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Assessment of the Midwives' Knowledge and Competency toward Active Management of the Third Stage of Labor at Hebron Hospitals in Palestine

Ikhlas Mahmoud Ahmad Hmidat

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Prepared by:

Ikhlas Mahmoud Ahmad Hmidat

B.Sc. Nursing, Ibn Sina College - Palestine

Supervisor: Dr. Maha Nahal

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Prepared by: Ikhlas Mahmoud Ahmad Hmidat

Registration No: 22011482

Sopervisor : Dr. Maha Nahal

Master thesis submitted and approved date: 26/8/2024. The names and signatures of the examining committee members are as follows:

1. Head of Committee: Dr. Maha Nahal Signature:

2. Internal examiner: Dr. Ibtisam Dwekat Signature:

3. External examiner: Dr. Khalid Nahal Signature:

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Dedication

This thesis is dedicated to all the midwives who put in the effort and participated in the study. Thanks for your patience and professional help. Great Thanks to my father who devoted his life to his children to raise and educate them Carefully. Many thanks to my dear mother who gave me the road to my success .My gratitude to my sisters and brothers, and all my relatives who encouraged me to complete this work. This thesis is also dedicated to all the Palestinian people who are facing the martyrs and who sacrificed their lives for Palestine and Al-Aqsa.

Ikhlas Mahmoud Ahmad Hmidat

Declaration

I certify that this thesis which is submitted for the degree of master is the result of my research, except where otherwise acknowledged, and that this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Name: Ikhlas Mahmoud Hmidat

Signature: 

Date: 2024/8/26

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Abstract

Introduction: Postpartum hemorrhage (PPH) is a serious maternal life-threatening complication in the third stage of labor that leads to maternal morbidity and mortality globally, particularly responsible for about 25%of maternal deaths in developing countries (WHO, 2018). PPH can be preventable by using Active Management of the Third Stage of Labor AMTSL as the use of AMTSL reduces the PPH occurrence in about 60%. Moreover, AMTSL is important worldwide intervention protocol to prevent PPH by shortening the time of the normal third stage of labor by using a uterotonic drug (oxytocin), delaying cord clamping, controlling cord traction, and checking uterine tones to achieve delivery of the placenta safely and decrease blood loss in labor, and to complete placental delivery in less than 30 minutes. This study evaluates the knowledge and competency of midwives in Hebron hospitals, Palestine, regarding AMTSL.

Aim: To assess midwives' knowledge and competency in AMTSL and examine the correlation with socio-demographic variables toward active management of the third stage of labor at Hebron hospitals in Palestine.

Methodology: This study used a Quantitative, descriptive cross-sectional design, conducted in the main six governmental and private hospitals in Hebron city. The sample size was 125 midwives. Data were collected using two validated and reliable separate tools (Questionnaires was used to collect the data for assessing midwives knowledge and observational checklist was used to evaluate midwives practices of AMTSL). Ethical approval was obtained from the Ethical Committee at Al-Quds University, and permission was taken from the Palestinian Ministry of Health, the nursing directors of private hospitals, and the head midwife in each ward of the selected hospitals. The verbal consent form was taken from each participant and from delivered mother . The study duration lasted six months from (June to December)/ 2023. Data were analyzed using the Statistical Package for Social Sciences (SPSS 26).

Results: Results showed a poor level of knowledge among the midwives toward the AMTSL with a total knowledge score of (76%). However, midwives reflect good level of knowledge (86%) For (Domain 1) 'Before Placental Expulsion. In contrast, Domain 2

and Domain 3 (During Placental Expulsion and After Placental Delivery), indicate a lower level of knowledge in about (68% and 62%) respectively. However, the Midwives practices of AMTSL at the hospitals in Hebron governorate were considered good practice which accounts for a score of (89.3%). A very weak correlation was found between the total knowledge score and practice implementation R (correlation) was (0.056) with p-value of (0.534). There was a significant correlation between the midwives' age and their knowledge of AMTSL in (D1&D3), marital status correlated with their knowledge in (D3), and years of experience also correlated with their knowledge in (D3). The training on AMTSL correlated positively with their knowledge of (D1&D2) and with their Practice (D2) and the availability of written protocols on AMTSL in the institution correlated positively with the total knowledge in (D1&D2) and practice (D2).

Conclusions: The results of this research emphasize how critical it is for midwives to have ongoing professional development, standardized protocols, and sufficient resources to improve their adherence to AMTSL practices. This study highlights the need for continuous education and training programs to enhance midwives' proficiency in AMTSL, aiming to reduce PPH and improve maternal health outcomes in Palestine. Recommendations include facilitate regular professional development workshops and standardized protocols across healthcare facilities. Moreover, activate the monitoring system at hospital to maintain the application of AMTSL practices

Keywords: Midwives, Knowledge, Competency, Active Management, Third Stage of Labor, Hebron Hospitals, Postpartum Hemorrhage.

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List of Abbreviation

Abbreviation	Explanation
AMTSL	Active Management of Third Stage of Labor
ACOG	American College of Obstetricians and Gynecologists
CCT	Controlled Cord Traction
DIC	Disseminated Intravascular Coagulation
FIGO	International Federation of Gynecology and Obstetrics
ICM	International Confederation of Midwives
I.M	Intramuscular
I.V	Intravenous
IU	International Units
MOH	Ministry of Health
MMR	Maternal Mortality Rate
PCBS	Palestinian Central Bureau of Statistics
PPH	Postpartum Hemorrhage
SPSS	Statistical Package for Social Sciences
WHO	World Health Organization

Chapter One

Introduction

1.1 Background

Postpartum hemorrhage (PPH) is defined as blood loss from the genital tract of 500 cc or more within the first 24 hours after delivery (Amanuel et al., 2021). It is also referred to as the most common direct preventable and controlled cause of maternal deaths, especially in developing nations where there may be limited access to skilled and trained birth attendants, emergency obstetric care, and necessary medications (Say et al.,2014). PPH is responsible for approximately a quarter of maternal deaths globally, annually 14 million women suffered from PPH in 2017, and 303,000 of these women died and over 30% of maternal deaths in low-income nations (WHO) in 2018, PPH can cause significant morbidity for mothers and a heavy burden on a country's healthcare system due to complications such as anemia fatigue, and hypovolemic in blood.

However, in Palestine, studies about PPH are rare, and the only reported data indicated that the maternal mortality rate of the mother who died (22.2%) died due to PPH in the Gaza Strip in Palestine (Böttcher et al., 2018). This highlights the urgent need to address PPH in Palestine, particularly in the West Bank. The results of this study might emphasize the need for skillful midwives to assist in childbirth, to be able to work in emergency obstetric care, and to learn to use medicines such as oxytocin and misoprostol appropriately (Prata et al., 2013). Additionally, the Palestinian midwives' knowledge of preventing and managing PPH can play an important role in improving

maternal health, reducing mortality and morbidity rates significantly, and ensuring the well-being of women and newborns during delivery. The use of Active management of third stage of labor (AMTSL) is a straightforward and safe method that can effectively prevent and manage PPH. The WHO recommendations are regularly updated and define the essential components of AMTSL. Internationally, midwives, maternity nurses and health services hold different views regarding active management technique that applied during the third stage of labor, spanning from the baby's birth until the placenta is delivered, and can lead to vaginal bleeding if not managed properly. AMTSL aims to reduce the risk of developing PPH by encouraging the quick and full delivery of the placenta and minimizing bleeding (Al-Jabri et al., 2024)

The strategy of AMTSL includes a set of interventions that are considered important to manage and prevent PPH in the third stage of labor FIGO-ICM and WHO set a connected kit of interventions include the Administration of uterotonic drugs, controlled cord traction, and check uterine tones (molla et al.,2021 and Begley et al ., 2019).

Midwives have a crucial role in monitoring labor advancement, recognizing possible risks or complications, and providing necessary interventions with appropriate treatments. The midwife’s responsibilities involve regular assessment and evaluating the duration of the third stage of labor, the process and timing of placental delivery, monitoring any blood loss, checking the overall health of the mother and the baby, and educating the woman on the assessment of the general health of the mother and her newborn, and providing education to the woman (Eddy et al., 2018).

The role of the midwife is vital in AMTSL, as it ensures a safe and healthy delivery for both the mother and newborn. Yet, there is insufficient data available regarding the knowledge and practices of Palestinian midwives about active management of the third stage of labor. Previous studies have shown that midwives' understanding and implementation of AMTSL can vary greatly depending on factors like experience, cultural beliefs, education level, and hospital protocols (Eddy et al., 2018, Prick et al., 2013, Gizzo et al., 2013, Gülmezoglu et al., 2012)

Some midwives may be uncertain about the use of uterotonic drugs due to concerns about side effects, while others may be unconfident in performing controlled cord traction or check uterine tonus. Therefore, studying the knowledge, and practices of midwives towards active management of the third stage of labor (AMTSL) is essential

for improving the quality of care provided to women during childbirth. Observing the midwives through the administration of AMTSL will help in understanding their adherence to the international protocols of AMTSL. It can also help in identifying some factors that might hinder their adherence. Results might help in developing interventions that promote best practices in childbirth management and ensure the safety and well-being of mothers and babies.

1.2 Problem Statement

Postpartum Hemorrhage (PPH) is the major cause of maternal morbidity and mortality worldwide with the highest incidence in developing countries. It responsible about 25% of all maternal deaths worldwide with annually 14 million women suffered from PPH, and 303,000 of these women died, especially in settings where there are no qualified birth attendants as midwives or when there is a lack of the necessary skilled birth attendants and enough equipment and materials to prevent and manage PPH. The majority of these deaths are preventable by adopting simple, effective, and safe strategies such as AMTSL (Martins et al., 2016: WHO 2018)

AMTSL is implemented worldwide as a practice supported by evidence. According to Oyetunde et al., (2015), it is generally believed to be a cost-effective and top option for preventing PPH and lowering maternal mortality and morbidity. WHO recommends that skilled birth attendants use AMTSL routinely for all vaginal births at health facilities (WHO, 2018). Since women in labor are at risk for PPH, midwives need to be knowledgeable and skilled in using AMTSL techniques to prevent PPH. Nevertheless, the effectiveness of AMTSL performed by trained birth attendants is in doubt due to the increasing occurrence of PPH (Lalonde et al., 2012; Schack et al., 2014).

Studies have identified a gap in the use of AMTSL, it was found that only 16 out of the 37 investigated countries reported the administration of AMTSL in their hospitals (Kim et al., 2013). A study conducted in seven Sub-Saharan countries reported that the AMTSL was only implemented correctly in (0.5–32%) of the observed deliveries (Kim et al., 2013; Yaekob et al., 2015).

Midwives bear a huge burden in prevention of PPH and save the mother lives, as they are the main heath care providers and the closest ones to women; midwives are the responsible ones in caring for the women during labour and in administration of

AMTSL. Lack of Knowledge, practices and poor performance among them towards the administration of AMTSL will expose women to PPH and consequently lead to maternal morbidity and mortality. On the other hand, there are no published studies were found in Palestine about the knowledge and practices of midwives on AMTSL. Moreover, there is no baseline data about the awareness or practices of the Palestinian midwives' toward AMTSL. Therefore, this study aimed to assess midwives' knowledge and competency in AMTSL and examine the correlation with socio-demographic variables toward active management of the third stage of labor at Hebron hospitals in Palestine.

1.3 Justification of the Study

AMTSL is a necessary procedure to prevent and treat postpartum hemorrhage (PPH). Previous studies showed that midwives lacked adequate knowledge and skills in AMTSL. A study showed that 33.3% of obstetric care providers knew about active management of the third stage of labor, but only 15.7% correctly used AMTSL in Hawassa City. On the flip side, different research found that the mean scores for knowledge and practice were 73.8% and 77.2%, respectively (Tenaw et al., 2016; Muzeya & Julie, 2020).

This study will examine the midwife's practices and competencies toward AMTSL. The findings and recommendations of this study could add value to the Midwifery profession in Palestine, also it is expected to build a body of knowledge about midwives' competency in managing childbirth and to inspire further research.

1.4 Aim of the study:

To assess midwives' knowledge and competency in AMTSL and examine the correlation with socio-demographic variables toward active management of the third stage of labor at Hebron hospitals in Palestine.

1.5 Objectives of the study:

1. To evaluate the level of midwives' knowledge of AMTSL in the selected hospitals at Hebron in Palestine.
2. To assess the level of midwives' practice toward AMTSL in the selected hospitals at Hebron in Palestine.

3. To examine the relationships between the knowledge and practice of midwives about AMTSL in the selected hospitals at Hebron in Palestine.
4. To examine whether the differences in socio-demographic characteristics, experience of the midwives, having training, availability of written protocol and type of hospital will reflect the level of their competency toward AMTSL in the selected hospitals at Hebron in Palestine.

1.6 Research Questions

What is the level of knowledge about AMTSL among the midwives in the selected hospitals at Hebron in Palestine?How do midwives practice AMTSL at the selected hospitals at Hebron in Palestine?Is there a relationship between the knowledge and practice of midwives about AMTSL at the selected hospitals at Hebron in Palestine?How will the differences in socio-demographic characteristics of the midwives reflect the level of their competency toward AMTSL at the selected hospitals at Hebron in Palestine?

1.7 Context of study:

1.7.1 State of Palestine

Palestine is an Arab country located in Western Asia, situated on the eastern coast of the Mediterranean Sea. It covers approximately 27,000 square kilometers in total and was occupied by Israel in 1948. After the 1948 conflict, the remaining areas are separated by geography into the West Bank and Gaza Strip. Jordan, Syria, Lebanon, Egypt, the Mediterranean Sea, and the Palestine Liberation Organization (PLO) are the external neighbors of the country. The West Bank and Gaza Strip are home to approximately 5,483,450 individuals and cover approximately 6,020 square kilometers, resulting in a population density of 847 persons per square kilometer (2,195 people per mi2). The West Bank consists of 5,640 km2 of land, which includes East Jerusalem, and 220 km2 of water, covering the Dead Sea's northernmost part. Approximately 670,000 Israeli settlers reside in the West Bank along with 3,256,906 Palestinians (PCBS, 2022).

The Palestinian National Authority governed the West Bank through 11 governorates: Jenin, Tubas, Tulkarm, Nablus, Qalqilya, Salfit, Ramallah and Al-Bireh, Jericho, Jerusalem, Bethlehem, and Hebron (MoH, 2016).

1.7.2 Health Care System in Palestine

The Palestinian healthcare system consists of four main sectors: the government health sector (the Palestinian Ministry of Health and Military Medical Services), non-governmental organizations, the United Nations Relief and Works Agency, and the private sector. The Palestinian Ministry of Health (P MOH) is the main healthcare provider in all the governorates. It has been seriously affected by the financial crisis being knowledgeable by the Palestinian Authority (MoH, 2021). In particular, there have been reductions in the number of patients being referred outside the occupied Palestinian territory for specific treatment and there have been growing and considerable shortages of medicines and disposables.

1.8 Definition of terms

Midwife: an individual, typically a female, who has been educated and trained to assist women during labor and delivery. The midwife is the person who has successfully completed the midwifery education program according to the ICM Essential Competencies and Global Standards for Midwifery Practice and Education that is recognized in their country, and shows proficiency in midwifery practice (ICM, 2024).

Competency: refers to the combination of knowledge and practice (skills and abilities), allowing individuals to complete a task with positive results in desirable outcomes (ICM, 2005).

Active Management (AMTSL): involves performing specific interventions that should be done to prevent postpartum hemorrhage following delivery of the newborn. It confirmed globally in the following steps:

1. uterotonic drug administration, preferably oxytocin immediately after the anterior shoulder of baby birth is delivered.

2. delivery of the placenta through controlled cord traction (CCT).

3. post-partum abdominal uterin tonus assessment for early identification of uterine atony is recommended for all women.

4. delay cord clamp. This form of management is considered a crucial evidence-based and inexpensive intervention for the prevention of PPH (Angarita & Berghella, 2022).

5. The third stage of labor: this is a period of labor that begins with the completed delivery of the baby and finishes when the placenta and its membranes are fully expelled. Compared to the first and second stages of labor the third stages had less consideration thought or education to be devoted to or for health team providers. (Güngördük, et al, 2018).

6. Postpartum hemorrhage (PPH): known as excessive blood loss from the birth canal that occurs after baby delivery up to 6 weeks postpartum, and the estimated blood loss> 500ml or any amount that causes maternal condition deterioration (Güngördük, et al, 2018).

7. Maternal mortality: The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental .

8. Mortality rate: Number of maternal deaths in given time period per 100 000 women of reproductive age, or woman-years of risk exposure, in same time period.

Chapter Two

Literature Review

2.1 Introduction

This chapter will summarize and analyze the literature review about the post-partum hemorrhage, epidemiology, mortality and morbidity of postpartum hemorrhage, etiology/risk factor of postpartum hemorrhage, prevention of postpartum hemorrhage by active management, treatment of postpartum hemorrhage, complications of postpartum hemorrhage, Midwives' competency for active management of third stage off labor and their role, factors affecting Midwives' competency to enhance prevention of PPH, summary.

In this review, Goggle schooler, PubMed, science direct ,WHO site, Palestine MOH was used to find the knowledge frame. The keywords used in this review were assessment of midwives knowledge and practice regarding active management of third stage of labor, post-partum hemorrhage.

2.2 Postpartum Hemorrhage

Postpartum hemorrhage: (PPH) is a dangerous situation caused as complications of delivery; it is defined as loss of blood more than 500 mL followed by vaginal birth and 1000 mL after cesarean. This definition was redefined in 2017 by the American College of Obstetrics and Gynecology as accumulative blood loss more than 1000 mL regardless of the mode of delivery within 24 hours of the birth process together with signs and symptoms of hypovolemia. (Wormer K.C et al ,2019). But the Royal College

of Obstetricians and Gynecologists (RCOG) defines PPH by focusing on the volume of blood lost during and after delivery as minor PPH (blood loss between 500 and 1000 ml) and major PPH (>1000 ml) (FIGO, 2022).

PPH had classified according to time of occurrence as primary postpartum hemorrhage which is blood loss that occurs in the first 24 hours after delivery. Secondary postpartum hemorrhage: is defined as blood loss that occurs after 24 hours to 12 weeks postpartum. The diagnosis of PPH included changes in the level of hematocrit, the need for blood transfusion, the rapidity of blood loss seen or reported, and changes in the client's vital signs (Wormer, 2019).

Postpartum Hemorrhage (PPH) is an emergency preventable obstetric situation that's considered one of the top five causes of maternal mortality found in developed and developing countries, although the absolute risk of death from PPH is much lower in developed countries, they found that the most common maternal morbidity even in highly resourced developed countries had to increase in incidence. When the health team provider has available and appropriate resources, timely recognition, and appropriate response with directed knowledge based on training for AMTSL this will play a critical role in preventing mortality and severe maternal morbidity due to PPH (Lagrew et al., 2022).

The third stage of labor is the identified as time after the delivery of the fetus until the complete removal of the placenta. Known as the shortest time and easiest stage, but most of maternal deaths due to complications occurred (Deepak, 2013). World Health Organization (WHO) recommended and supported the AMTSL as an important and critical intervention for the prevention of PPH. AMTSL has been identified as an important component of the PPH reduction strategies in the third stage of labor in most governments around the world.it is a package of three components: administration of uterotonic drugs, preferably 10 IU of oxytocin intramuscular after delivery of anterior shoulder; delivery the placenta by controlled cord traction (CCT) with delay cord clamp; and uterine tonus assessment after placental delivery (WHO, 2014).

Active management of the third stage of labor is shown as a solution to reduce unnecessary procedures and complications, such as postpartum hemorrhage and manual removal of the placenta. Every year nearly 700 mothers in the United States die from

complications of pregnancy based on The Joint Commission, obstetric hemorrhage is the widely spread repeatedly cause of severe maternal morbidity and maternal mortality that can be preventable (The Joint Commission, 2019). The atonic uterus is uterine failure to contract after the birth of the placenta, it accounts for approximately 70% to 80% of cases who had PPH. Using uterotonic agents to support the uterus to contract, is considered a first-line intervention that should be started to prevent PPH caused by uterine atony (ACOG, 2017; WHO, 2012). The uterotonic drug of choice is Oxytocin that recommended universally for all women decreasing the incidence of PPH (WHO, 2012).

The effective use of AMTSL to reduce PPH and its treatment has been investigated by several large trials. AMTSL significantly reduces the rate of postpartum hemorrhage, decreases the amount of blood loss, and decreases the need for blood transfusion procedures. The midwife AMTSL competency in developing countries doesn't follow the recommendation of FIGO because of different factors like knowledge, training, qualification, and other demographic factors. The competency of AMTSL was only 5% of all the deliveries observed, health team workers in obstetrics need to have availability of medication and training to prevent or manage the client exposure to PPH (Taylor, 2012). In Palestine there is no study documented about midwives' AMTSL competency, this study aimed to assess the competency of the midwives regarding active management of the third stage of labor at Hebron's hospitals/Palestine.

2.3 Epidemiology

Globally, around 810 women die every day from preventable complications of pregnancy and childbirth. Approximately, 75% of these deaths caused by severe bleeding, infections, high blood pressure, pregnancy complications, and unsafe abortion. severe postpartum bleeding is the primary direct cause of maternal death, known as postpartum hemorrhage (PPH). Annually, approximately 14 million mothers suffer from PPH post-childbirth and 70,000 mothers face maternal deaths worldwide. Even when mothers survive, they frequently require immediate surgical procedures to manage the bleeding and could end up with a permanent reproductive impairment (WHO, 2023).

In developed countries, as WHO shows that Eastern Europe and Southern Asia accomplished the greatest comprehensive decrease in maternal mortality ratio (MMR): it decreases in Eastern Europe to 70% (from an MMR of 38 to 11) and in Southern Asia to 67% (from an MMR of 408 down to 134) (WHO, 2023)

In a developing country, one of the developing countries had recent studies is Sub-Saharan Africa had also obtained an essential reduction in MMR of 33% during the period (2000 – 2020) despite its very high MMR in 2020, Four sub-regions roughly halved their MMRs during this period: Eastern Africa, Central Asia, Eastern Asia, and Northern Africa and Western Europe reduced their MMR by around one third (WHO,2023)

Low and high-income countries, in low-income countries, maternal death in 2020 was 430 per 100 000 live births versus 12 per 100 000 live births in high-income countries, The increased rate of maternal deaths in the low-income areas of the world shows unfair access to quality health services and focuses on the gap between rich and poor. MMRs (2020) in these countries had ranging from 30 (the Syrian Arab Republic) to 1223 (South Sudan). The average MMR for very high and high-alert fragile states in 2020 was 551 per 100 000, it had over double the world average. Mothers in low-income countries have an increased lifetime risk of maternal death 1 in 49 versus in high-income countries which is 1 in 5300 (WHO, 2023)

In Arab countries, in Egypt, the maternal mortality ratio decreased from 84 deaths per 100,000 live births in 2000 to 54 deaths in 2009, but it has steadied since then. Maternal deaths nationwide are estimated by 20% due to PPH (Vlassoff, 2016).

In Jordan, the total number of live births in (2021) was 187,722, and the Maternal Mortality Ratio (MMR) was estimated at 85.2 per 100,000 live births, a mother who died due to PPH were 12 cases (7.5%) in 2021 (Jordan's National Maternal Mortality Report, 2021). Saudi Arabia had an MMR of approximately 17%, and the reduction rate between 2000 and 2017 was only 29%, the incidence of atonic PPH in the total sample was 2.5%, with the rate increasing by 12% between 2017 and 2018 in a tertiary hospital in Saudi Arabia. (Almutairi, 2020)

In Palestine the estimated maternal mortality ratio was 28.5 per 100 000 live births, there was an estimated 75,037 live births; 38,343 in the West Bank and 36,694 in Gaza.

A total of 37 maternal deaths were reported; 24 deaths in the West Bank and 13 deaths in Gaza. an increase of 43.2% compared to 2019. Bleeding contributed to half of all direct causes in Gaza versus 15.4% in the West Bank. The highest mortality ratio was in Hebron government in the number of live births was 25,508 they had 11 cases died ratio of 43.1%. Two of them are caused by bleeding (National Maternal Mortality Report, 2020).

2.4 Mortality and Morbidity of Postpartum Hemorrhage

Maternal mortality is unacceptably high. About 287 000 women died during and following pregnancy and childbirth in 2020. Almost 95% of all maternal deaths occurred in low and lower-middle-income countries in 2020, and most could have been prevented, woman die mostly severe bleeding (commonly bleeding after childbirth) .As stated in a WHO(2020) report, the global yearly maternal mortality rate is 216 deaths per 100,000 live births, with postpartum hemorrhage causing 1 in 1000 deliveries in developing nations. Maternal death due to PPH occurs in health facilities of low-income countries where there are no adequate obstetric care providers or where they lack the necessary knowledge, skills, and supplies to prevent and manage the problem. The majority of deaths due to PPH are caused by uterine atony (a condition when the uterine muscle fails to contract and legate uterine blood vessels after delivery of the placenta). Most of the time, maternal mortality and morbidity due to PPH take place within the first day after delivery within the time frame of primary PPH. Around 88% of maternal deaths due to PPH take place within the first 4 hours of delivery which indicates the severity of this period because of complications of the third stage of labor (Wake et al., 2020; Union, 2017).

2.5 Etiology/risk factor of postpartum hemorrhage

Acute postpartum hemorrhage has different possible causes and it has two types primary and secondary and had four causes of Post-partum hemorrhage Primary causes of postpartum hemorrhage include uterine atony or lack of effective contraction of the

uterus it’s the most common serious cause of postpartum hemorrhage as a complication of the third stage of labor. It's approximately form 70% of PPH cases (Oyelese, 2010).

Uterine atony had a risk factor included among pregnant mothers complicated with chorioamnionitis, a mother who is grand multiparty, overdistension of the uterus such as (polyhydramnios, multiple fetal gestations, and macrosomia fetus). In labor mothers who had high risk could be who had prolonged labor or induction/augmentation by oxytocin/prostaglandin, intrinsic myometrial dysfunction as in precipitated labor, distension of urinary bladder, exposure to the pharmacological materials(halogenated general anesthetics, oxytocin, magnesium sulfate, beta-blockers, diazoxide, and tocolytic agents) infections (chorioamnionitis, endometritis, and septicemia), fibroids uterus, placenta previa, placenta abruption, placental tissue retained and blood clot retained causes secondary relaxation of the uterus (Escobar et al., 2022).

Trauma: Genital tract trauma or lacerations approximately accounts for 15%–20% of PPH cases mostly attributed to perennial or cervical lacerations, perennial hematomas, episiotomies, or uterine rupture. These occur in the setting of precipitous uncontrolled deliveries or operative vaginal deliveries (Escobar et al., 2022).

Tissue: Retained placenta or products of conception can elevate the risk of PPH by 3.5 times. Risk factors include placenta succenturiate and previous instrumentation such as intrauterine devices or evacuation and curettage (Escobar et al., 2022).

Thrombin: Coagulation disorders can be divided into two parts first inherited, such as hemophilia, von Willebrand diseases, and idiopathic thrombocytopenic purpura, and second acquired, such as the use of medication such as anticoagulant therapy and the have after placental abruption a disseminated intravascular coagulopathy (DIC), pre-eclampsia with severe features, intrauterine fetal demise, infection such as sepsis, or amniotic fluid embolism. (Escobar et al., 2022).

A qualitative descriptive exploratory study was conducted as part of a larger sequential exploratory-mixed methods research to investigate the factors impacting the occurrence and prevention of PPH in women during childbirth. The primary results of this research show that women and their partners had a limited understanding of PPH. Family members and CHWs believe that it is their responsibility to ensure that the woman reaches the health facility in a timely manner for the prevention of PPH. Participants

identified multiparty and retained placenta as the primary factors linked to PPH. According to Bazirete et al. (2020), the primary obstacles to preventing PPH are identified as low socioeconomic status and delays in accessing health care. Other factors that can lead to postpartum hemorrhage include things like retained parts of the pregnancy tissue, infections, incomplete healing of the placental site, and genetic blood clotting disorders (Escobar et al., 2022)

2.6 Prevention of Postpartum Hemorrhage by active management

The third stage of labor is known as the time between the completed delivery of the newborn and the completed expulsion of the placenta. It should take less than 30 minutes duration in nulliparous as well as in multiparous women, contractility of the uterus and placental separation duration affect the length of the third stage and complications related (Management of the Third Stage of Labor, 2015). The routine and correct usage of active management in the third stage of labor will decrease the occurrence of postpartum hemorrhage to 60% when we compared it to the expectant management of the third stage of labor according to (Wake & Wogie, 2020).

The PPH prevention highlight steps as the following as in literature:

Domain 1: Before the Expulsion of the Placenta

Check the uterus for the presence of a second baby by palpating the maternal abdomen: This step ensures that a twin pregnancy is not missed, which could lead to complications during the delivery of the second baby. According to a study by Begley et al. (2019), the careful palpation of the maternal abdomen for a second baby is crucial in preventing unforeseen complications during the third stage of labor.

Administer 10 IU of oxytocin to the mother: Administering 10 IU of oxytocin during the delivery of the anterior shoulder or immediately after the baby's delivery is a critical step in preventing postpartum hemorrhage (PPH). The World Health Organization (2012) strongly recommends this practice as the first line of uterotonic drug administration during AMTSL.

Delay cord clamp for (2_3) minutes: Delaying clamping of the cord during birth facilitates the transfer of more blood from the placenta to the baby, leading to higher iron levels and better developmental results. McDonald et al. (2013) pointed out that

postponing cord clamping can bring about significant advantages for newborn health while not raising the chance of maternal hemorrhage

Domain 2: During the Expulsion of the Placenta

Confirm signs of placental separation: Confirming signs of placental separation, such as a gush of blood, a lengthening of the umbilical cord, and a firm uterus, is essential to ensure that the placenta is ready to be delivered. Prendiville et al. (2009) found that recognizing these signs early helps in timely and safe delivery of the placenta

Wait for a strong uterine contraction to apply CCT: Waiting for a strong uterine contraction before applying controlled cord traction (CCT) helps prevent uterine inversion and ensures effective placental separation. This practice is supported by guidelines from the Royal College of Obstetricians and Gynecologists (2016), which emphasize the importance of timing in applying CCT for effective placental expulsion

Stabilize the uterus by applying suprapubic pressure to the abdomen of the mother: Stabilizing the uterus with suprapubic pressure while applying CCT helps in preventing uterine inversion and ensures controlled placental delivery. Studies by the International Federation of Gynecology and Obstetrics (FIGO) and the International Confederation of Midwives (ICM) have shown that this practice significantly reduces the risk of complications during placental expulsion

Domain 3: After the Expulsion of the Placenta

Examine the completeness of the placenta and its membranes: Examining the placenta and its membranes for completeness helps identify any retained placental tissue, which could lead to postpartum hemorrhage. The completeness check is essential to prevent subsequent bleeding and infection, as highlighted by Deneux-Tharaux et al. (2013)

Place the placenta in a bowl: Placing the placenta in a bowl allows for thorough examination and helps ensure that no pieces of the placenta or membranes are missing. Khan et al. (2006) note that this simple practice is crucial for the accurate assessment of placental integrity

Check that the uterus does not become relaxed after delivery of the placenta Ensuring the uterus remains contracted after placental delivery is vital to prevent atonic

PPH. Immediate uterine massage if the uterus is not contracted is recommended by WHO (2012) to maintain uterine tone and reduce bleeding

Examine the woman's vagina, perineum, and external genitalia for lacerations and active bleeding: This step is important for identifying and managing any tears or lacerations that could contribute to postpartum hemorrhage. (Prendiville et al,2009) emphasize the necessity of this examination as part of comprehensive postpartum care

Help and teach the mother to empty her bladder: Assisting and teaching the mother to empty her bladder reduces the risk of bladder distension, which can impede uterine contractions and increase the risk of PPH. The Royal College of Obstetricians and Gynaecologists (2016) includes this step in their guidelines for postpartum care to ensure optimal uterine contraction and minimize bleeding.

Teach the mother to uterine tonus assessment every 15 minutes for 1-2 hours: Teaching the mother to uterine tonus assessment helps ensure uterine tone is firm and early assess atonic uterus to prevents PPH developing in delivery. This practice is recommended by FIGO and ICM (2022) as a critical step in reducing the incidence of PPH in low-resource settings

Closely monitor the mother in the labor room for the first 1 hour after delivery: Close monitoring of the mother during the first hour after delivery allows for the early detection and management of PPH and other complications. Westhoff et al. (2013) highlight the importance of this period in ensuring maternal safety and health

Teach the mother about the normal amount of lochia: Educating the mother about the expected amount and changes in lochia helps her recognize any abnormal bleeding and seek timely medical attention. Gülmezoglu et al. (2012) stress the importance of postpartum education in preventing and managing PPH.

The world health organization guides the main recommendations for postpartum hemorrhage prevention include the use of uterotonic drugs during the third stage of labor to prevent PPH for all births, giving Oxytocin (10 IU intravenously/intramuscularly for vaginal delivery and cesarean section. When oxytocin is used it should have attention to the oxytocin cold chain, and when oxytocin is not available or couldn't save quality, could the use of other injectable uterotonics (if appropriate ergometrine/methylergometrine 200 μg IM/IV; prior to its use hypertensive

disorders should be excluded) or using misoprostol orally (400–600 µg orally) or carbetocin 100 µg IM/IV (WHO, 2022). Furthermore, combining oxytocin with ergometrine or oxytocin with misoprostol may offer a more efficient approach to prevent postpartum hemorrhage of 500 ml or more when compared to the standard use of oxytocin. However, there is an increased chance of experiencing negative consequences (such as vomiting and hypertension with ergometrine, and getting a fever with misoprostol) when skilled birth attendants are not available to administer injectable uterotonics and oxytocin, leading to the use of misoprostol (400-600 µg orally) by community healthcare workers (WHO, 2022).

It is advised not to use controlled cord traction (CCT) in environments lacking skilled birth attendants. Continuous uterine massage should not be used as a preventative measure for PPH in women who have been given prophylactic oxytocin. Recommended method for removal of the placenta after cesarean delivery is Oxytocin (IV or IM) and CCT, uterine tonus assessment used for early identification of atonic uterus in women postpartum to help prevent PPH (Escobar et al., 2022).

2.7 Treatment of Postpartum Hemorrhage

Treatment of PPH is an important step when talking about one of the most common causes of maternal mortality worldwide, it accounts for about 25%–30% of all maternal deaths and atonic uterus is the most common cause of PPH. It happens by any method of delivery during any time it occurred as reported in 6% of cesarean deliveries and 4% of vaginal deliveries, it's unpredictable urgent, fast, and sudden massive bleeding that is a life-threatening complication of delivery (Friedman, 2013).

Health team providers use reasonable methods in preventing and managing PPH including uterine tonus assessment and massage, uterotonic administration, repair of the genital tract, retained tissues of placental removal, packing of the vagina, or coagulation disorders correction. But if the conservative approach doesn’t stop hemorrhage, another method such as ligation of the hypogastric artery, and hysterectomy must be used. It’s important to use because if not done it could result in mortality (Lin, ,C.Y., et al, 2021).

The drug of choice for treating PPH is oxytocin given intravenously as the first-line uterotonic. If oxytocin doesn't work or isn't available intravenously, ergometrine can be used intramuscularly, or a fixed dose of oxytocin-ergometrine, or a prostaglandin drug

like sublingual misoprostol (800 μg) is recommended. No data exists on whether giving an extra 800-μg dose of misoprostol is safe or effective for treating PPH in women who have already been given 600 μg of oral misoprostol. It is advised to use isotonic crystalloids instead of colloids when providing initial intravenous fluid resuscitation for women with PPH (Escobar et al., 2022).

Mothers diagnosed with PPH after giving birth should receive intravenous tranexamic acid as soon as PPH is identified, but no later than 3 hours after birth. Tranexamic acid should be given intravenously at a rate of 1 g (100 mg/ml) per minute for 10 minutes, with a second dose given if bleeding persists after 30 minutes, or if bleeding recurs within 24 hours of the first dose. Uterine massage is advised for managing PPH. Using external aortic compression or uterine bimanual compression for treating postpartum hemorrhage from an atonic uterus after vaginal birth is advised as a temporary solution until proper care is accessible (Wormer, 2022).

When the mother doesn't react to uterotonics treatment or if these medications are not accessible, the use of uterine balloon tamponade is advised as an efficient nonsurgical method to possibly enhance survival in women with PPH caused by uterine atony, after excluding retained products of conception or uterine rupture as possible factors. The use of uterine packing is not advised for managing postpartum hemorrhage caused by uterine atony following vaginal delivery. Medical procedures like compression suture methods, ligation of uterine and hypogastric arteries, and removal of the uterus. The main focus is on halting the bleeding before the patient experiences clotting issues and organ damage due to poor blood flow. Conservative methods should be attempted initially, with a quick transition to more invasive treatments if the former are unsuccessful. (Escobar and colleagues, 2022).

2.8 Complications of Postpartum Hemorrhage

When a mother had excessive blood loss post-delivery (postpartum hemorrhage), this put the mother at risk of hypovolemic shock, when they lose more than 20% of the blood, they develop tachypnea, tachycardia, hypotension narrow pulse pressure, and capillary refill delayed. All of this will lead to ischemic injury to the brain, liver, kidney, and heart. Postpartum hypopituitarism (Sheehan syndrome) is a complication of

postpartum hemorrhage due to excessive blood loss. The complications related to management include the following: Transfusion-related complications, acute lung injury, Infections, and hemolytic transfusion reactions (Wormer KC., et al, 2022 & Nishimwe , A., et al., 2021).

2.9 Midwives' Competency for active management of the third stage off labor and Their Role

Numerous research studies seek to understand midwives' perspectives on AMTSL. One significant study compares the knowledge of midwives who work with laboring women and receive updated training on postpartum hemorrhage and neonatal resuscitation through a mobile application teaching strategy for 6 months. The researcher's goal is to assess the impact of the mobile application as a guide to midwives' practice. A paired-sample t-test was utilized to assess the difference in mean knowledge and skills scores for PPH before and after the intervention. The nurses' and midwives' knowledge and skills in managing PPH and neonatal resuscitation were enhanced up to 6 months after the implementation of the mobile learning intervention (Nishimwe, A., et al., 2021).

2.10 Factors Affecting Midwives' Competency to Enhance Prevention of PPH

Many factors can affect the midwives' competency in practicing the AMTSL during childbirth. These factors include having strategies and protocols to identify women at high risk of PPH early inability to access quality emergency obstetrical services, lack of transportation, lack of awareness, and lack of trained health professionals. Further, providing ongoing training for healthcare professionals, and enhancing educational materials for the mother and family members to help them recognize signs of PPH (Wake & Wogie, 2020).

Another study by Than et al., (2017), measures the midwife's awareness of oral misoprostol administration in preventing postpartum hemorrhage in resource-limited settings. It supports home delivery and provides guidelines for safe home delivery by training the midwives. Other factors were found to have a significant association with the proper application of AMTSL among midwives, such as loading uterotonic drugs

before the third stage of labor, having in-service training, work experience, and knowledge of AMTSL (Callister & Edwards, 2017).

Working in a training and teaching hospital can influence the midwives' knowledge and practice more than in other health facilities according to a scientific study done in Nepal included only one training center hospital. It was found that healthcare providers and midwives in these hospitals can get their knowledge and experience from a gynecologist and other senior staff because they often work under supervision. providers who managed the third stage of labor with assistance were two times more likely to practice AMTSL appropriately compared to those who managed 3rd stage of labor alone (Oyetunde M. O. et al, 2015).

2.11 Summary

AMTSL is cost effective simple and practical intervention to decrease the incidence of PPH. It has been globally supported and widely promoted for more than a decade as part of programs for the reduction of maternal mortality. The routine practice of AMTSL has been shown to dramatically reduce hemorrhage, midwives have to know the components of AMTSL, the time of application, and committed practice.

Chapter Three

Conceptual framework

3.1 Introduction:

This chapter includes conceptual and operational definitions of the independent and dependent variables. The conceptual framework addresses the major concepts and variables of this study including the knowledge and practice of the midwives toward AMTSL.

3.2 Conceptual definition of independent variables:

1. Social demographic characteristics: These characteristics refer to the social and demographic factors that influence people's lives and experiences. These characteristics include factors such as age, ethnicity, race, gender, educational attainment, marital status, occupational status, and socioeconomic status. Understanding sociodemographic characteristics is crucial for addressing health disparities and developing interventions to improve health outcomes in different contexts (Bel-Serrat et al., 2018).

3.2 Conceptual definition of dependent variables:

1. Competencies: these are skills, knowledge, and capabilities that a person should have possessed when practicing, completing assigned tasks, or achieving required goals. It mainly depends on individual knowledge and practice.

2. **Knowledge:** it is about the individual awareness of facts or applied skills, and may also refer to familiarity with certain tasks. Knowledge of facts, also called propositional knowledge, is often defined as true belief that is different from opinion or implication by justification (Zins & technology, 2007).

3. Practice: The act of doing something regularly or repeatedly to improve skills when doing it. it is also a job or business that involves a lot of skills or training and then done often as a habit, or tradition (Cambridge Dictionary,2013).

3.4 Operational definitions of the independent variables:

1. Social demographic characteristics: This study will identify the following socio-demographic characteristics of the midwives (Age, marital status, educational level). Work related factors such as (work place , years of experience in labor room, take traning regarding AMTSL, availability of written protocol in wark place).

3.5 Operational definitions of the dependent variables

1. Competencies

This study will measure the competency of the midwives regarding active management of the third stage of labor. Measuring the extent to which midwives demonstrate proper knowledge and practice regarding the active management of the third stage of labor helps promote childbirth and prevent postpartum hemorrhage.

Knowledge

It’s the intellectual perception of Midwives about active management of third labor and the key components involved in management to prevent PPH. To measure the level of the midwives' knowledge of the importance of administering the uterotonic drug, controlling cord traction of the placenta, and the application of uterine tonus assessment.

Practice

To witness the practical implementation of AMTSL by the midwives. Watching how they handle the third stage of labor and seeing their procedures. The updated standard (WHO, 2022) advises that all midwives must receive training on the AMTSL protocols per National guidelines. Correct implementation of Active Management of the Third Stage of Labor (AMTSL) involves giving uterotonic medication, applying controlled

cord traction, and performing uterine tonus assessment . Dupont et al. (2014) strongly recommend giving prophylactic oxytocin during baby delivery while providing counter traction when the uterus is contracted. This was measured by observing the midwives practice of AMTSL by using check list.

The following Figure (3.1) show the Conceptual Frameworks Diagram

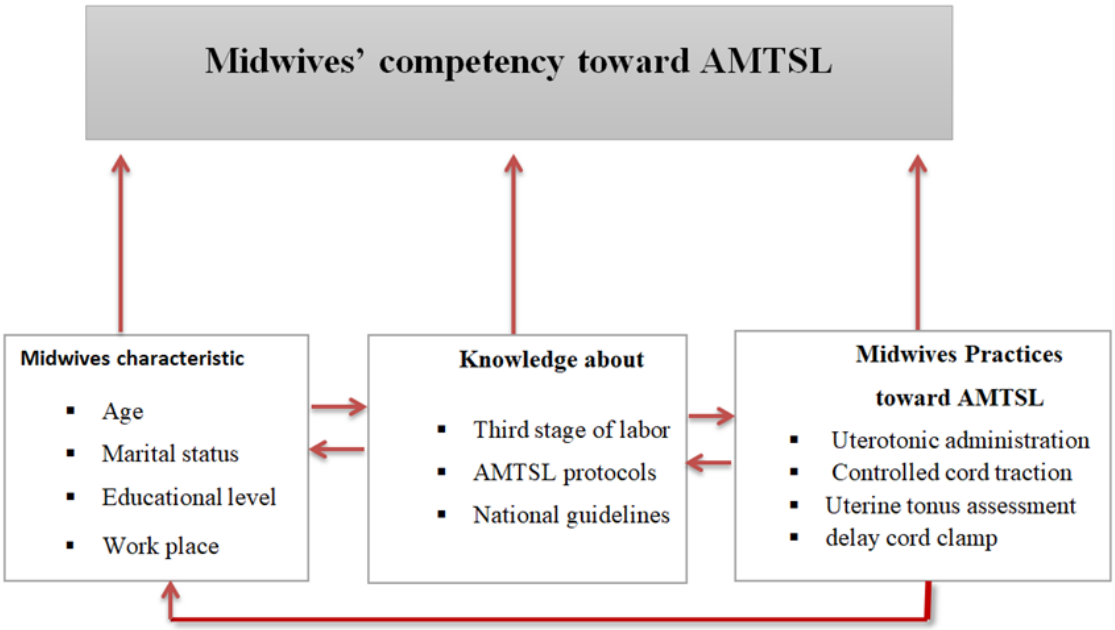

Figure (3.1): Conceptual Frameworks Diagram

Chapter Four

Research Methodology

4.1 Introduction:

This chapter aims to define and clarify the implemented methodology in this research which examines the Assessment of the Midwives' Competency Regarding Active Management of the third Stage of Labor in Hebron Hospitals in Palestine. The researcher depends on several techniques to accomplish this study and achieve the stated goals. Ethical Consideration and permission, Study instrument, validity and reliability of Instrument Pilot study, Data collection, Data entry and analysis, and Summery.

4.2 Study Design:

This study used a Quantitative, descriptive cross-sectional design to examine the midwives' knowledge and competencies toward AMTSL. This includes assessing the midwives' knowledge about AMTSL, and their practices of managing the third stage of labor and applying the AMTSL in Hebron hospitals the West Bank/ Palestine. The study used two separate tools (observational checklist and Questionnaires).

4.3 Setting:

This study was conducted at 6 hospitals located in Hebron governorate. It includes the Government and private hospitals that are located in different places in Hebron and

provide maternal health care. The government hospitals are Alia, Yatta, and Al-Mohtaseb Hospitals. The private hospitals are: Al_Mezan, Al-Ahli, and Al-Helal hospitals.

4.3.1. Government hospitals

1. Alia Hospital

Alia Hospital is also known as Princess Alia Hospital. It is a government hospital that is managed by the Palestinian Ministry of Health. It was built in 1957 and has 237 beds. It employs 596 staff, The Maternity ward at Alia Hospital had 8 beds in the labor room and 30 beds in the post-natal wards. The number of midwives working at Alia Hospital is 34 midwives. The total number of normal vaginal deliveries is nearly 4463 and the number of cesarean deliveries is 1242 delivery each year (MoH, 2021).

2 .Yatta Hospital

Yatta is a Town in the Hebron Governorate, located 9 km south of Hebron city, in the southern part of the West Bank. The maternity ward at Yatta Hospital had 3 beds in the labor room and 16 beds in the post-natal wards. The number of midwives working at Yatta Hospital is 15 midwives. The total number of normal vaginal deliveries is nearly 3711 each year (MoH, 2021).

3 .Al-Mohtaseb hospital

Al-Mohtaseb Hospital is a government hospital that is managed by the Palestinian Ministry of Health. It is located in old Hebron city. The maternity ward at Mohammad Ali Al-Mohtaseb hospital had 2 beds in labor room and 14 bed postnatal the total number of employees is 129. The number of midwives working at Mohammad Ali Al-Mohtaseb hospital is 13 midwives. The total normal number of normal vaginal deliveries is nearly 2607 each year (MoH, 2021).

4.3.2. Private hospitals

1. Al_Mezan Hospital:

Al_Mezan Hospital is one of the most important hospitals in Hebron. The maternity ward at Almezan Hospital had 3 beds in the labour room and 15 beds in the post-natal

wards. The number of midwives working at Almezan Hospital is 15 midwives. The total normal number of normal vaginal deliveries is nearly 2344 each year (MoH, 2021).

2. Al_Ahli Hospital

This hospital has a labor ward that is considered a unit of the baby-friendly hospital. It contains 9 beds in the delivery unit, and (34) beds in the post-delivery and gynecology wards. The number of midwives who are working at this hospital is 30 midwives. They are highly trained, and certified Midwives. The number of normal vaginal deliveries each year is nearly accounts for 5390 deliveries, and the number of caesarian deliveries is 1614 delivery (MoH, 2021).

3. Al-Helal Hospital:

Al-Helal Hospital is located in the center of Hebron city. The maternity ward at Al-Helal Hospital had 3 beds in the labor room and 20 beds in the post-natal wards. The number of midwives working at Al-Helal Hospital is 30 midwives. The total normal number of normal vaginal deliveries is nearly 4934 each year (MoH, 2021).

4.4 Study population and sampling

The target group of this study includes all the midwives who were working in labor word at the selected hospitals in Hebron governorate West Bank/Palestine within the period of the study that started in June 2023 to December 2023. The total number of midwives was 132 midwives distributed among the six selected hospitals in Hebron. The researcher was able to take the number of midwives from each hospital through the assigned meeting with the nursing administrators of the selected hospitals, and from the recorded number of midwives in the annual report (MOH as Annual Report, 2022). Table 4.1 shows the distribution of the midwives in each hospital.

Table (4.1): Name of the selected hospitals and number of midwives distributed per hospital

No.	Hospitals name	Hospitals Type	Midwives No
1	Al-Mohtaseb Hospital	Governmental	15
2	Hebron Hospital (Alia)	Governmental	23
3	Yatta Hospital	Governmental	15
4	Al-Mizan Hospital	Private	23
5	Al-Ahly Private Hospital	Private	23
6	Al-Hilal Private Hospital	Private	33
	Total	**6**	**132**

Sample Size

The sample size was calculated by the use of online sample size calculators (Raosoft, 2012). It was calculated according to the total number of midwives in the selected six hospitals. The estimated sample size was calculated with a statistical significance level of 95% confidence interval, and of 0.05 error. The final calculated sample size was 99 Midwives according to this statistical equation.

$$x = Z(^{c}/_{100})^{2} r(100-r)$$

$$n = {}^{N\,x}/_{((N-1)E^{2} + x)}$$

$$E = \mathrm{Sqrt}[{}^{(N - n)x}/_{n(N-1)}]$$

The sample size, denoted by n, along with the margin of error E, depends on the population size N, the response fraction r, and the critical value Z(c/100) for the confidence level.

Yet, 125 midwives consented to take part in this study during the data collection period

Type of the sample: the type of sampling that was used in this study is a convenient sample. Therefore, the findings of this study can be generalized only to studies that are conducted in a similar context and use a similar study design but not to the entire population because it was based on the convenience sampling method (Andrade , 2021).

Inclusion criteria:

- Registered midwives with a diploma, bachelor's degree, or higher education.
- Midwives who were working in the labor ward in the six selected hospitals during the period of the study. The inclusion into the study depended on the availability of the midwives who agreed to provide their informed consent and to participate in the study.
- One year of work experience or more.

Exclusion criteria:

- Midwife had less than one year of work experience.

4.5 Instruments of the Study

In this study competency of the midwives regarding AMTSL was assessed through the use of two instruments. The first instrument was a structured self-administered questionnaire that was used to assess the midwives' knowledge regarding AMTSL. The second instrument was a checklist that included all the items necessary to investigate the midwives' practices of AMTSL in the third stage of labor. The checklist was used by the researcher to observe the midwives' practice of AMTSL in the third stage and to check the application of each step required in the application of AMTSL.

4.5.1 Midwives' knowledge of AMTSL (self-administered questionnaire)

The self-administered questionnaire was designed by the researcher based on a literature review. The researcher designed the questionnaire in the English language and was concerned about the clarity and simplicity of the language. This made it easier for the midwives to understand.

It consists of the following two parts:

Part one includes assessing the socio-demographic characteristics of the midwives including (Age, Marital status, educational level, work experience, place of work, received previous training in AMTSL, and read a written protocols about AMTSL).

Part two includes three domains and 19 items about the Midwives' Knowledge of AMTSL. The first domain is about assessing the midwives' knowledge before placental

expulsion which includes 10 items. the second domain for assessing the midwives' knowledge during the expulsion of the Placenta and it includes three items. The third domain assessed the midwives' knowledge of AMTSL after Placenta delivered and it includes 6 items. This part used close-ended questions that had three options (Agree, neutral, disagree), where true answers are pre-defined by the researcher. The scoring of knowledge was based on calculating the number of correct answers for each item, where the correct answer was coded as (1) incorrect and neutral answer as (0), and then summing them to a total out of 19, then transformed to a score out of 100%. This scoring system was adopted from a previous study relevant to my study (Molla W et al.,2021), it considered a score of less than 84% as poor knowledge which is calculated if the participant wrongly answered three or more items.

4.5.2. Observational checklist to observe midwives' practice of AMTSL

The observation checklist has 3 domains (Before Placental Expulsion, During Placental expulsion, and After Placental Delivery). The level of practice measured is based on a series of 20-steps checklists that were used previously by (Molla W et al., 2021). The choices of the checklist were listed in two points 'Applied'coded (1) or "Not applied" coded(0). Evaluation of the practice according to this checklist was done as follows: Good practice was considered for those who followed the 20 steps of the checklist correctly. Poor practice of AMTSL: considered for those midwives who did not follow at least 3 steps of the checklist correctly (Molla W et al., 2021).

4.6 Validity of the Study questionnaire

Content validity is often done to determine the degree to which the tool of the study will measure what it was supposed to measure (Elshair et al., 2012; Thatcher., 2010). Content validity also refers to the degree to which the questionnaire delivers adequate coverage of the research questions (Saunders et al., 2009). Instruments used in this study were derived from previous international studies of (Oyetunde M. O. et al, 2015;Yaekob et al., (2015;Molla, W., et al, 2021). These studies confirmed the validity and reliability of the study tools. Further, adaptation of the questionnaire and the check list was done after a strict review and modification for the content of the two tools. Revision was done by the researcher and an experienced doctor in the field who supervised the study. Several meetings were conducted between the researcher and the supervisor to review the

content, the clarity, and the suitability of each item. Reviewing the tool was an essential step to ensure that it is congruent with the aim and specific objectives of the study. Further, to confirm the suitability of this questionnaire to the participants and its relatedness to the study purpose. Every item was reviewed carefully and modifications were done to make it clear and consistent with the AMTSL guidelines used in the Palestinian context.

The modified questionnaire and checklist were then sent to three reviewers who are experts in the field. The questionnaire was then modified based on the referee's comments. After incorporating the suggested modifications, the questionnaire and checklist were sent back to the expert for review to determine if any additional changes were necessary. Once they were finalized and validated, by the experts and the supervisor, the study tools ready for the data collection. The study tools are found at the Appendix (A).

Internal Validity: Internal consistency has been tested by calculating Pearson's correlation coefficient of all the item's scores and to the total score of the axis it measures. The results are shown in Table (4.2) below and distributed according to the three domains (1. Before the Expulsion of the Placenta 2. During the Expulsion of the Placenta 3. After the Expulsion of the Placenta).

Table (4.2): Pearson's correlation coefficients for measuring the validity of the questionnaire's internal consistency for the three domains of the midwives' knowledge of AMTSL

No.	**Correlation Coefficient**	**No**	**Correlation Coefficient**
Domain1		**Domain 2**	
1	0.776*	11	0.569*
2	0.816*	12	0.621*
3	0.451*	13	0.504*
4	0.497*	**Domain 3**	
5	0.615*	14	0.429*
6	0.546*	15	0.497*
7	0.692*	16	0.657*
8	0.641*	17	0.541*
9	0.618*	18	0.661*
10	0.663*	19	0.448*

(*) Function at value (0.05). Correlation is significant at the 0.05 level,

Pilot Study

A pilot study was conducted on a group of 5 midwives who met the criteria from Al-Mohtaseb Hospital and Alahli Hospital in Hebron. A pilot study was conducted to confirm the validity of the tool before starting the data collection. It helped the researcher to test the clarity of the questionnaire, point out understandability in wording, determine the real time needed to fill the questionnaire and identify the suitability of the questionnaire or any vagueness in the presented items. The pilot study was helpful and no modifications were made to the tool after the pilot testing. The time needed to fill the questionnaire is 15 minutes.

4.7 Reliability of the study questionnaire:

It is the degree of consistency that measures the attribute; it is supposed to measure (George and Mallery ,2006). The less variation an instrument produces in repeated measurements of an attribute, the higher its reliability. Reliability is similar to the consistency, or dependability of a measuring tool. The test is repeated to the same sample of people on two occasions and then compares the scores obtained by computing a reliability coefficient (George and Mallery ,2006). In this study, Cronbach's alpha was measured for the questionnaire that assesses the midwives' knowledge of AMTSL.

Cronbach's Alpha

Cronbach's alpha is designed as a measure of internal consistency (George D. & Mallery P, 2006). It investigates if there is consistency between all the items in the questionnaire and whether all items within the instrument measure the same thing. The normal range of Cronbach's coefficient alpha value is between 0.0 and + 1.0, and the higher values reflect a higher degree of internal consistency. The Cronbach's coefficient alpha in this study was calculated for each domain of the questionnaire for all sample. Values of Cronbach's Alpha in this study were in the range of 0.710 and 0.791. This range is considered high and ensures the reliability of the three domains (Before Placental Expulsion, During Placental expulsion, and After Placental Delivery). Cronbach's Alpha for all the items in the questionnaire was 0.823 which indicates a very good reliability of the entire questionnaire. Table (4.3) shows the results of Cronbach's Alpha.

Table (4.3): Cronbach's Alpha for each domain of the questionnaire

No	Domain	Cronbach's Alpha
1.	Before Placental Expulsion	0.791
2.	During Placental Expulsion	0.710
3.	After Placental Delivery	0.714
	Total	**0.823**

4.8 Ethical Considerations

Before the beginning of the research study, ethical approval was obtained from the Ethical Committee at Al-Quds University following the Helsinki ethical issues. Permission to conduct the study at the government hospitals was taken from the Ministry of Health. And permission was taken from the nursing directors at the private hospitals. Oral permission (informed consent) from each participant was obtained. All ethical issues of research were continued and participation was voluntary. Confidentiality and anonymity were maintained, the delivered mothers who was included in the observation part of study was informed about thesis and their consent were taken.

4.9 Data Collection

The main researcher visited the hospital's administrators and the head nurses responsible for the maternity units asked to inform all the midwives about the study. Explained the purpose of the study and took permission for the data collection process. The main researcher approached potential participants and verbally invited them to participate in this study. The self-administered questionnaires were distributed with a cover letter, this letter clarifies the research purpose, the response way, the research aim, and the information security to have a high response rate.

Participating midwives were told that they were free to withdraw from the study at any time, and confidentiality was maintained. All participants provided informed consent orally. The period of the data collection in the study started in June 2023 to December

2023. The average time for filling out the questionnaire was 15 minutes. The midwives were asked to put the filled questionnaires in a sealed envelope in a special box labeled research questionnaire at the reception area without putting their names or the hospital they worked in.

The observational process was performed by the researcher to assess the accuracy of implementing the AMTSL at selected Hospitals. Observation studies can enable the researcher to notice certain practices and it might evaluate the competencies of midwives toward AMTSL. The participants might not be aware of their faults or the inaccuracy of the implementation steps. Because participants could reoccur in the observations, it was not deemed suitable to share the observed data with the participants as this doubtlessly would have affected the activities that were observed.

The observational checklist that assesses the midwives' practice toward AMTSL was collected by the researcher and had help of five qualified -assistant midwives who work in the labor room of each hospital, the assistant had adequate knowledge and enough trained about AMTSL and they were excluded from the sample. In six hospital the observation was applied for 125 midwives who working in labor room for 125 case of delivery, the midwife was observed once to fill the checklist . The participant midwives knew about the study and the checklist but they didn't know when the observational checklist was filled by the researcher or assistant to prevent any bias in collecting the data the time taken to collect all questioner was two moths but the duration that needed to fill the check list was six month due to the need to have active delivery and reach to the third stage of labor to measure the practice and document their observation . All questionnaires and observation checklists were kept under lock and key for the security and confidentiality of obtained information.

4.10 Data Analysis

The collected data was entered into the computer software alll data analyses were performed using Statistical Packages for Software Sciences (SPSS) version 26 Armonk, New York, IBM Corporation. The researcher herself was able to enter the data after coding the questions and then cleaning the entered data. The researcher checked all data to avoid any discrepancies; data was examined for coding and entry errors. Data was expressed as mean, median, and standard deviation. Quantitative data was expressed as frequency and percentage.

The stages of data analysis included: coding the questionnaire, data entry, data cleaning, constructing frequency tables for all the study variables, testing reliability for each categorized question, and forming cross-tabulation. The following tests were applied in this study:

1) Pearson-Correlation (r) and Cronbach's Alpha tests were used to test the validity and reliability of the questionnaire respectively.
2) Descriptive analysis: mean, proportional mean, standard deviation, distribution, frequency and percentage
3) Analysis was performed using compare means tests (t-test and ANOVA).
4) Coefficient analysis was conducted through linear regression analysis to examine the association between demographic factors and knowledge and practice scales.
5) Categorical variables were described using frequency distribution and percentages. Mean and standard deviation were calculated for socio-demographic variables.
6) Statistical significance of $p < 0.05$ was used.
7) The poor knowledge and practice of AMTSL: considered for those midwives who did not answered or follow at least 3 steps of the qestioner and checklist correctly with a score of less than 84-85% respectively dependent on (molla et al .,2021) .

4.11 Summary:

This chapter gives a summary of the methodology employed in this research, including details on the study design, the specific population targeted, and the data collection and analysis procedures carried out using SPSS version 26.

Chapter Five

Results

5.1 Introduction:

This chapter presents the study results following analysis and interpretation of the raw data on the findings of the data collected. The findings are presented according to the objective of the study and the questionnaire. It includes the characteristics of the participant Midwives, Knowledge of the Midwives about AMTSL, their practice of AMTSL, the relation between the knowledge and practice of midwives about AMTSL, and the reflection of socio-demographic characteristics on knowledge and practice of AMTSL. The studied socio-demographic characteristics were: age, marital status, years of experience, and the level of education on Midwives' competency of AMTSL in selected hospitals.

5.2 Sociodemographic Characteristics of the midwives

Table 5.1: Frequency and percent of Sociodemographic Characteristics of the midwives' (N=125)

Sociodemographic Characteristics of the Midwives		**No**	**(%)**
Age	Less than 25years	4	3.2
	25 - 45 years	115	92.0
	46 - 60 years	6	4.8
Marital status	Single	34	27.2
	Married	88	70.4
	Divorced	1	0.8
	Widowed	2	1.6
Educational level	Diploma	26	20.8
	Graduate (Bachelor)	87	69.6
	Post-Graduate (Master/PhD)	12	9.6
Work place	Privet hospital	78	62.4
	Governmental hospital	47	37.6
Years of Experience in labor room	1-5 years	43	34.4
	6-10 years	56	44.8
	11-15 years	19	15.2
	16 and above	7	5.6
Did you take training regarding AMTSL?	Yes	97	77.6
	No	28	22.4
Do you have any written protocols about (AMTSL) available at your workplace?	Yes	97	77.6
	No	28	22.4

Table (5.1) showed that the majority of the participating midwives 115 (92.0%), were in the age group between 25-45 years old, while 6 (4.8%) were between 46 - 60 years old and 4 (3.2%) were Less than 25 years old. According to the marital status 34 (27.2%) of the participants were single, 88 (70.4%) were married, 1 (0.8%) divorced and 2 (1.6%) were widowed. The majority of the midwives were educated 87 (69.6%) with Bachelor degree and 12 (9.6%) post-graduate (Master/PhD), 26 (20.8%) diploma. The years of experience for the midwives were distributed as follows 43 (44.8 %) had 1-5 years of experience in midwifery, 56 (34.4%) had experience of 6-10 years, 19 (15.2%) had 11-15 years and 7 (5.6%) had 16 years of experience and above. Midwives who answered "yes" to taking training regarding AMTSL were 97 (77.6%), and those who answered "no" were 28 (22.4%). The presence of written protocols at the workplace was answered by "yes" in about 97 (77.6%) and answered by "no" in 28 (22.4%) of the midwives.

5.3 level of midwives' knowledge about AMTSL

Question one: What is the level of knowledge about AMTSL among the midwives in the selected hospitals at Hebron governorate in Palestine?

To answer question one and to understand the level of the midwives' knowledge about AMTSL mean, median, proportional mean, standard deviation, and frequency were calculated for the three domains of the midwives' knowledge questionnaire.

Table 5.2 : Midwives' knowledge level toward AMTSL at Hebron hospitals

	N	Full mark	Median	Mean	Std. Deviation	Proportional mean	Level *
Total knowledge	125	**19**	15.0	14.43	2.25	76%	Poor
Total knowledge for D1	125	**10**	9.0	8.64	1.38	86%	Good
Total knowledge for D2	125	**3**	2.0	2.04	0.874	68%	Poor
Total knowledge for D3	125	**6**	4.0	3.74	1.07	62%	Poor

(Domain1: D1, domain 2: D2 and domain 3: D3)

** The knowledge level was measured for those who answered 16 of 19 questions correctly (good knowledge equivalent to 84% or above.*

The level of knowledge regarding AMTSL in Hebron hospitals is determined by finding the total mean of the three domains (Domain 1: **'Before Placental Expulsion'**, Domain 2: **'During Placental Expulsion'** and Domain 3: "**After Placental Delivery**". Midwives who answered (16) or above from (19) items correctly considered as good knowledge (equivalent to 84% or above) and those who answered less than 16 items considered as poor knowledge. **Table 5.2** shows the means for each domain and the total mean. The overall knowledge, assessed across (19) items, shows a mean score of (14.43) out of (19) with a median of (15.0) and a standard deviation of (2.25). The total proportional mean was (76%) which is considered as poor knowledge because it is less than (84%). When breaking down the knowledge by domains, the results highlight strengths and weaknesses. For (Domain 1) **'Before Placental Expulsion'**, midwives scored an average of (8.64)out of (10), with a median of (9.0)and a standard deviation of (1.38), reflecting a good level of knowledge (86%). In contrast, for the (Domain 2) '**During Placental Expulsion'**, the average score was (2.04) out of (3), with a median of (2.0) and a standard deviation of (0.874), indicating a poor knowledge (68%). Similarly, knowledge related to Domain 3 **'After Placental Delivery'** was notably lower, with an average score of (3.74) out of (6), a median of (4.0), and a standard deviation of (1.07), categorized as poor knowledge (62%).

The frequency of midwives' knowledge in the three domains related to their knowledge of AMTSL was analyzed in frequency and percentage of their answers presented in the following table.

Table 5.3 : Distribution of participants based on their answers to questions related to their knowledge. (N=125 midwives)

	Correct Answer No (%)	**Wrong Answer No (%)**
Before Placental Expulsion (Domain1) D1		
1. AMTSL should be given for all laboring mothers	118 (94.4)	7 (5.6)
2. Administration of uterotonic drugs is one of the essential components in AMTSL	105 (84.0)	20 (16.0)
3. Oxytocin is the first-line uterotonic drug recommended in AMTSL	116 (92.8)	9 (7.2)
4. Misoprostol medication is not the first line of uterotonic drugs recommended in AMTSL	74 (59.2)	51 (40.8)
5. 10 IU is the recommended dose of oxytocin that should be given in AMTSL for PPH prevention	125 (100.0)	--
6. Oxytocin administration through IM/IV Route for AMTSL	113 (90.4)	12 (9.6)
7. Oxytocin must be stored under the temperature of 2-8 C	117 (93.6)	8 (6.4)
8. The recommended time of uterotonic drug administration to mother in AMTSL after the delivery of the anterior shoulder of baby	120 (96.0)	5 (4.0)
9. The optimal time of uterotonic drug administration in AMTSL is within one minute after delivery of the baby before placental delivery	103 (82.4)	22 (17.6)
10. Midwife should do delay cord clamp	90 (72.0)	35 (28.0)
During Placental Expulsion (Domain2) D2		
11. The sign of placental separation is a gush of blood, elongation of the cord, and bulk uterus.	111 (88.8)	14 (11.2)
12. Apply controlled cord traction is one of the essential components of AMTSL	50 (40.0)	75 (60.0)
13. midwife should wait 2-3 minutes for strong contraction to do CCT	94 (75.2)	31 (24.8)
After Placental Delivery (Domain3) D3		
14. Uterine tonus assessment is one of the essential components of AMTSL.	113 (90.4)	12 (9.6)
15. The midwife is doing immediate uterine tonus assessment after placental delivery	106 (84.8)	19 (15.2)
16. The midwife performs uterine tonus assessment after delivery every 15minutes for the first 2 hrs	28 (22.4)	97 (77.6)
17. The midwife assessed Placenta for completeness	98 (78.4)	27 (21.6)
18. The midwife informs the mother and demonstrates how uterine tonus assessment and empty her bladder.	21 (16.8)	104 (83.2)
19. The midwife should be completed AMTSL within half hour	102 (81.6)	23 (18.4)

Table (5.3) presents a detailed breakdown of midwives' knowledge regarding Active Management of the Third Stage of Labor (AMTSL) across its three critical domains:

before placental expulsion, during placental expulsion, and after placental delivery, revealing varying levels of understanding across different components. The results indicate a high level of correct knowledge in several areas, with notable percentages of correct answers including (100%) for the recommended dose of oxytocin, (96.0%)for the timing of uterotonic drug administration, and (94.4%) for administering AMTSL to all laboring mothers. These high percentages reflect a strong grasp of critical aspects of AMTSL among participants. Conversely, there are significant gaps in knowledge, as evidenced by lower correct response rates for questions such as the use of misoprostol (59.2% correct) and controlled cord traction (40.0% correct). Additionally, areas like patient education on uterine tonus assessment and bladder emptying showed alarmingly low correct response rates (16.8% correct).

5.4 Practice of midwives for AMTSL

Question 2 : How do midwives practice AMTSL at the selected hospitals at Hebron in Palestine?

Table 5.4 : Midwives' Practice application level toward AMTSL for three Domains at Hebron hospitals.

	N	Full Mark	Median	Mean	Std. Deviation	Proportional mean	Level*
Practice total score	125	20.00	20.00	17.85	1.479	89.3%	Good
Practice total score D1	125	3.00	3.00	2.08	0.907	69.3 %	Poor
Practice total score D2	125	7.00	7.00	6.42	0.918	91.7 %	Good
Practice total score D3	125	10.00	10.00	9.34	0.852	93.4 %	Good

(Domain1: D1, domain 2: D2 and domain 3: D3).

**the practice level was measured for those who answered 17 of 20 questions correctly (good practice)(85%).*

Table (5.4) provides an assessment of midwives' practice application levels regarding AMTSL at Hebron hospitals. The overall practice score, based on a maximum of 20 items, has a mean of 17.85 with a median of 20.00 and a standard deviation of 1.479, categorized as good practice (89.3%) because it is above (85%)according to the evaluation criteria (see * below the **Table 5.4**). This indicates that midwives generally apply AMTSL practices effectively.

When examining the practice scores by domains, the data reveals consistent strengths for domain 2 and domain 3. For the domain 1 '**Before Placental Expulsion**', midwives scored an average of (2.08) out of 3, with a median of (3.00) and a standard deviation of 0.907, reflecting a poor level of practice (69.3%). In contrast, for the domain 2 '**During Placental Expulsion**', the average score was (6.42) out of (7), with a median of (7.00) and a standard deviation of (0.918), it is indicating a good level of practice (91.7%). Similarly, For the domain 3 '**After Placental Delivery**', midwives achieved an average score of (9.34) out of (10), with a median of (10.00) and a standard deviation of 0.852, demonstrating a good level of practice (93.4 %).

Table 5.5 : Distribution of participants based on their answers to questions related to their practice application. (N=125 midwives)

	Applied No (%)	Not applied No (%)
Before Placental Expulsion D1		
1. Check the uterus for the presence of a second baby by palpating the maternal abdomen	74 (59.2)	51 (40.8)
2. Administer 10 IU of oxytocin (IM/IV) to the mother during delivery of the anterior shoulder or immediately after the baby delivered	92 (73.6)	33 (26.4)
3. Delay cord Clamp close to the mother perineum and hold the cord in one hand	95 (76.0)	30 (24.0)
During Placental Expulsion D2		
4. Confirm signs of placental separation (Gush of blood, long cord, firm uterus)	104 (83.2)	21 (16.8)
5. wait for a strong uterine contraction for 2-3 minutes to apply CCT	105 (84.0)	20 (16.0)
6. Stabilize the uterus by applying suprapubic pressure to the abdomen of the mother.	114 (91.2)	11 (8.8)
7. Gently hold the cord and apply control cord traction with suprapubic pressure	118 (94.4)	7 (5.6)
8. Hold the placenta supported in two hands and gently turn it until the membranes are twisted	121 (96.8)	4 (3.2)
9. Extract membrane gently with lateral movement	119 (95.2)	6 (4.8)
10. If the membrane tear gently examines the upper vagina and cervix	122 (97.6)	3 (2.4**)**
After Placental Delivery D3		
11. Examine the completeness of the placenta and its membranes	108 (86.4)	17 (13.6)
12. Place the placenta in a bowl	106 (84.8)	19 (15.2)
13. Check that the uterus does not become relaxed after delivery of the placenta	121 (96.8)	4 (3.2)
14. Immediately after placental delivery, if the uterus is not contracted, start massaging the uterus till uterus is hard	123 (98.4)	2 (1.6)
15. Examine the woman's vagina, perineum, and external genitalia for lacerations and active bleeding	119 (95.6)	6 (4.8)
16. Ensure the uterus does not relax after stopping uterine massage	125 (100.0)	----
17. Help and teach the mother to empty her bladder	118 (94.4)	7 (5.6)
18. Teach the mother to uterine tonus assessment every 15 minutes for 1-2 hours	119 (95.2)	6 (4.8)
19. Closely monitor the mother in labor room for the first 1 hour after delivery	112 (89.6)	13 (10.4)
20. Teach the mother about normal amount of lochia	117 (93.6)	8 (6.4)

(Domain1: D1, domain 2: D2 and domain 3: D3

Table (5.5) provides an overview of midwives' checklist items of various practices related to AMTSL Labor, highlighting both applied and not applied practices among participants. The **Table (5.5)** shows a high level of adherence to essential practices, with several items receiving notably high percentages of application. For instance, (98.4%) of midwives promptly initiate uterine massage if the uterus is not contracted immediately after placental delivery, and (100%) ensure the uterus does not relax after stopping uterine massage. Additionally, (96.8%) check for placental completeness and monitor for signs of uterine relaxation after delivery, and (95.2%) gently extract membranes with lateral movement. These high application rates reflect a robust implementation of critical practices in AMTSL.

While overall adherence is high, some practices have lower application rates and considered as poor practice level . For example, (59.2%) of midwives check for the presence of a second baby by palpating the maternal abdomen, and (73.6%) administer 10 IU of oxytocin at the appropriate time. Similarly, practices such as delaying cord clamp close to the mother perineum and hold the cord in one hand (76.0%). While confirm signs of placental separation, wait for strong uterine contraction for 2-3 min to apply CCT and placing the placenta in a bowl (83.2, 84, 84.8%) respectively, show room for improvement. Furthermore, teaching the mother to empty her bladder and teaching her to uterine tonus assessment every 15 minutes for 1-2 hours are applied by (94.4%) and (95.2%) of midwives, respectively, suggesting that while these practices are well-implemented, there is still some variability in their application.

5.5 Association between knowledge and practice of midwives about AMTSL

Question 3: Is there a relationship between the knowledge and practice of midwives about AMTSL at the selected hospitals at Hebron in Palestine?

In order to test this relationship, a linear regression analysis was used as follow:

Table 5.6 : Regression results for the relationship between Midwives' knowledge and Practice implementation

Model	R	R Square	Adjusted R Square
1	**0.056**[a]	**0.003**	**-0.005**
a. Predictors: (Constant), Total score of knowledge			

The linear regression analysis presented in **Table (5.6)** investigates the relationship between midwives' knowledge across three domains and their practice implementation. The model summary shows an R (correlation) value of (0.056), indicating a very weak correlation between the total knowledge score and practice implementation. The R^2 value is (0.003), suggesting that only (0.3%) of the variance in practice implementation can be explained by the midwives' total knowledge. The adjusted R^2 value of (-0.005) further indicates that the model does not fit the data well when adjusting for the number of predictors.

Table 5.7 : One-way ANOVA result for the significance of relationship between Midwives' knowledge and Practice implementation

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	0.855	1	0.855	0.389	0.534[b]
Residual	270.553	123	2.200		
Total	271.408	124			
a. Dependent Variable: Practice total score					
b. Predictors: (Constant), Total score of knowledge					

In the ANOVA section **Table (5.7)** the F-value is (0.389) with a p-value of (0.534), which is not statistically significant. This suggests that there is no significant overall effect of midwives' total knowledge on their practice implementation.

5.6 Reflection of socio-demographic characteristic on Midwives' competency of AMTSL in selected hospitals

Question 4 :How will the differences in socio-demographic characteristics of the midwives reflect the level of their competency toward AMTSL at the selected hospitals at Hebron in Palestine?

Factors with more than 2 groups (Age, Marital Status, educational level and years of experience)

In order to answer this question, analysis using one- way ANOVA was conducted to assess the impact of socio-demographic variables (e.g., age, marital status, education level and years of experience) on knowledge and practice scores. Test significancy was accredited based on ($p \leq 0.05$).

5.6.1 Age of the midwives

Table 5.8 : One-way ANOVA results for differences in means of Knowledge and practice implementation (three domains) level due to age among midwives

ANOVA						
		Sum of Squares	Df	Mean Square	F	P-value
Practice total score	Between Groups	2.743	2	1.371	0.623	0.538
	Within Groups	268.665	122	2.202		
	Total	271.408	124			
Practice total score D1	Between Groups	0.153	2	0.077	0.092	0.913
	Within Groups	101.879	122	0.835		
	Total	102.032	124			
Practice total score D2	Between Groups	0.063	2	0.031	0.037	0.964
	Within Groups	104.465	122	0.856		
	Total	104.528	124			
Practice total score D3	Between Groups	1.529	2	0.765	1.052	0.352
	Within Groups	88.679	122	0.727		
	Total	90.208	124			
Knowledge total score	Between Groups	26.578	2	13.289	2.684	0.072
	Within Groups	604.094	122	4.952		
	Total	630.672	124			
Total score of knowledge D1	Between Groups	14.981	2	7.490	4.125	0.018
	Within Groups	221.531	122	1.816		
	Total	236.512	124			
Total score of knowledge D2	Between Groups	1.273	2	0.637	0.830	0.438
	Within Groups	93.527	122	0.767		
	Total	94.800	124			
Total score of knowledge D3	Between Groups	7.483	2	3.742	3.349	0.038
	Within Groups	136.325	122	1.117		
	Total	143.808	124			

(Domain1: D1, domain 2: D2 and domain 3: D3)

The results from **Table (5.8)** indicate that age does not significantly affect the overall practice total score or the scores for practice before, during, and after placental delivery among midwives. However, the total knowledge score shows a trend towards significance (p = 0.072), implying that age might influence overall knowledge, although this effect is not statistically significant at the conventional alpha level. Notably, there are significant differences in the total score of knowledge before (p = 0.018) and after placental delivery (p = 0.038).

5.6.2 Marital status of the midwives

Table 5.9: One-way ANOVA results for differences in means of Knowledge and practice implementation (three domains) level due to marital status of midwives

ANOVA						
		Sum of Squares	Df	Mean Square	F	P value
Practice total score	Between Groups	2.270	3	0.757	0.340	0.796
	Within Groups	269.138	121	2.224		
	Total	271.408	124			
Practice total score D1	Between Groups	2.730	3	0.910	1.109	0.348
	Within Groups	99.302	121	0.821		
	Total	102.032	124			
Practice total score D2	Between Groups	1.055	3	0.352	0.411	0.745
	Within Groups	103.473	121	0.855		
	Total	104.528	124			
Practice total score D3	Between Groups	1.783	3	0.594	0.813	0.489
	Within Groups	88.425	121	0.731		
	Total	90.208	124			
Knowledge total score	Between Groups	18.463	3	6.154	1.216	0.307
	Within Groups	612.209	121	5.060		
	Total	630.672	124			
Total score of knowledge D1	Between Groups	8.523	3	2.841	1.508	0.216
	Within Groups	227.989	121	1.884		
	Total	236.512	124			
Total score of knowledge D2	Between Groups	1.402	3	0.467	0.606	0.613
	Within Groups	93.398	121	0.772		
	Total	94.800	124			
Total score of knowledge D3	Between Groups	9.372	3	3.124	2.812	0.042
	Within Groups	134.436	121	1.111		
	Total	143.808	124			

(Domain1: D1, domain 2: D2 and domain 3: D3)

Table (5.9) presents the one-way ANOVA results for differences in the means of knowledge and practice implementation across three domains, based on the marital status of midwives.

Practice Total Score: The ANOVA results indicate that there are no significant differences in the overall practice scores among different marital status groups (F = 0.340, p = 0.796). This lack of significance is also observed for practice scores before (F = 1.109, p = 0.348), during (F = 0.411, p = 0.745), and after placental delivery (F = 0.813, p = 0.489).

Total Knowledge: Similarly, there are no significant differences in total knowledge scores based on marital status (F = 1.216, p = 0.307). However, the total score of knowledge after placental delivery shows a significant difference (F = 2.812, p = 0.042).

5.6.3 Educational level of the midwives

Table 5.10 : One-way ANOVA results for differences in means of Knowledge and practice implementation (three domains) level due to educational level of midwives

ANOVA						
		Sum of Squares	Df	Mean Square	F	P-value
Practice total score	Between Groups	10.006	2	5.003	2.335	0.101
	Within Groups	261.402	122	2.143		
	Total	271.408	124			
Practice total score D1	Between Groups	0.145	2	0.072	0.087	0.917
	Within Groups	101.887	122	0.835		
	Total	102.032	124			
Practice total score D2	Between Groups	1.225	2	0.612	0.723	0.487
	Within Groups	103.303	122	0.847		
	Total	104.528	124			
Practice total score D3	Between Groups	3.612	2	1.806	2.544	0.083
	Within Groups	86.596	122	0.710		
	Total	90.208	124			
Knowledge Total score	Between Groups	4.758	2	2.379	0.464	0.630
	Within Groups	625.914	122	5.130		
	Total	630.672	124			
Total score of knowledge D1	Between Groups	2.261	2	1.130	0.589	0.557
	Within Groups	234.251	122	1.920		
	Total	236.512	124			
Total score of knowledge D2	Between Groups	2.446	2	1.223	1.616	0.203
	Within Groups	92.354	122	0.757		
	Total	94.800	124			
Total score of knowledge D3	Between Groups	4.425	2	2.212	1.936	0.149
	Within Groups	139.383	122	1.142		
	Total	143.808	124			

(Domain1: D1, domain 2: D2 and domain 3: D3)

Table (5.10) displays the results of a one-way ANOVA evaluating the differences in the means of knowledge and practice implementation across three domains, based on the educational level of midwives.

Practice Total Score: The analysis shows no significant difference in overall practice scores based on educational level, with an F-value of 2.335 and a p-value of 0.101. The practice scores before ($F = 0.087$, $p = 0.917$), during ($F = 0.723$, $p = 0.487$), and after placental delivery ($F = 2.544$, $p = 0.083$) also do not show significant variations.

Total Knowledge: Similarly, there are no significant differences in total knowledge scores across educational levels, with an F-value of 0.464 and a p-value of 0.630. This lack of significance is observed for knowledge scores before ($F = 0.589$, $p = 0.557$), during ($F = 1.616$, $p = 0.203$), and after placental delivery ($F = 1.936$, $p = 0.149$).

In summary, the educational level of midwives does not significantly impact their practice scores or knowledge levels in any of the domains assessed.

5.6.4 Years of midwives Experience in labor room

Table 5.11 : One-way ANOVA results for differences in means of Knowledge and practice implementation (three domains) level due to years of experiences of midwives

ANOVA						
		Sum of Squares	Df	Mean Square	F	P-value
Practice total score	Between Groups	5.677	3	1.892	0.862	0.463
	Within Groups	265.731	121	2.196		
	Total	271.408	124			
Practice total score D1	Between Groups	3.261	3	1.087	1.332	0.267
	Within Groups	98.771	121	0.816		
	Total	102.032	124			
Practice total score D2	Between Groups	0.913	3	0.304	0.355	0.785
	Within Groups	103.615	121	0.856		
	Total	104.528	124			
Practice total score D3	Between Groups	2.489	3	0.830	1.145	0.334
	Within Groups	87.719	121	0.725		
	Total	90.208	124			
Knowledge total score	Between Groups	31.231	3	10.410	2.101	0.104
	Within Groups	599.441	121	4.954		
	Total	630.672	124			
Total score of knowledge D1	Between Groups	4.564	3	1.521	0.794	0.500
	Within Groups	231.948	121	1.917		
	Total	236.512	124			
Total score of knowledge D2	Between Groups	2.361	3	0.787	1.030	0.382
	Within Groups	92.439	121	0.764		
	Total	94.800	124			
Total score of knowledge D3	Between Groups	12.871	3	4.290	3.965	0.010
	Within Groups	130.937	121	1.082		
	Total	143.808	124			

(Domain1: D1, domain 2: D2 and domain 3: D3)

Table (5.11) presents the results of a one-way ANOVA assessing the differences in means of knowledge and practice implementation in three domains, categorized by the years of experience of midwives.

Practice Total Score: There is no significant difference in the total practice scores among midwives with different years of experience, with an F-value of 0.862 and a p-value of 0.463. The practice scores before ($F = 1.332$, $p = 0.267$), during ($F = 0.355$, $p = 0.785$), and after placental delivery ($F = 1.145$, $p = 0.334$) also show no significant variations.

Total Knowledge: Similarly, no significant differences are observed in the total knowledge scores based on years of experience, with an F-value of 2.101 and a p-value of 0.104. This lack of significance is also reflected in the knowledge scores before ($F = 0.794$, $p = 0.500$) and during ($F = 1.030$, $p = 0.382$) placental expulsion. However, there is a significant difference in the knowledge scores after placental delivery, with an F-value of 3.965 and a p-value of 0.010.

Factors (variables) with 2 groups (Workplace, training regarding AMTSL, and existence of written protocol at workplace)

To address this question, an independent samples t-test was used to compare the mean of the participants' knowledge and practice level in overall and in the three domains (before, during and after placental expulsion). The p-value was reported as significant at the level of ($p \leq 0.05$).

5.6.5 Work place

Table 5.12 : T-test results for differences in means of Knowledge and practice implementation level due to work-place of midwives

	work place	N	Mean	Std. Deviation	T	P-value
Practice total score	private hospital	78	18.02	1.227	1.663	0.134
	governmental hospital	47	17.57	1.802	1.517	
Practice total scoreD1	private hospital	78	2.11	0.925	0.433	0.665
	governmental hospital	47	2.04	0.883	0.438	
Practice total score D2	private hospital	78	6.39	0.872	0.415	0.679
	governmental hospital	47	6.46	0.996	0.402	
Practice total score D3	private hospital	78	9.51	0.768	2.937	0.004
	governmental hospital	47	9.06	0.918	2.810	
Knowledge total score	private hospital	78	14.42	2.147	0.057	0.955
	governmental hospital	47	14.44	2.447	0.055	
Total score of knowledge D1	private hospital	78	8.67	1.463	0.327	0.744
	governmental hospital	47	8.59	1.245	0.341	
Total score of knowledge D2	private hospital	78	2.10	0.782	1.031	0.336
	governmental hospital	47	1.93	1.008	0.969	
Total score of knowledge D3	private hospital	78	3.64	1.080	1.382	0.169
	governmental hospital	47	3.91	1.059	1.389	

(Domain1: D1, domain 2: D2 and domain 3: D3)

Table(5.12) summarizes the t-test results comparing the knowledge and practice implementation levels of midwives based on their workplace, specifically between those employed in private hospitals and governmental hospitals.

Practice Total Score: The overall practice scores do not show a significant difference between midwives working in private hospitals (mean = 18.02) and those in governmental hospitals (mean = 17.57), with a t-test result of 1.663 and a p-value of 0.134. Similarly, there are no significant differences in practice scores measured before ($t = 0.433$, $p = 0.665$) or during placental expulsion ($t = 0.415$, $p = 0.679$). However, there is a significant difference in practice scores after placental delivery, with midwives in private hospitals scoring higher (mean = 9.51) compared to those in governmental hospitals (mean = 9.06), yielding a t-test result of 2.937 and a p-value of 0.004.

Total Knowledge: No significant differences are observed in the total knowledge scores between the two groups, with mean scores of 14.42 for private hospitals and 14.44 for governmental hospitals ($t = 0.057$, $p = 0.955$). Furthermore, no significant differences are found in knowledge scores before ($t = 0.327$, $p = 0.744$), during ($t = 1.031$, $p = 0.336$), or after placental delivery ($t = 1.382$, $p = 0.169$).

5.6.6 Take training regarding AMTSL

Table 5.13 : T-test results for differences in means of Knowledge and practice implementation level due to training regarding AMSTL of midwives

	Did you take training regarding AMTSL?	N	Mean	Std. Deviation	T	P-value
Practice total score	Yes	97	17.79	1.540	-0.874	0.384
	No	28	18.07	1.245	-0.983	
Practice total score D1	Yes	97	2.10	0.918	0.345	0.731
	No	28	2.03	0.881	0.353	
Practice total score D2	Yes	97	6.34	0.988	-1.920	0.010
	No	28	6.71	0.534	-2.627	
Practice total score D3	Yes	97	9.35	0.854	0.158	0.874
	No	28	9.32	0.862	0.157	
Knowledge total score	Yes	97	14.72	2.206	2.742	0.007
	No	28	13.42	2.167	2.769	
Total score of knowledge D1	Yes	97	8.80	1.255	2.397	0.018
	No	28	8.10	1.663	2.055	
Total score of knowledge D2	Yes	97	2.12	0.869	2.017	0.046
	No	28	1.75	0.844	2.049	
Total score of knowledge D3	Yes	97	3.79	1.098	0.962	0.338
	No	28	3.57	0.997	1.015	

(Domain1: D1, domain 2: D2 and domain 3: D3)

Table (5.13) presents the t-test results comparing knowledge and practice implementation levels related to AMTSL between midwives who received training on AMTSL and those who did not.

Practice Total Score:

There is no significant difference in the overall practice scores between midwives who received AMTSL training (mean = 17.79) and those who did not (mean = 18.07), with a t-test result of -0.874 and a p-value of 0.384. Similarly, no significant differences are observed in practice scores measured before placental expulsion (t = 0.345, p = 0.731) and after placental delivery (t = 0.158, p = 0.874). However, practice scores during placental expulsion show a significant difference, with trained midwives having a lower mean score (6.34) compared to those without training (6.71), resulting in a t-test value of -1.920 and a p-value of 0.010.

Total Knowledge:

Significant differences are observed in total knowledge scores. Midwives who received AMTSL training have a higher mean total knowledge score (14.72) compared to those who did not (13.42), with a t-test result of 2.742 and a p-value of 0.007. This suggests that AMTSL training is associated with improved overall knowledge. Significant differences are noted in knowledge scores before placental expulsion (t = 2.397, p = 0.018) and during placental expulsion (t = 2.017, p = 0.046), indicating that training positively affects knowledge at these stages. However, there is no significant difference in knowledge scores after placental delivery (t = 0.962, p = 0.338).

5.6.7 Written protocols about (AMTSL) available at workplace

Table 5.14 :T-test results for differences in means of Knowledge and practice implementation level due existence of written protocols about (AMTSL) available at workplace.

	Did you take training regarding AMTSL?	N	Mean	Std. Deviation	T	P-value
Practice total score	Yes	97	17.79	1.540	-0.874	0.384
	No	28	18.07	1.245	-0.983	
Practice total score D1	Yes	97	2.10	0.918	0.345	0.731
	No	28	2.03	0.881	0.353	
Practice total score D2	Yes	97	6.34	0.988	-1.920	0.010
	No	28	6.71	0.534	-2.627	
Practice total score D3	Yes	97	9.35	0.854	0.158	0.874
	No	28	9.32	0.862	0.157	
Knowledge total score	Yes	97	14.72	2.206	2.742	0.008
	No	28	13.42	2.167	2.769	
Total score of knowledge D1	Yes	97	8.80	1.255	2.397	0.047
	No	28	8.10	1.663	2.055	
Total score of knowledge D2	Yes	97	2.12	0.869	2.017	0.046
	No	28	1.75	0.844	2.049	
Total score of knowledge D3	Yes	97	3.79	1.098	0.962	0.338
	No	28	3.57	0.997	1.015	

(Domain1: D1, domain 2: D2 and domain 3: D3)

Table (5.14) provides the t-test results comparing the knowledge and practice implementation levels related to AMTSL between midwives with and without written protocols about AMTSL available at their workplace.

Practice Total Score: There are no significant differences in the overall practice scores between midwives who received AMTSL training (mean = 17.79) and those who did

not (mean = 18.07), with a t-test result of -0.874 and a p-value of 0.384. This pattern holds for practice scores before placental expulsion (t = 0.345, p = 0.731) and after placental delivery (t = 0.158, p = 0.874). However, practice scores during placental expulsion show a significant difference, with midwives without written protocols achieving a higher mean score (6.71) compared to those with protocols (6.34), resulting in a t-test value of -1.920 and a p-value of 0.010.

Total Knowledge: Significant differences are observed in overall knowledge scores. Midwives with written protocols have a higher mean total knowledge score (14.72) compared to those without (13.42), with a t-test result of 2.742 and a p-value of 0.008. This indicates that the presence of written protocols is associated with greater overall knowledge. Significant differences are also found in knowledge scores before placental expulsion (t = 2.397, p = 0.047) and during placental expulsion (t = 2.017, p = 0.046), suggesting that having written protocols positively affects knowledge for these domains. However, there is no significant difference in knowledge scores after placental delivery (t = 0.962, p = 0.338).

Chapter six

Discussion

6.1 introduction

This chapter discusses the study findings on midwives' knowledge and competency regarding the Active Management of the Third Stage of Labor (AMTSL) at Hebron hospitals in Palestine. The discussion includes the major four research questions findings which are; the level of midwives' knowledge and practice of AMTSL, the association between the knowledge and practice of midwives about AMTSL and the impact of socio-demographic characteristics on the midwives' knowledge and practice. The discussion integrates these results with the existing literature and it includes other section which are conclusion of the study, strengths and limitations and recommendations.

6.2 Socio-demographic characteristic of the midwives

In this study, The response rate was 100% from 125 respondents who filled-in and returned the questionnaire and all of the observational check list were filled by assistant members while in the study done in Oman had survey achieved a response rate of 80% (Al-Jabri et al., 2024) . The vast majority of the midwives staff who participated was

between 25-45 years old (92.0%) which is close to result in (Wake et al.,2020) where the mean age of study participants was 35 years ± 7.28 (SD) and in (Muyanga et al.,2022) it was (78.7%). According to the marital status the majority was married (70.4%) which is close to the (Wake et al.,2020) study where the married midwives were (67.6%). The educational level of the majority was graduate (Bachelor) (69.6%) this corresponds to the study were done in Ethiopia was (62.2%) for the graduate (Bachelor) (Molla et al., 2021).For the years of experience, (44.8 %) of the staff had 6-10 years and (34.4%) of the staff had one to five years and it corresponds to the study found in (Wake et al.,2020) were (39.9% and 36.7%) respectively according to the years of experience. The staff who answered "yes" for taking a training regarding AMTSL was (77.6%), and who answered "no" (22.4%) it was in line with study found in Cameron (Tih et al.,2021) (84%) had received training on AMTSL and (16%) who did not. The percentage of staff who answered "yes" for that they have any written protocols about (AMTSL) available at workplace was (77.6%) and who answered "no" was (22.4%) while in study of (Wake et al.,2020) the percentage of participant who answered Yes (47.5%) and who answered No (52.5%).

6.3 Knowledge of AMTSL among midwives

In this study the total knowledge score for all domains was (76%) and according to the evaluation criteria (≥ 84%) this score indicates a poor knowledge of midwives regarding to AMTSL. This finding is lower than the results in the southern Nigeria study which reported that (90.6%) were knowledgeable about AMTSL (Akinola etal.,2009). However, its higher than the study in Nigeria (Oyetunde et al.,2015) which find that (66.7%) were knowledgeable. Also, in the study Oman (n = 132, 55%) correctly identified the core characteristics of the recommended management of TSL of WHO guidelines (Al-Jabri et al., 2024). while were three studies which reported low knowledge level, one of these studies was conducted in Tanzania and the other two studies were done in Ethiopia with knowledge level (50.3%, 51.5% and 53.4%) respectively (Muyanga et al.,2022, Yaekob et al., 2015 and Molla et al., 2021). This could be due to educational level, in Ethiopian study with knowledge level of (51.5%) the majority of participants had a diploma (82.6%) and this is also found in Tanzanian study where the majority of participants hold a diploma with 5 years of working experience While in this study, the majority of participants had a bachelor degree

(69.6%) this could be one of the reasons for having higher knowledge level. When breaking down the knowledge by domains, the results highlight strengths and weaknesses. For the (Domain 1) "**Before Placental Expulsion"**, midwives reflecting a good level of knowledge (86%)**.** The data shows strong knowledge, with high percentages of correct responses, such as (100%) for the recommended dose of oxytocin. This is higher than the study in Ethiopia, Northern Ethiopia and Tanzania which showed that (89%, 88.5% and 87.4%) respectively of midwives had awareness on recommended dose of oxytocin intramuscular injection as a first line drug for PPH management (Yaekob et al., 2015, Wake et al.,2020, Ramadhani et al., 2011). In addition, for "the recommended time of uterotonic drug administration in AMTSL after the delivery of the anterior shoulder" was (96.0%) which also indicate a good knowledge about this item. This finding is consistent with (Wake et al.,2020) study where (88.5%) of midwives knew the time of administration of oxytocin for management of AMTSL which aligns with guidelines that had set by the World Health Organization (WHO) and the International Federation of Gynecology and Obstetrics (FIGO) while in (Oyetunde et al., 2015) study about (79.9%) give oxytocin on delivery of the anterior shoulder. These results suggest that midwives are well-informed about essential practices for preventing postpartum hemorrhage. However, there are gaps in understanding the role of misoprostol, with only 59.2% of correct answers, this may be due to some hospital policy that presented in unsupported area and this indicating a need for more focused education on uterotonic options. Misoprostol is considered as a safe alternative for the prevention of PPH when administered immediately after the birth where oxytocin is not available according to the WHO recommendations (Hobday et al., 2020). This highlights the need for continuous professional development and updated training programs to ensure midwives are well-versed in all recommended uterotonic drugs and their applications. training on the protocol.

In contrast, for the (Domain 2) "**During Placental Expulsion**", indicating a poor knowledge (68%). The item "The sign of placental separation is a gush of blood, elongation of the cord, and bulk uterus" had the highest percentage in this domain with (88.8%). This aligns with (Wake et al, 2020) study with (82.7%) regarding the knowledge of three essential components of AMTSL. These finding were much higher than the result of Tanzanian study which showed that only (9%) of participants were knowledgeable on that three essential components as in the definition of AMTSL

(Mfinanga et al.,2009).This difference might be due to the difference in the national guideline and the time difference between these studies. However, only (40.0%) correctly understanding the need for controlled cord traction, while the study that was performed in Nigeria reported (84.7%) of participants knew control cord traction as essential component of AMTSL (Oyetunde et al., 2015). This discrepancy suggests a well-established understanding of some practices while other areas, like controlled cord traction, require significant improvement.

Similarly, knowledge related to the Domain 3 "**After Placental Expulsion"** was categorized as poor knowledge (62%).**:** There is a notable variation in knowledge, with a strong grasp of identifying the importance of uterine tonus assessment as one of the essential components of AMTSL with (90.4%) of participants correctly answering this item. This result is compatible with the study (Oyetunde et al., 2015) where (93.2%) of the participants knew uterine tonus assessment. This might be due to the similarity of the socio-demographic characteristics of the study midwives. In addition, the item "immediate uterine tonus assessment after placental delivery" was (84.8% correct), this is in line with a study conducted in Nigeria where the immediate uterine tonus assessment after delivery for midwives was (88.1%). However, less understanding of routine practices such as "uterine tonus assessment every 15 minutes for the first 2 hours." (22.4% correct) and "the midwife inform the mother and demonstrate how to uterine tonus assessment her uterus and empty her bladder" (16.8% correct), while in (Wake et al ., 2020) study result shows more than half of midwives (64.4%) knew that the frequency of uterine tonus assessment after delivery is every 15 minutes for the 1^{st} 2 hr. and in (Fissahaye et al.,2023) study shows (52.7%) of midwives informed the mother how to uterine tonus assessment her uterus every 15 min. This highlights substantial areas needing attention, particularly in ongoing postpartum care and patient education.

Overall, while midwives demonstrate a solid understanding of several key aspects of AMTSL, there are critical gaps in knowledge that span all three domains. Educational efforts and targeted training are essential to address these deficiencies and enhance the effectiveness of AMTSL practices.

6.4 Practices of AMTSL among Midwives

The study revealed that the majority of midwives had a high level of practices regarding AMTSL as the total practice score for all domains was (89.3%). In literature the highest practice value was reported in Amhara in north Ethiopia with (61.2%) (Adane et al .,2019) while it was in Gamo Gofa (48.1%), Addis ababa (47%),three studies in Ethiopia (43.5%, 40,3%, 32.3%), Nigeria (41.7%), Sidama zone (32.8%) Sudan (26.7%) Hawassa city (15.7%) and Tanzania (7%) (Alemu et al., 2012, Yaekob et al., 2015, Wake et al, 2020, Fissahaye etal.,2023, Molla et al., 2021, Oyetunde et al.,2015, Amanuel et al., 2021, Tenaw et al., 2017, Andugry et al .,2017, Tenaw et al., 2016, Mfinanga et al., 2009) the study in Oman had (62%) reported always adhering to the AMTSL guidelines (Al-Jabri et al., 2024). These studies showed less practical value than this study; this could be due to the differences in educational level, study period, training, and the performing of the study in tertiary healthcare institution. For example, In Sudan only (20%) of midwives were trained and all of them had diploma with three years of experience or less (Andugry, N.,et al ,2017). In Sidamo, (74%) of participants had diploma, (91%) worked in health centers and only (29%) were trained (Amanuel et al., 2021). In Hawassa, (75%) of participants had diploma and only (33.3%) were trained (Tenaw et al., 2016). In Tanzanian study, only (7%) of participant had good practice and this might be due to the differences in study time and their national guidelines which supports the usage of ergometrine instead of oxytocin for AMTSL (Mfinanga et al., 2009). While in this study, the majority of participants had bachelor degree or higher (79.2%) with more than 5 years of experience (82%) and (97%) of them had taken the training regarding AMTSL. In addition, most of participants work in tertiary health institutes. All of these factors might be reasons for high level of practice.

The data reveals consistent strengths for domain 2 "**During Placental Expulsion**" and domain 3 "**After Placental Delivery**" of practice with scores (91.7% and 93.4%) respectively which considered good practice according to evaluation criteria (≥85%). In contrast, domain 1 "**Before Placental Expulsion**", the score was (69.3%) which considered poor practice. Overall, midwives demonstrate a strong adherence to most practices related to AMTSL, particularly in critical areas such as uterine tonus assessment and placental management. However, there are specific practices with lower

application rates that may benefit from additional focus and training to ensure uniform adherence to AMTSL protocols and improve the quality of care provided during labor and delivery.

In this study, the item “Check the uterus for the presence of a second baby by palpate maternal abdomen” takes the lowest percentage in all domains of practice (59,2%) this could be due to the usage of ultrasound and good maternal antenatal care that might give the answer of having single or twins pregnancy for the midwife. While in (Fissahaye et al.,2023) study the majority of participants ruled out the presence of second baby (79%). In addition, item “Administer 10 IU of oxytocin (IM/IV) to the mother during delivery of the anterior shoulder or immediately after the baby delivered” was (73.6%). This poor practice level for this item could be due to midwives burnout (such as: work over load and insufficient midwives) which could reduce their oxytocin application immediately after delivery. In contrast, (86.4%) in Eastern Ethiopia correctly practice this item (Fissahaye et al.,2023) . On the other hand, the item “Ensure the uterus does not relax after stopping uterine tonus assessment” takes (100%) this excellent findings regarding to the practice provides a cornerstone in reducing and preventing PPH during labor. While in (Fissahaye et al.,2023) study around (77.5%) of midwives correctly practiced this item . This could be returned to poor practice in general as the total practice was 40.3% and this implies that 60% of midwives could face life-threatening situations and PPH during labor. In addition, item “If the membrane tear gently examines the upper vagina and cervix” was (97.6%) while in (Fissahaye et al.,2023) study it was (76.7%) and in (Tenaw et al., 2016) study it was (55.5%).

Overall, the results suggest that midwives at Hebron hospitals exhibit strong practical application of AMTSL across all domains, with high scores and consistent performance in implementing recommended practices. This positive outcome underscores the effectiveness of current training and suggests that midwives are well-equipped to manage the third stage of labor effectively.

6.5 Relationship between knowledge and practice of AMTSL

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Based on the findings of the study, there is a very weak correlation between the total knowledge score and total practice implementation. This suggests that there is no significant overall effect of midwives' total knowledge on their practice implementation. Overall, the results imply that, within the scope of this analysis, midwives' knowledge does not appear to be a significant predictor of their practice implementation. This finding might suggest the need to explore other variables or factors that could more effectively influence practice implementation in this context. In addition, those midwives who had good practice despite poor knowledge could get this correct practice through her peer groups and /or their institutional protocols with good supervision in labor room. On the other hand, previous study (Asibong et al., 2018) which showed a statistically significant association between being knowledgeable and having a correct AMTLS practice. They used the chi-square test to identify the relation between these two variables. The value was 17.9 and it was significant at 0.05 (Asibong et al., 2018). Furthermore, in (molla et al., 2021) study they performed the multivariable logistic regression model to find the relation between knowledge and practice and they found that good knowledge respondents on AMTSL were 2.9 times (p-value 0.01) more likely to practice than poor knowledge respondents on AMTSL (molla et al., 2021). In the Addis Ababa study, the multivariable logistic regression
model was also used, and it found that midwives who practice AMTSL were almost 4 times more knowledgeable about AMTSL than those who had poor practice (Yaekob et al., 2015). Furthermore in the Ethiopian study they used the multiple logistic regression analysis and they found that good Knowledge midwives were 7 times more likely to be good in practice in comparison with those who were poor in knowledge (Wake et al., 2020)

6.6 Relationships between Socio-demographic factors, knowledge and practice of AMTSL among midwives

The study examined the impact of socio-demographic characteristic on knowledge and practice for Midwives about AMSTL. One –Way ANOVA Analysis was conducted to assess the relationships of socio-demographic variables Factors with more than two groups (e.g., age, marital status, education level and years of experience) on knowledge

and practice scores and independent samples t-test was used with two groups to compare the mean of the participants' knowledge and practice level in overall and in the three domains (before, during and after placental expulsion) such as : (Workplace, training regarding AMTSL, and existence of written protocol at workplace).

6.6.1 Age of the midwife

The impact of age on overall knowledge score of midwives regarding AMTSL shows a trend towards significance (p = 0.072) which provides an insight that age might influence overall knowledge, although this effect is not statistically significant at the conventional alpha level. For domain1**" Before Placental Expulsion"** and domain3 **"After Placental Delivery"**, there are significant differences (p = 0.018) and (p = 0.038) respectively. The ANOVA test indicating that age may affect specific aspects of knowledge related to AMTSL, with older or younger midwives potentially demonstrating varying levels of knowledge at these domains with a significant different. This is in line with the study in Ethiopia that found age less than 30 years was 2.76 times more associated with knowledge of AMTSL (lami et al.,2020).

The impact of age in practice of midwives regarding to AMTSL was not significantly affect the overall practice total score (p = 0.538) and the scores for practice before, during, and after placental delivery among midwives were (0.913, 0.964 and 0.352) respectively. This reveals no significant differences across age groups for these practice measures, suggesting that age does not have a substantial impact on the practice implementation of AMTSL. However, study which was conducted in Tanzania the participants aged 45 years and above were significantly associated with good practice and skills regarding to AMTSL (muyanga et al.,2022).

6.6.2 Marital status of the midwife

In this study, there are no significant differences in total knowledge scores based on marital status (p = 0.307). By breaking down the total knowledge to the three domains the findings for domain1**" Before Placental Expulsion"** and domain2 **"During Placental Expulsion"** were insignificant with (p = 0.216) and (p = 0.613) respectively based on marital status. This is in line with the Tanzanian study which used chi-square to find the relation between knowledge and marital status and it found that there was no statistically significant for the association between knowledge and marital status

(p=0.061) (muyanga et al., 2022). However, the total score of knowledge for domain 3 "**After Placental Delivery**" shows a significant difference (p = 0.042) between knowledge and marital status.

The impact of marital status in practice of midwives regarding to AMTSL was not significantly affect the overall practice total score (p = 0.796). In addition, the three domains scores (**Before, During, and After Placental Expulsion**) for practice among midwives regarding to AMTSL were all not significant (0.348, 0.745 and 0.489) respectively. This suggests that while marital status does not generally affect knowledge or practice implementation, there may be a notable difference in knowledge of domain 3"**After Placental Delivery**" among different marital status groups. This is contrary to what was reported in a study of (muyanga et al.,2022) in which marital status and practice had an association with significant p-value (p=0.031).

In summary, marital status does not significantly impact most aspects of practice and knowledge related to AMTSL, with the exception of the total knowledge score "**After Placental Delivery**", where a significant difference was observed.

6.6.3 Educational level of the midwife

Based on the this study results, the educational level of midwives does not significantly influence their knowledge levels in any of the three domains assessed. This could be related to importance of the topic itself in midwifery education that all midwifery program concentrates on this topic as it considers one of the main subject in prevention of PPH. In contrast, the (muyanga et al.,2022) study showed a significant association between knowledge and educational level (p=0.014) which found that healthcare providers with higher education had sufficient knowledge of AMTSL. This is also was found in study which was conducted in Ethiopia (Yaekob et al., 2015) found that midwives with higher education were having adequate knowledge of AMTSL.

The total Practice Score in analysis also shows no significant difference in overall practice scores based on educational level (p= 0.101) and across the three domains of practice "before (p = 0.917), during (p = 0.487), and after placental expulsion (p = 0.083)". This result is in line with the result of the study conducted in Tanzania which show no significant between knowledge and educational level (p=0.303) (muyanga et al.,2022).

In summary, the educational level of midwives does not significantly impact their practice scores or knowledge levels in any of the domains assessed. This indicates that variations in education do not appear to influence the effectiveness or extent of practice and knowledge related to AMTSL procedures.

6.6.4 Years of experience of midwife at labor room

The years of experience of midwives was not significantly associated with midwives' Knowledge level. Where the total Knowledge score show insignificant differences across years of experience in labor room (p= 0.104). This lack of significance is also reflected in the knowledge scores for the three domains "**Before** D1 (p = 0.500) and **During** D2 (p = 0.382) **placental expulsion**". However, there is a significant difference in the knowledge scores in domain 3 "**After Placental Delivery**" (p= 0.010). This is contrary to what was reported in a study of (muyanga et al.,2022) which showed significant association between knowledge and years of working in labor ward (p=0.016) it was found that healthcare providers with long years of working in labor ward had sufficient knowledge of AMTSL. According to (Asibong and colleagues, 2018) There was a strong correlation between knowledge, its application, and job experience. Being exposed for a long time at work and participating in different health programs can also be beneficial for health workers to gain knowledge and insight on AMTSL.

The association between the years of experience of midwives and their practice level was also not significant (p= 0.463) as for Knowledge level. In addition, there is no significant difference in the total practice scores through the three domains " **Before** (p = 0.267), **During** (p = 0.785), and **After Placental Delivery** (p = 0.334)". This study in line with (muyanga et al.,2022) which show no significant association presented between practice and years of working in labor ward (p=0.588).

In summary, while the overall practice and knowledge scores do not significantly vary with years of experience, knowledge scores after placental delivery do show a significant difference. This indicates that while experience may not affect overall practice and knowledge levels, it might influence specific aspects of knowledge related to post-placental delivery procedures.

6.6.5 Work place of midwife

The implication of total Knowledge had no significant differences are observed in the total knowledge scores between the two groups; private and governmental hospitals (p = 0.955). Furthermore, no significant differences are found in knowledge scores **Before** (p = 0.744), **During** (p = 0.336), and **After Placental Expulsion** (p = 0.169). This study is agreed with (muyanga et al.,2022) which show no significant between knowledge and facility type (p=0.447).

The implication of total Practice Score exhibit that overall practice scores do not show a significant difference between midwives working in private and governmental hospitals with a t-test result of (p= 0.134). Similarly, there are no significant differences in practice scores measured "**Before** (p = 0.665) or **During Placental Expulsion** (p = 0.679)". However, there is a significant difference in practice scores after placental delivery, with midwives in private hospitals scoring higher (mean = 9.51) compared to those in governmental hospitals (mean = 9.06), yielding a (p=0.004). While in the study (muyanga et al.,2022) it shows a significant between knowledge and facility level (p=0.011). However, the higher scoring in practice of AMTSL in private hospital may be due to the availability of adequate midwives more than between government hospital (Felarmine et al.,2016) as well lack of active monitoring system at governmental hospitals. Furthermore, the study (Alemu et al., 2021) found that those midwives who were working in favorable delivery rooms were 1.86 times more likely perform good practice than others.

In summary, while midwives in private hospitals exhibit significantly higher practice scores after placental delivery compared to their counterparts in governmental hospitals, overall practice and knowledge scores do not significantly differ based on workplace. This suggests that while practice implementation might vary in specific stages, overall knowledge remains consistent across different hospital settings.

6.6.6 Having Training regarding AMTSL

In this study, significant differences are observed in total knowledge scores for training and knowledge . Midwives who received AMTSL training have a higher mean for total knowledge score (14.72) compared to those who did not (13.42) (p= 0.007). This suggests that AMTSL training is associated with improved overall knowledge of

midwives. Significant differences are also noted in knowledge scores "**Before Placental Expulsion"** (t p = 0.018) and **"During Placental Expulsion**" (p = 0.046), indicating that training positively affects knowledge in these domains. However, there is no significant difference in knowledge scores **"After Placental Delivery**" (p = 0.338). This in similar to the study (muyanga et al.,2022) which showed significant association between knowledge and training (p=0.001) it found that healthcare providers with good training had sufficient knowledge of AMTSL. In addition, a study conducted in Ethiopia found that the health care professionals who had prior AMTSL training were strongly linked to AMTSL knowledge (Yaekob et al., 2015).

There is no significant difference in the overall practice scores between midwives who received AMTSL training (mean = 17.79) and those who did not (mean = 18.07), (p= 0.384). Similarly, no significant differences are observed in practice scores measured **"Before Placental Expulsion"** (p = 0.731) and **"After Placental Delivery**" (p = 0.874). However, practice scores **"During Placental Expulsion"** show a significant difference, with trained midwives having a lower mean score (6.34) compared to those without training (6.71) (p=0.010). This is agreed with what was reported in a study of (muyanga et al.,2022) which show significant association between knowledge and having a training (p=0.007) it was found that healthcare providers with good training for AMTSL had good practice. In addition, participants who received training in actively managing the third stage of labor were 2.55 times more likely to demonstrate good practice compared to those who did not receive the training (Alemu et al., 2021). Furthermore, healthcare providers who underwent in-service training were 7.4 times more inclined to perform (AMTSL) compared to those who did not (molla et al., 2021). Additionally, the research done in Tanzania also backs up this discovery (Ramadhani et al., 2011).

In summary, while AMTSL training does not significantly impact practice scores overall and before and after placental expulsion, however, the training significantly impact practice score during placental expulsion. In addition, it is associated with improved knowledge and significant improvements in knowledge scores before and during placental expulsion.

6.6.7 Availability of written protocol at labor room

The implication of availability of written protocol had significant differences were observed in overall knowledge scores. Midwives with written protocols have a higher mean total knowledge score (14.72) compared to those without (13.42), (p= 0.008). This indicates that the presence of written protocols is associated with greater overall knowledge. Significant differences are also found in knowledge scores before placental expulsion (p = 0.047) and during placental expulsion (p = 0.046), suggesting that having written protocols positively affects knowledge for these domains. This is contrary to what was reported in a study of Northern Ethiopia which had not significantly association (p=0.993) between written material protocol and knowledge (Wake et al., 2020). However, in this study there is no significant difference in knowledge scores after placental delivery (p = 0.338).

While there are no significant differences in the overall practice scores between midwives who received AMTSL training (mean = 17.79) and those who did not (mean = 18.07), (p= 0.384). This pattern holds for practice scores "**Before Placental Expulsion"** (p = 0.731) and **"After Placental Delivery"** (p = 0.874). However, practice scores during placental expulsion show a significant difference (p= 0.010), with midwives without written protocols achieving a higher mean score (6.71) compared to those with protocols (6.34).

In conclusion, the existence of written protocols about AMTSL at the workplace does not significantly impact the overall practice scores or knowledge **"After Placental Delivery**". However, it does appear to affect practice scores **"During Placental Expulsion"** and enhances overall knowledge and knowledge scores before and during placental expulsion. The finding of this study was in contrast of the study conducted in Kenya which showed that, availability of standards documents, training, type of training and knowledge of health care on AMTSL was some of the factors associated with practice of AMSTL (Alemu et al., 2021)

6.7 Conclusion

In this study, the knowledge and practice of midwives regarding (active management of the third stage of labor) AMTSL were assessed at hospital in Hebron governorate. And it was found that the overall knowledge score was poor knowledge (76%). However, when breaking down the total knowledge through its domains, the results highlight strengths and weaknesses. For the (Domain 1) 'Before Placental Expulsion', midwives reflecting a good level of knowledge (86%). In contrast, for the (Domain 2 and Domain 3)"During Placental Expulsion and After Placental Delivery", indicating a poor knowledge (68,62%) respectively. However, the Midwives had a good practice regarding to AMTSL (89.3%). Very weak correlation was observed between the total knowledge score and practice implementation R (correlation) (0.056), p-value of (0.534). This suggests that there is no significant correlation exists between knowledge and practice implementation. Furthermore, impaction of socio-demographic characters on knowledge and practice were assessed and it was found that socio-demographic character reflecting significance in some aspect and domain such as age in knowledge (D1&D3) , marital status in knowledge (D3),years of experience in the labor room in knowledge (D3), workplace in practice (D3), training on AMTSL knowledge (D1&D2) and on Practice (D2) and the availability of written protocols on AMTSL in the institution for total knowledge and its (D1&D2) and on practice (D2).

The results of this research emphasize how critical it is for midwives to have ongoing professional development, standardized protocols, and sufficient resources in order to improve their adherence to AMTSL practices. Putting these suggestions into practice can improve maternal health results and guarantee top-notch care. Future studies need to focus on the limitations that have been identified and examine other factors that affect adherence to AMTSL practices. In addition, Midwives should update their knowledge and academic level and improve their skills to save mothers lives.

6.8 Strengths of the study :

1. This study was the first study which performed in West Bank specifically in Hebron governorate in assessment the knowledge and practice of midwives toward AMTSL.
2. The time of data collection was 6 months which considered long period that help to cover more participant and appropriate for observational study
3. The midwives who assisted the researcher in observational checklists were highly qualified held master's degree had a previous experience in such studies.
4. The observed midwives did not know the time of conducting the observational and recording the checklist which might decrease the biases and let midwives apply the procedure without feeling the threat of observation.
1. The response rate was 100% in questioner ,and the sample is covered nearly all population.

6.9 Limitations of the study :

1. Sample Size and Generalizability: The study's sample size may limit the generalizability of the findings. The results from hospitals in Hebron might not be applicable to other regions with different healthcare settings and resources.

2. Observational Nature: The study's observational design cannot establish causality. While correlations between experience, education, and adherence are identified, causative factors cannot be definitively determined.

3. Training Differences: Differences in the quality and frequency of training among midwives were not accounted for, which could influence adherence to AMTSL practices.

4. Potential Observer Bias: If observations were conducted by a single individual or a small team, there might be observer bias influencing the recording of checklist adherence.

5. Results of this study which reported a good level of practice and a poor level of knowledge might be related to the short period between collecting data about

knowledge and then observing practice. It might cause bias in the observational study due to chance of resolve the unknown point by asking peer group and try to applying it.

6.10 Recommendations

1. Decision makers and hospital administrators

    - Implementing regular, well-timed training sessions, mentorship, and supportive supervision for midwives on AMTSL. The training needs to target midwives who are employed in the labor ward, and their educational program should be reassessed. Activate monitoring program at hospitals to observe practices and their adherence to the protocol.
    - Introduction of recent management protocols to standardize practice to achieve the global millennium development goals set for maternal and newborn survival.

2. **Future research**

    - Further studies should be conducted on the type of intervention that reaches a wide audience to solve problems related to knowledge and skills in AMTSL.
    - In conducting similar studies in the future, it is recommended to start with the observational study for the practice, then collect data by a self-administered questionnaire for the knowledge to avoid bias.

3. Midwives

Recruiting more staff midwives is required to innovative strategies to promote the competency of the midwives in Practicing AMTSL and other maternal management procedures.

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Appendix

A. Instruments used in the study

1. Questionnaire to assess the midwives' knowledge

Self-administration questionnaire

Dear Participants:

I am a graduate student from Al-Quds University, I appreciate your participation in this research study entitled **"Assessment of the Midwives' knowledge and Competency toward Active Management of the Third Stage of labor at Hebron hospitals in Palestine ".** This study is being carried out as a part of the requirements for the master's degree in Maternal Child Health at Al-Quds University, college of health professions – Palestine. You need to answer the questionnaire that will not take more than 15 minutes. The given information will be treated in anonymity and confidentially, it will be used for scientific research purposes only. Even though I welcome your participation, participation is optional and you can withdraw from the study at any time.Thank you very much for your participation.

Prepared By: Ikhlas Mahmoud Hemedat

Supervised by: **Dr. Maha Nahal**

Part one: Characteristics of the participants :

Please circle the number that best matches your choice in the following

1. **Age:** a. Less than 25 years b. 25 - 45years c. 46 - 60 years
2. **Marital status:** a. Single b. Married c. Divorced d. Widowed
3. **Educational level**: a. Diploma b. Graduate (Bachelor) c. Post-Graduate (Master/PhD)
4. **Work place:** a. Privet hospital b. Governmental hospital
5. **Years of Experience in labor room**:

a. 1-5 years b. 6-10 years c. 11-15 years. d. 16 and above

6. **Did you take training regarding AMTSL?** a. Yes. b. No
7. **Do you have any written protocols about (AMTSL) available at your workplace?**

a. Yes b. No.

Part two: Midwives' Knowledge of AMTSL

In this part please sign ☑ on one of the choices:

No	Statement	Agree	Neutral	Disagree
	Before Placental Expulsion			
1.	AMTSL should be given for all laboring mothers			
2.	Administration of uterotonic drugs is one of the essential components in AMTSL.			
3.	Oxytocin is the first-line uterotonic drug recommended in AMTSL.			
4.	Misoprostol medication is not the first line of uterotonic drugs recommended in AMTSL**.**			
5.	10 IU is the recommended dose of oxytocin that should be given in AMTSL for PPH prevention.			
6.	Oxytocin administration through IM/IV Route for AMTSL.			
7.	Oxytocin must be stored under the temperature of 2-8 C.			

8.	The recommended time of uterotonic drug administration to mother in AMTSL after the delivery of the anterior shoulder of baby.			
9.	The optimal time of uterotonic drug administration in AMTSL is within one minute after delivery of the baby before placental delivery.			
10.	Midwife should do delay cord clamp			
	During Placental Expulsion :			
11.	The sign of placental separation is a gush of blood, elongation of the cord, and bulk uterus.			
12	Apply controlled cord traction is one of the essential components of AMTSL.			
13.	midwife should wait 2-3 minutes for strong contraction to do CCT			
	After Placental Delivery			
14.	Uterine tonus assessment is one of the essential components of AMTSL.			
15.	The midwife is doing immediate uterine tonus assessment after placental delivery**.**			
16.	The midwife performs uterine tonus assessment after delivery every 15minutes for the first 2 hrs			
17.	The midwife assessed Placenta for completeness.			
18.	The midwife informs the mother and demonstrates how to uterine tonus assessment her uterus and empty her bladder.			
19.	The midwife should be completed AMTSL within half hour.			

2. Observation check list

Observation Checklist

Practice of (AMTSL)

No.	Statements	Applied	Not applied
	Before placental expulsion		
1.	Check the uterus for the presence of a second baby by palpating the maternal abdomen		
2.	Administer 10 IU of oxytocin (IM/IV) to the mother during delivery of the anterior shoulder or immediately after the baby delivered		
3.	Delay cord Clamp close to the mother perineum and hold the cord in one hand		
	During Placental expulsion		
4.	Confirm signs of placental separation (Gush of blood, long cord, firm uterus)		
5.	wait for a strong uterine contraction for 2-3 minutes to apply CCT		
6.	Stabilize the uterus by applying suprapubic pressure to the abdomen of the mother.		
7.	Gently hold the cord and apply control cord traction with suprapubic pressure.		
8.	Hold the placenta supported in two hands and gently turn it until the membranes are twisted.		
9.	Extract membrane gently with lateral movement		

10.	If the membrane tear gently examines the upper vagina and cervix		
	After Placental delivery		
11.	Examine the completeness of the placenta and its membranes		
12.	Place the placenta in a bowl		
13.	Check that the uterus does not become relaxed after delivery of the placenta		
14.	Immediately after placental delivery, if the uterus is not contracted, start massaging the uterus till uterus is hard		
15.	Examine the woman's vagina, perineum, and external genitalia for lacerations and active bleeding.		
16.	Ensure the uterus does not relax after stopping uterine massage		
17.	Help and teach the mother to empty her bladder		
18.	Teach the mother uterine tones assessment every 15 minutes for 1-2 hours		
19.	Closely monitor the mother in labor room for the first 1 hour after delivery		
20.	Teach the mother about normal amount of lochia		

B. permission letters

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جامعة القدس
كلية المهن الصحية
دائرةالتمريض
القدس– أبوديس

الرقم : ك.م، د.ت 2023/05/05 التاريخ : 2023/05/16

حضرة الدكتور عبد الله القواسمة المحترم \ مدير عام وزارة الصحة المحترم

وزارة الصحة الفلسطينية

تحية طيبة وبعد،،،

الموضوع: الموافقة على تسهيل مهمة لطالبات الماجستير " أخلاص حميدات"

أرجو من حضرتكم تسهيل مهمة الطالبة **اخلاص محمود أحمد حميدات** ورقمها الجامعي 2011482 ماجستير في صحة الأم والطفل جامعة القدس في مهمتها بجمع المعلومات في مستشفيات (عالية و يطا والمحتسب) حول موضوع :

" Assessment of the Midwives' Competency Regarding Active Management of the Third Stage of labor in Hebron hospitals at Palestine" .

وتفضلوا بقبول فائق الاحترام

منسقة برامج الدراسات العليا

د. ميساء الأسطه

نسخة مع الأحترام :

- عمادة الدراسات العليا.
- نسخة الطالبة .
- نسخة الملف .

Al Quds University
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جامعة القدس
كلية المهن الصحية
دائرةالتمريض
القدس– أبوديس

الرقم : ك،م، د،ت 2023/05/06 التاريخ : 2023/05/16

حضرة السيدة إيمان جادو المحترمة
مدير التمريض مستشفى الميزان – الخليل
تحية طيبة وبعد،،،

الموضوع: الموافقة على تسهيل مهمة لطالبات الماجستير " أخلاص حميدات"

أرجو من حضرتكم تسهيل مهمة الطالبة **اخلاص محمود أحمد حميدات** ورقمها الجامعي 2011482 ماجستير في صحة الأم والطفل جامعة القدس في مهمتها بجمع المعلومات في مستشفى الميزان/ الخليل، حول موضوع:

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نسخة مع الأحترام :
- عمادة الدراسات العليا.
- نسخة الطالبة .
- نسخة الملف .

دائرة التمريض
Nursing Department

Al Quds University
Faculty of Health Professions
Department of Nursing
Jerusalem –Abu Dis

جامعة القدس
كلية المهن الصحية
دائرةالتمريض
القدس– أبوديس

الرقم : ك.م، د.ت 2023/05/05 التاريخ : 2023/05/16

حضرة السيد / د. حاتم البرباوي المحترم
مدير عام مستشفى الهلال الأحمر – الخليل
حضرة السيد / ا. زياد حمد المحترم
مدير التمريض مستشفى الهلال الاحمر – الخليل
تحية طيبة وبعد،،،

الموضوع: الموافقة على تسهيل مهمة لطالبات الماجستير " أخلاص حميدات"

أرجو من حضرتكم تسهيل مهمة الطالبة **اخلاص محمود أحمد حميدات** ورقمها الجامعي 2011482 ماجستير في صحة الأم والطفل جامعة القدس في مهمتها بجمع المعلومات في مستشفى الهلال الأحمر الخليل، حول موضوع :

" Assessment of the Midwives' Competency Regarding Active Management of the Third Stage of labor in Hebron hospitals at Palestine" .

وتفضلوا بقبول فائق الاحترام

منسقة برامج الدراسات العليا
د. ميساء الأسطه

نسخة مع الأحترام :
- عمادة الدراسات العليا.
- نسخة الطالبة .
- نسخة الملف .

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Department of Nursing
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جامعة القدس
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القدس– أبوديس

الرقم : ك،م، د،ت 2023/05/07 التاريخ : 2023/05/16

حضرة الأستاذ مراد عمرو المحترم
مدير التمريض مستشفى الأهلي
تحية طيبة وبعد،،،

الموضوع: الموافقة على تسهيل مهمة لطالبات الماجستير " أخلاص حميدات"

أرجو من حضرتكم تسهيل مهمة الطالبة **اخلاص محمود أحمد حميدات** ورقمها الجامعي 2011482 ماجستير في صحة الأم والطفل جامعة القدس في مهمتها بجمع المعلومات في مستشفى الأهلي، حول موضوع:

" Assessment of the Midwives' Competency Regarding Active Management of the Third Stage of labor in Hebron hospitals at Palestine" .

وتفضلوا بقبول فائق الاحترام

منسقة برامج الدراسات العليا

د. ميساء الأسطه

نسخة مع الأحترام :

- عمادة الدراسات العليا.
- نسخة الطالبة .
- نسخة الملف .

دائرة التمريض
Nursing Department

C. Ethical approval letter

Al Quds University
Faculty of Health Professions
Jerusalem –Abu Dis

جامعة القدس
كلية المهن الصحية
القدس – أبو ديس

Research Ethics Subcommittee of Faculty of Health Professions
Letter of approval

May 9, 2023
Ref. No.: RESC/2023-37

Dear Applicants, **(Dr. Maha Nahhal, Ms. Ikhlas Hmidat)**

Program: **MSc Nursing Department**

The Research Ethics subcommittee of the Faculty of Health Professions has recently reviewed your proposal entitled **(Assessment of the Midwives' Competency Regarding Active Management of the Third Stage of Labor in Hebron Hospitals in Palestine)** submitted by **(Dr. Maha Nahhal)**. Your proposal is deemed to meet the requirements of research ethics at Al-Quds University, but further assessment is required by the Central Research Ethics Committee of Al-Quds University. We wish you all best for the conduct of the project.

Hussein ALMasri, PhD
Associate Professor of Medical Imaging
Research Ethics Subcommittee Chair
Faculty of Health Professions

Hussein AlMasri

CC: File
CC: Committee members

Tel. Fax: 02 2791243 Email: dean@hpro.alquds.edu تلفاكس: 02 2791243

تقييم معرفة وكفاءة القابلات فيما يتعلق بالإدارة الفعّالة للمرحلة الثالثة من الولادة في مستشفيات الخليل في فلسطين

إعداد: اخلاص محمود أحمد حميدات

إشراف: د. مها نحال

الملخص

المقدمة: النزيف بعد الولادة هو أحد المضاعفات الخطيرة المهددة لحياة الأم في المرحلة الثالثة من الولاده، والتي تؤدي إلى اعتلال ووفيات على مستوى العالم، وهو مسؤول بشكل خاص عن حوالي 25٪ من وفيات الأمهات في البلدان النامية (منظمة الصحة العالمية, 2018). يمكن الوقاية من النزيف بعد الولادة وذلك من خلال استخدام الإدارة الفعّالة للمرحلة الثالثة من المخاض. حيث يقلل استخدام الإدارة الفعالة من حدوث النزيف بعد الولادة بنحو 60٪ . علاوة على ذلك، فان الإدارة الفعّالة للمرحلة الثالثة من الولادة هو بروتوكول تدخل عالمي مهم لمنع نزيف ما بعد الولادة عن طريق تقصير وقت المرحلة الثالثة الطبيعية من الولادة باستخدام عقار مقوي للرحم (الأوكسيتوسين)، وتأخير ربط الحبل السري من 2الى 3 دقائق، والتحكم في شد الحبل السري، وفحص تماسك عضله الرحم للتأكد من عدم ارتخائها لتحقيق ولادة المشيمة بأمان وتقليل فقدان الدم أثناء المخاض، وإكمال ولادة المشيمة في أقل من 30 دقيقة. تقيّم هذه الدراسة معرفة وكفاءة القابلات في مستشفيات الخليل، فلسطين، فيما يتعلق بـ الإدارة الفعّالة للمرحلة الثالثة من الولادة. .

الهدف: تقييم معرفة ومهارة القابلات في إدارة المرحلة الثالثة من المخاض وفحص الارتباط بالمتغيرات الاجتماعية والديموغرافية نحو الإدارة الفعّالة للمرحلة الثالثة من الولادة في مستشفيات الخليل في فلسطين.

المنهجية: استخدمت هذه الدراسة تصميمًا مقطعيًا وصفيًا كميًا، أجري في المستشفيات الحكومية والخاصة الستة الرئيسية في مدينة الخليل. كانت حجم العينة 125 قابلة لديهن خبرة لا تقل عن عام واحد في العمل في جناح الولادة. تم جمع البيانات باستخدام أداتين منفصلتين تم التحقق من صحتهما وموثوقيتهما (تم استخدام الاستبيانات لجمع البيانات لتقييم معرفة القابلات وتم استخدام قائمة بطاقه المراقبة لتقييم ممارسات القابلات), و تم الحصول على الموافقة الأخلاقية من اللجنة

الأخلاقية بجامعة القدس، وتم أخذ الإذن من وزارة الصحة الفلسطينية، وإدارة المستشفيات الخاصة، ومديري التمريض، ورئيسة القابلات في كل جناح في المستشفيات بالإضافة إلى الإذن الشفوي (الموافقة المستنيرة) من كل مشاركة والامهات اللواتي يلدن. استمرت الدراسة ستة أشهر من(يونيو إلى ديسمبر) \ 2023. وقد تم تحليل البيانات باستخدام الحزمة الإحصائية للعلوم الاجتماعية (SPSS 26)

النتائج: أظهرت النتائج مستوى ضعيفًا من المعرفة بين القابلات تجاه الإدارة الفعّالة للمرحلة الثالثة من الولادة بإجمالي لدرجة المعرفة (76٪). ومع ذلك، فقد عكست القابلات مستوى جيد من المعرفة لـ (المجال 1) "قبل طرد المشيمة" (86٪). في المقابل، يشير المجال 2 والمجال 3 (أثناء إخراج المشيمة وبعد ولادة المشيمة) إلى مستوى أدنى من المعرفة بنحو (68٪ و 62٪) على التوالي. ومع ذلك، فإن ممارسات القابلات لـ AMTSL في مستشفيات محافظة الخليل تعتبر ممارسة ممتازة والتي تمثل درجة (89.3٪). بالنسبة للارتباط بين المعرفة والممارسة فقد تم العثور على ارتباط ضعيف جدًا بين درجة المعرفة الإجمالية وتنفيذ الممارسة (الارتباط R) كان (0.056) وكانت قيمة الp (0.534) , بينما بالنسبة للارتباطات بين مجموع كلا المعرفة والممارسة مع المتغيرات الاجتماعية والديموغرافية كان هناك ارتباط كبير بين عمر القابلات ومعرفتهن بـ الإدارة الفعّالة للمرحلة الثالثة من الولادة في (المجال1 و3) ، والحالة الاجتماعية مرتبطة بمعرفتهن في (المجال 3)، وسنوات الخبرة مرتبطة أيضًا بمعرفتهن في (المجال 3) و ارتبط التدريب على الإدارة الفعّالة للمرحلة الثالثة من الولادة بشكل إيجابي بمعرفتهن ب (المجال 1 و 2)بينما الممارسة ب (المجال 2) وعلى شاكلته في توافر البروتوكولات المكتوبة في المؤسسة حول الإدارة الفعّالة للمرحلة الثالثة من الولادة ارتبط بشكل إيجابي بمجموع المعرفة في (المجال 1 و2) والممارسة في (المجال2).

الخلاصة:

تؤكد نتائج هذا البحث على مدى أهمية التطوير المهني المستمر للقابلات، والبروتوكولات الموحدة، والموارد الكافية لتحسين التزامهن بممارسات الإدارة الفعّالة للمرحلة الثالثة من الولادة و تسلط هذه الدراسة الضوء على الحاجة إلى برامج التعليم والتدريب المستمر لتعزيز كفاءة القابلات في الإدارة الفعّالة للمرحلة الثالثة من الولادة ، بهدف تقليل النزيف بعد الولادة وتحسين نتائج صحة الأم في فلسطين. تشمل التوصيات تسهيل ورش العمل المنتظمة للتنمية المهنية والبروتوكولات الموحدة عبر

المرافق الصحية. علاوة على ذلك، تفعيل نظام المراقبة في المستشفى للحفاظ على تطبيق ممارسات الإدارة الفعّالة للمرحلة الثالثة من الولادة. و تؤكد هذه الدراسة على الحاجة إلى برامج التعليم والتدريب المستمر لتعزيز كفاءة القابلات في الإدارة الفعّالة للمرحلة الثالثة من الولادة ، بهدف تقليل نزيف ما بعد الولادة وتحسين نتائج صحة الأم في فلسطين. تشمل التوصيات وورش عمل التطوير المهني المنتظمة والبروتوكولات الموحدة عبر المرافق الصحية.

الكلمات المفتاحية: القابلات، المعرفة، الكفاءة، الإدارة النشطة، المرحلة الثالثة من المخاض، مستشفيات الخليل، نزيف ما بعد الولادة.