EXPERIENCES OF MIDWIVES IN NEONATAL RESUSCITATION WITHIN THE
IMMEDIATE POSTNATAL PERIOD AT THE 37 MILITARY HOSPITAL, ACCRA

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(10239095)

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MASTER OF PHILOSOPHY IN NURSING DEGREE

JULY, 2018
DECLARATION

I, Ursula Delali Agbenohevi certify that this thesis is the result of research undertaken towards the award of Master of Philosophy in Nursing Degree in the School of Nursing and Midwifery, University of Ghana, Legon. This research has been undertaken with the guidance and supervision of Professor Ernestina Donkor, Principal Supervisor, and Dr Mary Ani-Amponsah, Supervisor, both of the School of Nursing and Midwifery, University of Ghana, Legon. The undersigned supervisors certify that they have read the thesis and have recommended it to the School of Graduate Studies, the University of Ghana for acceptance.

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DR MARY ANI-AMPONSAH: ....................... ................
(SUPERVISOR) Signature Date
DEDICATION

This study is dedicated to my late beloved husband: Dr Prince Godfred Agbenohevi who had always believed in me and encouraged me, and without whom I could not have made it this far. I also dedicate this study to my pride and joy, my beautiful daughter: Princess Akorfa Kokui Ami Agbenohevi, who challenged and urged me on throughout the entire period of this study.
ACKNOWLEDGEMENT

God takes care of His own and in everything I thank God for how far He has sustained me throughout the writing of this study. My gratitude goes to all participants who voluntarily took part in this study, and to the entire staff of the Yebuah maternity unit of the 37 Military Hospital. Without them, this study would not have been successful.

Criticism helps to give us a new perspective and opens our eyes to things we may have overlooked or never considered. I appreciate the invaluable inputs from my supervisors. I am grateful to Professor Ernestina Donkor, who has been my source of inspiration and motivation, mentor and friend throughout the writing of this thesis. My personal encounter with her has been a learning process. Gratitude goes to Dr Mary Ani-Amponsah for her immense insight into this study. I am grateful for her creativity and sense of clarity that she exhibited during our interactions.

I am thankful to all faculty members of the School of Nursing & Midwifery and my colleagues (MPhil, year 2016 / 2018) for their support and contributions in structuring the content of this study. To the authors and publishers whose journals, articles and books were used as references in this study, I am thankful for the diverse perspectives shared. Thank you.
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<tr>
<td>AAP</td>
<td>American Academy of Paediatrics</td>
</tr>
<tr>
<td>BMV</td>
<td>Bag Mask and Ventilation</td>
</tr>
<tr>
<td>CPD</td>
<td>Continuing Professional Development</td>
</tr>
<tr>
<td>GDHS</td>
<td>Ghana Demographic Health Survey</td>
</tr>
<tr>
<td>HBB</td>
<td>Helping Babies Breathe</td>
</tr>
<tr>
<td>HCP</td>
<td>Health Care Providers</td>
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<tr>
<td>ICM</td>
<td>International Council of Midwives</td>
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<tr>
<td>LMIC</td>
<td>Low Middle Income Countries</td>
</tr>
<tr>
<td>MEBCI</td>
<td>Making Every Baby Count Initiative</td>
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<tr>
<td>MO</td>
<td>Midwifery Officer</td>
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<tr>
<td>NICU</td>
<td>Neonatal Intensive Care Unit</td>
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<td>NMC</td>
<td>Nursing and Midwifery Council</td>
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<tr>
<td>NMR</td>
<td>Neonatal Mortality Rate</td>
</tr>
<tr>
<td>NO</td>
<td>Nursing Officer</td>
</tr>
<tr>
<td>PSG</td>
<td>Paediatric Society of Ghana</td>
</tr>
<tr>
<td>QoC</td>
<td>Quality of Care</td>
</tr>
<tr>
<td>RCM</td>
<td>Royal College of Midwives</td>
</tr>
<tr>
<td>SDG</td>
<td>Sustainable Developmental Goals</td>
</tr>
<tr>
<td>SNO</td>
<td>Senior Nursing Officer</td>
</tr>
<tr>
<td>SSM</td>
<td>Senior Staff Midwife</td>
</tr>
<tr>
<td>TPB</td>
<td>Theory of Planned Behaviour</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UN-IGME</td>
<td>United Nation Inter-agency Group for Child Mortality Estimation</td>
</tr>
<tr>
<td>USAID</td>
<td>United State Agency for International Development</td>
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<tr>
<td>WHO</td>
<td>World Health Organisation</td>
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Abstract

The birth of a child should be a time of wonder and celebration, however, babies especially in the low middle-income countries, are in extreme danger due to birth-related complications that end in poor health outcomes. Often, newborns suffer from preventable complications that end in death. Neonatal mortality remains unacceptably high and the risk is greatest in the first day of life. Major causes of neonatal mortality are infections, prematurity and intrapartum complications including birth asphyxia. Birth asphyxia is a preventable respiratory emergency. Since midwives are in the frontline as direct care providers of maternal and newborn care in Ghana, this study seeks to explore midwives’ experiences in neonatal resuscitation within the immediate postnatal period.

A purposive sampling technique was used to select twelve (12) midwives from the maternity unit of the 37 Military Hospital. The entire research process was guided by the Theory of Planned Behaviour (TPB) propounded by Icek Ajzen (Ajzen & Fishbein, 1980), which establishes that one focal determinant of behaviour is the intention to perform it. Data were collected using an exploratory descriptive research approach, through interviews with the aid of an interview guide to generate an in-depth description of midwives’ experiences in neonatal resuscitation. Each interview lasted between 45 minutes to one hour. Data were transcribed verbatim, thematically analysed and five (5) themes were generated. The study found that there are challenges in terms of midwives recognizing the “Golden Minute” immediately after birth to restore spontaneous respirations in the newborn. This was attributed to inadequate preparation to receive the newborn and delay in time for resuscitation of the newborn. Furthermore, findings of the study indicated, limited space, inadequate equipment, shortage of personnel, inadequate skills and knowledge, and resource shortage, as some challenges that prevent midwives to ensure the implementation of standard neonatal resuscitation protocol into routine practices. The result is non-adherence to standard neonatal resuscitation guidelines mostly due to organizational barriers. Given this, there is a need for policy development to assist healthcare institutions with the needed human resource, capital, and infrastructure to equip midwives in effective neonatal resuscitation for positive neonatal health outcomes in Ghana.

Keywords: Experiences, Midwives, Neonatal Resuscitation, Golden Minute, Lifesaving Resources, Postnatal Period.
CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Childbirth is an important phenomenon, however, child survival at birth is a global challenge. (Van Heerden, Maree, & Van Rensburg, 2016). Although there has been significant progress in the reduction of post-neonatal mortality, neonatal mortality reduction has been slower over the last 15 years (Van Heerden et al., 2016). Currently, out of the 5.9 million under-five deaths, 2.9 million occurred in the neonatal period (Liu, Hill, Oza & Hogan, 2016). The percentage of deaths occurring in the neonatal period is 46% as reflected in the available statistics, and this percentage does not include the 2.6 million stillbirths, of which 1.2 million (45%) occur during labour (Darmstadt et al., 2014). Of these deaths, 99% occur in low and middle-income countries (LMICs) (Berkley, Dybul, Godal, & Lake, 2014; Conroy, Morrissey, Wolman, 2014).

Bradshaw, Chopra, Kerber, Lawn, & Bamford, (2008), stated that neonatal death is referred to as the number of infants who die during the first 28 days of life. This period is noted as the time of highest risk for the newborn. Neonatal deaths can be subdivided into early and late neonatal deaths. Early neonatal death occurs from birth to seven days and late neonatal death occurs from 7 days to 28 days (Pattinson, 2014).

Globally, about one-quarter of all newborn deaths are caused by birth asphyxia (WHO, 2017). Birth asphyxia is caused by the failure to initiate and sustain breathing at birth. Newborns can suffer several complications such as brain damage as a result of asphyxia. Research has shown that effective resuscitation can prevent asphyxia. Resuscitation, if done in a timely and effective manner, can drastically reduce deaths, neurological damage, and subsequent disabilities in the newborn who fails to initiate and sustain breathing at birth.
Anticipation and preparation for resuscitation before every birth is therefore essential, with immediate corrective action. In Tanzania, Ersdal, Mduma, Svensen, and Perlman (2012) revealed that nurses who were competent in neonatal resuscitation reduced the incidence in the mortality rate of newborns from birth asphyxia. Similarly, a study conducted by Opiyo et al., (2008), found that adequate knowledge and basic resuscitation training for midwives in Kenya reduced neonatal mortality rates from 11.5 deaths to 6.8 deaths per 1,000 live births. Additionally, a UNICEF report by Wardlaw, You, Hug, Amouzou and Newby, (2014) added that skilled staff with access to basic equipment are purported to reduce neonatal mortality by 50% (UNICEF, 2014).

A systematic review and meta-analysis of newborn resuscitation practices concluded that effective resuscitation is possible with basic equipment, adequate knowledge and skills of health professionals including midwives (Lee, Cousens, Wall, Niermeyer, Darmstadt, Carlo, Keenan, Bhutta, Gill, & Lawn, 2011). Surprisingly, this trend of lack of expert knowledge, and support for neonatal resuscitation runs through most African countries. This is reflected in the study carried out by Wall et al. (2009), on the resuscitation capacity of newborns in six African countries. The study showed that only 2 to 12% of health personnel, conducting deliveries mainly in health facilities, are equipped with the requisite training in neonatal resuscitation. The study also shockingly revealed that only 8 to 22% of all these health facilities are well-furnished with resuscitation equipment that can help newborns with respiratory issues. Another study in about 124 birth centres in Africa and Asia also concluded similar findings on the lack of equipment for newborn resuscitation (Spector, Reisman, Lipsitz, Desai & Gwande, 2013).

In Ghana, empirical evidence shows that neonatal death accounts for approximately 60% of infant mortality (United Nation Inter-Agency Group for Child Mortality Estimation
(UN-IGME), 2015), with a rate of 32 deaths per 1,000 live births (Ghana Demographic Health Survey, GDHS, 2014; Kayode, Ansa, Agyepong, Amoakoh-Coleman, Grobbee, & Klipstein-Grobusch, 2014). Risk factors associated with these deaths are complex and multi-dimensional (Ha, Hurt, Tawiah-Agyemang, Kirkwood, Edmond, 2012; Liu et al., 2016). Poverty is a major contributing factor to the high rate of neonatal deaths in LMICs (Ha et al, 2012; Liu et al., 2016). Furthermore, approximately 80% of all global neonatal deaths are because of preterm birth complications, newborn infections, and intrapartum-related events (WHO, 2015).

In addition to the medical causes of neonatal deaths, several other factors such as limited accessibility, insufficient health care facilities, inadequate number of trained health care practitioners, low level of prenatal and postnatal visits, and high-risk deliveries in nonqualified health facilities contributes to the neonatal deaths (Lawn, Kerber, Enweronu-Laryea & Cousens, 2010). In Ghana, the primary causes of newborn deaths are pre-term complications (36%), intrapartum-related deaths (28%) and infections (25%) (Welaga, Mayer, Abongo & Williams, 2013). However, statistics show that skilled assistance at delivery in Ghana has increased from 44% in 1993 to 68.4% in 2011 (Kak, Johnson, McPherson, Keenan, & Schoen, 2015). Sadly, there are no adequate data on the progress and how nurses and midwives in Ghana are taking advantage of the Golden Minute rule in neonatal resuscitation. As of 2011, the neonatal mortality rate in Ghana was 32/1,000 live births, and the aim of Ghana’s National Newborn Health Strategy and Action Plan was to reduce the rate to 21/1,000 live births by 2018, and to also achieve 82% skilled assistance at delivery by 2018 (Ghana Demographic Health Survey, 2015). Child health remains a priority in Ghana (UNICEF, 2014). As a result, the Ministry of Health, Ghana Health Service, and other partners have implemented several internationally recommended interventions, as well as local initiatives to promote child survival and development (UNICEF, 2014).
To support this initiative, the Ghana Ministry of Health launched the Ghana National Newborn Health Strategy and Action Plan for 2014-2018 to help reduce neonatal mortality rate (UNICEF, 2014). A major way of achieving this goal is to provide basic neonatal resuscitation for adverse intrapartum-related events by the year 2018 (UNICEF, 2014).

To better explore and understand the study, the Theory of Planned Behaviour (TPB) was used as the underlying framework for the study (Ajzen, 1991). According to the TPB, one focal determinant of behaviour is the intention to perform it. This invention consists of three components. The first component is the attitude towards the actions which is composed of human beliefs about the consequences of the action. The second component is the subjective norm which consists of human normative beliefs and social pressure towards the behaviour. The third component is the perceived behaviour control which is composed of human beliefs concerning capability and the controllability of performing the behaviour (Ajzen, 1991).

1.2 Problem Statement

On a global level, countries have been able to reduce the number of deaths under the age of five with a focus in tune with research-driven initiatives established at local and national levels through the Sustainable Developmental Goals (SDG): Goal 3, Target 3.2. This target aims to end preventable deaths of newborns, with all countries aiming at reducing neonatal mortality to at least as low as 12 per 1000 live births by 2030 (UN, 2015).

However, while Ghana has better health indicators, it faces significant challenges in improving newborn health (Kikuchi et al., 2015). Approximately, Ghana’s neonatal deaths for every 1000 births within the first month of life is 30 (Kayode et al., 2014; UN-IGME, 2015). Studies have identified different causes of these neonatal deaths in Ghana including complications from prematurity, birth asphyxia, and severe infections (Welaga, 2013). Birth asphyxia is usually a result of decreased or cessation of blood flow to the foetus/newborn.
This results in poor breathing pattern and ultimately results in hypoxic-ischemic encephalopathy, death or survival with disability (Buus-Frank, 2014).

In Ghana, midwives comprise the majority of frontline skilled care workers in maternal and newborn health care (WHO, 2012, 2015). However, they encounter mounting pressure due to a shortage of skilled staff in managing labour and delivery (Gans-Lartey, O’Brien, Oware-Gyekye, & Schopflocher, 2013; Issah, Nang-Beifubah, & Opoku (2011). With the low nurse/midwife density ratio of 10.5 per 10,000 population (WHO, 2012), the recent decrease to 9.3 per 10,000 people (WHO, 2015) has primed the stage for an increased workload in nursing/midwifery practice where poor skill mix has been a pre-existing issue across the country. Despite this, saving newborn lives subsequently becomes emotionally draining and a morally loaded task.

Although the presence of a skilled birth attendant contributes to the quality survival of every newborn, this component of care remains challenging in LMICs (Carlo, McDonald, Fanaroff, Vohr, Stoll, Ehrenkranz ... & Walsh, 2011). Studies have shown that inaction to implement newborn resuscitation and competency assessment remains problematic due to limited availability of equipment, and a lack of standardized Continuing Professional Development (CPD), skill development programmes, and protocols (Chikuse, Chirwa, Maluwa, & Odland, 2012; Murila, Obimbo, & Musoke 2012). Another study suggested that newborns delivered at health facility settings with Neonatal Intensive Care Unit (NICU) have higher chances of survival (Neogi, Malhotra, Zodpey & Mohan, 2012).

Given these challenges facing the nursing/midwifery profession in Ghana, the questions one may ask are: ‘how prepared are midwives concerning neonatal resuscitation?’; ‘do midwives have the needed knowledge, skills, and attitude in performing neonatal resuscitation effectively?’; ‘do midwives adhere to standard guidelines when performing neonatal resuscitation?’; ‘are midwives equipped with the essential medical equipment in the
performance of neonatal resuscitation? ’ Although the researcher has not identified any study conducted on neonatal resuscitation at the 37 Military Hospital, the NICU facility at the 37 Military Hospital admitted 242 and 183 newborns with birth asphyxia in the year 2016 and 2017 respectively (37 Military Hospital Annual Report, 2017). However, only 195 of these newborns survived in 2016 and 144 newborns survived in 2017 (see Table 1.1). With these questions in mind, the interest of this research is to explore the skills of midwives in lifesaving techniques in neonatal resuscitation within the immediate postnatal period at the 37 Military Hospital.

Table 1.1: Newborns Admitted at NICU, 37 Military Hospital

<table>
<thead>
<tr>
<th>Month</th>
<th>2016</th>
<th>2017</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Total no. of pts.</td>
<td>Asphyxia</td>
</tr>
<tr>
<td>Jan-Mar</td>
<td>184</td>
<td>73</td>
</tr>
<tr>
<td>Apr-Jun</td>
<td>211</td>
<td>47</td>
</tr>
<tr>
<td>Jul-Sept</td>
<td>216</td>
<td>59</td>
</tr>
<tr>
<td>Oct-Dec</td>
<td>178</td>
<td>63</td>
</tr>
<tr>
<td>Total</td>
<td>789</td>
<td>242</td>
</tr>
</tbody>
</table>

Source: 37 Military Hospital Annual Report, 2016 & 2017

1.3 Purpose of the Study

The purpose of this study was to explore the attitudes, subjective norms, perceived behavioural control and the behavioural intentions of midwives in neonatal resuscitation within the immediate post-natal period.
1.4 Objectives of the Study

The specific objectives were to:

1. Describe the attitudes of midwives towards neonatal resuscitation
2. Identify the subjective norms of midwives concerning neonatal resuscitation
3. Determine perceived behavioural control of midwives on neonatal resuscitation
4. Determine midwives’ intention to perform neonatal resuscitation
5. Examine midwives’ behaviour as per standard practice guidelines

1.5 Research Questions

1. What are the attitudes of midwives towards neonatal resuscitation?
2. What are the subjective norms of midwives in neonatal resuscitation?
3. How much perceived control do midwives have over neonatal resuscitation?
4. What factors influence midwives’ intention to perform neonatal resuscitation?
5. What behaviour do midwives exhibit by standard practice guidelines?

1.6 Significance of the Study

The findings of this study will aid policymakers in formulating and implementing standard protocols on neonatal resuscitation. These findings will serve as the basis for the Nursing and Midwifery Council (NMC) of Ghana to enhance the curriculum to include the competence in the training of midwives in neonatal resuscitation at BSc and NMTC levels. The findings will also serve as evidence for hospital administration to increase the need for accessibility, affordability, availability, and maintenance of lifesaving resources for effective neonatal resuscitation in health institutions where deliveries are conducted. This study will provide awareness about the need for the anticipation of neonatal resuscitation during every delivery at the 37 Military Hospital. The findings of this study will also provide pertinent information for curriculum developers to make the necessary modifications on the prerequisite for PIN renewals of all nurses and midwives. This should include yearly neonatal
resuscitation certification by all midwives, and regular CPD workshops. These will guide governmental and non-governmental health organizations to focus on and train midwives in neonatal resuscitation.

1.7 Operational Definitions of Key Words / Terminology

**Experience:** Anything or situation midwives encounter that hinder or enhance their performance in neonatal resuscitation, physically, professionally, psychologically, socio-economically and morally.

**Golden Minute:** The quality of care given within sixty (60) seconds of a newborn’s life (Healthy Newborn Network, 2013).

**Lifesaving Resources:** Skilled support by staff with special expertise in training, knowledge and capability to care for newborns, emergency supplies and equipment functioning and readily available when needed for neonatal resuscitation.

**Midwife:** Someone who has successfully completed the prescribed midwifery education programme and has acquired the requisite qualifications to be registered and legally licensed, who demonstrates competency in the practice of midwifery, and is recognized in the country of practice (ICM, 2014).

**Neonate:** A newborn aged up to 28 days of life.

**Neonatal Resuscitation:** A set of interventions implemented to support the airway, breathing and circulation, of a newborn immediately after birth to establish smooth, adequate ventilation and adaptation to extrauterine life.

**Postnatal Period:** The first 48 hours after the birth of the newborn.
CHAPTER TWO

LITERATURE REVIEW

This chapter presents the theoretical framework and relevant reviewed literature on neonatal resuscitation. The Theory of Planned Behaviour (TPB) was used as a guiding framework for the study. The literature review is presented with a focus on neonatal resuscitation in diverse settings to unearth studies that have been carried out on the experiences of midwives in performing neonatal resuscitation.

2.1 Theoretical Framework: Theory of Planned Behaviour (TPB)

The Conceptual Framework that informed this study was the Theory of Planned Behaviour (TPB) propounded by Professor Icek Ajzen of the Department of Psychological and Brain Services, University of Massachusetts, 1991. The TPB uses attitudes, subjective norms, and perceived behavioural control to predict a behavioural intention. Icek Ajzen’s Theory of Planned Behaviour (TPB) originated in 1985 from the Theory of Reasoned Action (TRA). The TRA was propounded by Martin Fishbein in 1967. The TRA affirms the deliberate nature of an individual on the consequences of his/her behaviour before action, hence its name. The TRA proposes two main factors to be an individual’s intent, and this is influenced by the attitude towards that particular behaviour and the subjective norms. Hence, an individual will perform a behaviour when the person considers that behaviour to be positive, and also when that individual believes significant others expect the person to perform that particular behaviour. However, attitudes and subjective norms are different due to the intention and also vary from one person to another (Ajzen & Fishbein, 1980). The TRA does not spell out any notion that the best predictor of planned behaviour is past behaviour (Ajzen, 2002). This insufficiency in the TRA led to the development of the TPB.
The TPB uses attitude, subjective norms, and perceived behavioural control to predict a behavioural intention. Attitude towards behaviour describes the degree to which an individual has a positive or negative outcome of the performance of the behaviour. Perceived behavioural control describes an individual’s perception of whether or not he/she can perform that particular behaviour and how easy it is to show that behaviour. Subjective norm describes how the opinion of significant others in the life of the individual determines whether or not the individual will perform a particular behaviour. Thus, personal evaluation of a behaviour (attitude); socially expected mode of conduct (subjective norm); and an individual’s own perception of his/her ability (self-efficacy) to perform a specific behaviour (perceived behavioural control), are varied concepts each of which has an important place in research (Ajzen, 1991). Behavioural intention describes an individual’s readiness to perform a particular behaviour. This invention is based on attitude towards the behaviour, subjective norm, and perceived behavioural control, with each construct thoroughly examining the relationship between the behaviour and population of interest (Ajzen, 2006).

The TPB was found to be an appropriate framework for this study because unlike the TRA, the TPB focuses on the availability of resources, opportunities and support for the individual to perform a particular behaviour. The TRA only predicts behaviour under one’s control and does not take into account perceived as well as actual control over the behaviour under consideration (Madden et al., 1992). The TPB was used in this study to demonstrate pertinent understanding in midwives’ behaviour and attitudinal change in their performance of neonatal resuscitation within the immediate postnatal period. The TPB is one of the well-studied and valuable theories for explaining and predicting behaviours. Its model represents the three constructs (Attitudes, Subjective norms, and Perceived behavioural control), which the theory suggests will predict the intention to perform a behaviour (Zoellner, Estabrooks, Davy, Chen, & You, 2012).
Attitude is an individual’s positive or negative belief about performing a specific behaviour (Fishbein & Ajzen, 1975). This behaviour depends on the individual’s behavioural beliefs and outcome evaluation. Therefore, the individual’s assessment of a particular behaviour determines his/her attitude. The attitude is also reliant on the consequences of the behaviour. Subjective norm involves normative beliefs and motivation to comply. This is how the individual acknowledges the societal pressures in enacting a particular behaviour. Ajzen further explained that subjective norms show how beliefs about a phenomenon influence the required behaviour as well as the individual’s motivation. Perceived behavioural control is the ability of the individual to exhibit the required behaviour. It depends on the beliefs about that behaviour and inner drive to appreciate the behaviour which can be situational. The behavioural intention was also proposed by Ajzen, that intention can be a substitute means of measuring behaviour. However, there is no clear distinction between behavioural intention and actual intention.

Figure 2.1: Model of Theory of Planned Behaviour (Ajzen, 2011)
The Theory of Planned Behaviour is based on the premise that one focal determinant of behaviour is the intention to perform it. This invention consists of three components. The first component is the attitude toward the behaviour which is composed of human beliefs about the consequences of the behaviour. The second component is the subjective norm which consists of human normative beliefs and social pressure toward the behaviour. The third component, the perceived behavioural control is composed of human beliefs concerning the capability and the controllability of performing the behaviour (Ajzen, 1991). Thus, the more a midwife intends to perform neonatal resuscitation, the higher the likelihood of it being performed (Ajzen, 1991).

According to the Theory of Planned Behaviour (TPB), the strength of the midwife to perform neonatal resuscitation is dependent on three antecedents: attitude, subjective norm and perceived behavioural control (Ajzen, 2011). As a rule, the more favourable the attitude and subjective norms concerning behaviour, and the greater the perceived behavioural control are, the stronger the individual’s intention to perform the behaviour under question (Ajzen, 2011). Attitude toward a behaviour is a person’s overall evaluation of behaviour, which can be either positive or negative (Ajzen, 2011). More favourable attitudes towards behaviour should increase behavioural intentions (Ajzen, 2011; Chikuse et al., 2012). The attitude construct comprises two components: Beliefs about consequences of the behaviour (behavioural beliefs) and the corresponding positive or negative judgments about the behaviour (outcome evaluations) (Ajzen, 2011; Chikuse et al., 2012). To this end, attitude towards neonatal resuscitation reflects midwives’ positive or negative evaluations of performing neonatal resuscitation.

Subjective norms are assumed to be a function of beliefs that specific individuals approve or disapprove of performing the behaviour. Beliefs that underlie subjective norms
are termed normative beliefs (Ajzen & Fishbein, 1980). An individual will intend to perform a specific behaviour when he/she perceives that important others think he/she should do so. Important others might be a person’s, spouse, close friends, or physician, among others. Perceived behavioural control refers to the degree to which an individual feels that performance or non-performance of the behaviour in question is under his or her volitional control (Ajzen & Fishbein, 1980). They are the opportunities and resources available to an individual to perform the necessary or desired behaviour (Ajzen 1991; Ajzen & Fishbein 1980). People are not likely to form a strong intention to perform a behaviour if they believe that they do not have any resources or opportunities to do so even if they hold positive attitudes toward the behaviour and believe that important others would approve of the behaviour (subjective norm). Perceived behavioural control can influence behaviour directly or indirectly through behavioural intentions. A direct path from perceived behavioural control to behaviour is expected to emerge when there is some agreement between perceptions of control and the person’s actual control over the behaviour.

According to Icek Ajzen, (2011) the intention to act influences the outcome of the action. With this in mind, the application of the TPB presents this study with the opportunity to explore midwives’ intentions to perform neonatal resuscitation during the immediate postnatal period. More importantly, by employing the constructs in the theory, this study seeks to explore how knowledge, attitude, subjective norms, perceived behavioural control, behavioural intent and compliance of neonatal resuscitation guidelines, influence midwives’ intention to perform neonatal resuscitation within the immediate postnatal period.

2.2 Limitations of the Theory of Planned Behaviour (TPB)

An assumption was made that perceived behavioural control predicts actual behavioural control. This may not always be the case. The Theory of Planned Behaviour only works when an aspect of the behaviour is not under volitional control. The longer the time
interval between behavioural intent and behaviour, the less likely the behaviour will occur. Additionally, the TPB assumes that human beings are rational and make systematic decisions based on available information. Unconscious motives are not considered (Kraft, Rise, Sutton, & Roysamb, 2005).

2.3 Literature Review

This second section of the chapter presents a review of related literature on the research topic. The literature review began with the researcher searching and selecting electronic databases for significant nursing and healthcare studies. Sources for information for the review included books, dissertations, and online databases, including the Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medical Literature On-Line (Medline), Psychology Information (PsycINFO), OvidSP, and Science Direct. Other databases used for the review were the Web of Science database and Google Scholar, both of which offer scholarly literature from different fields, including Nursing and Health.


The literature review was organized under (a) overview of neonatal resuscitation, (b) attitudes of midwives towards neonatal resuscitation, (c) subjective norms that influence midwives to perform neonatal resuscitation, (d) perceived behaviours that challenge midwives in neonatal resuscitation, (e) behavioural intentions of midwives to perform neonatal resuscitation, (f) midwives’ behaviour as per standard guidelines.
2.3.1 Overview of neonatal resuscitation

Neonatal resuscitation is defined as the set of interventions at the time of birth to support the establishment of breathing and circulation (American Academy of Paediatrics, 2011). Of about 136 million births annually, approximately 10 million of them will require some level of intervention to initiate their first breath. It is established that resuscitation with a bag-and-mask is required for nearly 6 million of these babies each year. This basic skill is sufficient to resuscitate most neonates with secondary apnoea, as the bradycardia primarily experienced results from hypoxemia and respiratory failure (American Academy of Paediatrics, 2011). Newborns who need advanced measures, that include endotracheal intubation, chest compressions and medications, are less than 1% of births (American Academy of Paediatrics, 2011).

However, surprisingly, infant mortality at birth as a result of complications in initiating their first breath is still very high. This indicates that most midwives and health professionals involved in newborn care are confronted with a lack of effective ambu-bags, suction devices and Resuscitaire. This can create respiratory challenges in the newborn. According to the World Health Organization, respiratory issues of newborns cannot be underestimated, since they easily lead to death. Even when infants who suffered from serious respiratory issues manage to survive beyond one year of age, these infants are likely to suffer major disability (WHO, 2005). Issues related to respiration is one of the major causes of infants being admitted to the neonatal intensive care unit (NICU) and sometimes cause of death for the infants (Edwards, Kotecha, & Kotecha, 2013).

With the importance attached to childbirth, special care is required for newborns, especially in terms of helping these neonates breathe normally for the first time (Wall et al., 2009). This phenomenon is one that should be taken seriously, as posited by Wall et al. (2009). About 10 million infants annually are born with improper breathing patterns, which
indicates that they will need some form of assistance to breathe properly. However, this intervention has to be carried out with the utmost care by midwives and health professionals involved in newborn care (Wall et al., 2009).

Initiation of breathing is critical in the physiologic transition from intra-uterine to extra-uterine life. It is established that between 5-10% of all newborns require assistance to establish breathing at birth (Bang, Paul, Reddy, & Baitule, 2005; Deorari, Paul, Singh & Vidyasagar, 2001; Wall et al, 2009) and simple warming, drying, stimulation, and resuscitation may reduce neonatal mortality and morbidity. This makes it critical for health professionals such as midwives to be equipped with the requisite skills to help newborns initiate their first breath. According to Black, Cousens, Johnson, Lawn, Rudan, Bassani, and Eisele, (2010), each year, about 814,000 neonates die as a result of intrapartum hypoxic events in term infants, previously termed “birth asphyxia” (Lawn et al, 2010).

Nurses and midwives around the world play active roles in the health and wellbeing of mothers and their newborns. This signifies the importance of health facilities retaining nurses and midwives who are skilled (Kenner, Sugrue, Mubichi, Boykova & Davidge, 2009; Rosenkoetter & Nardi, 2007). According to Agrawal et al. (2012), a high level of knowledge on resuscitation among health workers (midwives) is considered pivotal for improving coverage and adherence to recommended newborn care practices. This is because, these categories of health workers inevitably form the first line of contact with prenatal, immediate postnatal women and newborn babies. It is therefore essential to strengthen their levels of knowledge concerning prenatal and newborn health care.

However, studies such as those conducted in Zambia by Maimbolwa, Yamba, Diwan, and Ransjö- Arvidson (2003), highlighted some interesting findings, which show the lack of vital knowledge by birth attendants. The study which aimed at exploring cultural childbirth practices and beliefs in Zambia interviewed thirty-six women going with labouring women to
urban and rural maternity units in Zambia. The study concluded that eighteen of the women considered themselves to be traditional birth assistants (TBAs), and the rest said that they followed labouring women to maternity units to assist them in delivery. Those who considered themselves as TBAs advised child-bearing women on appropriate cultural childbirth practices and assisted them with deliveries at home. They also counselled women on the use of traditional medicine. The study also discovered that these TBAs lacked the required knowledge associated with birth complications. They mainly relied on traditional beliefs and witchcraft to explain complications related to childbirth. The study showed that important knowledge in resuscitation strategies such as clearing the airway, and thermoregulation practices such as skin-to-skin care were all absent. This phenomenon has contributed to the increase in the mortality rate of infants as a result of complications associated with initiating their first breath.

Surprisingly, this trend of lack of knowledge and support for newborns’ resuscitation, runs through most African countries. This is reflected in the study carried out by Wall et al. (2009), on the resuscitation capacity of newborns in six African countries. Their findings indicated that only 2 to 12% of personnel conducting births mainly in health facilities are equipped with the necessary training in neonatal resuscitation. It also revealed that just 8 to 22% of health facilities are furnished with equipment that can help newborns with respiratory issues. A different study that sampled about 124 birth centres in Africa and Asia also concluded with similar findings on the lack of equipment for newborn resuscitation (Spector, Reisman, Lipsitz, Desai & Gwande, 2013). This trend is not only limited to LMICs. A study by Jukkala and Henly, (2007) in Alabama, showed that some high-income countries are also faced with the phenomenon of lack of skills in the resuscitation of newborns. This phenomenon is reflected in rural settings in the United States, and Canada, as reports have shown how inappropriate neonatal resuscitation skills have led to the death of newborns
(Jukkala & Henly, 2007; Smylie, Fell, & Ohlsson, 2010). This, to a large extent, is because of the lack of knowledge on the vulnerability of newborns during the initiation of their first breath. Knowledge about the vulnerability of newborns is likely to result in more serious stands in taking all the required measures to assure the survival of newborns. This is by using supportive measures such as skilled staff to help newborns initiate their first breath.

It should be noted that an increase in knowledge goes with practical experience. This is reflected in the study by Halamek et al., (2000) in California, who carried out a descriptive study to describe nurses and physicians’ readiness for neonatal resuscitation in hospitals. The study sample consisted of 165 nurses and 59 physicians. The results revealed that the average Neonatal Resuscitation Index knowledge score was low. Nurses reported lower levels of comfort with skills needed for full resuscitation of newborns. However, the relation between the frequency of skill performance and comfort was higher for nurses than physicians. Nurses who were current neonatal resuscitation programme providers had significantly higher average levels of comfort, knowledge, and experience with resuscitation skills (Halamek et al, 2000).

The International Council of Nurses (ICN) defines CPD as a life-long process of maintaining and enhancing the competencies of midwives. CPD is necessary for nurses and midwives to keep up to date with the rapidly changing healthcare environment (ICN, 2010). According to the International Confederation of Midwives (ICM), to strengthen and advance the role of the midwife, a system of CPD should be in place (ICM, 2014). This means that regardless of nurses and midwives already possessing specific skills concerning resuscitation, they need to regularly upgrade their skills through continuous education. Thus, extensive programs and intervention initiatives are of great importance regardless of already amassed experience by some health professionals. This line of thought is reflected in a comparative descriptive study that was aimed at describing the knowledge, attitude or benefits and care
practices of NICU nurses. The result from the study showed that even nurses with increased years of experience were less supportive of initiating certain aggressive care modalities. The study recommended that neonatal resuscitation should begin in the delivery room and a resuscitation team should be formed to combat specific complications and morbidity of asphyxiated births (Bellini & Damato, 2009). The study also concluded that nurses and midwives need further education (Bellini & Damato, 2009), and this means that constant training should not be taken for granted (Skidmore & Urquhart, 2001).

Another study in Canada by Skidmore and Urquhart (2001), also agrees with this claim and stresses that there is a possibility that knowledge can be lost, hence, regular refresher courses will be instrumental in retaining knowledge. The aim of the study by Skidmore and Urquhart (2001), was to evaluate the impact of a neonatal resuscitation course on the theoretical knowledge and practical skills of birthing room personnel and to evaluate the performance of skills at different times after the session. A course in neonatal resuscitation was presented to the identified samples. A cohort of 108 (15%) participants received testing before and after the class; the theoretical knowledge and practical performance of 62 of these participants were retested after six and twelve months. The study findings revealed that significant improvement in both theoretical knowledge and practical skills was seen immediately after the course. The researchers concluded that neonatal resuscitation should be an integral part of continuing education. Practical skills appear to decline faster than theoretical knowledge. Therefore, in-service instruction is required, at least, every six months (Skidmore & Urquhart, 2001).

Over the years, different groups and organizations have stepped in to train health professionals on diverse neonatal resuscitation techniques and to take advantage of the “Golden Minute” to make sure they save newborns. These projects came with different programs and curricula, mainly under the auspices of Helping Babies Breathe (HBB)
Helping Babies Breathe (HBB) is an example of one of such programmes developed to reduce neonatal mortality in resource-limited environments (American Academy of Paediatrics, 2011). The HBB programme addresses the three most common causes of preventable neonatal deaths: Complications during childbirth, Complications from preterm birth, and Neonatal infections (American Academy of Paediatrics, 2011). The initial sixty (60) seconds in a newborn’s life is very crucial and requires the midwife/birth attendant to do everything possible within her means to ensure the newborn breaths at birth. This period is referred to as the Golden Minute (Healthy Newborn Network, 2013). The Golden Minute concept by the HBB examines where the baby within one minute of birth, should be breathing well or should be ventilated with a bag and mask. The Golden Minute identifies the steps that the midwife without any hesitation must take immediately after birth, to evaluate the baby and stimulate breathing (Healthy Newborn Network, 2013). A study in Norway revealed that majority of lifeless babies who required urgent resuscitation responded to stimulation/suctioning and/or Bag and Mask Ventilation (BMV). The authors concluded that
newborns who required BMV were more likely to die when resuscitation/ventilation is delayed (Ersdal, Mduma, Svensen, & Perlman, 2013).

According to the World Health Organization, (2015), the vulnerability of newborns in the immediate postnatal stage of their existence, requires the expert skills of a health professional regarding neonatal resuscitation. Newborns are usually vulnerable, and the very fact that they are threatens their wellbeing (WHO, 2015). The initial assessment and examination of the newborn are done at birth and within the first hours of life (National Institute of Clinical Excellence (NICE), 2006; The Royal College of Midwives (RCM) 2006). This includes assessing physiological adaptation into extra-uterine life; colour, tone, breathing and heart rate (Resuscitation Council, 2011). Recent standards for newborn and infant physical examination set a timeline of 72 hours after birth for full newborn investigation. For health professionals to be efficient in carrying out this task, studies have shown that midwives and other health professionals are in principle, supposed to increasingly enhance their skills in this practice to ensure continuity of a holistic approach to care (Lumsden 2005; Townsend et al. 2004).

To recognize that newborns have difficulty initiating their first breath, or difficulty breathing properly at birth, a number of examinations and the presence of peculiar signs and symptoms can be used. Some of these signs include tachypnoea, nasal flaring, chest retractions or grunting respiration (Edwards, Kotecha, & Kotecha, 2013; Reuter, Moser, & Baack, 2014). A normal newborn’s respiratory rate is 30 to 60 breaths per minute (American Academy of Paediatrics, 2006). In a case where the respiratory rate is greater than 30 to 60 breaths per minute, it means the newborn is vulnerable to having a respiratory problem (Reuter et al., 2014). A respiratory rate higher than 60 breaths per minute is referred to as tachypnoea (Reuter et al., 2014). The primary cause of this challenge is complications associated with the airway which stems from airway resistance. This phenomenon is usually a
result of obstruction of air flow. Another sign is the nasal flaring which is a compensatory symptom that causes the decrease of the upper airway diameter of the newborn, which then causes resistance in breathing (Carlo et al., 2011). However, with the right skills, the newborn can be resuscitated and can have regular breathing pattern, thereby reducing the mortality and morbidity rate of newborns (Spector, Reisman, Lipsitz, Desai & Gwande, 2013).

2.3.2 Attitudes of midwives towards neonatal resuscitation

Attitude towards a behaviour is a person’s overall evaluation of the behaviour, which can be either positive or negative. More favourable attitudes towards behaviour should increase behavioural intentions. Attitude as a construct comprises of two components: beliefs about the consequences of the behaviour (behavioural beliefs), and the corresponding positive or negative judgments about the behaviour (outcome evaluations). To this end, attitude towards neonatal resuscitation reflects a midwife’s positive or negative assessment of performing neonatal resuscitation. In a study to investigate the attitudes of healthcare professionals towards ethical decisions for non-initiation and withdrawal of neonatal resuscitation for preterm infants in Mongolia, McAdam, Erdenebileg, Batra, and Gerelmaa (2012), noted that healthcare professionals are uncomfortable discussing neonatal resuscitation. Furthermore, a study carried out in Malawi by Chikuse et al. (2012) revealed poor adherence to guidelines on identification of warning signs of birth asphyxia and neonatal resuscitation. Despite these findings, Kim et al. (2013) revealed that healthcare professionals including doctors and midwives in Afghanistan felt a great sense of confidence in their ability to perform neonatal resuscitation. This was as a result of their knowledge and skills in neonatal resuscitation.

Additionally, McAdams et al. (2012) revealed that most healthcare professionals provide pre-delivery counselling to mothers to discuss the poor outcome of preterm labour. However, most healthcare professionals feel uncomfortable discussing not initiating or
withdrawing neonatal resuscitation with mothers with babies who have little chance of survival. Healthcare professionals attributed this feeling to religious beliefs and long-term pains. Given this, most health care professionals provide antenatal counselling to parents regarding neonatal resuscitation. Findings revealed by the study of McAdams et al. (2012) call for additional research in areas such as deficiency in communication during training. Furthermore, neonatal resuscitation teachings should incorporate cultural-sensitive training.

2.3.3 Subjective norms that influence midwives to perform neonatal resuscitation

Subjective norms are operationalized as the perceived expectations of specific individuals or groups. These norms also include the motivation of the individual to comply with the pressures or expectations of significant others (example family). The individual, however, has a choice to comply or not to comply with these pressures (Ajzen, 1985). In a study to assess nurses/midwives’ perception of family presence during neonatal resuscitation, McLean, Gill, and Shields (2016), highlighted a general conviction by health staff about the presence of family members during neonatal resuscitation. Family presence encourages increased professional behaviour in nurses/midwives. The nursing staff rendering the needed cares of their clients understood the needs of families. Hence, to maximize the wellbeing of their clients, nurses/midwives collaborate with the family members, colleague midwives and the entire staff of the hospital to plan, provide, and evaluate the care of newborns (McLean et al, 2016). In a qualitative study to assess the impact of a father’s presence during neonatal resuscitation in Birmingham, Harvey and Pattison (2013), revealed that the presence of fathers does not influence the performance of neonatal resuscitation, as healthcare professionals are uncomfortable by their presence.

To assess the perception and self-confidence of health professionals with regards to family presence during neonatal resuscitation, the study by McLean, et al., (2016), sampled three-hundred (300) medical and nursing staff. It was recorded that, health staff working with
the neonatal critical care departments had a positive perception and a higher self-confidence compared to staff working with non-critical care departments. This was attributed to years of experience in paediatric resuscitation. Furthermore, healthcare professionals did not respond as having negative attitudes or fears regarding inviting family members during neonatal resuscitation. A study by Duran, Oman, Abel, Koziel, and Szymanski (2007), to assess health professionals’ attitude towards beliefs about family presence, it was revealed that nurses/midwives had positive attitudes towards family presence, but had concerns about safety, emotional response of family members, and performance anxiety. Additionally, nurses/midwives had more favourable attitudes towards family presence than the doctors did.

Harvey and Pattison (2013) carried out a study to explore health professionals’ experiences around the time of newborn resuscitation in a delivery room when the baby's father was present. About thirty-five (35) to forty (40) health professionals in Birmingham were interviewed utilizing a qualitative design. From the results, health professionals felt the need for midwives to support fathers during neonatal resuscitation. Moreover, health professionals indicated that they mostly do not know what to say to the fathers during prolonged neonatal resuscitation, whereas some stated their discomfort when fathers came near the Resuscitare.

From the above empirical studies, although some health professionals expressed some negative feelings such as anxiety, the presence of family members have been acknowledged to influence health professionals’ intention to perform neonatal resuscitation positively.

2.3.4 Perceived behaviours that challenge midwives to perform neonatal resuscitation

Perceived behavioural control reflects the anticipated obstacles and impediments as well as past experiences. The TPB suggests that midwives’ perceptions of the ease or difficulty of performing neonatal resuscitation during the immediate postnatal period, affects their intentions to do so. It implies that when attitudes and norms regarding the performance of neonatal resuscitation are highly favourable, and the midwives perceive a high level of
self-control over the performance of resuscitation, there would be strong intentions to perform it. Obstacles may be personal capabilities, such as information, ability, skill, and will-power, and external constraints regarding the target behaviour, such as organizational support and basic equipment (Ajzen, 1985, 1991).

A study by Wagner (2015), identified personnel shortages, resource shortages, inadequate space, and poorly organized communication systems, as the most salient barriers to neonatal resuscitation. Furthermore, religious beliefs also served as barriers in discussing neonatal resuscitation for babies with little chance of survival (McAdams et al., 2012). Similarly, a study conducted in Malawi by Bream et al. (2015) highlighted some barriers to neonatal resuscitation such as non-availability of staff, equipment and supplies, labour ward geography, ethical dilemmas; and the lack of standard protocols regarding neonatal resuscitation. However, a study by Anna and Muronda (2016), in Zimbabwe, identified some interpersonal factors, intrapersonal factors, organizational factors, and societal factors as barriers to neonatal resuscitation. Interpersonal level factors identified were triage and decision-making skills, a sense of urgency, knowledge, practice, and organization of responsibilities. Whilst the intrapersonal factors identified were teamwork and collaboration, communication, and facilitation of the bonding process. Organizational factors included competency, levels of care, continuing education, and equipment. Societal level factors included cultural family practices, HIV cases, and poverty. In another study, Curran, Fleet and Greene (2012) sought to explore the perception and attitude of neonatal resuscitation providers toward the retention of resuscitation skills. It was identified that the difference in skills, lack of communication, lack of confidence and inadequate updates by team leaders were barriers to neonatal resuscitation retention skills. These findings highlighted the significance of access to update methods for improving providers’ confidence and abilities, and the need for emphasis on teamwork training in resuscitation.
To strengthen the skills and knowledge among midwives, Clare, Ellis and Lee (2017), carried out a study to explore the impact of training on neonatal resuscitation implementation. In their study, a pre-and post-training followed by focus group discussions and interviews were carried out. The results from the pre-and post-training showed a significant increase in knowledge, but the results from the interview recorded a number of facilitators and barriers to neonatal resuscitation practice. The most notable barrier identified was the lack of refresher training. Importantly, the study highlighted the need for healthcare centres to support healthcare professionals with regular training to enhance neonatal care practices.

In Nepal, Ashish (2016), carried out a study to explore risk factors for neonatal mortality and stillbirth after the implementation of Helping Babies Breathe Quality Improvement (HBB QIC). Utilizing a prospective cohort study with a nested case-control design, it was revealed that lack of antenatal care and inadequate heart rate monitoring were associated with stillbirth. In addition, prematurity was associated with neonatal deaths. Prior to the introduction of HBB QIC, healthcare professionals recorded poor adherence to neonatal resuscitation guidelines. However, after the HBB QIC introduction, improvement in neonatal resuscitation skills was recorded. This was attributed to the training. Moreover, daily bag-and-mask skill checks, preparation for birth, self-evaluation checklists and weekly review, and the reflection meetings, impacted on the health workers in neonatal resuscitation retention skills. Importantly, the study highlighted some strategies or facilitators to improve neonatal resuscitation.

To describe the capacity of the Ethiopian health system to provide neonatal resuscitation with bag and musk, Haile-Mariam, Tesfaye, Otterness and Bailey (2012), carried out a cross-sectional study and collected data from 741 healthcare centres. In each facility, a birth attendant; nurses/midwives were interviewed. The results identified barriers to neonatal resuscitation initiation as inappropriate equipment and inadequate training of
health professionals. Findings suggested a regular pre-service and in-service training for health professionals, especially midwives.

2.3.5 Behavioural intentions of midwives to perform Neonatal Resuscitation

Series of research support the claim that lack of trained providers in neonatal resuscitation presents a major factor to the high rate of neonatal deaths especially in Sub-Saharan Africa (Lawn, et al., 2010). Helping Babies Breathe Programme was developed by the Global Implementation Task Force of the American Academy of Paediatrics to provide evidence-based curriculum in basic neonatal care and resuscitation to educate birth attendants in low-resource countries (American Academy of Paediatrics, 2009). The course methodology focused on hands-on practice using a simulator mannequin, emphasizing the very first basic steps: drying, stimulation, suction, warmth, and initiation of bag-mask ventilation within the “Golden Minute” after birth, if indicated. The teaching tools were developed for efficient dissemination, and the educational kit contained a set of flip-over illustrations, an action plan, a neonatal simulator (NeoNatalie, Laerdal Medical), a student handbook, a manual resuscitator (Laerdal Medical), and a suction device (Penguin, Laerdal Medical).

In assessing the knowledge and skills of healthcare professionals about neonatal resuscitation, Gebreegziabher, Aregawi, and Getinet (2014) carried out a cross-sectional study in a university hospital in northwest Ethiopia. The survey sampled 150 healthcare workers including nurses, midwives and residents. The results of the study showed a sub-standardized knowledge and skills among midwives, nurses and residents regarding neonatal resuscitation. Similarly, in Kenya, Murila, Obimbo, and Musoke (2012) carried out a cross-sectional study to assess the knowledge of healthcare workers on neonatal resuscitation. The study gathered data from 192 healthcare workers across all counties. From the study, most healthcare practitioners considered their expertise in neonatal resuscitation as inadequate.
though most have heard of neonatal resuscitation. Furthermore, formal training in neonatal resuscitation was minimal among healthcare professionals, though most are aware of the steps in neonatal resuscitation. Given these findings, the need for training in neonatal resuscitation is needed to build the capacity of healthcare workers to perform neonatal resuscitation adequately.

To assess the quality of care (QoC) during neonatal resuscitation for newborns with birth asphyxia, direct observation of 138 newborn resuscitations were carried out by Shikuku, Milimo, Ayebare, Gisore, and Nalwadda (2017). Findings of the study recorded poor performance during drying and warming the airway, airway maintenance, and ventilation. These findings implied that guidelines to resuscitation were not adhered to, hence the need to provide mentorship and regular refreshers training in neonatal resuscitation. The WHO has responded to this need by developing guidelines in the document; Basic newborn resuscitation: a practical guide. This document was developed in 1999 and a process of update of the document was initiated in 2009.

In 2012, the WHO updated the clinical guidelines on basic newborn resuscitation suitable for settings with limited resources. The objective of these updated WHO guidelines is to ensure that newborns in low-income countries who require resuscitation are effectively resuscitated. These guidelines inform WHO training and reference materials, such as pregnancy, childbirth, postpartum and newborn care: a guide for essential practice; Essential newborn care course; Managing newborn problems: a guide for doctors, nurses and midwives; and Pocket book of hospital care for children: guidelines for the management of common illnesses with limited resources. Furthermore, these guidelines assist programme managers responsible for implementing maternal and child health programmes to develop or adopt national or local guidelines, standards and training materials on newborn care.
2.3.6 Midwives’ behaviour as per Standard Guidelines

A quantitative study to assess the compliance rate of neonatal resuscitation guidelines in Australia by Mileder, Urlesberger, Schwindt, Simma, & Schmölder, (2014), revealed that most healthcare centres have implemented stimulation for neonatal and infant resuscitation training according to the current guidelines and had stimulation equipment at their disposal. However, educational practices varied widely among healthcare centres, especially for regular training. Findings of the study call for a national agreement on the appropriate practices in stimulation-based neonatal and infant resuscitation training.

To explore midwives’ adherence to guidelines on the management of birth asphyxia in Malawi, Chikuse et al., (2012), utilized a descriptive cross-sectional design, and interviewed 75 midwives. Findings of the study indicated that midwives had a general knowledge of birth asphyxia. However, they failed to identify warning signs of birth asphyxia through partograph use. More importantly, the lack of adherence to some resuscitation guidelines was revealed. Generally, there was poor adherence to guidelines on identification of warning signs of birth asphyxia and neonatal resuscitation. This was attributed to inadequate equipment and supplies. Notably, the results bring to light the significance of training on partograph use and resuscitation to improve neonatal outcomes.

In a study by Malekzadeh, Erfanian, and Khadivzadeh (2015), the authors sought to assess the skills of neonatal resuscitation among nursing and midwifery students. It was identified that the subjects of the study recorded a lower skill in neonatal resuscitation. Thus, adequate training is needed for students to build their capacity in neonatal resuscitation. Similarly, in a cross-sectional study on the knowledge and practices of neonatal resuscitation by healthcare providers in Cote D’Ivoire, Lassina, et al. (2017), revealed that although knowledge on neonatal resuscitation among healthcare providers is encouraging, inadequacies in recognizing risk situations, lack of equipment and non-adherence to neonatal
resuscitation guidelines present a challenge to the performance of neonatal resuscitation in Cote D’Ivoire.
2.3.7 Summary of Literature Review

In summary, the review of the literature showed that a lot of studies have been carried out on neonatal resuscitation. Most of these studies focused on the challenges associated with neonatal resuscitation and were quantitative. Hence, they are more focused on statistical results which to a large extent do not provide an in-depth understanding of the phenomenon. Also, there are indications that there is a lack of knowledge on studies related to midwives’ intentions to resuscitate neonates. These gaps were what the current research sought to close. Although several action plans and programmes have been introduced to reduce the rate at which neonates die within the immediate period after birth, neonatal mortality remains a public health issue to be addressed. It has been recorded that neonatal resuscitation tends to reduce neonatal deaths, however, healthcare professionals, especially midwives have been challenged with several factors to perform resuscitation effectively.

Employing the constructs of the TPB, it was recorded in the review that knowledge and attitude on resuscitation by healthcare professionals were not encouraging. Barriers such as inadequate training, non-availability of equipment, lack of confidence, non-adherence to neonatal resuscitation guidelines, among others, present a challenge in the performance of effective neonatal resuscitation. Despite this, some facilitators to effective neonatal resuscitation were identified as periodic training/education on neonatal resuscitation, organizational support, and the supply of equipment. Based on the trend in the review, factors promoting the effectiveness of neonatal resuscitation should be a priority concern to health policy-makers at the national and international level to help reduce neonatal deaths worldwide.

Also, there are indications that there is a dearth of knowledge on studies related to midwives’ intentions to resuscitate neonates, hence the adoption of a qualitative approach for an in-depth understanding of the phenomenon under study. Therefore, this study explored the
attitudes, subjective norms, perceived behavioural control and behavioural intentions of midwives in neonatal resuscitation using the TPB as an organizing framework.
CHAPTER THREE

RESEARCH METHODOLOGY

This chapter describes the design and methods used in conducting the study. The main
discussion focuses on the research design, the methodology chosen, and the setting used for
the study. Additionally, the sampling technique used, the method of data collection, and how
data was analysed are described. The chapter concludes with a presentation on
methodological rigour and ethical considerations.

3.1 Research Design

A qualitative approach was used in this study to understand the attitude, subjective
norms, perceived behavioural control and behavioural intentions of midwives in neonatal
resuscitation within the immediate postnatal period. This was necessary to capture the rich
experiences of midwives in neonatal resuscitation. An interpretative naturalistic approach
was adopted to for flexibility in the collection of an array of perspectives from the
participants in the study (Saunders et al., 2007; Creswell, 2005; McCaslin & Wilson Scott,
2003). Specifically, an exploratory descriptive method was used to describe the experiences
of midwives in neonatal resuscitation (Mayan, 2009). The purpose was to gain a deeper
understanding of the phenomenon.

3.2 Research Setting

The study was conducted at the 37 Military Hospital in the Greater Accra metropolis.
The Accra metropolis is the capital city of Ghana. It is one of the five main districts
(metropolis) in the Greater Accra region. It is made up of eleven sub-localities; Ablekuma
Central; Ablekuma North; Ablekuma South; Ashiedu Keteke; Ayawaso Central; Ayawaso
East, Ayawaso West-Wuogon; La, Okaikoi North, Okaikoi South and Osu Klottey. The main
ethnic groups in the district are Akans, Ga-Dangmes and Ewes with the indigenes involved
in fishing and trading as the primary occupation. Accra is a rapidly expanding city with a population of approximately 3 million. Housing in this district is considered as upper-class areas, middle-class areas, and lower-class areas with the number of households occupying single or two rooms being 78.4% (Government of Ghana, 2017).

The 37 Military Hospital is located in Ayawaso East sub-locality in the Accra metropolis. It is a specialist hospital and serves the Ghanaian populace far and near. The roles of the 37 Military Hospital are: to promote and maintain health and prevent disease; to care for and treat those disabled by sickness or injury; to form the necessary peacetime nucleus from which the medical services could expand in emergency and war; to provide Medicare for families of troops, civil servants of the Ministry of Defence, veterans and some diplomatic missions. Currently, nearly 70% of all inpatients of the hospital belong to the non-entitled general public. Additionally, the hospital serves as the Government Emergency Response Health facility and therefore becomes the centre of action in the event of major disasters in the country (37 Military Hospital Records, 2016).

The 37 Military Hospital is a 600-bed national tertiary referral hospital of the Armed Forces of Ghana. It is a general hospital situated 4 kilometres from the Accra International Airport on the main Airport-Accra Central road (Independence Avenue Road). It serves Ghanaian military personnel and civilian employees and their families. The 37 Military Hospital, like most general hospitals, is an amalgamation of several sub-units working in unison under the control and direction of the headquarters to deliver effective healthcare. The hospital has a Surgical Trauma Emergency Ward; Medical Emergency Ward; Gynaecological Emergency Ward; Paediatric Emergency Ward; X-ray and diagnostics Department; Nkrumah Ward (Paediatric Ward); Easmon Ward (Orthopaedic Ward); Anoff Ward (Male VIPs/Officers Ward); Tamakloe Ward (Male Surgical Ward); Bandoh Ward (Male Medical Ward); Yeboah Ward (Maternity Ward); Neonatal Intensive Care Unit (NICU); Yaa Asantewaa
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Ward (Female Medical/Surgical Officers Ward; Gandhi Ward (Female Surgical Ward); The Operation Theatres; and the Department of Morbid Anatomy (37 Military Hospital Records, 2016).

The specific setting where data was collected was the Yeboah Maternity ward, which is in the north-western wing of the hospital. The Yeboah maternity ward was named after Colonel Faustina Yeboah, a very hardworking midwife and the first female officer in the Medical Corps of the Ghana Armed Forces. Through her hard work, the Yeboah maternity ward was adjudged the best baby-friendly hospital in Ghana in December 1997. This was during the 10th anniversary of the Ghana Infant Nutrition Action Network (GINAN) with the theme: Breast milk: the right of the Ghanaian child, in collaboration with the International Baby Food Action Network (IBFAN) and the World Alliance for Breastfeeding Action (WABA). The Yeboah maternity ward has 3 sections: the first section comprises an admission bay; lying-in ward; 2 rooms for delivery, each with a resuscitation area connecting to an obstetric & gynaecological operating theatre; a nursery; sluice end; a nurses’ station; and a store. The second section comprises the main administrative area; changing rooms; doctors’ room and an isolation ward. Thirdly, the maternity unit has four executive rooms; six main wards and a pantry. The Neonatal Intensive Care Unit (NICU) is closely attached and connected to the Yeboah maternity ward of the 37 Military Hospital.
3.3 Population

According to Sekaran (2003), population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate. The population of this study included all midwives at the maternity ward of the 37 Military Hospital, Accra. There was a total of 15 midwives at the maternity ward of 37 Military Hospital.

3.3.1 Inclusion Criteria

Midwives eligible for the study were qualified registered midwives with the NMC of Ghana who worked at the Yeboah maternity ward. They had practised for at least one (1) year in the labour/delivery rooms and were willing to participate in the study.
3.3.2 Exclusion Criteria

Midwives who were working at the Yeboah maternity ward, but were not practising in the frontline maternal and neonatal healthcare were not included. Also, newly posted midwives with less than a year of practice were not included.

3.4 Sample Size

Data saturation determined the sample size of twelve (12) midwives. The researcher found no new descriptive codes, categories or themes emerging from the analysis of data (Rebar, Gersch, Macnee, McCabe, 2011). The participants were engaged in an in-depth interview to describe their perspectives and share their experiences on neonatal resuscitation within the immediate postnatal period.

3.5 Sampling Techniques

The sampling technique used for this research was purposive sampling. Purposive sampling is non-probability sampling techniques used to select the sample because of their convenient accessibility and proximity to the researcher and based on the purpose that is related to the study respectively (Sekaran, 2003).

3.6 Piloting of the Instrument

The semi-structured interview guide used for the data collection was piloted at the maternity ward of the Accra Regional Hospital using three (3) participants who met the inclusion criteria. After the first interview, the information recorded was transcribed before the next interview, which enabled the researcher to refine the interview content and to identify lapses for correction in the next interview. The pilot study helped to control the practicality and usefulness of the interview guide by estimating the length of time for each interview, and areas that need probing before the actual study began. Data for the pilot study was not added to the actual study.
3.7 Data Collection Tool(s)

In collecting the data, the researcher used in-depth interviews with the semi-structured interview guide (see Appendix F). Semi-structured interview guide offered the researcher the flexibility in gathering information from the participants. It was conversational and interactive making participants relaxed and comfortable to give out information (Saunders et al, 2007).

Also, a basic checklist comprising research questions of this study was used to cover all relevant areas of the study. This allowed in-depth probing into the study to enable the interviewer to stay within the considerations spelt out by the aim of the study (Berg, 2007). The interview guide was developed from the literature review and the objectives of the study. The interview guide had two main parts: section A and section B. Section A focused on the demographic data, while section B involved subsections with several open-ended questions and probing questions. In addition, the researcher took field notes during each interview.

3.8 Data Collection Procedure

At the 37 Military Hospital, the in-charge of the maternity ward was engaged in a conversation to discuss the purpose of the research and the target population to recruit. It was announced at the regular Monday morning meetings for interested midwives to see the researcher. A place and time of convenience were scheduled after each participant had agreed to be part of the study. Recruitment of participants was performed simultaneously with the interviews. The recruitment started in November 2017 and ended in January 2018.

The participants received and signed an information sheet (see Appendix D) and two consent forms (see Appendix E). The information sheet contained a detailed explanation of the purpose of the study. The telephone numbers of the participants who consented to be part of the study were collected to remind them of the scheduled interviews and to seek
NEONATAL RESUSCITATION

clarification of issues after the interview where necessary. The researcher recruited participants from Mondays to Fridays, the days when most of the midwives were on duty.

During the data collection, when a participant was recruited, the time and place of convenience were scheduled for the interview. An appropriate environment was created for participants to feel more at ease and be able to talk freely. The interview took a conversational mode, using open-ended questions to give participants the freedom to answer the questions using their own words, rich in detail. In-depth interviews were used because they are most appropriate for situations in which the experiences of participants are explored. One advantage of the in-depth interview is that it enables the researcher to probe and investigate further.

Each participant was interviewed for at least 45 minutes and at most one hour. The time allocated enabled each participant to narrate her rich experiences. During the interview, a mutual understanding was ensured as the researcher rephrased and simplified any question that was not initially understood by participants. This allowed more appropriate answers and subsequently more accurate data to be attained (Dornyei, 2007: 143). Each interview was audio-taped and reviewed several times by the researcher, when necessary, to help produce an accurate interview report (Berg, 2007). Each audio-taped and reviewed interview was transcribed before the next interview is conducted. For the audio recording of the interview, the researcher sought the consent of each participant.

3.9 Data Management

The researcher assigned each participant a number to identify each transcript by, for example 001/2017R3 Midwife. The numbers were to help determine the transcripts and the order of the interviews, as well as the date/year the interview was conducted. Pseudonyms that started with the letters ‘NR’ were used for each participant as well. Names such as NR-P1, NR-P6, and NR-P12 were used. The transcripts were put together by copying the codes
into a separately labelled word file on a computer. Soft copies of audio recordings and transcripts were labelled and stored on a password protected pen drive and backed up in the cloud. Hardcopies of printed transcripts were also kept in a safe which is only accessible to my researcher and the supervisors. These will be kept for about five (5) years, after which they will be destroyed.

3.10 Data Analysis

Data collection and analysis were conducted concurrently. Thematic content analysis was employed. At the end of each interview, the audio recording on the digital recorder was transcribed verbatim. The main findings were identified from each transcript. Based on the results, any relevant question missing in the interview guide that surfaced during the previous interview was added (Clarke, 2010). Simultaneous collection of data and verbatim transcription enabled the researcher to improve on the next interview and note the emerging codes. The researcher looked out for accuracy of the manual transcripts by reading and at the same time listening to the audio tape recording.

Content analysis began after all the audio-recordings have been transcribed (Clarke, 2010). The transcripts were read to identify the codes and to categorize the primary patterns in the data. Thematic content analysis was used by first reading the transcript as a whole, then scanning line by line to determine the codes that captured the behaviour or caption being described by the midwives (Mayan, 2009). During the analysis, comments made by individual interviewees were compared with other similar statements made across all the interviews. In the category formation, commonalities in each of the transcripts were put together by copying the codes into a separately labelled word file on a computer along with the appropriate quotes. This was achieved by looking at the relations between the categories. The researcher carefully read and re-read the transcripts to identify common concepts. The themes identified were given names differentiating them from each other. The common
themes were grouped together with their corresponding sub-themes (Miles & Huberman, 1994).

3.11 Methodological Rigour (Trustworthiness)

Rigour is the degree to which qualitative study findings are genuine with credible interpretations. For this reason, trustworthiness is essential. The study was carried out reasonably and ethically, and the results closely represent the experiences of the participants (Mayan, 2009). Rigour assesses the worth of the study by the soundness of the method, the accuracy of findings, and the integrity of assumptions made, or conclusions reached. In this study, rigour was ensured through the following means: credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985).

Credibility is necessary as it makes qualitative data accurate. To ensure the credibility of the research findings, the researcher adopted measures such as member checking and debriefing sessions with supervisors. The researcher took transcripts to participants and sought clarifications on issues from the interview when necessary. The researcher engaged in debriefing sessions with supervisors to ensure that the questioning style and interviewing skills were appropriate. Piloting of the interview guide enhanced credibility.

Transferability requires that the researcher gives a thick description of the phenomenon to enable readers to understand and apply it to similar settings, group, or context (Lincoln & Guba, 1985). The study used the principle of the thick and thorough description of the research setting and the process. The researcher provided more precise descriptions and detailed information about the phenomenon regarding verbal and non-verbal responses as well as the setting. Confidentiality and anonymity of identity and information given were assured. Therefore, participants responded freely to the questions asked.

In addressing the issue of dependability, an inquiry audit with supervisors was performed to scrutinize the data and relevant information about the study. The documentary...
evidence of the study was made available to neutral experts and the researcher’s supervisors to review and verify the path the researcher followed from raw textual data to results to ensure conformability. The researcher also ensured reflexivity by stating her preconceptions about the study, since she is a nurse who knows the challenges at the maternity wards. However, through reflexivity, these preconceptions were held in abeyance so they do not influence the research process.

3.12 Ethical Considerations

Ethical consideration is important because it helps the researcher establish whether a study is ethically acceptable or not (Behi & Nolan, 1995). This, to a large extent, regulates the activities of research and makes it possible for participants of study to be protected.

Ethical clearance was sought from the Institutional Review Board of Noguchi Memorial Institute for Medical Research (IRB-NMIMR) with reference number: NMIMR-IRB CPN 046/17-18, and the Ethical and Protocol Review Committee of the 37 Military Hospital Institutional Review Board (37 MH-IRB) with reference number: 37MH-IRB IPN 154/2017 (see Appendix A & B). An introductory letter was sent from the School of Nursing & Midwifery, University of Ghana, Legon, to the Commanding Officer of the 37 Military Hospital to inform them about the study and to recruit participants (see Appendix C). These approvals were done by filling out IRB clearance forms with accompanying documents. These documents were reviewed by the various IRBs, which on satisfaction with all the criteria, approval was given for the study to be carried out.

On the field, the researcher handed the interview guide to the various participants for them to review to know the questions that were going to be asked. The researcher then explained how the interview would be conducted. Consent was however first sought from the participants before the interviews commenced. The participants were given the option to answer the questions or not. Participants were also assured of the confidentiality of the
answers provided. Participants’ privacy was assured through anonymity. The researcher replaced participants’ real names with pseudonyms to ensure anonymity. Additionally, readers would not be able to match the quotes with the participants’ names since pseudonyms were used. However, the telephone numbers of the participants were allocated, attached to the pseudonyms and kept in a file under lock and key as well as saved in a computer protected with a password for use when necessary. The data was available to only the researcher and thesis supervisors for scrutiny.

Pseudonyms were given to each participant to help identify the transcripts. Participation in the study was voluntary. Each interview commenced after the participant read and understood all the content of the information sheet and consent form (see Appendix D). Further explanations were given where necessary before the participant signed the information sheet and consent form. The participants kept one of each of the signed consent forms.
CHAPTER FOUR

FINDINGS OF THE STUDY

This chapter presents the findings of the study. Verbatim quotations with pseudonyms to ensure anonymity of participants were used to support the themes and sub-themes. The findings were organized according to the constructs of the TPB, the research questions and the objectives of the study. The demographic characteristics of the participants are also presented in this chapter alongside a description of the themes and subthemes.

4.1 Demographic Data

Twelve (12) midwives working at the maternity ward of the 37 Military Hospital in Accra participated in this study. All twelve (12) participants were females. Of the participants, eight (8) were between the ages of 30-39 years, three (3) were between 20-29 years, and one (1) was between 40-49 years. Five (5) of the participants had gained 11-15 years of experience in the healthcare service, four (4) had experience of 6-10 years, two (2) had 1-5 years of experience, and one (1) had over 20 years of experience. With respect to years in midwifery practice, most of the participants had gained 11-15 years of experience, three (3) had gained 6-10 years, and one (1) had 1-5 years of experience. Seven (7) of the participants had been practising midwifery in Ghana for about 11-15 years. Again, three (3) participants had practised midwifery in Ghana for about 6-10 years and the rest had 1-5 years of experience each. Furthermore, most of the participants had worked in the 37 Military Hospital for about 11-15 years, (4) participants had worked in the hospital for about 1-5 years and finally, two (2) participants had worked in the hospital for about 6-10 years. Majority of the participants, nine (9), were senior nurse officers, two (2) were midwifery officers and one (1) was a principal nurse officer. Table 4.1 illustrates the demographic characteristics of participants as described above.
Table 4.1: Demographic Characteristics of Midwives n = 12

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>FREQUENCY (n)</th>
<th>PERCENT (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>12</td>
<td>100.0</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29 years</td>
<td>3</td>
<td>27.0</td>
</tr>
<tr>
<td>30-39 years</td>
<td>8</td>
<td>67.6</td>
</tr>
<tr>
<td>40-49 years</td>
<td>1</td>
<td>5.0</td>
</tr>
<tr>
<td>Experience in Healthcare Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 years</td>
<td>2</td>
<td>16.6</td>
</tr>
<tr>
<td>6-10 years</td>
<td>4</td>
<td>33.3</td>
</tr>
<tr>
<td>11-15 years</td>
<td>5</td>
<td>41.6</td>
</tr>
<tr>
<td>Above 20 years</td>
<td>1</td>
<td>8.3</td>
</tr>
<tr>
<td>Years in Midwifery Practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 years</td>
<td>3</td>
<td>25.0</td>
</tr>
<tr>
<td>6-10 years</td>
<td>3</td>
<td>25.0</td>
</tr>
<tr>
<td>11-15 years</td>
<td>6</td>
<td>50.0</td>
</tr>
<tr>
<td>Years of Practice in Ghana</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 years</td>
<td>3</td>
<td>25.0</td>
</tr>
<tr>
<td>6-10 years</td>
<td>3</td>
<td>25.0</td>
</tr>
<tr>
<td>11-15 years</td>
<td>6</td>
<td>50.0</td>
</tr>
<tr>
<td>Years of Practice at 37 Military Hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 years</td>
<td>4</td>
<td>33.3</td>
</tr>
<tr>
<td>6-10 years</td>
<td>2</td>
<td>16.6</td>
</tr>
<tr>
<td>11-15 years</td>
<td>6</td>
<td>50.0</td>
</tr>
<tr>
<td>Years in the Delivery Room</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 years</td>
<td>4</td>
<td>33.3</td>
</tr>
<tr>
<td>6-10 years</td>
<td>2</td>
<td>16.6</td>
</tr>
<tr>
<td>11-15 years</td>
<td>6</td>
<td>50.0</td>
</tr>
<tr>
<td>Position/Rank</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PNO</td>
<td>1</td>
<td>8.3</td>
</tr>
<tr>
<td>SNO</td>
<td>7</td>
<td>58.3</td>
</tr>
<tr>
<td>MO/NO</td>
<td>2</td>
<td>16.6</td>
</tr>
<tr>
<td>SSM</td>
<td>2</td>
<td>16.6</td>
</tr>
</tbody>
</table>

*Source: Field Data, 2018*
4.2 Organization of Themes

Five (5) major themes emerged from the data using the objectives of the study and the constructs of the TPB. These included: attitudes of midwives towards neonatal resuscitation; subjective norms of midwives in neonatal resuscitation; perceived behavioural control of midwives in neonatal resuscitation; midwives’ behavioural intention to perform neonatal resuscitation; and midwives’ behaviour as per standard practice guidelines. These themes present the various attitudes exhibited by midwives toward neonatal resuscitation, significant others or people who may influence neonatal resuscitation, enabling factors for effective neonatal resuscitation, barriers hindering effective neonatal resuscitation, behavioural intentions of midwives to perform neonatal resuscitation, and behaviour of midwives with respect to the adherence of neonatal resuscitation guidelines. Each of the five (5) major themes had sub-themes.

The themes and sub-themes were presented using participant’s verbatim quotations; pseudonyms were used to ensure anonymity of the participants. Details of the themes and sub-themes are shown in Table 4.2.
Table 4.2: Synthesis of Themes and Sub-Themes

<table>
<thead>
<tr>
<th>Themes</th>
<th>Sub-Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The attitude of midwives towards neonatal resuscitation</td>
<td>Positive Attitudes</td>
</tr>
<tr>
<td></td>
<td>a. Interest in newborn care</td>
</tr>
<tr>
<td></td>
<td>b. Compassion for vulnerability and neonatal life-saving</td>
</tr>
<tr>
<td></td>
<td>c. Understanding of neonatal resuscitation</td>
</tr>
<tr>
<td></td>
<td>d. Empathy</td>
</tr>
<tr>
<td></td>
<td>e. Willingness to help</td>
</tr>
<tr>
<td></td>
<td>Negative Attitudes</td>
</tr>
<tr>
<td></td>
<td>a. Delay in time for neonatal resuscitation</td>
</tr>
<tr>
<td></td>
<td>b. Old methods of practice</td>
</tr>
<tr>
<td></td>
<td>c. Inadequate assessment/preparation</td>
</tr>
<tr>
<td>2. Subjective norms of midwives in neonatal resuscitation</td>
<td>a. Presence of senior management</td>
</tr>
<tr>
<td></td>
<td>b. Presence of other staff</td>
</tr>
<tr>
<td></td>
<td>c. Presence of family members</td>
</tr>
<tr>
<td>3. Perceived behavioural control of midwives in neonatal resuscitation</td>
<td>Enabling Factors</td>
</tr>
<tr>
<td></td>
<td>a. Survival of newborns</td>
</tr>
<tr>
<td></td>
<td>b. Willingness</td>
</tr>
<tr>
<td></td>
<td>c. Passion</td>
</tr>
<tr>
<td></td>
<td>Constraining Factors</td>
</tr>
<tr>
<td></td>
<td>a. Lack of equipment</td>
</tr>
<tr>
<td></td>
<td>b. Inadequate space</td>
</tr>
<tr>
<td></td>
<td>c. Lack of communication apparatus</td>
</tr>
<tr>
<td></td>
<td>d. Religious beliefs</td>
</tr>
<tr>
<td></td>
<td>e. Shortage of personnel</td>
</tr>
<tr>
<td></td>
<td>f. Resource shortage</td>
</tr>
<tr>
<td></td>
<td>g. Lack of training</td>
</tr>
<tr>
<td></td>
<td>h. Inadequate skills and knowledge</td>
</tr>
<tr>
<td>4. Midwives’ intention to perform neonatal resuscitation</td>
<td>a. Capacity and experience</td>
</tr>
<tr>
<td></td>
<td>b. Personal characteristics</td>
</tr>
<tr>
<td></td>
<td>c. Team resuscitation</td>
</tr>
<tr>
<td></td>
<td>d. Departmental rotation</td>
</tr>
<tr>
<td></td>
<td>e. Institutional factors</td>
</tr>
<tr>
<td>5. Midwives’ behaviour as per standard practice guidelines</td>
<td>Behavioural factors</td>
</tr>
<tr>
<td></td>
<td>a. Positive Behaviours</td>
</tr>
<tr>
<td></td>
<td>b. Negative Behaviours</td>
</tr>
<tr>
<td></td>
<td>Influential Factors</td>
</tr>
<tr>
<td></td>
<td>a. Accessibility</td>
</tr>
<tr>
<td></td>
<td>b. Lack of training</td>
</tr>
<tr>
<td></td>
<td>c. Personality</td>
</tr>
</tbody>
</table>

Source: Field Data (2018)
4.3 Attitude of Midwives towards Neonatal Resuscitation

The first objective of the study was to describe the attitudes of midwives towards neonatal resuscitation. This major theme sought to assess participants’ attitude towards the practice of neonatal resuscitation. Participants’ attitudes were categorized under two broad headings: positive attitudes and negative attitudes. From the findings, many negative attitudes towards neonatal resuscitation were identified compared to positive attitudes. This implies that majority of the participants have their reservations towards the practice of neonatal resuscitation. The findings from the theme were as follows:

4.3.1 Positive Attitudes

From the general analysis of attitudes, the study discovered positive and negative attitudes exhibited by midwives towards neonatal resuscitation. Some of the positive factors identified included: interest in newborn care, compassion for vulnerability and life-saving, understanding of neonatal resuscitation, empathy, and willingness to help.

4.3.1.1 Interest in Newborn Care

To appreciate the attitudes of midwives, the study explored participants’ interest in newborn care. The findings showed that the delivery of newborns, health condition after delivery, their welfare and their survival were of great interest to all twelve (12) midwives interviewed. This was shown by the care given to newborns by midwives at the 37 Military Hospital. This was found in the expression of NR-P4 and NR-P3:

*Newborn care, basically taking care of newborns, making sure that they are doing well is of much interest (NR-P4)*

Similarly, NR-P3 had an interest in the health, welfare and survival of the newborn, and she narrated:
Newborn care is really something that matters to me because the newborn baby, it is its first time of being in this world, so you need to really take care and also do your best so that they survive no matter what (NR-P3)

4.3.1.2 Compassion for Vulnerability and Neonatal Life-Saving

All the participants indicated that newborns were fragile and vulnerable, prone to a greater number of infections, and susceptible diseases. Therefore, the quality of care for newborns could not be belittled. Almost all participants indicated that neonatal life-saving could not be compromised since it helps in providing quality care resulting in the reduced vulnerability of newborns. It was explained by the majority of the participants as the process of providing life and life-saving skills to newborns. This was captured in the words of NR-P7 as:

*The newborn baby is vulnerable from the time that it is about to be born. That is immediately when the head comes out. From that moment till when the baby is finally delivered. This, therefore, makes neonatal lifesaving skills immediately after birth a very important and crucial period (NR-P7)*

Another respondent emphasized compassion for the vulnerable and fragile newborns, hence making neonatal lifesaving easy to provide for such newborns. This was captured in the statement of NR-P4:

*Immediately after birth, neonatal lifesaving skills commence where appropriate, neonatal lifesaving skill in the process of providing lifesaving skills, like keeping the neonate warm, clearing of the airway with a sucker, in order to restore them back to life (NR-P4)*.

4.3.1.3 Understanding of Neonatal Resuscitation

The study found that the majority of the participants understood the concept of neonatal resuscitation. The knowledge level regarding the concept was found to be high.
However, although some participants viewed the concept in relation to breathing, others viewed the concept in relation to life-saving mechanisms. This clearly shows that although significant others were specific on what the term is (thus in relation to breathing) others think it goes beyond just breathing and included essential basic activities that will save the life of the newborn. This was found in the words of NR-P11.

*Neonatal resuscitation is all the measures needed and used in helping the baby to breathe within the first few minutes after birth, like sucking any mucus in the baby’s airway, rubbing the baby’s back to stimulate and keeping baby warm* (NR-P11)

Similarly, NR-P1 stressed her knowledge of the neonatal resuscitation concept as:

*Neonatal has to do with a newborn baby that is born in the first 28 days of life. And then resuscitation basically has to do with all the necessary actions in order to revive a newborn and make it survive, for instance bringing the asphyxiated newborn baby back to life* (NR-P1)

Similarly, participants had knowledge regarding the differences between basic neonatal resuscitation and advanced neonatal resuscitation. All the participants admitted that the former is basic life-saving services given to newborns, whereas the latter goes beyond the fundamental life-saving practices. According to participants, basic neonatal resuscitation activities include stimulating, warming, cleaning of the baby, clearing of the airway, drying, ventilation, and suctioning; whilst advanced neonatal resuscitation activities include giving off oxygen, chest compressions, and use of medications. However, whilst about some participants admitted to the use of bag valve mask (BVM) / Ambu-bag or ‘self-inflating bag’ and a sucker during basic neonatal resuscitation, others also indicated its use during advance neonatal resuscitation.

This outlines the multiple roles of these items in the resuscitation of newborns. It was also discovered that the Resuscitaire, Ambu-bag, sucker, towels, radiant-warmer and
appropriate masks were required items for the effective performance of basic neonatal resuscitation. According to the majority of the participants, items such as a flat surface, oxygen source, suction tube, endotracheal tubes, laryngeal mask airway, and medications were critical items required for effective performance of advanced neonatal resuscitation. Moreover, other participants highlighted that the critical role of an anaesthetist and paediatrician is highly required during advanced neonatal resuscitation. This was captured in the views of NR-P11 and NR-P6:

Basic neonatal resuscitation is the minor essential things you do to assist a newborn baby to breathe at birth, like sucking the baby’s mouth, stimulating and rubbing baby up to keep warm immediately after birth. And the advanced neonatal resuscitation is the techniques used by the advanced team, including the anaesthetist and paediatrician, to help a newborn baby, even with complications, at birth to breathe effectively (NR-P11)

NR-P6 also expressed her knowledge in the difference between basic neonatal resuscitation and advanced neonatal resuscitation

For basic neonatal resuscitation, we have our ambu-bag, we have our suction, and we make sure our oxygen point is working well with a tube connected for the infant. And then for the advanced neonatal resuscitation, we have our endotracheal tubes, ventilator, emergency drugs like naloxone and ephedrine (NR-P6).

4.3.1.4 Empathy

The study discovered empathy as another positive attitude of midwives towards neonatal resuscitation. Almost the entire participants indicated that midwives, most of the time, put themselves in the shoes of the newborn to provide the required neonatal care for them. This, according to four of the participants, contributes to the survival of newborns resulting in achievement of the “Golden Minute”. In addition, participants mentioned that the
act of empathy assists midwives in providing the best possible service to ensure the survival of newborns. This was found in an expressed view of NR-P7:

> With my experience I should say, most of my colleague midwives that I come into contact with every day at work, especially during my shift, normally they always put themselves in their client’s shoes and try to do everything possible, no matter what, to help the newborn baby breath properly (NR-P7)

Similarly, another respondent reiterated that with her experience as a mother, she treats all clients in her charge just as she wants to be treated. This was captured in the statement of NR-P1:

> As a mother myself I know how it feels like to go through labour and wonder how the outcome will be like, before you finally come out with a healthy baby, as such I treat all my clients, anytime I am on duty, just like how I want to be treated (NR-P1)

**4.3.1.5 Willingness to Help**

Willingness to help was discovered as another positive attitude of midwives towards neonatal resuscitation. According to about six participants, the reaction of most midwives during neonatal resuscitation is a clear indication of their willingness to help. Some participants revealed that neonatal resuscitation is anticipated as an emergency, that is, the time to provide quick assistance to newborns, the time to make every newborn survive, and the time to make newborns breathe, were critical indicators of midwives’ willingness to help. This was captured in the view of NR-P4 and NR-P8:

> I don’t know how I should put this, but any midwife who delivers a newborn baby and thinks the baby might need any form of resuscitation is regarded by her staff members as an emergency situation, as such the midwife will be on her toes and call for help appropriately for such a baby if need be (NR-P4)
Although a midwife’s willingness to help comes with regular routine practices, they were conditioned to assume every newborn is in danger until all needed cares, such as suction, are rendered and the newborn is eventually out of any danger. This was seen in NR-P8’s statement:

*I think midwives are always in a rush to help newborns, immediately after delivery, to survive because their condition immediately after birth is always an emergency. So, not until a newborn is stable and out of danger, the midwife will do everything possible to ensure that the newborn is breathing well and is healthy* (NR-P8)

### 4.3.2 Negative Attitudes

The study also identified some negative attitudes of midwives towards neonatal resuscitation. These negative factors included a delay in time to commence resuscitation of newborns, use of old methods of resuscitation, and lack of adequate assessment before reviving newborns.

#### 4.3.2.1 Delay in the commencement of neonatal resuscitation

Delay in initiating neonatal resuscitation was revealed as one of the negative attitudes influencing neonatal resuscitation by midwives at the 37 Military Hospital. Although proper arrangements are made with regards to supplying consumables, most kits for neonatal resuscitation are delayed, and this negatively affects neonatal resuscitation. This was captured in expressed views of NR-P6 and NR-P2:

*At the labour ward usually when there are a lot of patients on admission, for instance during those peak seasons like in September, we tend to have more deliveries at hand, so as a midwife you are always in a hurry to move on to the next delivery and this causes delay in resuscitating one baby while another also needs to be resuscitated at the same time* (NR-P6)
Similarly, respondent NR-P2 posited that delay in the regular provision of neonatal resuscitation kit greatly affects the golden minute. This exerts significant effects on the overall neonatal resuscitation activity for newborns:

*Sometimes, we the midwives even though before deliveries we set up our delivery items ready to deliver the baby, we should always remember to add the resuscitation kit to the delivery kit. Because you cannot really tell if the newborn baby will need resuscitation or not. Sometimes, we do not set up the resuscitation kit as we ought to, and only after the baby comes out, then we will be going around shouting: “Give me this, and give me that”. This delays the golden minute and makes neonatal resuscitation not so effective. So these are some of the negative attitudes (NR-P2)*

4.3.2.2 Old Methods of Practice

Another negative attitude identified based on information provided by participants was the use of outmoded or old methods of practice. It must be noted that the advancement in technology has changed the focus on which healthcare services are delivered. In view of this, in this modern world of technological advancement, the healthcare sector is on the verge of transforming its traditional way of doing things to meet the ever-increasing population it renders services to. The use of old methods of practice within the healthcare setting can be challenging in terms of efficiency and productivity. Although health professionals including midwives have been cautioned against the use of old methods of resuscitating neonates as these practices can affect the development of the brain of the newborn baby, these harmful outmoded practices are still being used by some midwives in neonatal resuscitation. This was found in the expressed view of NR-P5 and NR-P6:

*Well, some midwives still use old methods of resuscitation of newborns like turning newborns upside down to stimulate them although they have been warned to desist from such practice, as this bad practice shakes the brain of the newborn thereby*
causing fatal results in the newborn. Such midwives are rather encouraged to gently massage the newborn’s back, as this gives the same results. As such, when there is the resuscitation of the newborn everyone comes around to give a hand as much as possible (NR-P5)

Although most midwives do not use old methods, the experienced and qualified ones try to help those who still practise the old methods by helping them to unlearn such harmful old methods eventually. This is mentioned in the statement of NR-P6:

Some midwives still use old methods of resuscitation of newborns which does not help the newborns at all. We the experienced ones try to stop them and teach them the new methods which they finally adopt as much as possible (NR-P6)

4.3.2.3 Inadequate Assessment/Preparation

The study discovered inadequate assessment or preparation as a negative attitude towards the practice of neonatal resuscitation by midwives. According to the majority of the participants, timely assessment or preparation is very important and critical for effective neonatal resuscitation. Although, assessment or preparation is required participants indicated that a significant number of midwives fail to conduct proper assessment and preparation in order to execute effective neonatal resuscitation. This was found in an expressed view of NR-P3 and NR-P10:

Some midwives don’t even adequately prepare to receive a ‘bad baby’ when they have a critical case in their care. It is only when the baby has been born and the newborn baby comes out in a poor state that you see them running helter-skelter for items to in order to resuscitate the baby, and this does not help at all (NR-P3)

Similarly, it was also discovered that inadequate preparation and assessment can cause delay and affect the achievement of the golden minute in neonatal resuscitation. This was mentioned in the comment of NR-P10:
I would say as a midwife, so far as you are in the labour ward you are supposed to know that you are there for an important mission. To help the newborn baby to breathe well, cry well, and to be very healthy. But sometimes delay can cause the baby not to breathe well, this can cause problems. So it depends on the individual midwife. Because if you do not assess well, the newborn baby might end up having serious problems like gasping (NR-P10)

4.4 Subjective Norms of Midwives on Neonatal Resuscitation

Subjective norms involve midwives’ ability to perform effective neonatal resuscitation to the expectations of significant others. Significant others in this study refer to senior management, other staff and family members. The data obtained from the participants indicated the influence of significant others in the performance of neonatal resuscitation at 37 Military Hospital. The study developed themes in relation to neonatal resuscitation in the presence of senior management, other staff members and family members. Almost all the participants indicated that the presence of significant others plays a vital role in strengthening the performance of neonatal resuscitation.

4.4.1 Presence of Senior Management

The first theme discovered is the presence of senior management in the performance of neonatal resuscitation at the Yeboah maternity ward of the 37 Military Hospital. Although very few (2) participants indicated that presence of senior management conveys unnecessary pressure and tension during neonatal resuscitation, majority (9) participants admitted that the presence of senior management strengthens their ability to perform the task. It was found that the presence of senior management helps in the use of the right tools, ensures the provision of required essential items, contributes to successful neonatal resuscitation procedures and ensures effective delivery of neonatal resuscitation.
In addition, one respondent emphasized that the presence of senior management does not add nor deplete any value in the provision of newborn care, especially when neonatal resuscitation is conducted. This clearly shows that the presence of senior management brings about three effects, namely: positive, negative and no effect at all. However, the positive effect was found to be high as compared to the other factors. This was captured in the view of NR-P1 and NR-P11:

Senior management can help if they are only passionate and interested in neonatal health, it helps a lot. Recently the first lady opened a baby unit at the Komfo-Anokye hospital in Kumasi, and as a result, newborns can now be catered for in that hospital. So when the senior management of any hospital is also passionate about newborn health, items needed for effective resuscitation will be made readily available, and this helps a lot for midwives to care for newborns effectively (NR-P1)

On the other hand, another respondent (NR-P11), mentioned that the presence of senior management interrupts rather than enhancing her performance of effective neonatal resuscitation:

The presence of senior management on neonatal resuscitation affects midwives positively and negatively: Positively, if senior managers are willing to help, like bring items that would actually help in effective neonatal resuscitation. And then negatively, you are already performing a particular procedure, and they are instructing you to leave what you're doing and do another procedure. A lot of talking too, so it rather distracts you from focusing on your work (NR-P11)

4.4.2 Presence of Other Staff Members

Another theme discovered is the presence of other staff. All participants indicated that neonatal resuscitation is teamwork which requires the presence of significant others for a successful neonatal health outcome. According to the midwives, recognizing neonatal
resuscitation as teamwork ensures a successful neonatal health outcome. Assistance from other staff members is beneficial to the performance of neonatal resuscitation. Teamwork helps to curb any difficulties that may occur during resuscitation, especially in newborns with persistent breathing challenges who may need further assistance of advanced resuscitation when the need arises. However, according to one respondent, the presence of other staff sometimes distorts the way the unit is run. This negatively affects on-going procedures at the unit by staff on duty at that time. Despite this, the overall indication clearly shows that the presence of other staff increases the probability of achieving the golden minute. This was discovered in expressed views of NR-P1, NR-P5 and NR-P10:

The presence of other staff is important, neonatal resuscitation is teamwork, for instance, the pharmacist can help with drugs like antibiotics for newborns when needed, and they tend to also help make our work easy, where we don’t have to leave or work and go to another unit for something (NR-P1)

Similarly, NR-P5 calmly narrated that the presence of other staff members helps in neonatal resuscitation:

The presence of colleague midwives also helps. We all come together as a team to help one another to resuscitate any newborn with any difficulty, especially difficulty in breathing (NR-P5)

On the other hand, NR-P10 was of a different view and narrated that:

Sometimes when other staff are present and you are doing resuscitation, they try to let you do the resuscitation some other way, and they interfere with what you are already doing. And that may not even be the right way it’s supposed to be done according to new policies or new trends like delayed cord clamping. So, as a midwife, you just need to stay focused and do your work without any interference (NR-P10)
4.4.3 Presence of Family Members

Another theme found was the presence of family members. According to a significant number of midwives, the presence of family members is vital in the achievement of effective neonatal resuscitation. The presence of family members during neonatal resuscitation was found to incite three effects, namely: positive effect, negative effect and no effect at all. According to some (4) participants, the presence of family members exerts a positive effect on their performance of neonatal resuscitation. This can be realized in their emotional support, provision of required items, seeking relevant explanations, and providing physical support during resuscitation. Further, five participants indicated that the presence of family members exerts negative effects during neonatal resuscitation. These included being worrisome, stressed, lack of motivation to perform the procedure, provision of continuous reassurances, interruptions and the accidental use of wrong methods due to distractions from family members. Moreover, three (3) participants indicated no effect at all of their presence. The varied effects of the presence of family members were found in the expressed views of NR-P7 and NR-P8:

Their presence has both a positive and negative effect on you as the midwife. The positive side is where they don’t intrude in your work for instance by enquiring every now and then, how baby is faring, and this helps you to bring out all your best to help the newborn baby survive; also when you need them to get some needed personal items for the newborn like an extra cot-sheet or towel. And then, the negative aspect is where it can give you more stress, and may even result in you the midwife mistakenly following certain wrong steps in the standard guidelines despite the poster being pasted on the wall of the delivery room, due to intrusion by their presence, utterances and gestures (NR-P7)

However, NR-P8 commented in disagreement, stating that:
The presence of a family member has no effect on my performance in neonatal resuscitation, because per my training skills and qualification I do what I’m supposed to do as a midwife whenever I am duty whether they are present or not, and I do not allow their presence to intimidate me at all (NR-P8)

4.5 Perceived Behavioural Control of Midwives on Neonatal Resuscitation

The third objective of the study was to determine the perceived behavioural control of midwives on neonatal resuscitation. The study identified a significant number of themes to achieve the stated objective. These themes disclosed the participants’ perception of their ability to perform neonatal resuscitation. This entails the presence of factors that may facilitate or impede the performance of neonatal resuscitation. The results identified several factors that facilitate and impedes the performance of neonatal resuscitation.

4.5.1 Enabling Factors

Enabling factors were the factors that foster effective neonatal resuscitation at 37 Military Hospital. Majority of the participants intimated enabling factors to include the survival of babies, willingness, and passion. These factors were found to enable midwives’ perception of their ability to perform neonatal resuscitation effectively.

4.5.1.1 Survival of the newborn

Survival of the newborn was found as the main priority of all midwives during neonatal resuscitation. According to the entire participants, the motivation for performing neonatal resuscitation at the maternity ward of the 37 Military Hospital was based on the desire to see the newborn alive and healthy. The survival of newborns was found to be the most vital objective of all midwives. This act makes them do all they can to ensure the survival of these neonates. This was found in the words of NR-P5 and NR-P3:

*What motivates me as a midwife is I always want my baby alive as much as possible, so I always do my possible best by going the extra mile to resuscitate any newborn*
whenever needed under my care to ensure baby is fine, and at end is to see the baby survive, well and healthy (NR-P5)

Similarly, another midwife mentioned that the survival of the newborn was all that she aimed for at every delivery, she narrated:

_Sometimes items to work with may be hard to come by due to one reason or another like a shortage, but I improvise to ensure that newborns under my care survive no matter what_ (NR-P3)

### 4.5.1.2 Willingness

Willingness on the part of midwives to perform neonatal resuscitation was found to foster effective neonatal health outcome at the maternity ward of 37 Military Hospital.

According to a significant number of participants, the willingness of midwives to follow required procedures to achieve the stated objective of ensuring the survival of newborns eases the conscience. This was found in the words of NR-P3:

_Willingness is very important. Because if a baby does not respond to any stimulation after delivery, even your conscience as a human being would not allow you, as the midwife, to rest not until the baby is out of danger. So I think the joy of helping every baby to survive also motivates us_ (NR-P3)

Similarly, NR-P7 describes her enthusiasm anytime she encounters any newborn that needs resuscitation, she calmly narrates:

...Especially when I’m on duty and there’s a bad case I’m always prepared to help the baby to breathe well as much as possible within the first minute of its life, so I’m eager to do everything possible to save the baby, because when mother and baby are safe I’m happy (NR-P7)
4.5.1.3 Passion

The study discovered passion as one of the enabling factors for achieving effective neonatal resuscitation. Majority of the participants (7) attributed passion for their profession as a motivation and an enabling factor for performing effective neonatal resuscitation. It was indicated that without passion there would be a delay in work execution and determination to achieving the objectives underpinning the golden minute. This was found in the words of NR-P8:

*It will be about your passion for the job. If you really have a passion for what you are doing, I don’t think you would like someone to go home without her baby or go with the baby in a bad state. You will do the resuscitation and do it well (NR-P8)*

Similarly, NR-P1 narrated how she enjoyed seeing her client well and healthy after a successful delivery, she explains:

*I am very emotional when a newborn baby is not able to breathe immediately after delivery, and so I make sure to apply my skills and knowledge to bring the baby back to life, and this makes me very excited when a baby is well and healthy and is able to breathe normally (NR-P1)*

4.5.2 Constraining Factors

From the data analysis, the findings showed significant constraining factors influencing neonatal resuscitation. These factors included lack of equipment, inadequate space, lack of communication tools, religious beliefs, shortage of personnel, resource shortages, lack of training, and inadequate skills and knowledge. According to the entire participants, these factors impede midwives’ perception of their ability to perform neonatal resuscitation effectively. The factors are presented below.
4.5.2.1 Lack of Equipment

The results showed that the majority (9) participants highlighted the lack of equipment as a factor that impedes their ability to perform neonatal resuscitation effectively. According to these participants, the maternity ward lacks a few more required equipment, as well as the latest technology, to ensure the effective performance of neonatal resuscitation. These equipment include Resuscitaire/resuscitation machine, suction device, laryngeal mask airway (LMA) Ambu-bag or bag valve mask (BVM), adequate oxygen points, neonatal glucometer, neonatal pulse oximeter and sufficient suction tubes. This was captured in the words of NR-P1 and NR-P8:

*"I will say lack of equipment like a Resuscitaire, the resuscitation machine, here this one is broken down, and we have to improvise with the use of a mobile suction device. So if there is adequate equipment, and they are in good shape to work with, it helps in effective neonatal resuscitation (NR-P1)"

NR-P8 also added that lack of equipment affects her skills, she explained:

*"A major obstacle would be the non-availability of equipment that you need to carry out your work properly with, like a neonatal pulse oximeter to check the oxygen saturation in the newborn after resuscitation so as to know if the baby is receiving adequate oxygen supply during and after resuscitation. When such items are not available then the requisite skills that you need to use to do the resuscitation is affected (NR-P8)"

4.5.2.2 Inadequate Space

Majority of participants highlighted inadequate space as a factor that impedes midwives ability to perform neonatal resuscitation effectively. Although very few (2) participants indicated the challenge of inadequate space, it was found that it had a negative outcome on effective neonatal resuscitation. Inadequate space for the performance of
neonatal resuscitation was indicated to affect neonatal health outcome. This was captured in the words of NR-P1 and NR-P8:

\begin{quote}
At the labour ward the Resuscitaire/resuscitative machine is closely placed by the delivery bed, and although it is not in good shape, the space available on top of the Resuscitaire is usually used for neonatal resuscitation. But lately because of overcrowding, most available spaces on the unoccupied hospital-beds have been created and improvised as space and used to resuscitate newborns if need be (NR-P1)
\end{quote}

NR-P8 added that she is not able to put in her best when there is inadequate space, she explained:

\begin{quote}
When you want to attend to another baby also in bad shape but because of lack of enough space to resuscitate you cannot do it, you end up placing two newborn babies separately in one space and this doesn’t make you give out your best because of the discomfort in a small space for two midwives to resuscitate two babies at the same time (NR-P8)
\end{quote}

4.5.2.3 Lack of Communication Apparatus

Effective communication was discovered as a vital component for effective neonatal resuscitation at the maternity unit of the 37 Military Hospital. However, the majority of the participants intimated that lack of communication tools at the wards impede their ability to perform neonatal resuscitation effectively. This, according to some (3) participants, creates a communication gap and hampers teamwork, thereby affecting effective communication amongst staff, delaying the conveyance of urgent information, and interfering with the exchange of essential materials for effective neonatal resuscitation. This was captured in the words of NR-P5 and NR-P11:
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The call (Telephone) system is sometimes not reliable because of the poor network system, as such, sending another person on errands to the operating theatre for the anaesthetist or to NICU for the paediatrician, is the only option we have and this sometimes delays in neonatal resuscitation interventions (NR-P5)

Similarly, NR-P11 also added that the absence of active communication mars her ability to perform neonatal resuscitation effectively, she stated:

Although the labour ward is closely connected to the Operating Theatre and the NICU, there is no intra-hospital communication device to link to the other staff there for help when you need it, like for advance resuscitation of a newborn baby after you have done all you can to revive the baby, and this becomes a problem (NR-P11)

4.5.2.4 Religious Beliefs

Another constraining factor discovered from the findings of the study was religious beliefs. According to three (3) participants, the religious beliefs of some midwives impede midwives ability to perform neonatal resuscitation effectively. Sometimes spirituality was used to explain diverse problems that the newborns face, and this impedes effective delivery of neonatal care. This was found in the words of NR-P6:

Sometimes the mothers of these newborns blame evil spirits like witchcraft, or that someone had looked at her with “bad eyes” as being the cause of their newborns not breathing well immediately after birth, hence being resuscitated on. Such mothers are reassured that it is not so, especially when the newborn becomes stable after resuscitation (NR-P6)

4.5.2.5 Shortage of Personnel

Shortage of personnel was a constraining factor affecting neonatal resuscitation at the maternity ward of the 37 Military Hospital. More than half of the participants attested that a shortage of personnel hampered their ability to perform neonatal resuscitation effectively. It
was found that only two (2) midwives were available for duty most of the time, instead of four (4) midwives that are required at the labour ward. This, therefore, was indicated to grossly hinder effective neonatal resuscitation. In addition, some of the participants indicated a lack of anaesthetists and paediatricians at the ward sometimes, as a critical problem impeding effective neonatal resuscitation. This was captured in an expressed view of NR-P10:

Sometimes we are only two midwives on duty at the labour ward. And when there is maybe an asphyxiated newborn baby, as a midwife, one needs you to help with one thing or another, like you to help her fix the oxygen source, or the Ambu-bag or something like that. But meanwhile you haven’t finished attending to the mother who is in the third stage of labour, so she is the only midwife at that moment in time to solely resuscitate this asphyxiated newborn. She single-handedly has to resuscitate this newborn and later do other things too. That is it! (NR-P10)

4.5.2.6 Resource Shortage

Majority of the participants highlighted the shortage of resources as a factor that inhibits midwives’ ability to perform neonatal resuscitation successfully. Resources are vital constituents of items needed for productive health care service activities and operations. Therefore, a lack of these resources inhibits the effective flow of healthcare activities and operations. Some of these inadequate neonatal resources according to a majority of the participants included: suction tubes, bag valve masks/Ambu-bags, and oxygen tubes.

This was presented in an expressed view of NR-P7:

Yes, sometimes there is a shortage of some neonatal resources. My most concern is the shortage of some suction tubes, the neonatal size is so hard to come by. Sometimes the shortage of these small size suction tubes for the newborns is disturbing, because
the big size suction tube is difficult to use, and it is problematic to suction a newborn with it (NR-P7)

4.5.2.7 Lack of Training

Another vital factor revealed was the lack of training on some of the midwives regarding neonatal resuscitation. Two participants admitted that lack of training is a critical obstacle on the part of some midwives who have not received training in neonatal resuscitation. Training provides the required skills and knowledge needed to ensure effective performance of neonatal resuscitation, as such lack of training will result in inadequate skills and knowledge in the performance of effective neonatal resuscitation. Participants indicated a lack of training as a factor that hampers the ability of midwives to perform neonatal resuscitation effectively. This was mentioned in an expressed view of NR-P4:

A nurse or a midwife who has not been trained in neonatal resuscitation turns to be found wanting in that area, especially when it becomes an emergency and intervention is urgently needed, then it turns out to be an obstacle for that midwife who lacks training (NR-P4).

Although most midwives have adequate knowledge per their training, lack of in-service training and workshops are some constraining factors that prevent them from being conversant with new trends in midwifery. This was reiterated by NR-P11:

Sometimes you are so busy on the ward and there is nobody to stand in for you because you are a few midwives on duty, or maybe you are off-duty so you miss one of the workshops, which does not even occur regularly in order for us to attend (NR-P11)
4.5.2.8 Inadequate skills and knowledge

Participants highlighted inadequate skills and knowledge as a factor that impedes the midwives’ ability to perform neonatal resuscitation effectively. This was illustrated in the quotes of NR-P10 and NR-P12:

Yes, as a midwife by the time you pass out of midwifery school you are supposed to know how to resuscitate a newborn, and from time to time you need to upgrade that skill. If you’re not even able to attend a workshop you should take the trouble to learn from those who attended to find out the new trends or new procedures for resuscitating newborns, so that you can apply it in your work to be able to work efficiently (NR-P10)

Additionally, NR-P12 explained that lack of required items for resuscitation puts a newborn, in the care of a midwife with lack of skills and knowledge, in a very dangerous situation:

Yes, because as a midwife if you are very skilful and have knowledge in neonatal resuscitation, even when you don’t have the requisite equipment to carry out resuscitation procedure, you can try to improvise because you know what to do in order to resuscitate the newborn baby skilfully to achieve a healthy outcome (NR-P12)

4.6 Midwives’ Intention to Perform Neonatal Resuscitation

The fourth objective of the study was to ascertain the intention of midwives to perform neonatal resuscitation. The study discovered a significant number of factors underpinning midwives’ intention to perform neonatal resuscitation, including capacity and experience, personal characteristics, team resuscitation, departmental rotation, institutional factors and other factors.
4.6.1 Capacity and Experience

Capacity and experience of some midwives were found to propel their intention to perform neonatal resuscitation resulting in positive neonatal health outcome. Almost all the participants indicated that most of them are experienced and have the required training and educational level needed to perform neonatal resuscitation. This was captured in NR-P11’s comment:

Yes, some of us are well experienced and can manage difficult conditions or situations in the newborn skilfully, but some other young and new midwives are now learning, so they get confused at some situations as they are now learning to develop their capability skills (NR-P11).

Although the majority of the midwives are capable of handling neonatal resuscitation effectively, the inadequate number of personnel on duty at a time affects their performance, this was captured in the comments of NR-P5:

My colleagues and I are able to resuscitate newborns without any problems at all, but when there are many patients on admission and you are the only one at the delivery room, and your assistant is also busy, this will slow you down because you alone have to do the resuscitation if need be, and attend to the mother at the same time (NR-P5)

4.6.2 Personal Characteristics

Personal characteristics were found to underpin the intentions of midwives to perform neonatal resuscitation at the maternity ward of 37 Military Hospital. The personal interest and passion to perform neonatal resuscitation coupled with the love for the job underpin the intention of midwives to perform neonatal resuscitation. This was captured in the view of NR-P12:
Personally, with my little experience, sometimes the mothers go home and return to the hospital in gratitude to say hello to me. Just this motivates me to do more despite these impediments that I had mentioned earlier (NR-P12).

Similarly, personal traits such as being sociable, energetic and talkative were identified, this was seen in the comments made by NR-P11:

Mother and baby are my responsibility, and I devote my time and energy to make them both safe and sound, so I talk to mother a lot about her baby during the process of the resuscitation and continue afterwards until we become friends eventually (NR-P)

4.6.3 Team Resuscitation

Another factor buttressing the intentions of midwives to perform neonatal resuscitation was team resuscitation. According to the majority of participants, team resuscitation is having all hands on deck, involves all professionals: the midwife, the anaesthetist, paediatrician and other nurses within the maternity unit. They all come together to help in the resuscitation of newborns whenever possible. Almost all the participants highlighted that team resuscitation is very important because it provides good results almost always and has tremendous positive effects on neonatal health outcome. This was captured in the view of NR-P8:

Team resuscitation is very important as it brings all hands on deck with the aim of helping neonates with complication that needs further assistance. Also, when there is actually a newborn who needs advance neonatal resuscitation like endotracheal intubation by the anaesthetist. And this occurs regularly (NR-P8).

4.6.4 Departmental Rotation

The departmental rotation was also found as another theme that exerts an impact on neonatal health outcome. According to a majority of the participants, departmental rotation
helps in bringing in new ideas, all round practising by midwives, putting all measures together, reducing complications, safeguarding early detection of diverse complications, ensuring proper staff rotation of midwives, and these guarantee effective neonatal health outcome. This was captured in an expressed view of NR-P1 and NR-P12:

*Departmental rotation has an impact on the care of newborns, because an all-around practising midwife from the ANC (Ante Natal Care), to the labour ward, would ensure to put in all measures to keep the pregnant woman as healthy as possible, and to identify any complication as early as possible to correct and treat to have a safe delivery and a healthy mother, healthy baby. As such, every midwife must be able to practice at every obstetric department whenever she finds herself on duty there (NR-P1)*

NR-P12 reiterated that departmental rotation enables them to gain enough experience to work effectively, she calmly narrated:

*Most of us have rotated or worked in most of the other maternal & child health departments of this hospital before coming to work here in the labour ward, and this exposure to other wards has given us an adequate experience to be able to be all-round midwives (NR-P12).*

### 4.6.5 Institutional Factors

Another theme discovered was institutional factors exerting external pressure on neonatal health outcome. The study discovered significant factors that foster positive neonatal health outcome. These factors included proximity of the labour ward to the Operating Theatre and Neonatal Intensive Care Unit (NICU); effective leadership, effective monitoring and evaluation, good policies, logistics and procurement of supplies, perinatal mortality audit, timely access to an anaesthetist and timely access to a paediatrician. These factors were found
to have great influence on neonatal health outcome when effectively utilized. This was captured in the view of NR-P1 and NR-P5:

*I think, the NICU and Operating Theatre should be very close to the labour ward because it helps, if not the proximity can be a problem when you have to travel quite a distance to call for any assistance (NR-P1)*

Similarly, NR-P5 added that structures are in place to function well at the 37 Military Hospital, she states:

*It’s encouraging to know structures are in place for this unit to function well. At least the NICU, labour ward and Operating Theatre are connected as one building, thereby preventing any discontinuity of care of any newborn (NR-P5)*

### 4.7 Midwives’ behaviour as per Standard Practice Guidelines

The fifth objective of the study was to assess midwives’ behaviour as per standard practice guidelines. To achieve this objective, questions were posed to the participants. The analysis led to the development of two critical factors, namely: behavioural factors and influential factors. The result is presented as follows:

#### 4.7.1 Behavioural factors

Behavioural factors are those attitudes and behaviours exhibited by midwives that exert an effect on neonatal resuscitation. The result shows both positive and negative behaviours of midwives within the standard practice guidelines.

##### 4.7.1.1 Positive Behaviours

From the analysis, positive behaviours were indicated as the behaviours that fall within standard practice guidelines. Majority of the participants identified confidence and adherence to standard practice guidelines as key behaviours exhibited by midwives.

**Confidence**
In the words of NR-P1 and NR-P11, the flowcharts/standard practice guidelines give midwives the confidence to perform neonatal resuscitation effectively, hence showing a positive behaviour to standard practice guidelines as illustrated in their respective quotes below:

*The standard practice guidelines/flowcharts give me confidence in the performance of neonatal resuscitation because it is easy to follow, hence my colleagues and I come together as a team to support one another to resuscitate any newborn if the needs arise. In the same way, whenever we need an extra hand we call the anaesthetist or paediatrician, these boost our confidence each time* (NR-P1)

Similarly, NR-P11 affirms that the presence of the flowchart gives her confidence to do her work effectively, she calmly stated:

*Because I know the flowchart/standard practice guidelines are always posted there to remind, I always feel at ease in the performance of neonatal resuscitation, because it has become a habit and so it boosts my confidence so I work effectively without any doubt whatsoever* (NR-P11)

**Adherence**

Seven of the participants pointed out that adherence to the flowchart during neonatal resuscitation which is standard guiding practice is highly exhibited by all midwives. This clearly shows that adherence ensures effective utilization of neonatal resuscitation flow chart at the 37 Military Hospital. This was found in an expressed view of NR-P6, NR-P4 and NR-P1:

*We follow the standard practice guidelines so as to achieve good results-- to help the baby breathe. That is the standard they have provided. Such behaviours of following the flowchart are easy to do and all of us at the labour ward practice it. So we do follow in order to achieve our goal, which is in helping the baby breathe* (NR-P6)
Additionally, NR-P4 mentioned that every midwife tries to adhere to the standard guidelines, she stated:

_Every midwife tries as much as possible to follow the flowchart/standard guidelines which are always pasted on the wall at the delivery room so that you will not miss any step during the performance of resuscitation_ (NR-P4)

NR-P1 emphasized that with constant practice midwives get used to the standard guidelines, she stated:

_During neonatal resuscitation, most midwives, especially the young ones, follow these standard guidelines/flowcharts consistently and it eventually develops into a habit with constant practice at every delivery where possible_ (NR-P1)

### 4.7.1.2 Negative Behaviours

Negative behaviours were indicated as those behaviours that undermine the standard guiding practice underpinning neonatal resuscitation. The study discovered forgetfulness, old practices, anxiety, and fear as negative behaviours exhibited by some midwives with respect to neonatal resuscitation standard guidelines. According to about four participants, these behaviours undermined the general standard procedure required to be followed in order to ensure effective neonatal resuscitation.

**Forgetfulness**

It was found out that some midwives forget the slated procedures and processes of the standard practice guidelines for neonatal resuscitation. This, therefore, had an effect on neonatal health outcome. NR-P4 and NR-P11 remarked that during neonatal resuscitation, some midwives do forget or miss out some steps in the guidelines provided. This is illustrated in their quotes below:
Sometimes a midwife may forget to follow a step or two in the standard practice guidelines/flowchart during a procedure, and quickly an assisting colleague comes to her aid, but her attention is usually drawn to it later” (NR-P4)

NR-P11 also added that the presence of the flowchart serves a positive purpose, she states:

Or sometimes a particular midwife would like to use an old method that she may be used to. But the flowchart/guidelines is always there to periodically remind her of what she’s supposed to do at every point in time during the process of resuscitation (NR-P11)

Old Practice

Although there are standard practice guidelines/flowcharts to remind midwives about the process of resuscitation, some midwives habitually employ the traditional way of resuscitation and this negatively influences their adherence to the standard guidelines. This is illustrated in the quotes of NP-12 and NR-P6 below:

A midwife may like to use old methods that she may be used to, although she is aware the chart or guidelines have been provided to regularly remind her of what she’s supposed to do at every moment in the process of resuscitation (NR-P12)

Similarly, NR-P6 mentioned the help given to some midwives with old habits of practice so that they can adhere to the standard guidelines, she stated:

Some midwives still use old methods of resuscitation of newborns which does not help the newborns at all. We the experienced ones try to stop them and teach them the new methods which they finally adopt as much as possible (NR-P6)

Anxiety

Anxiety was cited as an influential factor that leads to negative behaviour in neonatal resuscitation guidelines. This is illustrated in the quotes of NR-P6 and NR-P8:
It is because you have to follow the standard practice guidelines, sometimes I feel worried that I may not be following it well, so I become nervous because I am not sure about what will happen if I miss one step, so I always call a colleague to help me to resuscitate a newborn every time (NR-P6)

NR-P8 stressed that some midwives become nervous about the outcome of resuscitation of a newborn, she stated:

Like I said earlier, it is because of maybe nervousness in the midwife following the flowchart so as to perform effective neonatal resuscitation, and she wants the newborn baby to survive by all means, as such she becomes worried about the outcome and what may go wrong if she misses a step (NR-P8)

Fear

Another influential factor discovered from the findings of the study was fear. According to three participants, fear amongst some midwives affects their ability to perform neonatal resuscitation effectively. Fear depicts the apprehensiveness and fear-of-the-unknown by midwives towards neonatal resuscitation. The words of NR-P5 and NR-P11 highlighted that some midwives shy away from neonatal resuscitation, hence, their negative behaviour towards the standard guidelines:

I think most of us, we run away from neonatal resuscitation. We think that we cannot do it. ‘I cannot do it’. So when we are now faced with it, then we are afraid and we fumble. But practice makes perfect, we ought to keep practising in order to be perfect (NR-P5)

Similarly, NR-P11 expressed her fear and frustration sometimes with regards to items needed in order to be able to follow the steps in the flowcharts, she narrated:

Sometimes you are doing the procedure, especially with twin deliveries and then you want an extra mask to give oxygen to the second twin and it is not available because
there is only one, you will be agitated because your only choice is to improvise, and
this makes me panic unnecessarily (NR-P11)

4.7.2 Influential Factors

The study examined factors that influence midwives in their compliance with standard
practice guidelines underpinning neonatal resuscitation. From the analysis, the majority of the
participants indicated accessibility, lack of training, and personality as factors influencing
midwives’ use of standard practice guidelines for neonatal resuscitation.

4.7.2.1 Accessibility

NR-P3, who has been working at the maternity ward for about 15 years remarked that
one factor influencing midwives’ behaviour towards neonatal resuscitation guidelines has to
do with accessibility and availability of flowcharts/standard practice guidelines in the
maternity ward. NR-P1 also emphasized this notion in the remarks below:

The flowcharts are easily accessible and can be seen at any point in the delivery room
and during resuscitation of any baby for good results (NR-P3)

NR-P1 also added that the flowcharts serve as quick reminders to midwives, she explains:

Before the neonatal resuscitation standard guidelines were posted on the walls of the
maternity unit, I think it was assumed that most of the midwives have had the neonatal
resuscitation workshop, or have already had training in neonatal resuscitation. So the
guidelines are always there as a quick reminder. Because you’re supposed to have
that skills with you. In case you should forget your skills, you can just look on the
charts, and it reminds you of what you are supposed to do (NR-P1)

4.7.2.3 Lack of Training

NR-P11, NR-P7 and NR-P2 highlighted that not all midwives had the opportunity to attend
training workshops, hence, their lack of knowledge towards the standard practice guidelines
in neonatal resuscitation:
Not all of us have had the opportunity to attend training workshops but we are learning from our colleagues who have (NR-P11).

Another respondent (NR-P7), confirmed that midwives who have not undertaken the training learn from their colleagues who have, she stated:

*A midwife who has not been trained in resuscitation sees the guidelines as no big deal so they usually learn from those who have undergone the training to learn from them because they want to be doing the right thing* (NR-P7).

According to NR-P2, some midwives are not acquainted with the new skills and knowledge in resuscitation due to lack of training. This makes them not to acknowledge the new skills as illustrated in her quote:

*I think sometimes a midwife wouldn’t be conversant with the new resuscitation skills but would like to use her own skills which may be outmoded. This would definitely affect the new guidelines that are in place. But if you follow the right guidelines, I think it wouldn’t be much of a problem because you can follow and do the right thing* (NR-P2).

**4.7.2.3 Personality**

NR-P12 mentioned that midwives’ negative behaviour towards neonatal resuscitation standard guidelines is attributed to their personality as illustrated in her quote:

*I think it may be a personal attitude, or something. Or the fact that the midwife does not really want to change, or something. Because maybe there are new trends for you to be abreast with time or go according to the new trends. But maybe the midwife just wants to be, still, be stuck with the old methods which she may be comfortable in* (NR-P12).
Employing the TPB and drawing reference from its constructs, the findings of the study identified both positive and negative attitudes of midwives towards neonatal resuscitation. Interest in newborn care; vulnerability and neonatal life-saving; understanding of neonatal resuscitation; empathy, and willingness to help were identified as positive attitudes of midwives. Whereas, delay in time for neonatal resuscitation; old methods of practice and inadequate assessment or preparation were identified as negative attitudes of midwives. Furthermore, senior management, other staff members and family members were identified as significant others who influence the process in assessing the subjective norms of midwives in neonatal resuscitation.

In conclusion, drawing from the perceived behavioural control of the TPB, the results of the study revealed: survival of babies, willingness and passion as enabling factors that influence midwives’ ability to perform neonatal resuscitation. Also, lack of equipment; inadequate space, lack of communication tools, religious beliefs, inadequate personnel, shortage of resources, lack of training, and inadequate knowledge, were identified as constraining factors that impede midwives’ perception of their ability to perform neonatal resuscitation effectively. With respect to behavioural intentions of midwives to perform effective neonatal resuscitation: capacity and experience; personal characteristics; team resuscitation; departmental rotation; and institutional factors were identified. In reference to midwives’ behaviour as per standard practice guidelines, the study reported both positive and negative behavioural factors. Confidence and adherence to the neonatal resuscitation guidelines were identified as positive behaviours. Negative behaviours were reported as forgetfulness, the use of old methods of practice, anxiety and fear. Influential factors such as accessibility to flowcharts, lack of training, and personality were examined to be midwives’ behaviour exhibited in accordance with standard practice guidelines.
CHAPTER FIVE

DISCUSSION OF FINDINGS

This chapter discusses the findings of the study in relation to the available literature. The purpose of this is to find the relationship that exists between the reviewed literature and the perspectives of midwives at the 37 Military Hospital about neonatal resuscitation. The discussion was done in chronological order in accordance with the themes and sub-themes obtained from this study.

5.1. Attitudes of midwives towards neonatal resuscitation

From the Theory of Planned Behaviour (TPB), one of the objectives for this study was to assess midwives’ attitude towards neonatal resuscitation. The findings revealed that midwives exhibit both positive and negative attitudes towards neonatal resuscitation. From the results, interest in newborn care, compassion for vulnerability and neonatal life-saving, understanding of neonatal resuscitation, empathy and willingness to help, were identified as positive attitudes exhibited by midwives when performing neonatal resuscitation. According to Ajzen (2011), lack of interest in newborn care has the propensity of affecting treatment given to newborns at hospitals or healthcare facilities, hence, participants’ interest in newborn care emerged as a positive attitude in this study.

According to the findings, the delivery of newborns, their health immediately after delivery, their well-being and their survival, are of immense interest to all twelve (12) midwives interviewed. These findings of the study were consistent with findings by the Healthy Newborn Network, (2013), which reported that the initial sixty (60) seconds after birth, thus the Golden Minute, identifies the necessary measures that the midwife, without any hesitation, must take immediately to ensure that the newborn establishes breathing at birth. Similarly, Wall et al., (2009) revealed that the interest in newborn care, in terms of helping them breathe normally for the first time, is an important phenomenon that should not
be taken lightly by all health care providers. A study by Sami et al. (2017), emphasized that positive attitudes of midwives were associated with newborn care, and newborn care practices were observed as very important as it enhances midwives’ intention to perform neonatal resuscitation effectively. Additionally, Bang et al., (2005) emphasized that the initiation of breathing in newborns is life-threatening in the physiologic transition from intra-uterine to extra-uterine life of newborns. Hence, it is crucial for midwives to be equipped with the requisite skills to help newborns initiate their first breath.

However, findings from the American Academy of Paediatrics, (2011), indicated that midwives involved in newborn care were confronted with limitations including, the lack of effective resuscitative materials like ambu-bags, suction devices and a Resuscitaire, especially in the LMICs. These challenges often result in respiratory complications in newborns and easily lead to death, and even when these newborns who suffer from such respiratory complications manage to survive beyond one year, they are likely to suffer a major disability as found in another study (WHO, 2005). Meanwhile, knowledge and skills in effective neonatal resuscitation are fundamental to newborn care practices, due to the fact that midwives are inevitably the first line of contact with newborns immediately after delivery. Hence it is therefore essential to strengthen the knowledge and skills of midwives with regards to newborn health care (Agrawal et al., 2012).

Midwives in this study had compassion for the vulnerability and neonatal life-saving of newborns. All twelve (12) participants attested that newborns are fragile and vulnerable, hence prone to life-threatening complications including injuries, as such neonatal lifesaving measures cannot be compromised. The midwives narrated that newborns are delicate and feeble, hence very susceptible to various diseases including infections. This fragility in newborns conforms with findings of a study by Wall et al., (2009), who indicated that out of 136 million birth of newborns annually, approximately 10 million will require certain
interventions to initiate their first breath of which 6 million will need basic neonatal resuscitation. Similarly, the vulnerability of newborns immediately after birth requires the expert skills of midwives in resuscitation. Newborns are typically susceptible, and the fact that they are threaten their health and well-being (WHO, 2015). Carlo et al., (2011) revealed that the presence of a skilled birth attendant is essential as it contributes to the survival of newborns.

Nonetheless, this remains a challenge in LMICs due to limited availability of equipment, lack of standardized CPDs, and protocols (Chikuse et al., 2012). This study revealed that lack of adequate skills and the lack of support for newborn resuscitation which prevent midwives from identifying the susceptibility of newborns is not only limited to LMICs. This is in conformity with the findings of a study by Jukkala and Henly, (2007) where it was revealed that lack of skills in the resuscitation of newborns is similarly reflected in rural settings of the United States and Canada, where inappropriate neonatal resuscitation skills led to the death of newborns. This was attributed to midwives’ lack of skills in the vulnerability of newborns during the initiation of their first breath. Knowledge in the vulnerability of newborns is therefore essential (Jukkala and Henly, 2007). Hence, to ensure effective neonatal resuscitation, the WHO (2012), initiated several essential resources to improve skills in neonatal resuscitation. These included teamwork, leadership training, provision of basic equipment, adequate knowledge and skills in neonatal resuscitation (Ezenduka, Ndie, & Oburoh, 2016).

In this study, most midwives had knowledge and understanding of the neonatal resuscitation concept. The participants verbally expressed the differences between basic neonatal resuscitation and advanced neonatal resuscitation. Although the midwives were specific on what the term neonatal resuscitation is, it goes beyond just breathing but includes essential basic activities that will save the lives of newborns. This finding is consistent with
the findings of Bang et al., (2005), in a study where it was revealed that in order for newborns to successfully initiate their first breath, basic activities like rubbing and warming the newborn, drying, stimulation, and effective resuscitation, reduce neonatal mortality and morbidity.

Similarly, Agrawal et al., (2012) discovered that the high level of knowledge in resuscitation by midwives is fundamental for improving the management and compliance to newborn care practices. This is because midwives certainly form the foremost crucial link with pregnant women and newborns. In order to strengthen the skills and knowledge among midwives, Clare, Ellis and Lee (2017), reiterated that although there are barriers such as lack of refresher training, the need for healthcare facilities to support their healthcare professionals, especially midwives, with regular training to enhance effective neonatal care practices is laudable.

Participants in this study reportedly “put themselves in the shoes” of the newborn and mother, to ensure utmost care for the survival of the newborn. The required neonatal health care is put in place in terms of effective resuscitation where appropriate. According to the midwives, the act of empathy assists them, in providing the best possible service, and contributes to the survival of newborns resulting in the achievement of the “Golden Minute”. These findings are consistent with the findings by the Resuscitation Council, (2011), which suggests the initial assessment and examination of newborns at birth ought to include, assessing the newborn’s physiologic adaptation to extra-uterine life, colour, tone, breathing and heart rate. For midwives to be efficient in carrying out this task, a study by Lumsden, (2005), emphasized that midwives are in principle to increasingly enhance their skills in the initial assessment and examination of newborns within the first minute of birth.

Negative attitudes identified in this study were few and included: delay in time for neonatal resuscitation; old methods of practice, and inadequate assessment/preparation. The
question of delay in time for resuscitation featured in the participant’s descriptions. According to the midwives, this delay is usually due to the omission of the resuscitation kit prior to setting up to perform delivery, which negatively affects neonatal resuscitation. These findings are in line with the findings of Lee et al., (2011), which revealed that anticipation and preparation for neonatal resuscitation before every birth is very essential. As such, it is important that every health facility is equipped with the appropriate and functional newborn resuscitation equipment, with trained midwives who have the required newborn resuscitation skills to assist newborns who do not breathe spontaneously at birth. McAdams et al. (2012), mentioned that such negative attitudes among some healthcare professionals with respect to non-initiation of early resuscitation were dangerous to the survival of newborns. Similarly, Wall et al., (2009), estimated that approximately 10% of all newborns are born with poor or absent respiratory effort and will require resuscitation at the time of delivery. Hence, competent and effective resuscitation is needed by all midwives for the survival of newborns under their care (Pattinson, 2014). This is because any delay in the resuscitation of newborns may result in poor breathing pattern and can lead to hypoxic-ischemic encephalopathy, death or survival with disability (Buus-Frank, 2014).

Findings by Black et al. (2010), reiterates that the period of transition by neonates from the intra-uterine environment to the extra-uterine is very fragile and delicate, hence every second wasted is life-threatening to the survival of such newborns. This implies that newborns who may even require a bag and mask ventilation (BMV) are more likely to die when resuscitation/ventilation is delayed (Ersdal, Mduma, Svensen, & Perlman, 2013). Therefore, in order to prevent delay in the resuscitation of newborns, it is recommended that neonatal resuscitation should commence right from the delivery rooms, and a resuscitation team should always be created to combat any complications and morbidity of asphyxiated births (Bellini and Damato, 2009). Resuscitation, if done in a timely and effective manner,
can drastically reduce deaths, neurological damage, and subsequent disabilities in the newborn who fails to initiate and sustain breathing at birth (Pammi et al., 2016).

Outmoded/old methods of practice were revealed in this study based on the information provided by the participants. According to the midwives, although they all adhere to standard practices, a few of their colleagues indulge in old practices. This finding is in line with the findings of Batra and Geralemaa (2012), where it was identified that the use of modern technology propels healthcare delivery whilst the use of outmoded methods retards healthcare delivery growth and development. Similarly, findings from Shikuku et al., (2017), identified the poor quality of care during neonatal resuscitation for newborns with birth asphyxia, where there was a poor performance during the drying and warmth, airway maintenance, and ventilation of newborns. Findings from Jyoti, Jeeva and Poonam (2011) also revealed old methods of practice by some health workers who use unsafe practices of holding the newborn upside down, and rubbing the back of the newborn when it does not breathe at birth. This is detrimental to the well-being of the newborn as it affects the fragile brain of the newborn (Jyoti et al., 2011).

Inadequate assessment/preparation was identified in this study. It was found that some of the midwives fail to anticipate and prepare for resuscitation of asphyxiated newborns, resulting in inadequate assessment. This finding is in line with the initial assessment and examination of the newborn at birth, the first minute, the next five minutes and then after ten minutes of the newborn’s life as revealed by the Royal College of Midwives, (2006). This assessment includes the physiological adaptation to extra-uterine life, colour, tone, breathing and heart rate (Resuscitation Council, 2011). Similarly, in collaboration with the findings of Wall et al., (2009), the majority of newborns are born annually with improper breathing patterns, indicating that such newborns will need some form of assistance to breathe properly. Hence, this notion should be earnestly taken and with utmost care by midwives and health
care providers involved in newborn care. Findings from Halamek et al., (2000), in describing the readiness for neonatal resuscitation by nurses and physicians, revealed that nurses who were already abreast with neonatal resuscitation programmes had higher levels of comfort, knowledge and experience in neonatal resuscitation skills.

These similarities observed in this study with other studies show that a positive attitude towards neonatal resuscitation is universal amongst health workers. The minor differences in attitude could be due to differences in the setting of the study. Whilst this study was in an LMIC where the health system capacity to deliver effective neonatal resuscitation is inadequate due to resource-constrained settings, the others like McAdams et al., (2012), did their studies in high-income countries.

5.2 Subjective norms amongst midwives on neonatal resuscitation

Significant others in this study refer to senior management, other staff and family members. In this study, all twelve participants indicated that the presence of significant others plays a vital role in strengthening the performance of neonatal resuscitation. Although family members significantly contribute to neonatal resuscitation, their presence at times becomes worrisome as a result of their reactions. Contrary to these results, the work of Duran, et al. (2014) revealed that, although healthcare professionals had positive attitudes toward family presence, healthcare professionals had issues about safety, emotional responses of family members, and performance anxiety.

Similarly, findings by Twibell, et al (2008) revealed that the advantages and disadvantages of family presence during resuscitation differ greatly, and this is related to how often family members are invited to be present during neonatal resuscitation. Likewise, findings from Jennings, (2014), highlighted that the presence of family members encourages and increases professional behaviour. In contrast, Harvey and Pattison (2013), in their work,
discovered a state of discomfort among healthcare professionals when fathers come to the Resuscitaire during neonatal resuscitation.

Again, the findings of McLean, et al. (2016) recorded that health professionals have a positive experience with family members’ presence during neonatal resuscitation. These health care providers reportedly understood the needs of the family, as such in order to maximize the wellbeing of their clients, they collaborate with family members, colleagues and the entire hospital management staff to plan, provide, and evaluate the cares of the newborn. An important finding revealed by the study was that midwives consider it a right for family members to witness neonatal resuscitation.

5.3 Perceived behavioural control of midwives on neonatal resuscitation

The findings of this study identified “survival of baby”, willingness and “passion” as the enabling factors that influence midwives to perform or initiate neonatal resuscitation. This finding is in line with the work of Anna and Muronda (2016) which revealed the need for infants to survive and the sense of urgency for newborns’ survival as an empowering feature for effective neonatal resuscitation. Lack of equipment, inadequate space, lack of communication apparatus, religious beliefs, shortage of personnel, resource shortage, lack of training and inadequate skills/knowledge, were identified as constraining factors hindering midwives to effectively perform neonatal resuscitation. These findings are in line with prior studies on factors hindering the performance of neonatal resuscitation. In the work of Uwajeneza, Babenko-Mould, Evans and Mukamana. (2015), constraining factors such as non-conducive work environments, shortage of healthcare personnel, and inadequate equipment and materials were identified as hampering effective neonatal resuscitation.

Also, Curran et al (2012), identified inexperience, lack of communication, lack of confidence and inadequate updates by team leaders, as barriers to resuscitation retention skills. In the work of Clare et al (2017), hindrances to neonatal resuscitation were identified...
as lack of training and inadequate knowledge. Similarly, Haile-Mariam, et al. (2012), identified impediments to neonatal resuscitation initiation as inappropriate equipment and inadequate training of health professionals. Findings of McAdams et al., (2012), revealed that religious beliefs also serve as barriers to effective neonatal resuscitation for newborns with little chance of survival. However, a study by Maimbolwa et al. (2003) discovered that traditional birth attendants lack the required knowledge associated with birth complications. This hinders their performance of neonatal resuscitation because they mainly rely on traditional beliefs and witchcraft to explain complications related to childbirth.

A study by Bream, Gennaro, Kafulafula, Mbweza, and Hehir (2017), also identified resource shortages as barriers to providing care. These include non-availability of staff, lack of equipment and supplies; improper labour ward geography; ethical dilemmas; and the lack of standard protocols as hindering factors to neonatal resuscitation. Likewise, Poorteimoor, Alaee, Safavi, Nasiri, Khan, and Mojn (2014), attributed barriers to neonatal resuscitation to work inexperience, lack of skills and knowledge in resuscitation, lack of training, and poor teamwork. According to Wagner (2014), the most salient barriers to neonatal resuscitation included personnel shortages, lack of equipment, inadequate space, and poorly organized communication systems. Again, studies by Kasine, Babenko-Mould, Cechetto, and Regan (2016), and Kassab, Alnuaimi, Mohammad, Creedt and Hamadneh (2016) identified factors such as insufficient materials, shortages of nurses, and potential inadequate human resource allocation, lack of knowledge and skills in newborn resuscitation, lack of equipment, and poor coordination and communication among team members, as hindering factors to neonatal resuscitation.

5.4 Midwives’ intention to perform neonatal resuscitation

This study found that the aim of midwives performing neonatal resuscitation was dependent on their capacity and experience, personal characteristics, team resuscitation,
departmental rotation, and institutional factors. Although most of the participants were experienced midwives capable of neonatal resuscitation, they expressed the need for continuous education in order to promote positive neonatal health outcomes. These findings are in line with the findings of Ezenduka, Ndie, & Oburoh, (2016), where it was revealed that factors such as teamwork, leadership and training, provision of basic equipment, adequate knowledge, attitude, and skills, are needed by all midwives to ensure effective neonatal resuscitation. Similarly, Malekzadeh et al., (2015), identified the need for adequate training of midwifery students in life-saving skills in order to build their capacity and experience in neonatal resuscitation. This is to enable them to have adequate knowledge and become competent during their midwifery training before qualification.

Similarly, the findings of Anna and Muronda, (2016), where personal factors such as emotional support, interpersonal factors including decision-making skills, and intrapersonal factors such as teamwork and collaboration, were revealed as facilitators or barriers to neonatal resuscitation. Curran et al. (2012), revealed the need for emphasis on teamwork training in neonatal resuscitation, as teamwork provides successful neonatal health outcome at every birth. Also, Murila et al. (2012) revealed that most healthcare providers considered their knowledge in neonatal resuscitation as inadequate, hence training is needed to build the capacity of health workers in order to be able to perform neonatal resuscitation effectively. Although nurses and midwives already possess specific skills in neonatal resuscitation, a continuous upgrade in resuscitation skills is vital at least every six (6) months (ICM, 2014). This finding is consistent with that of Bellini and Damato, (2009), where it was recommended that neonatal resuscitation should begin in the delivery room and a resuscitation team should be formed at all times in order to improve on neonatal health outcomes.
About institutional factors, the timely access to the paediatrician and anaesthetist cannot be underestimated. This study discovered that the proximity of the labour ward/delivery room to the NICU and operating theatre promotes positive neonatal health outcomes. This is attributed to the geography or set-up of the maternity unit structure as a whole. This finding is in line with the findings of Edwards, Kotecha, & Kotecha, (2013) who revealed that issues related to respiration are one of the major causes of newborns being admitted to the NICU, and sometimes the cause of death of these newborns. Similarly, the findings of Bream et al. (2015), revealed that poor labour ward geography, non-availability of staff, lack of equipment & supplies, ethical dilemmas, and the lack of standard protocols, are barriers to neonatal resuscitation resulting in poor neonatal health outcomes.

5.5 Midwives’ behaviour as per Standard Practice Guidelines

The results of the study discovered confidence and adherence as positive behaviours exhibited by midwives in accordance with the standard practice guidelines of neonatal resuscitation. These findings are consistent with the findings of Curran, Fleet, and Greene, (2012), where it was discovered that midwives’ adherence to neonatal resuscitation guidelines were sustained by their perceived confidence and capabilities. Although this study found confidence and adherence to neonatal resuscitation as positive behavioural factors, this similarity is emphasized in a study by Kim et al., (2013), which revealed that healthcare professionals including doctors and midwives in Afghanistan felt a great sense of confidence in their ability to perform neonatal resuscitation. Similarly, Curran, Fleet and Greene (2012) identified the difference in skills, lack of communication, lack of confidence and inadequate updates by team leaders as barriers to neonatal resuscitation retention skills. The findings of the study highlighted the significance of improving healthcare providers’ confidence and abilities, and the need for emphasis on teamwork training in resuscitation.
Additionally, Mileder, et al., (2014) identified regular training as empowering factors that help obstetric care providers in their compliance rate of neonatal resuscitation in Australia. However, in Malawi, lack of adequate knowledge in partograph use, lack of adequate equipment and supplies were factors that hindered midwives in their adherence to standard neonatal resuscitation guidelines (Chikuse et al., 2012). Forgetfulness, the use of old methods of practice, anxiety and fear were identified as negative behavioural factors that prevent midwives’ compliance with the standard practice guidelines. These negative behaviours exhibited by some midwives jeopardized their adherence to the standard guidelines of neonatal resuscitation. This undermines the standard process to be followed in order to ensure effective neonatal health outcomes. These findings corroborates with that of Lassina et al. (2017) where it was revealed that although there are adequate knowledge and skills in neonatal resuscitation among health workers in Cote D’Ivoire, challenges to the performance of effective neonatal resuscitation include inadequacies in the recognition of risk situations, lack of equipment and non-adherence to neonatal resuscitation guidelines.

Additionally, accessibility, lack of training and personality were influential factors that influence midwives’ compliance with standard practice guidelines. Although, lack of training was a major hindrance to the compliance of the standard guidelines, accessibility and availability of the flowcharts positively influenced midwives in their compliance with the standard resuscitation guidelines. These findings conform to a study by Lawn, et al., (2010) where it was discovered that lack of trained providers in neonatal resuscitation presents a major factor to the high rate of neonatal deaths, especially in Sub-Saharan Africa. Malekzadeh, Erfanian, and Khadivzadeh, (2015), emphasized that competence in the skills of neonatal resuscitation as dependent on regular training workshops for the compliance to neonatal resuscitation guidelines. A similar finding in Ethiopia by Haile-Mariam, Tesfaye, Otterness and Bailey (2012) identified barriers to neonatal resuscitation initiation as
inappropriate equipment and inadequate training of health professionals. These findings suggest a regular pre-service and in-service training for healthcare providers.

In summary, similarities observed in this study with other studies, show that positive attitudes towards neonatal resuscitation are universal among health workers, especially midwives. The slight variances in attitudes could be due to dissimilarities in the settings of each study. Whilst this study was in an LMIC, where the health system capacity to deliver effective neonatal resuscitation is inadequate due to resource-constrained settings, the other studies were in high-income countries. The practice of effective neonatal resuscitation is faced with challenges, especially in LMICs. These challenges include a delay in resuscitation, old methods of practice, inadequate preparation/assessment, lack of equipment, inadequate space, inadequate skills and knowledge, and resource shortages. The challenges observed in this study are similar to those of other studies, which shows that neonatal mortality is a universal problem. Despite these challenges, it is important for midwives, who are at the forefront of childbirth, to note that majority of newborns born with poor or absent respiratory efforts will require some level of neonatal resuscitation at the time of delivery in order to survive.

Hence, practising effective neonatal resuscitation at every delivery, especially incorporating the “Golden Minute” rule, by employing all lifesaving resources and techniques to ensure the newborn is breathing properly within the first minute, cannot be overemphasized. With positive attitudes including confidence, interest in newborn care, compassion for the vulnerability and neonatal life-saving, understanding the neonatal resuscitation concept, with adequate skills and knowledge by all midwives, the neonatal mortality menace will be curbed.
CHAPTER SIX

SUMMARY, IMPLICATIONS, CONCLUSIONS AND RECOMMENDATIONS

This chapter provides a summary of the study, implications, limitations and conclusion drawn from the findings. The section also provides recommendations based on the findings of the study.

6.1 Summary of Study

The study explored the experiences of midwives in neonatal resuscitation within the immediate postnatal period at the 37 Military Hospital using the Theory of Planned Behaviour (TPB) as the organizing framework. Data collection started after ethical clearance was obtained from the Institutional Review Board of the Noguchi Memorial Institute for Medical Research. Pretesting of the interview guide was done in the maternity ward of the Ridge Hospital. Twelve (12) participants were recruited for the study. The consent of each participant was obtained prior to data collection. Data collection commenced in November 2017 and ended in March 2018. Each interview lasted between forty-five (45) minutes to an hour. Data collection was concurrent with data analysis. Transcription and the interviewing process went on simultaneously. Each interview was audiotaped and transcribed verbatim. The thematic content analysis was used to analyse the data collected.

From the study, it emerged that midwives do exhibit both positive and negative attitudes towards neonatal resuscitation. Positive attitudes toward neonatal resuscitation were attributed to empathy, whereas, negative attitudes towards neonatal resuscitation were attributed to the use of old methods in neonatal resuscitation and lack of assessment. Furthermore, the study identified subjective norms amongst midwives in neonatal resuscitation as the presence of senior management, staff, and family members.
Again, passion and the need for newborns to survive were identified by the study as enabling factors that promote neonatal resuscitation. In addition, lack of equipment, inadequate space, lack of communication apparatus, religious beliefs, shortage of personnel, resource shortage, lack of training and inadequate skills/knowledge were identified by the study as factors hindering midwives to perform neonatal resuscitation effectively. Finally, although the study acknowledged compliance or adherence to standard neonatal resuscitation guidelines, it also recorded non-compliance or adherence to neonatal resuscitation guidelines. Factors influencing adherence to neonatal resuscitation guidelines included accessibility, training and confidence. However, factors influencing non-adherence included the lack of training, anxiety, fear, inexperience and personality.

The constructs of the model of the Theory of Planned Behaviour (TPB) were useful in explaining the findings of this study. This is because the intention to perform a given behaviour is largely influenced by one’s attitude. Given this, the three proximate constructs (attitude, subjective norms, and perceived behaviour control) serve as valuable determinants to explore the experiences of midwives towards neonatal resuscitation. It is clear from the study that an intention to effectively perform neonatal resuscitation is largely influenced by the attitudes of midwives, the help they receive from senior management, staff, family members, and the urgency for resuscitation.

6.2 Implications

The findings of this research have some implications for nursing, research and policy formulation.

6.2.1 Implications for Nursing and Midwifery Practice

The study revealed that most midwives exhibit a negative attitude towards neonatal resuscitation in the form of using old methods and lack of assessment. This mostly led to non-adherence of neonatal resuscitation guidelines. Therefore, there is the need for a
NEONATAL RESUSCITATION

curriculum review by the Nurses and Midwifery Council (NMC) of Ghana to include issues on neonatal resuscitation to equip midwives with adequate information on effective neonatal resuscitation practices.

This study revealed that the right of family members to witness neonatal resuscitation should not be taken for granted. However, their presence can be worrisome. In light of this, it is imperative for midwives to be well equipped with knowledge and skill in handling family members who wish to witness the resuscitation process.

6.2.2 Implications for Nursing / Midwifery Research

The study on the experiences of midwives in neonatal resuscitation within the immediate postnatal period has opened avenues for future researchers to explore the perspectives of family members on neonatal resuscitation practices.

6.2.3 Implications for Policy Formulation

The findings of the study indicate that adherence to the standard neonatal resuscitation guidelines is mostly not followed due to organizational barriers such as resource shortage, lack of training, shortage of personnel, limited space, and inadequate equipment, among others. Given this, there is a need for a policy to be formulated by healthcare institutions to develop and implement neonatal resuscitation guidelines.

6.3 Limitations

The findings of this do not allow for generalization of the results because of limited sample size and the study’s methodology, however, the findings may be transferable. The study equally focused primarily on midwives in a specialised unit of the hospital, however, it cannot be stated emphatically that it is only midwives who provide neonatal resuscitation in other less resourced facilities across the country. There is, therefore, the need to consider a wider scope of this research in other health care facilities at all levels. Time constraints were minimal.
6.4 Conclusion

The findings of the study showed that midwives exhibit both positive and negative attitude towards neonatal resuscitation. Furthermore, individuals such as senior management, staff and family members largely impact positively on the performance of neonatal resuscitation. Moreover, both enabling factors such as passion and the urgency for neonatal resuscitation were identified as factors promoting the performance of neonatal resuscitation. In addition to this, the lack of training, shortage of personnel, resource shortage, and inadequate skills/knowledge were identified by the study as factors hindering midwives to perform neonatal resuscitation effectively.

Finally, compliance or adherence to standard neonatal resuscitation guidelines was revealed. More importantly, non-compliance or adherence to neonatal resuscitation guidelines were also revealed by the study. Factors influencing adherence to neonatal resuscitation guidelines included accessibility and confidence; whereas factors influencing non-adherence included the lack of training, anxiety, fear, inexperience and personal attitude.

6.5 Recommendations

Based on the findings of the study, the following recommendations were made to the Ministry of Health (MOH), the 37 Military Hospital, healthcare professionals, midwives, and family members.

6.5.1 Ministry of Health (MOH)

The MOH should:

i. Ensure that all nurses, especially midwives receive formal orientation on all issues concerning neonatal resuscitation.

ii. Provide for more healthcare workers in order to curb the personnel shortage especially at health facilities with obstetric units.
iii. Support healthcare institutions with the necessary human resource and equipment such as age appropriate suction tubes, suction machines, and oxygen self-inflating bags

iv. Provide pertinent information for curriculum designers to make necessary modifications on of prerequisites for PIN renewals of all nurses and midwives. This is to include yearly mandatory neonatal resuscitation certifications and regular CPD workshops by all nurses and midwives.

6.5.2 The 37 Military Hospital:

The 37 Military Hospital should:

i. Expand the Yeboah maternity ward especially, the entire labour unit to involve a newborn resuscitation area.

ii. Provide the necessary equipment such as neonatal care accessories needed for effective neonatal resuscitation

iii. Embark on periodic training/workshops for all obstetric care providers especially midwives on neonatal resuscitation.

iv. Form stand-by resuscitation teams to improve in teamwork knowledge, change in attitudes towards teamwork, and to improve teamwork skills at every neonatal resuscitation in order to curb complications that may arise at the Yeboah maternity ward.

v. Ensure that the right methods of neonatal resuscitation practices are adhered to for maximum neonatal health outcome. Midwives should be each other’s keeper.

vi. Establish a life-saving skills training unit.

vii. Train Health Care Assistants to work as support persons in neonatal resuscitation in situations where there is an acute shortage of midwives.
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APPENDIX A: Ethical Clearance (NMIMR)

FEDERALWIDE ASSURANCE FWA 00001824
NMIMR-IRB CPN 046/17-18
IRB 00001276
IORG 0000908

On 13th November, 2017, the Noguchi Memorial Institute for Medical Research (NMIMR) Institutional Review Board (IRB) at a full board meeting reviewed and approved your protocol titled:

TITLE OF PROTOCOL: Experiences of Midwives in Neonatal Resuscitation in the Immediate Post-Natal Period: An Exploration Study at the 37 Military Hospital.

PRINCIPAL INVESTIGATOR: Ursula Delali Agbenohevi M.Phil Cand.

Please note that a final review report must be submitted to the Board at the completion of the study. Your research records may be audited at any time during or after the implementation.

Any modification of this research project must be submitted to the IRB for review and approval prior to implementation.

Please report all serious adverse events related to this study to NMIMR-IRB within seven days verbally and fourteen days in writing.

This certificate is valid till 12th November, 2018. You are to submit annual reports for continuing review.

Signature of Chair: __________________________
Mrs. Chris Dadzie
(NMIMR – IRB, Chair)
APPENDIX B: Ethical Clearance (37 MH-IRB)

Institutional Review Board
37 Military Hospital
Neghelli Barracks
ACCRA
Tel: 0302 769667
Email: irbmilhosp@gmail.com

November 2017

Our Ref: IRB/37MH/203/17
37MH-IRB IPN 154/2017

Ursula Delali Agbencohevi
School of Nursing & Midwifery
University of Ghana

Dear Investigator,

ETHICS REVIEW COMMENTS – APPROVED SUBJECT TO ADDRESSING CONCERNS

Proposal Title: – The Experiences of Midwives in Neonatal Resuscitation within the Immediate Postnatal Period at the 37 Military Hospital.

Your proposal submission to the committee on the above named study refers. Following a review of your proposal, it was approved subject to you addressing the following corrections/concerns:

<table>
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| 1   | Consent form -  
Page 1 - General information about research - 4th paragraph  
Assure participants that after transcription you will destroy the tape.  
Page 2 – Your rights as a participant  
State that the research will be reviewed by 37 Military Hospital Institutional Review Board and not Noguchi Memorial Institute for Medical Research (NMIMR) |

Kindly make the necessary amendments and submit one revised copy each of your required proposal documents to IRB (Postgraduate College Secretariat, 37 Military Hospital) along with a letter explaining the changes you have made to each document. Thank you, for your application.

Yours faithfully,

Dr. Edward Asumanu
IRB Vice Chairman
37MH-IRB CONSENT

Title: Experiences of Midwives in Neonatal Resuscitation within the Immediate Postnatal Period at the 37 Military Hospital

Principal Investigator: Ursula Delali Agbenohevi

Address: School of Nursing and Midwifery, Maternal and Child Health Department, College of Health Sciences, University of Ghana. P. O. Box LG 43, Legon.

General Information about Research:

The purpose of this study is to explore the experiences of midwives in neonatal resuscitation within the immediate postnatal period. Although measures to curb the death of newborns in Ghana are being put in place, the neonatal mortality rate remains unacceptably high where a newborn dies every 15 minutes and about 30,000 die every year (WHO, 2015).

Newborn deaths do not vary much across the socioeconomic and educational backgrounds in Ghana. This therefore suggests that the quality of care newborns receive in the first hours of life contributes to the mortality. It is in light of this that this study is being carried out to find out about your experiences in relation to neonatal resuscitation at the 37 Military Hospital.

This study seeks to find out what may or may not hinder your ability to perform effective neonatal resuscitation immediately a baby, who may need help in taking its first breath, is born. If you agree to participate, you will be asked to answer some questions. This will not interfere with activities being rendered at the maternity unit because you will be approached after working hours, after services have been rendered. You will be engaged in a face to face interview at a time and place of convenience for about 50 minutes.

Your responses will be recorded using audiotape recorder. Some open-ended questions about your own experiences in neonatal resuscitation at the maternity unit will be elicited. The interview will be conducted at a time and place of your convenience. Information obtained will be kept under lock and key by supervisor for five years, after which it will be destroyed.

Possible Risks and Discomforts:

It is anticipated that there will be no risks that you will be exposed to in this study. It is also envisioned that no possible discomforts will arise, although some questions may be sensitive or may elicit unpleasant feelings or memories during the interview. Therefore, you have the right to refuse to answer any of such questions.

Possible Benefits: There may not be direct benefit to you as a participant. However, the information you will provide may educate other midwives in their roles in effective neonatal resuscitation. Another benefit you may derive from this study include midwives’ awareness will be potentially increased in the improvement of neonatal resuscitation immediately after birth of a newborn

Confidentiality: Your real name will not be used for this study to ensure that you are not associated to any information gathered. Pseudonyms will be used to ensure confidentiality. In order to ensure privacy, no identifiable information will be collected during the interview. However, telephone numbers will be collected when you agree to participate in the study. Information you provide will be protected.
APPENDIX C: Introductory Letter and Departmental Approval Letter

UNIVERSITY OF GHANA
SCHOOL OF NURSING

SON/A.12

Ref. No.:........................................

October 13, 2017

The Chairman
NMIMR – IRB
P.O. Box LG 581
Univ. of Ghana
Legon.

Dear Sir/Madam,

DEPARTMENTAL APPROVAL LETTER

This is to introduce to you Ursula Delali Agbenohevi, an M’Phil second year student of the above School, who has submitted her thesis proposal for review and approval by the Institutional Review Board. Her thesis topic: “Experiences of Midwives in Neonatal Resuscitation within the Immediate Postnatal period at the 37 Military Hospital” has been reviewed and approved by the department of Maternal and Child Health of the School of Nursing and Midwifery.

Counting on your usual co-operation.

Thank you.

Yours faithfully,

For: Prof. Ernestina Donkor
SUPERVISOR

COLLEGE OF HEALTH SCIENCES

P. O. Box LG 43, Lagon, Accra, Ghana.

Tel: +233 (0) 302 513 250 / 0289 531 213
Email: son@chss.ug.edu.gh
Website: www.nursing.ug.edu.gh
APPENDIX D: Consent Form

NEONATAL RESUSCITATION

NMIMR-IRB CONSENT

Title: Experiences of Midwives in Neonatal Resuscitation within the Immediate Postnatal Period at the 37 Military Hospital

Principal Investigator: Ursula Delali Agbenohevi

Address: School of Nursing and Midwifery, Maternal and Child Health Department, College of Health Sciences, University of Ghana. P. O. Box LG 43, Legon.

General Information about Research:

The purpose of this study is to explore the experiences of midwives in neonatal resuscitation within the immediate postnatal period. Although measures to curb the death of newborns in Ghana are being put in place, the neonatal mortality rate remains unacceptably high where a newborn dies every 15 minutes and about 30,000 die every year (WHO, 2015).

Newborn deaths do not vary much across the socioeconomic and educational backgrounds in Ghana. This therefore suggests that the quality of care newborns receive in the first hours of life contributes to the mortality. It is in light of this that this study is being carried out to find out about your experiences in relation to neonatal resuscitation at the 37 Military Hospital.

This study seeks to find out what may or may not hinder your ability to perform effective neonatal resuscitation immediately a baby, who may need help in taking its first breath, is born. If you agree to participate, you will be asked to answer some questions. This will not interfere with activities being rendered at the maternity unit because you will be approached after working hours, after services have been rendered. You will be engaged in a face to face interview at a time and place of convenience for about 50 minutes.

Your responses will be recorded using audiotape recorder. Some open-ended questions about your own experiences in neonatal resuscitation at the maternity unit will be elicited. The interview will be conducted at a time and place of your convenience.

Possible Risks and Discomforts:

It is anticipated that there will be no risks that you will be exposed to in this study. It is also envisioned that no possible discomforts will arise, although some questions may be sensitive or may elicit unpleasant feelings or memories during the interview. Therefore, you have the right to refuse to answer any of such questions.

Possible Benefits: There may not be direct benefit to you as a participant. However, the information you will provide may educate other midwives in their roles in effective neonatal resuscitation. Another benefit you may derive from this study include midwives’ awareness will be potentially increased in the improvement of neonatal resuscitation immediately after birth of a newborn.
Confidentiality: Your real name will not be used for this study to ensure that you are not associated to any information gathered. Pseudonyms will be used to ensure confidentiality. In order to ensure privacy, no identifiable information will be collected during the interview. However, telephone numbers will be collected when you agree to participate in the study. Information you provide will be protected electronically and on a hard print. Code names will be used to protect your identity so that no information provided can be traced back to you. Information provided will only be accessible to the researcher and the supervisor. For the purpose of any publication, the data will be processed and all personal identifiers removed. Privacy will be provided during the interview sessions. The study report will be in aggregate form. Demographic and audio data will be destroyed in five (5) years, after analyzing by shredding and erasing data when time for record keeping elapses. Your Nurse Officer In Charge (NOIC) will not know whether you participated in the study, and he/she will not have access to the information you provide.

Compensation: You will not receive any compensation package for participating in this study. However, your participation will ensure that you are provided with some snack of maltaguiness and sandwich during interview sessions.

Voluntary Participation and Right to Leave the Research: Participating in this study is voluntary. You may choose not to participate and leave at any point in time if you feel uncomfortable or for whatever reasons best known to you.

Contacts for Additional Information: If you have any queries about the study, contact the researcher:

Ursula Delali Agbenohevi - 0244233950, or her supervisors:

Professor Ernestina Donkor - 0243114968

Dr Mary Ani-Amponsah - 0244368205.

Your rights as a Participant

This research has been reviewed and approved by the Institutional Review Board of Noguchi Memorial Institute for Medical Research (NMIMR-IRB). If you have any questions about your rights as a research participant you can contact the IRB Office between the hours of 8am-5pm through the landline 0302916438 or email addresses: nirb@noguchi.ug.edu.gh
VOLUNTEER AGREEMENT

The above document describing the benefits, risks and procedures for the research title *Experiences of Midwives in Neonatal Resuscitation within the immediate postnatal period at the 37 Military Hospital* has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

______________________________  ________________________________
Date                                                                 Name and signature or mark of volunteer

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

______________________________  ________________________________
Date                                                                 Name and signature of witness

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

______________________________  ________________________________
Date                                                                 Name Signature of Person Who Obtained Consent
APPENDIX E: Interview Guide

SCHOOL OF NURSING AND MIDWIFERY
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA

MPHIL THESIS RESEARCH: Experiences of Midwives in Neonatal Resuscitation within the Immediate Postnatal Period at the 37 Military Hospital

Interview Guide

The purpose of this interview is to understand midwives’ experiences of neonatal resuscitation within the immediate postnatal period. This interview is being conducted for you to share your experiences about neonatal resuscitation within the immediate postnatal period. I am particularly interested in your experiences about neonatal resuscitation and humbly request you to share with me in this interview.

Please be assured that all information obtained in this interview is purely for academic purpose only and will be treated in strict confidence.

Participant Code __________________________ Date of Interview ___________
Interview Number (#) ___________________ (1st or 2nd Round) ___________

Section A: Demographic Data

a. Age in years: ___________
b. Health profession: ___________
c. Number of years of experience in health care service______________________
d. Number of years in midwifery practice_____________________
e. Number of years of practice at maternity units in Ghana: ___________
f. Number of years of practice at the maternity unit, 37 Military Hospital: ___________
g. Number of years or months in current unit (state name of unit): ___________
h. Number of years of international midwifery practice: _______ (Please specify country)
i. Position/Rank: ___________________________
j. NMC PIN: Valid [ ] Not Valid [ ] (Insert date of expiry) __________

Section B: Knowledge about neonatal resuscitation.

1. How has your shift been like today?
2. How do you anticipate your shift to be like today?
3. Which section of the maternity unit are you mostly based?
4. What interests you about newborn care?
5. What is your perception about the vulnerability of newborns?
6. When is the newborn most vulnerable?
7. What do you think about neonatal lifesaving skills immediately after birth?
8. What is your understanding of the term ‘Neonatal Resuscitation’?
9. How will you differentiate basic neonatal resuscitation from advance neonatal resuscitation?
10. What kind of support do you receive from other skilled care providers during neonatal resuscitation?
11. What are the basic items required for an effective basic neonatal resuscitation?
12. What are the items required for effective advance neonatal resuscitation?
13. How important is suctioning in neonatal resuscitation?
   a. At what point in time do you suction a baby?
   b. When do you ventilate?
   c. At what point in time do you commence cardiac compression?
14. What are the skills needed by midwives to resuscitate a newborn?
15. How available are:
   a. ambu-bags,
   b. suction tubes,
   c. bulb syringes and
   d. oxygen supply
   …in your unit for neonatal resuscitation?
16. What do you know about the Golden Minute in newborn care resuscitation?
17. Can you share with me some of your experiences in neonatal resuscitation in your capacity as a midwife?
   a. At what point in time do you commence APGAR scoring in neonatal resuscitation?
   b. How does the debate around the timing of cord clamping influence neonatal resuscitation?
   c. How important is warmth provision in neonatal resuscitation?
   d. By which means do you ensure warmth for the newborn?
18. On what surface do you resuscitate these newborns?
19. What medications do you use in neonatal resuscitation?
20. How available are these medications?
   **Describe the attitudes of midwives towards neonatal resuscitation**
21. What in your perception are the attitudes of midwives towards neonatal resuscitation?
22. When was the last time you had in-service training on neonatal resuscitation?
23. What exactly did the training entail?
24. Which other health personnel were included as trainees in your training on neonatal resuscitation?
25. Is it mandatory for you to provide to the Nurses and Midwifery Council (NMC) of Ghana yearly neonatal resuscitation training for Professional Identification Number (PIN) renewal?
26. Based on your experiences, can you share with me the attitudes of midwives towards neonatal resuscitation?

Describe the subjective norms amongst midwives on neonatal resuscitation.

27. What are external pressures from other staff that midwives face in neonatal resuscitation?
28. Can you describe any external pressure midwives face from senior management during neonatal resuscitation?
29. Would you say midwives experience external pressure from family members during neonatal resuscitation? Please explain.
30. What is team resuscitation?
31. How common is neonatal team resuscitation in your practice?
32. How often does neonatal team resuscitation occur in your unit?
33. Which unit are you practising in at the moment?
34. How has departmental rotation impacted on your care of newborns?
35. How do you see team resuscitation in saving newborn lives?
36. How do institutional factors such as:
   a. proximity to the Neonatal Intensive Care Unit (NICU)
   b. leadership
   c. policies
   d. logistics procurement supplies
   e. monitoring and evaluation
   f. perinatal mortality audit
……. affect neonatal health outcomes during neonatal resuscitation?
37. How do institutional factors such as timely access to anaesthetist affect neonatal health outcomes during neonatal resuscitation?
38. Do other institutional factors such as timely access to paediatrician also affect neonatal health outcomes during neonatal resuscitation? Please explain.
39. Would you say there are other factors that affect neonatal health outcomes during neonatal resuscitation?
40. How does the presence of:
   a. Senior management affect neonatal resuscitation?
   b. Other staff affect neonatal resuscitation?
c. Family members affect neonatal resuscitation?

41. Would you say the presence of a family member motivate the midwife to comply or not with neonatal resuscitation practice guidelines?

42. Are midwives motivated to adhere to neonatal resuscitation practice guidelines with the presence of other staff?

43. How does the presence of senior management influence midwife’s compliance with neonatal resuscitation practice guidelines?

44. How do cultural beliefs and values on newborns affect midwives’ caregiving in neonatal resuscitation?

Determine perceived behavioural control of midwives on neonatal resuscitation

45. What are some of the major obstacles that impede effective neonatal resuscitation?

46. Does personal capabilities-skill affect midwives ineffective neonatal resuscitation?

47. How related is a human resource in midwives’ capacity to engage in effective neonatal resuscitation?

48. In terms of materials, how does this affect midwives’ capability ineffective neonatal resuscitation?

49. Considering the availability of space for neonatal resuscitation, how does this affect midwives’ ability to engage in effective neonatal resuscitation?

50. What is your understanding of skill mix in neonatal resuscitation?

51. How does skill mix in neonatal resuscitation impact neonatal health outcomes?

52. Can you describe the communication systems which affect midwives’ capability to engage in effective neonatal resuscitation?

53. How would you describe religious beliefs and its effect on midwives’ capacity to engage in effective neonatal resuscitation?

54. Would you say there are other factors that affect midwives’ capacity to engage in effective neonatal resuscitation? Please explain.

55. What motivates midwives to perform effective neonatal resuscitation despite the above-mentioned obstacles? Please explain.

56. What personal characteristics would you say motivate midwives to perform effective neonatal resuscitation?

Examine midwives’ behaviour as per Standard Practice Guidelines

57. Could you please mention a few of the Standard Practice Guidelines or Flowcharts that midwives use during neonatal resuscitation?

   a. Do you have Standard Practice Guidelines/Flowcharts in your unit?

   b. Exactly where in your unit can this Flowchart be found?

58. In relation to these guidelines, what are some of the behaviours or responses midwives exhibit during neonatal resuscitation?
59. What influences the onset of these behaviours or causes these behaviours to occur during neonatal resuscitation?

60. Does an inadequacy in a midwife’s knowledge in neonatal resuscitation affect neonatal health outcomes?

61. How does inadequacies related to institutional factors in neonatal resuscitation affect neonatal health outcomes?

62. Do inadequacies related to midwives’ competency level in neonatal resuscitation affect neonatal health outcomes?

63. What are the short-term effects of poor neonatal resuscitation outcomes?

64. What are the long-term effects of poor neonatal resuscitation outcomes?

65. What recommendations will you make regarding midwives’
   a. Challenges and inactions during neonatal resuscitation?
   b. Performance on neonatal resuscitation or actions during neonatal resuscitation?