulating center in the baby brain has capacity to promote heat production in response to stimuli received from thermos-receptors (Sethi, et al., 2015, WHO, 2016). The neonate is endowed with brown adipose tissues which assist in rapid mobilization of heat resources in time of cold stress.

In most African countries it is said to have reach a challenging point of which delivery practices have a risk factor for maternal or newborn mortality rate and safety of newborn have been in a low priority. A recent systematic review on clean birth practices suggested that empirical evidence on the impact of clean delivery kits and clean delivery practices on neonatal mortality or sepsis-related neonatal deaths from community-based studies is surprisingly scarce which lead to the use of a cluster-random controlled trial. At the end of the study, neonatal mortality was 35 per 1,000 in the intervention clusters and 49 per 1,000 in control clusters. The specific contribution of kit used to the mortality reduction could not be estimated because the trial evaluated the impact of a broad ante-natal care and delivery package (Khadduri, et. al., 2014). The use of clean delivery kits and clean delivery practices are associated with an increased likelihood of neonatal survival in rural settings where access to formal care and institutional deliveries are limited (Iyaniwure & Yussuf, 2009).

Midwives delivery practices can have both negative and positive effect on the newborn in diverse ways, either by infecting the baby or causing malformation (Obimbo & Oruambo, 2008). It can also lead to misdiagnosis of the newborn (Idris, et al., 2013; Yadav, 2014) or mother but in another way under good delivery process, complications can be detected early so that prompt treatment can take place.

In view of the above, the study emphasis is on identification of newborn safety and delivery practices among midwives. The objective of the study was to examine newborn



safety and delivery practices among midwives in selected hospitals in Ibadan, Oyo state. This study specifically examined:

1. midwives' deliveries and newborn safety practices;
2. the factors that affect midwives' delivery and newborn safety practices; and
3. the common problems of newborn due to unsafe midwives' practices.

### Research Questions

The following research questions were raised for this study:

1. What are the midwives' deliveries and newborn safety practices?
2. What factors affect midwives' delivery and newborn safety practices?
3. What are the common problems of newborn due to unsafe midwives' practices?

### Methodology

A descriptive cross sectional survey design was used in the study by gathering data from the sample population of the midwives. The study setting is two of the oldest hospitals for maternal care in Ibadan, Oyo State, with a bias towards maternal and child care. Both General Hospitals caters for the teaming population of Ibadan city; with a large proportion from lower socioeconomic groups. The sample size used to represent the whole population was determined using the Yaro Yamane formular. The calculation of the sample size:

$$n = \frac{N}{1 + N(e)^2}$$

Where

n = Sample size

N = Finite population

1 = Constant

E = Level of significance taken to be 0.05

$$n = \frac{200}{1 + 200(0.05)^2}$$

$$n = \frac{200}{1 + 200(0.0025)}$$

$$= 133.33$$

$$= 133 \text{ (Approx.)}$$

Sample size of 133 midwives was used as respondents from both general hospitals. Multistage sampling procedure was used to select the sample size. The instrument for data collection was a self-designed questionnaire. It was used to collect data relevant to the research questions raised in the study. The questionnaire was validated for content by experts in the field of nursing science and Tests & Measurement. Twenty copies of the validated questionnaire was pre-tested in a pilot study and the data obtained was tested using Cronbach alpha to get reliability value of 0.807. The questionnaire was self-administered, with the help of trained research assistants. The data were analyzed using SPSS (Statistical Package for Social Sciences) (version 22) descriptively.

### Results

**Research Question 1:** What are the midwives' deliveries and newborn safety practices?



**Table 1: Descriptive statistics of delivery and safety practices of midwives**

ITEMS	YES (%)	NO (%)	MEAN	STD
During delivery do you think It is necessary to give oxytocin to aid contraction?	111 (83.5)	22 (16.5)	1.82	0.38
Will you use forceps delivery when complication arises and there is need for it	115 (86.5)	18 (13.5)	1.87	0.33
Do you think only a physician can recommend caesarean section for a pregnant woman	115 (86.5)	18 (13.5)	1.87	0.33
Will you signify to a physician when caesarean section is needed?	106 (79.7)	27 (20.3)	1.79	0.41
Do you think you can practicalize perfectly all method of delivery?	106 (79.7)	27 (20.3)	1.81	0.39
Do you always perform uterine massage immediately after birth?	102 (76.7)	31 (23.3)	1.72	0.45
I do uterine massage to aid contraction	105 (78.9)	28 (21.1)	1.81	0.39
I do uterine massage after delivery of the placenta?	110 (82.7)	23 (17.3)	1.92	0.27
I do uterine massage to empty the uterus and promote comfort to the woman	108 (81.2)	25 (18.8)	1.87	0.33
Do you take cord care as priority?	113 (85)	20 (15)	1.85	0.36
Do you take cleaning of the baby also as an essential practice?	118 (88.7)	15 (11.3)	1.92	0.27
I provide warmth with the aid of radiant warmer to the baby after delivery by wrapping?	113 (85)	20 (15)	1.86	0.34
I dry baby after birth to reduce heat loss?	113 (85)	20 (15)	1.88	0.33
Is there a process for newborns to be immunized within 24hrs of delivery in the hospital?	111 (88)	16 (12)	1.81	0.39
Airway is cleared with soft or mechanical suction?	107 (80.5)	26 (19.5)	1.86	0.34
Airway clearance is compulsory to prevent aspiration, asphyxia, and hypoxia?	127 (95.5)	6 (4.5)	1.82	0.38
Early promotion of mother-child relationship is important?	105 (78.9)	28 (21.1)	1.92	0.27
TOTAL	133 (100)			

Mean Cut Off: 1.50

Table 1 shows delivery and safety practices of midwives. Based on the mean cut-off mark of 1.50, most of the respondents agreed to all the items presented above because the



mean mark of each item was greater than 1.50. The results of the analysis presented above revealed that, airway clearance to protect newborn from birth asphyxia is the most essential (n=127, 95.5% for Yes and n=6, 4.5% for No), and also to aid delivery practices, forceps delivery are done when complications arises and recommendation of caesarean section by the physician (n=115, 86.5%).

**Research Question 2:** What factors affect midwives' delivery and newborn safety practices?

**Table 2: Descriptive statistics showing factors that affect midwives and newborn safety practices**

ITEMS	Agree (%)	Disagree (%)	Mean	Std
Incompetent skills by midwives.	105 (78.9)	28 (21.1)	2.27	0.69
Poor ante-natal care attendance by mothers.	111 (83.5)	22 (16.5)	2.36	0.79
Obstetrician restriction of midwives activities in teaching hospital.	117 (88.0)	16 (12.0)	2.75	0.59
Nursing profession duties to give support to nursing practices.	112 (84.2)	21 (15.8)	2.61	0.70
Patient not cooperating with nurse relying on physician judgments	110 (82.7)	23 (17.3)	2.61	0.72
Lack of instruments use for delivery	110 (82.7)	23 (17.3)	2.61	0.70
Nurses attitude towards expanding their knowledge	116 (87.2)	17 (12.8)	2.72	0.61
<b>TOTAL</b>	<b>133 (100)</b>			

Table 2 showed descriptive statistics of factors that affect midwives and newborn safety practices. It was observed that majority of the respondents agreed to Obstetrician restriction of midwives' activities in teaching hospital. (Mean=2.75; SD=0.59) while least respondents agreed that incompetent skill by the midwives as factor that affect midwives and newborn safety practices (Mean=2.27; SD=0.69).

**Research Question 3:** What are the common problems of newborn due to unsafe midwives' practices?

**Table 3: Descriptive statistics on common problems that arises due to unsafe midwives practices**

ITEMS	Agree (%)	Disagree (%)	Mean	St. Dev.
Maternal infection can occur due to unsterile/unclean delivery equipment.	110 (82.7)	23 (17.3)	2.54	0.67
Asphyxia can occur due to incompetent resuscitation skill of the midwives	93 (69.9)	40 (30.1)	2.50	0.79
Jaundice due to delayed breastfeeding of the baby.	109 (82.0)	24 (18.0)	2.69	0.66
Maternal complication may arise due to poor delivery judgment	111 (83.5)	22 (16.5)	2.61	0.70



Sepsis due to retain product in the uterus	109 (82.0)	24 (18.0)	2.71	0.64
Prolong labour due to unavailability of resources for delivery practices	112 (84.2)	21 (15.8)	2.64	0.67
Complications during labour because of incomppliance of the mother with ANC	110 (82.7)	23 (17.3)	2.65	0.65
<b>TOTAL</b>				

Table 3 showed respondents majorly agreed that Sepsis due to retain product in the uterus as possible problem that arises due to unsafe midwives practices (Mean=2.71; SD=0.64) followed by Jaundice may not be detected early due to ignorance (Mean=2.69; SD=0.66), while least respondents agreed that Asphyxia can occur due to incompetent attitude of midwives as possible problems that arises due to unsafe midwives practices (Mean=2.50; SD=0.79).

### Discussion

In the analysis of delivery and safety practices of midwives, findings showed that it is necessary to give oxytocin to aid contraction, also to use forceps delivery when complication arises and there is need for it, most midwives knows that only a physician can recommend caesarean section for a pregnant woman, they also agree to signify to a physician when caesarean section is needed, the midwives can practicalize perfectly all method of delivery, and they always perform uterine massage immediately after birth. According to the midwives, the essence of uterine massage is aid contraction, to empty the uterus and to promote comfort to the woman. Majority of the midwives do take cord care as priority, also they take cleaning of the baby also as an essential practice and they provided warmth with the aid of radiant warmer to the baby after delivery by wrapping. These findings are consistent with the findings of Sethi, et al. (2015), Fikree et al. (2015) and Smith and Kelly (2015).

In the analysis of factors that affect midwives and newborn safety practices, findings showed that various factors that affect midwives and newborn safety practices includes obstetrician restriction of midwives activities in the hospital, nurses attitude towards expanding their knowledge, patient not cooperating with nurse relying on physician judgments, lack of instruments use for delivery, poor ante-natal care attendance by mothers and incompetent attitude of the midwives. These findings are in consonance with the submission of Awasthi, et al. (2016), Khadduri, et al., (2014) and Idris, et al., (2013).

The findings also revealed that possible problems that arises due to unsafe midwives practice are sepsis due to retain product in the uterus, jaundice due to delayed breastfeeding of the baby, complications during labour because of incomppliance of the mother with ANC, prolong labour due to delayed referral of the midwives, maternal complication may arise due to poor delivery judgment, maternal infection can occur due to unsterile deliver process and asphyxia can occur in baby due to resuscitation skill of midwives.



## Conclusion

The study concludes that airway clearance is compulsory to prevent aspiration, asphyxia, and hypoxia, early promotion of mother-child relationship is important, and uterine massage immediately after birth. In addition, most of the midwives use forceps delivery when complication arises and there is need for it. It is also concluded that factors that affect midwives and newborn safety practices include nurses' attitude towards expanding their knowledge, patient not cooperating with nurse but relying on physician judgments, lack of instruments use for delivery, poor ante-natal care attendance by mothers and incompetent skills by midwives. From the findings, it was further concluded that possible problems of newborn due to unsafe midwives' practices that arises are sepsis due to retain product in the uterus, jaundice due to delayed breastfeeding of the baby, complications during labour because of incompletion of the mother with ANC, prolong labour due to delayed referral by midwives among others. These findings are in line with the submission of Fikree, et al. (2015) and Khadduri, et al., (2014).

## Recommendations

Taking into consideration the findings of this study, the following recommendations were made:

1. Health care facilities should allow nurses to work according to their area of specialization and qualification within the hospitals to enhance midwives to practice their work more often and build more on their knowledge about their practices and safety of a newborn.
2. Restriction of midwives on their practice should be discourage, especially deliveries in the hospitals that physician do while midwives are present, there should be collaboration of each profession with limitation of what each profession can do during delivery.
3. Midwives should specifically disabuse mothers' mind on superstitious beliefs and old midwife tales and should emphasize the use of recommended antiseptic solution, technique of cleaning and non-application of any other substance to the cord after cleaning.
4. There is the need for continuous effective campaign on saving new born lives and health care providers must organize educational programs for all people especially pregnant women. Appropriate delivery care practices such as delay bathing of newborn babies immediately after birth, proper cord care practices, exclusive breastfeeding, breastfeeding on-demand, hygienic breastfeeding practices, as well as recognition and management of more severe danger signs should be embedded in the educational programs.



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### Cite this article:

**Author(s)**, OKAFOR, Ngozi Anthonia (RN, RM, RPHN, PhD), ADESINA, O. A (RN, B.Nsc), (2020). “ Newborn Safety and Delivery Practices Among Midwives in Selected Hospitals in Ibadan, Oyo State”, **Name of the Journal**: International Journal of Medicine, Nursing & Health Sciences, ([IJMNHS.COM](http://IJMNHS.COM)), P, 33 –42. DOI: [www.doi.org/10.5281/zenodo.4404594](http://www.doi.org/10.5281/zenodo.4404594) , Issue: 1, Vol.: 1, Article: 4, Month: November, Year: 2020. Retrieved from <https://www.ijmnhs.com/all-issues/>

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