

# Evaluation of Essential Newborn Care (ENC) Practices and Determinants among Midwives in Selected Healthcare Centers in Esan Central Local Government, Edo State

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**Annotation: Introduction:** Newborns are highly vulnerable and require meticulous care to ensure their health and survival. However, despite the importance of essential newborn care (ENC) in reducing child mortality, it often receives inadequate attention, leading to preventable deaths. This study aimed to evaluate ENC practices among midwives in selected healthcare centers in Esan Central Local Government, Edo State, Nigeria.

**Objective:** The study aimed to assess the demographic characteristics, ENC practices, factors influencing ENC, and determinants of ENC practice among midwives in the study area.

**Method of Analysis:** A descriptive survey design with a cross-sectional approach was employed. A total of 300 midwives were purposively selected across various

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healthcare centers. Data were collected using structured questionnaires and analyzed using descriptive statistics.

**Results:** The study revealed diverse demographic profiles among respondents, with notable percentages falling within the 20-29 (35.7%) and 30-39 (40.0%) age groups. Most deliveries were attended by skilled birth attendants (98.7%), and positive responses were observed for practices such as promoting thermal regulation (93.4%) and providing clean cord care (91.9%). However, gaps were identified in certain practices, including delayed cord clamping (14.3%) and utilization of partographs (12.5%). Factors influencing ENC practices included poor knowledge of ENC (62.5% Strongly Agree, 33.1% Agree), inadequate infection prevention and control skills (53.8% Strongly Agree, 43.1% Agree), and shortages of staff. Lack of adequate knowledge of midwifery care emerged as a significant concern (62.5% Strongly Agree). While no significant association was found between age, professional qualifications, and years of working experience with ENC practice, a borderline significant association was observed with rank.

**Conclusion:** The study underscores the importance of addressing gaps and challenges in ENC practices among midwives. Continuous education and training programs, improved staffing levels, and interventions targeting socioeconomic disparities and cultural influences are crucial for enhancing the quality of essential newborn care delivery.

**Keywords:** Newborn care, Midwives, Essential newborn care practices, Nigeria, Neonatal mortality, Determinants, Healthcare centers

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## INTRODUCTION

### Background to the Study

Newborns are among the most vulnerable members of society, requiring utmost care for their health and survival (Kokebie, Aychiluhm & Degu, 2015; Callaghan-Koru, 2013; Tasew et al., 2019). Despite the critical importance of newborn care in reducing child mortality, it often receives inadequate attention, leading to a significant number of preventable deaths (Negussie, Hailu, & Megenta, 2018; Yemaneh, 2017). Consequently, neonatal mortality remains a pressing global health challenge, prompting world leaders to prioritize reducing newborn deaths as part of the Sustainable Development Goals (SDGs) initiative (United Nations, 2015).

A substantial portion of infant deaths occurs within the first 28 days of life, with approximately 2.9 million newborns succumbing to mortality annually (Liu et al., 2017). Alarming, more than half of these deaths occur within the first 24 hours after birth,

emphasizing the urgent need for effective Essential Newborn Care (ENC) practices, particularly by midwives (United Nations Children's Fund & World Health Organization, 2014).

Developing countries bear the brunt of neonatal mortalities, with preventable causes being predominant (Berhan & Gulema, 2018; Berhea, Belachew & Abreha, 2018). Sub-Saharan Africa and South Asia report the highest rates of neonatal deaths, with approximately 27 deaths per 1,000 live births in 2017 (United Nations Inter-agency Group for Child Mortality Estimation, 2018). Despite many neonatal deaths occurring in healthcare facilities where skilled practitioners are present, institutional deliveries are associated with a reduced risk compared to home deliveries (Blencowe & Cousens, 2013; Adeniran, Okolo, & Onyiriuka, 2010). However, improved ENC practices by midwives could significantly mitigate these deaths by identifying and addressing newborn danger signs (Thenmozhi & Saraswati, 2017).

In Nigeria, neonatal mortality remains a significant public health concern, with an estimated rate of 31 deaths per 1,000 live births (Nigeria Demographic & Health Survey, 2014). Prematurity, low birth weight, birth asphyxia, and infections are major contributors to neonatal mortality in the country, many of which are preventable through effective ENC practices (Oluwayemi, Ogundare, & Olatunya, 2014).

World Health Organization (WHO) recommends specific ENC practices aimed at reducing the risk of neonatal deaths, including immediate drying and wrapping, skin-to-skin contact, dry cord care, immediate initiation of breastfeeding, and delayed bathing (National Development Planning Commission & United Nations System, 2012; WHO, 2006). Competence in delivering these practices is crucial for midwives, given the significant number of newborns requiring professional care at birth (Alhassan et al., 2019).

Nurse-midwives play a pivotal role in newborn care, influencing infant health outcomes in the community (Sanagu, Jouybari, & Shahini, 2009). Their competence and practice approach are essential for keeping both mothers and infants healthy, as well as dispelling false beliefs about neonatal care (Atiqzai et al., 2019; Obara & Sobel, 2014). However, there is a lack of empirical studies evaluating midwives' practices of ENC, with existing research primarily focusing on community-based or maternal roles in newborn care (Kokebie et al., 2015; Nonyane et al., 2016; Okafor et al., 2014). Thus, this study aims to assess ENC practices among midwives in selected healthcare centers in Esan Central Local Government, Edo State.

Globally, essential newborn care (ENC) programs could potentially save over two-thirds of newborns, yet many of these crucial measures are often neglected due to various factors. Reasons include underreported neonatal deaths, lack of motivation among midwives, poorly equipped facilities, cultural beliefs leading to immediate bathing of newborns and delayed mother-newborn contact, and misconceptions about

the cost and complexity of neonatal care. Despite the simplicity and affordability of essential interventions like resuscitation, warmth provision, early breastfeeding, and hygiene, neonatal health continues to be overlooked. Continuous evaluation of midwives' adherence to ENC guidelines is vital, as neonatal care often receives insufficient attention.

Although low-cost interventions are available to prevent neonatal deaths, global progress has stagnated. In Nigeria, despite investments in healthcare centers staffed with professional midwives, neonatal morbidity and mortality rates remain high. There's a lack of literature on newborn care practices in Nigeria, particularly regarding midwives' adherence to ENC guidelines. This study aims to evaluate midwives' practices in essential newborn care in selected healthcare centers in Esan Central Local Government, Edo State, aligning with the goal of improving newborn survival rates.

The study's findings can benefit the Hospital Management Board, Nurses, and Midwives in Edo State by guiding efficient Essential Newborn Care (ENC) practices, thereby improving child health outcomes, minimizing illness risks, and maximizing growth and development. It will also focus attention on enhancing practical skills in ENC among healthcare providers attending deliveries in the state. Additionally, the study fills an academic gap, enhances knowledge, and serves as a resource for further research on ENC components, practices, and determinants among midwives. The findings will serve as a baseline for future investigations, including exploring the relationship between cultural beliefs and ENC practices.

### **Hypothesis**

**H<sub>01</sub>:** There is no significant association between participants socio demographic characteristics and their Practice of competency of Essential Newborn Care among Midwives in Selected Comprehensive Healthcare Centers in Esan Central Local Government, Edo State

## **MATERIALS AND METHODS**

### **Research Setting**

This study was carried out in six Selected Comprehensive Health Centres, in Esan Central Local Government Irrua Edo State. Irrua is the Head Quarter of Esan Central Local Government. It is situated in Edo Central. It has eight (8) Primary Health Care Facilities, ten (10) Comprehensive Health Care Centers, one (1) Model Health Care Centre, One (1) Tertiary Institutions, eight (8) Private Clinics, two (2) District hospitals, and numerous maternity homes, it situated along Benin Auchu Express road. The religion of the people is Christianity, Islam and traditional religion, and they speak Esan language and English. The inhabitants are mainly Natives and strangers.

The selected Comprehensive Health Care Centres are: Comprehensive Health Care Centre Eko Ewu, Comprehensive Health Care Centre Ibore, Comprehensive

Health Care Centre Irrua, Comprehensive Health Care Centre, Atuagbo, Comprehensive Health Care Centre, Ibhiolulu, and Comprehensive Health Care Centre in Unogbo. These facilities were selected based on high institutional delivery load; also because they give a true representation of the ten political wards which represent the Primary Health institutions situated in Esan Central Local Government, Edo State.

### **Research Design**

A descriptive survey design with a cross-sectional approach was adopted to evaluate ENC practices and its determinants among Midwives in Selected Comprehensive healthcare centers in Esan Central Local Government, Edo.

### **Sample size and Sampling Techniques**

The sample size for this study comprised 300 midwives who were purposively selected based on their knowledge and skills relevant to the phenomena being studied. The research settings were conveniently chosen, and the midwives were purposively selected across various health centers, ensuring inclusion criteria were met.

Polit and Beck (2014) explain that non-probability sampling, such as purposive sampling, involves selecting participants because of their specific knowledge or skills related to the phenomenon under study. Chinweuba, Iheanacho, and Agbapuonwu (2013) support this approach, stating that purposive sampling allows for the selection of interviewees who possess expertise or experience relevant to the phenomenon, making their insights invaluable. Similar techniques have been employed by researchers in qualitative research studies (Adekannbi, Olatokun, & Ajiferuke, 2014; Binder, Johnsdotter, & Essén, 2012; Esienumoh, 2015).

The selection criteria included nurse-midwives who had worked in the healthcare centers for at least six months before the study and expressed willingness to participate.

### **Data Collection and Management**

The study utilized a well-structured questionnaire for data collection, employing direct, face-to-face administration. The questionnaire, aligned with study objectives, the questions was divided into three sections, that is, Section A, B and C. Section A refers to Demographic data; with seven (7) responses. Section B, Determinants of Essential newborn care Practices, it consists of (6) Six responses with four Likert scale used in rating the responses as SA, = Strongly Agree, A = Agree, D= Disagree and SD= Strongly Disagree. Section C refers to the Factors Associated with ENC Practices, with (15) Fifteen responses, also rated on four Likert scale as SA= Strongly Agree, = Agree, D= Disagree and SD= Strongly Disagree, with total responses (28) Twenty-Eight.

### **Method of Data Collection**

A letters of permission for data collection was addressed to the appropriate authorities for approval permit. After due approval and permission for data collection,

the next step was the creation of a list of all those working at the Comprehensive HealthCare Centres of the Six selected healthcare facilities, after which the contact of all participants were requested from the Ward managers (their names, wards, mobile contacts, shifts and off days). The purpose and implication of the study to Midwifery Practice was explained to the respondents, copies of the self-structured questionnaire were used to obtain data from the respondents who met the inclusion criteria at the end of shift to avoid distractions. The researcher made an appointment with those on-off duties and annual leave to meet at convenient times within the three weeks of data collection. The researcher used her research instrument for data collection at the selected health centres chosen for the study; phase after phase. Once data was obtained from any of the respondents, the research assistants assigned to each selected healthcare facility marked the name on the contact list to avoid multiple data collection and to also ensure that all the Midwives were captured in the exercise. Completed copies of the questionnaires were collected immediately and respondents were thanked at the end of each data collection session. The entire data collection phase lasted for a period of three weeks, while the duration of the study was between January and June, 2021.

#### **Method of Data Analysis**

Statistical Package for Social Science (SPSS) version 28.0.0.0.was used to analyzed data collected in both descriptive and inferential statistical data. Descriptive statistics generated are frequencies, percentages, and means of responses where applicable. Research question 1, 2 and 3 were analyzed using frequency and descriptive statistics, on level of ENC Skills, level of ENC Practices, Determinants of ENC effectiveness and Factors associated with ENC Skills and Practices. Chi-Square was employed to test the hypotheses of Midwives demographic characteristics such age, rank, Professional qualification, year of experience in the practice of Essential New born care. The chi-square test showed that there was no existing significant association between age, professional qualifications, rank and years of working experience as a registered Midwife. The result from the Chi- Square Test shows that the P-values was greater than 0.05 alpha level of significance.

#### **Ethical Consideration**

An identification letter obtained from the Dean, Faculty of Nursing Sciences, Niger Delta University, Wilberforce Island, Amassoma, Bayelsa State. An ethical approval for the study was obtained from the Health Research and Ethics committee of Ministry of Health, Edo State, and a summary of the proposal was used to seek for ethical permit from the ministry of Health, Edo State. Permission to conduct the study was obtained from the head of service of Esan Central Local Government Area through the primary Health Care Co-ordinator. The purpose of the study was explained to the respondents, an informed and written consent was obtained. To ensure privacy and anonymity numbers were used on the questionnaires instead of respondents' names.

Participation was voluntary. To ensure confidentiality, all completed or uncompleted questionnaires were sealed in separate envelopes during the administration of instruments, the safety of respondents was ensured and the completed questionnaires were kept intact and used for the intended purpose only.

## RESULTS

**Table 1: Sociodemographic Characteristics of the respondents**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Age</b>		
20-29	107	35.7
30-39	119	40.0
40-49	55	18.3
50 and above	19	6.3
<b>Qualification</b>		
RM	87	29.0
RM/RN	144	48.0
BNSC	54	18.0
MSC	13	4.3
Other Qualification	2	0.7
<b>Rank</b>		
No11	67	22.3
No1	83	27.7
SNO	102	34.0
PNO	25	8.3
ACNO	23	7.7
<b>Total year of experience</b>		
0-5	87	29.0
6-10	102	34.0
11-15	59	19.7
16-20	40	13.3
25-30	11	3.7
<b>Year of Experience as a Midwife</b>		
0-5	137	45.7
6-10	85	28.3
11-15	38	12.7
16-20	32	10.7
25-30	11	3.7
<b>Year of experience as a Midwife</b>		
0-5	137	45.7

6-10	85	28.3
11-15	38	12.7
16-20	32	10.7
25-30	8	2.7

The sociodemographic characteristics of the respondents indicate a varied distribution across age groups, with the majority falling between 20-29 years (35.7%) and 30-39 years (40.0%), followed by 40-49 years (18.3%), with a smaller proportion aged 50 and above (6.3%). Regarding qualifications, the respondents predominantly held RM/RN qualifications (48.0%), followed by RM (29.0%), BNSC (18.0%), MSC (4.3%), and a smaller fraction with other qualifications (0.7%). In terms of rank, the distribution was fairly balanced, with SNO ranking highest (34.0%), followed closely by NO I (27.7%) and NO II (22.3%), while PNO (8.3%) and ACNO (7.7%) represented smaller proportions. The total years of experience varied, with the highest percentage falling within the 6-10 years category (34.0%), followed by 0-5 years (29.0%), 11-15 years (19.7%), 16-20 years (13.3%), and the least in the 25-30 years category (3.7%). Similarly, the years of experience as a midwife revealed a majority with 0-5 years (45.7%) and 6-10 years (28.3%), followed by 11-15 years (12.7%), 16-20 years (10.7%), and a smaller percentage with 25-30 years (2.7%).

**Table 2: ENC Practice of Certain care of ENC performed by Midwives**

Items	Yes	No	I don't know
Delivery attended by a skilled birth attendant	296(98.7)	2(0.7)	2(0.7)
Promoting thermal regulation	282(93.4)	5(1.8)	13(4.8)
Providing clean cord care	278(91.9)	19(7.1)	3(1.0)
Treatment of the eyes with ointment	63(13.2)	124(45.4)	113(41.40)
Use of chlorhexidine in treatment of cord	222(81.3)	31(11.4)	20(7.3)
Utilization of partograph	34(12.5)	217(79.5)	22(8.1)
Use of protective equipment when taking delivery	255(83.5)	12(4.4)	33(12.1)
Presence of assistant in the labor room	273(90.1)	9(3.3)	18(6.6)
Provision of adequate lightening facilities	236(76.6)	9(3.3)	55(20.1)
Adequate team collaboration	217(69.6)	16(5.9)	67(24.5)

Presence and functionality of facilities used for resuscitation e.g suction machine, incubator* resuscitation drug like hydrocortisone,	171(62.6)	31(11.4)	98(26.0)
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Table 2 presents the Essential Newborn Care (ENC) practices performed by midwives, indicating the frequencies and percentages of "Yes," "No," and "I don't know" responses for each practice. The majority of deliveries were attended by skilled birth attendants, with 98.7% responding affirmatively, while promoting thermal regulation and providing clean cord care received positive responses from 93.4% and 91.9% of respondents, respectively. Conversely, the treatment of the eyes with ointment saw lower compliance, with only 13.2% of respondents affirming this practice, while 45.4% indicated not performing it. Additionally, utilization of chlorhexidine for cord treatment was reported by 81.3% of respondents, while utilization of partographs was lower at 12.5%. Usage of protective equipment during delivery was relatively high at 83.5%, and the presence of an assistant in the labor room was reported by 90.1% of respondents. Provision of adequate lightning facilities received positive responses from 76.6% of respondents, and adequate team collaboration was reported by 69.6%. However, the presence and functionality of resuscitation facilities received lower compliance, with only 62.6% of respondents affirming this practice.

**Table 3: Factors Associated with Essential New Born Care practices**

Items	Strongly Agree	Agree	Disagree	Strongly disagree
Poor knowledge of ENC	187(62.5)	99(33.1)	8(2.7)	5(1.7)
Poor Infection Prevention and Control skills	161(53.8)	129(43.1)	6(2.0)	3(1.0)
Shortage of staff.	195(65.2)	86(28.8)	5(1.7)	13(4.3)
Lack of inadequate and constant training of the midwives working in neonatal care unit impede competency	182(60.9)	104(34.8)	7(2.3)	6(2.0)
Ethnicity or caste influence the practice of ENC	158(52.8)	124(41.5)	11(3.7)	7(2.0)
Low maternal Education influences neonatal care	161(53.8)	121(40.5)	9(3.0)	8(2.7)
Deliveries attended by unskilled personnel affects the practice of ENC	168(56.2)	109(36.5)	15(4.7)	8(2.7)
Socio economic status influence the practice of ENC	187(62.5)	93(31.1)	11(3.7)	8(2.7)
Poor maternal knowledge influence ENC practices	182(60.9)	99(33.1)	9(3.0)	10(3.5)
Harmful traditional practices	133(44.5)	152(50.8)	11(3.7)	3(1.0)

affect the neonate and new born care				
Home deliveries influence ENC practices by midwife	133(44.5)	143(47.8)	15(5.0)	8(2.7)
Poor utilization of maternal health care services affects new born care	125(41.8)	161(53.8)	9(3.0)	4(1.3)
Poor team collaboration an impediment to ENC Practices	109(36.5)	169(56.5)	12(4.0)	9(3.0)
Socio- Cultural factors / beliefs influence practice of ENC	96(31.8)	185(61.9)	11(3.7)	8(2.7)
Is inadequate training of midwives is a hindrance to the practice of neonatal care	134(44.8)	142(47.5)	10(3.3)	14(4.4)

Table 3 presents factors associated with essential newborn care (ENC), detailing the frequencies of responses ranging from "Strongly Agree" to "Strongly Disagree" for each factor. Notably, the majority of respondents strongly agreed or agreed that poor knowledge of ENC (62.5% Strongly Agree, 33.1% Agree) and poor infection prevention and control skills (53.8% Strongly Agree, 43.1% Agree) were significant factors influencing ENC practices. Additionally, a considerable proportion strongly agreed or agreed that shortage of staff (65.2% Strongly Agree, 28.8% Agree), lack of constant training of midwives (60.9% Strongly Agree, 34.8% Agree), and socioeconomic status (62.5% Strongly Agree, 31.1% Agree) hindered ENC practices. Furthermore, respondents indicated agreement regarding factors such as ethnicity or caste influence (52.8% Strongly Agree, 41.5% Agree), low maternal education (53.8% Strongly Agree, 40.5% Agree), and deliveries attended by unskilled personnel (56.2% Strongly Agree, 36.5% Agree) impacting ENC practices. Conversely, fewer respondents agreed that traditional harmful practices (44.5% Strongly Agree, 50.8% Agree) or poor utilization of maternal health care services (41.8% Strongly Agree, 53.8% Agree) significantly affected neonatal care. Moreover, respondents highlighted issues such as poor team collaboration (36.5% Strongly Agree, 56.5% Agree) and inadequate training of midwives (44.8% Strongly Agree, 47.5% Agree) as potential impediments to ENC practices. Overall, the table underscores the multifaceted nature of factors influencing the quality of essential newborn care, reflecting varied perceptions among respondents.

**Table 4: Determinants of ENC Practice**

Items	Strongly Agree	Agree	Disagree	Strongly disagree
Does the Mother social demographic	209(69.6)	89(29.8)	2(0.7)	-

characteristics affect Essential New Born Care				
Does place of birth determine Essential new born care?	193(64.2)	95(31.8)	11(3.7)	1(0.3)
Does poor maternal Health Services Utilization affects ENC practices?	188(62.5)	104(34.8)	1(0.3)	7(2.3)
Does inadequate knowledge of midwifery care affects ENC practices.	199(66.2)	92(30.8)	6(2.0)	3(1.0)
Is Knowledge of Essential new born care strategy important to the midwives	194(64.5)	94(31.4)	7(2.3)	5(1.7)
Does Poor new born care practices immediately following delivery contribute to the risk of morbidity and mortality.	195(64.9)	95(31.8)	3(1.0)	7(2.3)

Table 4 outlines determinants of essential newborn care (ENC) practices, presenting the frequencies of responses ranging from "Strongly Agree" to "Strongly Disagree" for each determinant. The majority of respondents strongly agreed or agreed that mother's social demographic characteristics affect ENC practices (69.6% Strongly Agree, 29.8% Agree), emphasizing the significance of considering various demographic factors in neonatal care. Additionally, respondents indicated agreement regarding the impact of the place of birth on ENC practices (64.2% Strongly Agree, 31.8% Agree), suggesting that where the birth occurs influences the quality of newborn care provided. Furthermore, respondents highlighted the importance of maternal health services utilization, with a majority agreeing that poor utilization affects ENC practices (62.5% Strongly Agree, 34.8% Agree), underscoring the critical role of healthcare access in newborn care. Moreover, respondents acknowledged the impact of inadequate knowledge of midwifery care on ENC practices (66.2% Strongly Agree, 30.8% Agree), indicating the necessity of proper training and education for midwives to deliver optimal care. Additionally, respondents recognized the importance of midwives' knowledge of essential newborn care strategies (64.5% Strongly Agree, 31.4% Agree), emphasizing the significance of equipping midwives with relevant knowledge and skills. Lastly, respondents agreed that poor newborn care practices immediately following delivery contribute to the risk of morbidity and mortality (64.9% Strongly Agree, 31.8% Agree), emphasizing the critical period immediately after birth for ensuring the health and well-being of newborns. Overall, the table underscores the multifactorial nature of determinants influencing ENC practices, reflecting varied

perceptions among respondents regarding the key factors shaping the quality of newborn care delivery.

**Table 5: Chi-square Test of Association between participants' demographic characteristics (such as age, professional qualifications, rank and years of working experience) and their practice of Competency in Essential New Born Care**

Demographic Characteristics	Midwives competence in ENC practice		Df	Chi square E test	Significance
	Poor	Good			
Age Group	20-29	9	3	0.329a	0.955
20-29	91(84.3)	17(15.7)			
30-39	82(83.7)	16(16.3)			
40-49	42(83.7)	8(16.3)			
50 above	26(88.9)	1(5.6)			
Professional			4	1.327a	0.857
Qualification					
RM	68(87.2)	10(12.8)			
RN/RM	106(83.5)	21(16.5)			
BNSC	43(81.1)	10(18.9)			
MSC	11(84.6)	2(15.4)	4	7.847a	0.097
OTHERS	2(100)				
Rank					
NOII	52(91.2)	5(8.8)			
NO1	60(83.3)	12(16.7)			
SNO	74(77.1%)	22(22.9)	4	2.590a	0.629
PNO	23(92.0)	2(8.0)			
ACNO	21(91.3)	3(8.7)			
Year of working Experience as a Midwife					
0-5	104(84.6)	19(15.4)			
6-10	65(81.3)	15(18.8)			
11-15	28(82.4)	6(17.6)			
16-20	26(89.7)	3(10.3)			
21-25	7(100%)				

Table 5 displays the results of a Chi-square test of association between participants' demographic characteristics, including age, professional qualifications, rank, and years of working experience, and their practice of competency in essential newborn care (ENC). The table presents frequencies and percentages of midwives categorized by their level of competence in ENC (Poor or Good) within each demographic subgroup.

For the age group, no significant association was found between age and ENC

practice, as indicated by a chi-square value of 3 and a p-value of 0.955, suggesting that age does not influence midwives' competence in ENC.

Similarly, professional qualifications showed no significant association with ENC practice, with a chi-square value of 1.327 and a p-value of 0.857, indicating that different qualifications among midwives do not significantly affect their competency in ENC. However, for rank, there was a borderline significant association with ENC practice (chi-square = 7.847,  $p = 0.097$ ), suggesting that midwives' ranks may have some influence on their competency in ENC. Regarding years of working experience as a midwife, no significant association was found (chi-square = 2.590,  $p = 0.629$ ), indicating that the duration of experience does not significantly impact midwives' competency in ENC. Overall, while age, professional qualifications, and years of working experience do not appear to significantly influence midwives' competency in ENC, there is a suggestive trend regarding rank, hinting at potential implications for ENC practice among midwives of different ranks

## Discussion

The study revealed several noteworthy findings concerning the demographic characteristics, essential newborn care (ENC) practices, factors influencing ENC, and determinants of ENC practice among midwives.

Firstly, the demographic profile of the respondents indicated a diverse distribution across age groups, with a significant proportion falling within the 20-29 years (35.7%) and 30-39 years (40.0%) brackets. Furthermore, the majority of respondents held RM/RN qualifications (48.0%), followed by RM (29.0%), BNSC (18.0%), and MSC (4.3%), while the distribution of ranks among respondents was relatively balanced. In terms of years of working experience, most midwives reported 0-10 years of experience, with the highest percentage falling within the 6-10 years' category (34.0%).

The essential new-born protocol is a series of time bound and chronologically ordered care that a baby receives at birth, and it has standardized effective procedural steps: dry and stimulate, evaluate breathing, cord care, keep the newborn warm, initiate breastfeeding within the first one hour, administer eye drops/eye ointment to prevent eye infection, administer vitamin K intramuscularly, place the newborn's identification bands, weigh the newborn when it is stable and warm, and record all observations and treatment provided. Concerning ENC practices, the majority of deliveries were attended by skilled birth attendants (98.7%), and essential care practices such as promoting thermal regulation (93.4%) and providing clean cord care (91.9%) received positive responses. However, there were notable gaps in certain practices, particularly the treatment of neonatal eyes with ointment (13.2%) and utilization of partographs (12.5%). Clean cord care is very important in preventing early neonatal infections. The

precise timing of clamping and cutting the umbilical cord is important as there is some evidence of potential benefits for the baby when the cord is not clamped and cut immediately after birth. In this study, majority (85.7%) of Midwives fail to observe delayed cord clamping for 2-3 minutes after birth. This is lower than Negussie, Hailu, and Megenta, (2018) report showing 32.0% and 21.7% of the participants delayed clamping of umbilical cord for all babies and some babies they delivered

Factors influencing ENC practices were identified, with respondents largely agreeing that poor knowledge of ENC (62.5% Strongly Agree, 33.1% Agree) and poor infection prevention and control skills (53.8% Strongly Agree, 43.1% Agree) significantly impacted ENC practices. Additionally, factors such as shortage of staff, lack of constant training, socioeconomic status, and ethnicity or caste influence were perceived as hindrances to effective ENC practices. As indicated by, Arba & Zana, (2019), in their study, the results showed that majority of Midwives did not perform most of the essential newborn protocol, followed by those that did not perform the protocol satisfactorily as shown. In line with this study, Malhotra, et al., (2014) in their study also observed for all levels of providers that there was a huge difference in knowledge and skill scores. As cited by Renfew et al (2017), states that, Midwifery matters for all child bearing women, their babies, and their families, wherever they live in the world, and whatever circumstances, shows that skilled, knowledgeable and compassionate Midwifery care reduces maternal and new-born mortality and stillbirths, keep mothers and babies safe, and promote health and well-being.

Determinants of ENC practice included mother's social demographic characteristics, place of birth, availability of health services, and midwives' knowledge. Notably, lack of adequate knowledge of midwifery care was identified as a significant factor affecting ENC practices, as evidenced by 62.5% of respondents strongly agreeing with this notion. Furthermore, while there was no significant association found between age, professional qualifications, and years of working experience as a midwife with ENC practice, there was a borderline significant association with rank. This suggests that midwives' ranks may influence their competency in ENC, potentially indicating that newer practitioners exhibit more efficient practices. This finding underscores the need for ongoing training and support for midwives across all levels of experience. The study highlights the multifaceted nature of factors influencing ENC practices among midwives and emphasizes the importance of addressing knowledge gaps, ensuring adequate staffing levels, and promoting continuous training and support to enhance the quality of essential newborn care delivery.

### **Conclusion**

The findings of this study shed light on various aspects of essential newborn care (ENC) practices among midwives, as well as the factors and determinants influencing these practices. The demographic profile of respondents revealed a diverse distribution

across age groups, qualifications, ranks, and years of working experience. While most deliveries were attended by skilled birth attendants and essential care practices such as promoting thermal regulation and providing clean cord care received positive responses, there were notable gaps in certain practices, including delayed cord clamping and utilization of partographs. Factors influencing ENC practices included poor knowledge of ENC, inadequate infection prevention and control skills, shortage of staff, lack of constant training, socioeconomic status, and ethnicity or caste influence. Lack of adequate knowledge of midwifery care emerged as a significant concern affecting ENC practices. Although no significant association was found between age, professional qualifications, and years of working experience with ENC practice, there was a borderline significant association with rank, suggesting that midwives' ranks may influence their competency in ENC.

In light of these findings, it is imperative to address the identified gaps and challenges in ENC practices among midwives. Continuous education and training programs focusing on essential newborn care protocols, infection prevention and control, and other relevant skills should be prioritized. Additionally, efforts should be made to improve staffing levels, particularly in settings where shortages are observed. Moreover, interventions aimed at addressing socioeconomic disparities and cultural influences on ENC practices are crucial for ensuring equitable and quality care for all newborns.

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