Nurse Midwives' Knowledge about the Effective Nursing care during the Third Stage of Labour at Wad Medani Maternity Teaching Hospital, Gezira State, Sudan (2017)

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B.Sc.in Nursing Sciences

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Supervision Committee

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Date of Examination: 1/4/2018
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Abstract

The third stage of labour begins immediately after the baby being delivered. Since the post-partum hemorrhage is one of the world’s leading causes of maternal mortality, active management of third stage of labour is a visible and inexpensive intervention that can help save thousands of women’s lives. This descriptive hospitalized study was conducted at Wad-Medani Obstetrics and Gynecology Teaching Hospital, Gezira state, Sudan. It aimed at assessing nurse midwives knowledge about the effective nursing care in the third stage of labour during the period from October to December 2017. The study included all available nurses (55) nurses midwives who were working in the Obstetrical and Gynecological Hospital. The data were analyzed using the Statistical Package for Social Sinces (SPSS). The result revealed that (16.5%) and (14.5%) of the nurses midwives responded with correct answers about the definition of active management and the following during the third stage of labour, respectively. Moreover, (34.5%) and (16.4%) of the sample answered correctly regarding the delivery of the placenta and active management of the third stage of labour, respectively. In addition (27.3%) and (34.5%) of the nurses midwives answered correctly about the factors of the risk of late placenta deliver and the duration, respectively. Furthermore, (29.1%) and (27.3%) of the nurses midwives answered correctly regarding the natural operations and the side effect during the third stage. (29.1%) and (38%) of the subjects answered about the intervention of bleeding (postpartum hemorrhage or PPH) and makes the placenta retained, respectively. The study concluded that, all nurse midwives knowledge concerned with the active management of the third stage of the labour was week of the correct answers (29.8%). The study recommend the necessity of making periodical training program a must and be conducted regularly and should be mandatory, handouts about effective nursing care during the third stage of labour should be made available.
 lucr الوحدة التدريبي الدورى متعلق بالتعليم النشط والآبار الجانبية خلال المرحلة الثالثة من المخاض متاحة.

ملخص الدراسة

تبدأ المرحلة الثالثة من المخاض بعد ولادة الطفل مباشرة، والنزف بعد الولادة هو أحد الأسباب الرئيسية لوفيات الأمهات عالمياً، والعناية النشطة للمرحلة الثالثة من المخاض هي ممنوعة وغير مكلفة يمكن أن يساعد في إنقاذ حياة آلاف الأمهات. أجريت هذه الدراسة الوصفية في مستشفى ومدني التعليمي للنساء والتوليد، ولاية الجزيرة، السودان. هدف الدراسة إلى تقييم معرفة الممرضات القابلات عن الرعاية التمريضية الفعالة خلال المرحلة الثالثة من المخاض في الفترة من أكتوبر 2016 إلى ديسمبر 2017. بلغ حجم العينة (55) من الممرضات القابلات اللاتي يعملن بمدني ومدني. تم جمع البيانات وتحليلها باستخدام الحزمة الإحصائية للبرنامج الاجتماعي (SPSS). أظهرت النتائج أن (16.5%) و (14.5%) من الممرضات القابلات أجبن إجابات صحية عن تعريف العناية النشطة و ولادة المشيمة والعناية النشطة للمرحلة الثالثة من المخاض (34.5%) و (27.3%) . بالإضافة إلى (29.1%) و (34.5%) أجبن إجابات صحية عن عوامل الخطورة في حالة تأخر مدة ولادة المشيمة ، وعلاوة على ذلك (29.1%) و (27.3%) من الممرضات القابلات كانت إجابتهم بشكل صحيح فيما يتعلق بالعمليات الطبيعية والآبار الجانبية خلال المرحلة الثالثة لولادة. (29.1%) و (38.3%) منهن أجبن إجابات صحية عن التدخل التمريضي للنزف المفرط (نزف ما بعد الولادة) على التوالي. خلصت الدراسة إلى أن جميع الممرضات القابلات كانت معرفت مهمتها عن العناية بالمعالجة النشطة خلال المرحلة الثالثة من المخاض بشكل منظم، كما يجب أن يكون الرامي و أن تكون النشرات المتعلقة بالرعاية التمريضية النشطة خلال المرحلة الثالثة من الولادة متاحة.
1. Introduction

1.1. Background:

The normal delivery is a physiological process through which the fetus, placenta and membranes are expelled from the uterus. This physiological phenomena includes four stages. The third stage of labour which, starts immediately after the infant is born, includes the separation and detachment of the placenta from the uterine wall, and ends with complete expulsion of the placenta and membrane. Traditionally this period of childbirth has been regarded as ‘hazardous’ because the risk of excessive bleeding. Postpartum Hemorrhage (PPH) is the commonest cause of maternal death in the world. To Decrease rates of hemorrhage has been attributed to the prophylactic or routine use of active management in the third stage of labour for all women.(WHO, 2012).

Active management is a package of care which as Syntocinon or Syntometrine, early clamping and cutting of the cord and speedy delivery of the placenta, usually by cord traction. Midwives should carefully observe the following:- Uterine contraction, (strength, length, frequency of contraction).

1.2. Problems Statement:

Worldwide W.H.O:

Worldwide in Nigeria, 1 in 20 women die of pregnancy/delivery related causes, compared to 1 in 61 for all developing countries and 1 in 29,800 for developed country. Post Partum Haemorrhage (PPH) is responsible for around 25% of maternal mortality worldwide (WHO, 2009), reaching as high as 60% in some countries. World Health Organization report in 2005 estimated that 14 million women suffer PPH annually. This is not surprising considering that a woman will die within two hours, on average, after the onset of PPH if the woman not receive proper treatment(WHO, 2007). Africa has the highest prevalence rate of about 10.5% of maternal mortality (WHO, 2009). PPH is most commonly caused by uterine atony and retained placenta due to mismanagement (WHO, 2007).

Developed countries:

The in developed contraries: every year, over 500,000 women die as a result of childbirth. Of these. 25-60% die of postpartum care haemorrhage (PPH). Unfortunately the overweening majority of these deaths occur in developing countries like Uganda. Over 90% of women who diet of PPH, the most important cases is uterine., whoever, research shows
that a simple, inexpensive, effective and evidence base practical technique known as active management of third stage of labour. They revealed that, midwives generally had good knowledge about (active management of third stage of labour) 70.9% stated that definition, and 81.2% stated that active management reduced the blood, surprisingly their practice were very poor (26%) as regards AMTSL, use attitudes towards AMTSL was positive, 66.7% stated that AMTSL should be used to all pregnant mother. (Naamala, M., 2012).

In developing countries: Female nurses at different cadres accounts for most of the respondents'. Majority 90.6% of the responded resorted being aware of AMTSL as at in a obstetric intervention and 49.7% were aware of FIGO/ICM recommendation on AMTSL. Out of 13 potential third stage intervention, 102 responded (28.3%) correctly and exclusively identified the components of AMTSL, as defined by FIGO/ICM. Many procedures received for treatment of complicated third stage of labour such as manual placental removal (37.7%), blood transfusion (20.2%) bimanual uterine compression (24.7%).

In Sudan postpartum haemorrhage is one of the leading causes of maternal death; it occurs in about 10.5% of births and accounts for over 130,000 maternal deaths annually. Active management of the third stage of labour is highly effective at preventing postpartum haemorrhage among facility-based deliveries. In a systematic review of randomized controlled trials, active management of the third stage of labour was more effective than physiological management in preventing blood loss, severe postpartum haemorrhage (> 500 ml) and prolonged third stage of labour. Routine use of active management of the third stage of labour for all vaginal singleton births in health facilities is recommended by the International Federation of Gynecologists and Obstetricians (FIGO) and the International Confederation of Midwives (ICM), as well as by WHO. Also, this practice is included in the maternity care package against which all other maternity-related interventions were compared in a recent cost-effectiveness analysis as part of the Disease Control Priorities in Developing Countries Project. Around 2000, approximately half of all births in the developing world took place in a health facility; thus, routine active management of the third stage of labour could avert maternal deaths and morbidity. (WHO, 2007).

This study area is the first of its kind in Gezira state.
1-3 Justification:

Improper immediate active management of third stage of labor increases morbidity and mortality rates among mothers and their new born baby. This practice is yet delivered improperly – there are multi-able factors behind this problem such as lack of nurse multiple, midwives, shortage of trained staff and the absence of inservice training program to health providers.

So this study aimed to assess the midwives’ knowledge of immediate active management of third stage of labor.

This study to assess the outcome of post training program in improving the midwives clinical performance immediate active management of third stage of labor to improve knowledge and practice.
1-4 Objectives:

1-4-1 General Objective:

- To assess nurse-midwives' Knowledge about the effective nursing care during the third stage of labour at Wad Medani Obstetrics and Gynecology Teaching Hospital, Gezira State, Sudan, (2017)

1-4-2 Specific Objectives:

- To assess nurse-midwives' knowledge throughout the third stage of labor during the period of the study from October to December 2017 such as (definition, signs and symptoms and active management of third stage of labour.)
- To identify nurse-midwives socio- demographic characteristics such (educational level, age groups, years of experience and etc) during the period of the study from October to December 2017.
2. Literature Review

2.1 Introduction

Active management of the third stage of labor (AMTSL) is a combination of actions performed during the third stage of labor to prevent PPH, the components of AMTSL are administration of a uterotonic drug within one minute after the baby is born, controlled cord traction (CCT) and uterine massage immediately after delivery of the placenta (WHO MPS Technical update, 2006).

Based on an extensive review of the literature, the joint statements by the ICM/FIGO recommends that active management of third-stage of labor be offered to all women, because the presence of risk factors cannot be used to predict postpartum hemorrhage, Active management has been proved to reduce the incidence of postpartum hemorrhage, the quantity of blood loss, and the use of blood transfusions (Sheldon, Durocher, Winikoff, Blum & Trussell, 2013.). The Prevention of Postpartum Hemorrhage Initiative (2013) reported that postpartum hemorrhage (PPH) is commonly defined as blood loss >500ml in the first 24 hours after delivery and severe PPH is loss of 1000mL or more. The use of active management of the third stage of labor (AMTSL), has been associated with nearly 60% reduction in PPH occurrence and that universal use of AMTSL will prevent 27% of deaths from PPH (POPPHI, 2013). A retrospective study from Ghana compared active versus expectant management in a rural setting at Holy Family Hospital in Berekum, the findings show that PPH occurred less often in the actively managed group compared with the expectant management group (Miller, Lester & Hensleigh, 2004).

2.2 The four stages of labour:

Labour is a continuous process, divide it into four stages, in order to study the process, and to help us to report on it. In labour the uterus opens itself up, expels the contents and then closes down (Combs CA, Laros RK Jr. 2009). These stages are as follows:

**First Stage**: Is the stage of dilatation of the cervix, and it lasts from the onset of true labour until full dilatation.

**Second Stage**: The stage of descent and delivery of the baby. It lasts from full dilatation until the birth of the baby.
**Third Stage:** The placental stage. It lasts from the birth of the baby until the placenta and membranes are expelled.

**Fourth Stage:** The first hour after delivery, of placenta a time of special observation.

**Average duration of labour:**

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<td>Primigravida</td>
<td>12 hours</td>
<td>1 hour</td>
<td>15 min</td>
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<tr>
<td>Multigravida</td>
<td>8 hours</td>
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Labours lasting longer than this must be investigated. The term prolonged labour is given to a labour lasting longer than 24 hours. (Combs CA, Laros RK Jr. 2009).

**2.3 Definition of the third stages of labor**

The third stage of labour which, starts immediately after the infant is born, includes the separation and detachment of the placenta from the uterine wall, and ends with complete expulsion of the placenta and membrane. This period is considered to be the most hazardous stage for the birthing woman due to the risk of profuse hemorrhage. Severe bleeding is the single most important cause of maternal deaths worldwide. Over 90% of women who die of postpartum hemorrhage, the most important cause is uterine atony, occurrence of hemorrhage caused by uterine atony by 60%. Most midwives and laboring woman are aware of the transitional period between dilatation, or it’s the time when active maternal pushing effort is being made. This period is characterized by maternal restlessness, discomfort, desire for pain relief sense that the process is demands to attendant to get the birth as quickly as possible. The onset of the second stage of labor is confirmed by vaginal examination to check for full service dilatation. -Uterine action: in the second stage of labor contraction become strong and longer but may be less frequent allowing both mother and fetus regular recovery period, the membrane often ruptures spontaneously towards the end of the first stage ordering transition to the second stage. The consequent drainage of liquor allows the hard round fetal head to be directly applied to the vaginal tissue. The contraction become expulsive as fetus descent into the vagina, pressure from the presenting part stimulate nerve receptors in the pelvic floor and women experiences the need to push (Kongnyuy, E.J., et al 2008).
The three stage of labour begins with the birth of the baby and is completed with placental separation and expulsion. Third stage lasts from 1 to 30 minutes with an average length of 3 to 4 minutes in the nullipara and management and monitoring are necessary to prevent short and long term negative outcomes.

**Physiology of the third stage:**

**Separation of the placenta:**

- Results from abrupt reduction in size of the uterine cavity.
- Decrease in the area of placental attachment due to the process of retraction of uterine muscle.
- Separation of the placenta from the spongiosa layer of the decidua occurs.
- Separation begins at the center so that retroplacental clot is formed.
- The retro-placental clot facilitate completion of the separation.

Separation of the placenta usually begins with the contraction which delivers the baby’s trunk and is completed with the next one or two contractions. As the baby is delivered, there is a marked reeducation in the size of the uterus because of the powerful contraction and retraction which take place. The placental site therefore greatly diminishes in size. Initially, placental separation was thought to be brought about by the bursting of decidua sinuses under pressure and the subsequent forming of a retroplacental blood clot which tore the septa of the spongiosa layer of the inner wall (Brandt, 1933). However, Dieckmann et al. (1947) and more recently Herman et al. (1993) suggest separation is caused by the active placenta site uterine wall thickening and reducing in size, causing the placenta to ‘shear off’. It is suggested that blood collecting on the maternal surface of the placenta as it separates is an incidental finding. Krappet A. (2000) described three phases to the third stage of labour. These three phases have now been widely accepted as describing the process of placenta detachment and expulsion (Herman, 2000).

**Latent phase:**

Period of time from delivery of the infant until the beginning of placenta separation. During this phase the placenta-free uterine wall thickens under the influence of intermittent contraction, with minimal thickening of the uterine wall over the placenta. Median duration is 141 seconds (range 5-790).
**Detachment phase:**

Period of placenta separation and detachment from the uterine wall. This is brought about by gradual thickening of the uterine wall over the site of placenta attachment. The myometrium adjacent to the lower edge of the placenta contracts, thickens and reduces its surface area overall, which leads to a shearing off the placenta in that area. This wave of placental wall thickening and placental separation continues upwards and outwards until the whole placenta is detached. Median duration is 50 seconds (range 15-100). Separation of the placenta from uterine wall is normally achieved within three minutes.

**Expulsion phase:**

Period from complete separation of the placenta to vaginal expulsion. The upper uterine segment contracts strongly, forcing the placenta to fold in on itself and descend into the lower segment and from there to the vagina. Gravity and sometimes maternal effort brought about by stimulation of the pelvic floor, lead to expulsion of the placenta and membranes. Median duration is 80.5 second.

**Presentation of the placenta at the vulva:**

During the expulsive phase, the placenta may appear at the vagina in one of two ways:

Schultze: The placenta appears fetal surface first like an inverted umbrella with the membranes trailing behind. Any blood lost during the third stage will collect on the maternal surface of the placenta and be encased by the membranes. Over 80% of placentae are delivered in this way (Akitama et al., 1981).

Matthew Duncan: Less commonly, the placenta slips from the vagina sideways and the maternal surface appears at the vulva first. Midwives often use the term ‘dirty Duncan’ for the type of presentation because more bleeding is seen vaginally – blood escapes immediately from the placenta site because it is not encased in the membranes. This is often associated with slower separation of the placenta and ragged membranes.

**2.3.1 Care of the mother in the third stage of labour:**

- Guard the uterus: Keep anyone from massaging it prior to placental separation.
Do not pull on the umbilical cord before the placenta separates or with uncontracted uterus.

Do not try to deliver the placenta prior to its complete separation.

Wait for the natural process to occur and do not interfere.

2.3.2 Soft tissue displacement:

As the hard fetal head descends the soft tissue of the pelvis become displaced: and interiorly the bladder is pushed upward into the abdomen where it is at less risk of injury during fetal descent. This results in the stretching an thinning of the urethra so that its lumen is reduced.

- Posterioiy the rectum becomes flattened in to the sacral curve and the pressure of the advancing head expels any residual fecal matter. The lavatory any muscles dilate thin out an area displaced laterally and the perinal body is flattened stretched an thinned (Philipsen, N. and MuMullen, P. 2014).

- The fetal head become visible at the vulva advancing with each contraction and receding between contraction until crowning takes place. The head is then born, the shoulders and body follow with next contraction accompanied by a gush of amniotic fluid and sometime of blood. The second stage culminates in the birth of the baby(Philipsen, N. and MuMullen, P. 2014).

Descend of the placenta:

After separation, the placenta descends into the lower uterine segment and into the upper vaginal vault causing the following clinical signs of separation:

- Sudden trickle or gush of blood.
- Lengthening of umbilical cord visible at the vaginal introitus.
- Change in the shape of the uterus from a circular to globular.
- Level uterine fundus rises in the abdomen.

Expulsion of the placenta:

1. Schultz mechanism of placenta expulsion.
- Delivery of the placenta with the fetal side presenting.
- Occurs when separation begins at the centre with retroplacental clot formation.

2. The Duncan mechanism of placental expulsion.
• Delivery of the placenta with the maternal side presenting.
• Occurs when separation begins at the margin or periphery of the placenta.
• Placenta descends sideways and the amniotic sac trails behind placenta.

**Care of the mother in the third stage of labour:**

• Guard the uterus: keep anyone from massaging it prior to placenta separation.
• Do not pull on the umbilical cord before the placenta separation or with uncontracted uterus.
• Do not try to deliver the placenta prior to its complete separation.
• Wait for the natural process to occur and do not interfere.

**Delivery of placenta and membranes:**

1. Expectant management:

   • A hand is placed over the fundus to feel the signs of placenta separation, the state of uterine activity (contraction and relaxation) and any collection of blood in the uterine cavity.
   • When the features of placental separation and its descend into the lower uterine segment are confirmed, the woman is asked to bear down simultaneously with the hardening of the uterus.

2. Expression by fundal pressure:

   • Four fingers of one hand are placed behind the fundus and the thumb in front of the uterus to use as a piston.
   • Gentle rub on the fundus to make the uterus contract.
   • Pushing downwards and backwards till the placenta passes through the introitus.
   • Membranes follow the placenta immediately and are delivered with the placenta normally.

**Examination of the placenta and membranes:**

Examination should be performed as soon after delivery as possible.

Remove any clots from the maternal surface and replace any broken cotyledons before beginning examination. Items to look for are:
• Infarctions that are recent or old.
• Localized calcifications.
• Completeness with presence of all lobes.
• Blood vessels denoting normal placenta or presence of sucenturiate lobe.
• Insertion of the cord—whether central or lateral.
• Number of umbilical vessels – two arteries and one vein are normal.

Complications of the third stage of labour:

Prolonged third stage (Retained placenta):

We mean by complication is a failure of placental delivery within 30 minutes after delivery of fetus with active management of 3rd stage or within 60 minute with physiological management of 3rd stage.

Because the incidence of Post Partum Hemorrhage (PPH) increases significantly after that time, therefore it seems logically to start some active intervention in attempt to delivery placenta after 30 to 60 min in the third stage in absence of active bleeding.

The complication includes:

❖ Retained Placenta.
❖ Primary Post Partum Hemorrhage.
❖ Uterine Inversion.
❖ Uterine Rupture.

General Management:

❖ Stop the bleeding by massaging the uterus to cause it to contract or by bimanual compression.
❖ Uterine contraction is maintained by ergometrin and high intravenous does of syntocinon.
❖ Bladder must be emptied.
❖ Prostaglandin F2x must be injected systemically.

Specific Management:
Retained Placenta
Trapped Placenta
Trapped Placenta often follows the intravenous administration of ergometrin when the onset of uterine contraction

Clinical Findings of Trapped Placenta:

- A small Contracted Fundus.
- Vaginal Bleeding
- Core Lengthening – Core lengthening indicates that placenta has been separated but is trapped inside the uterus.

Management:

Controlled cord traction is done, which encourages the cervical dilation. With Controlled cord traction, the umbilical cord is lightly pulled on to help the body expel the placenta.

2.4. Midwifery care:

2.4.1 Care for parents:

The couple will now realize that birth of their baby is imminent, they may feel excited and elated but at the same time anxious and frightened by dramatic change in place. The midwife's calm approach information about what is happening, can ensure the women stays in control and confident of her ability to birth her baby (Walsh, D.2014).

Thorough out transition and the second stage of labour the woman and her companion will need frequent explanations of events, the midwife should praise and recognizing that she is probably under aking the most extreme physical activity she will ever encounter (Walsh, D.2014).

Also the midwifises should work hard to ensure that privacy and dignity key component of the wonk's birth experience. Also she needs to support the owner with massage with appropriate nutrition and with suggestion for charge of position and of scenery to each woman and her labor. The midwife should also have regard to well being of woman's partner and other companion as far as possible and recognizes that witnessing birth is emotionally taxing. The midwife attitude to labor and to the partner will have a profound effect on labor and is likely to have an effect on family after the birth (Walsh, D.2014).
2.5. Observation during third stage of labor:

Five factors determine whether the third stage of the third stage of labour is continuing optimally and these must be carefully observed:

(i) Uterine contraction: the strength, length and frequency of contraction should be assessed continually by observation of the material response and gradually by uterine palpation. They are usually stronger and longer.

(ii) Descent, rotation and flexion:
- Initially: descent occurs slowly specially in primigravida.
- But accelerate during the active phase, it may occur very rapidly in multigravid woman. If the descends is progressive it should not be necessary for the midwife to undertake a vaginal examination but if there is delay in progress despite regular strong contraction and active maternal pushing, a vaginal examination may be performed with maternal permission.
- The purpose is to confirm whether or not internal rotation of the presenting part and to determine a caput succedaneum has formed if the occipit has not rotated anteriorly. (Walsh, D. 2014).
- The head is well flexed and caput succedaneum is not excessive then it is likely progress will continue in the absent of good rotation and flexion or both then a change of position, nutrition and hydration, or use of optimal fetal positioning technique may be consider consultation with a more experience midwife may provide.

(iii) Fetal condition: the midwife should observe the liquor amni if it is clear where as thin old meconium staining is not always regarded as assign of fetal compromise. Thick fresh meconium is always ominous, as the fetus descents fetal oxygenation may be deficient owning either to cord or head compression or to reduced perfusion at the placental site.

A well - growth, healthy fetus will not be compromise in early decelerations by this transitory Hypoxia. This will tend to manifest in early deceleration of fetal heart with a café return to the normal base line after contraction. (Walsh, D.2014).

IV) Suspicious / pathological change in fetal heart:
- Late declaration, a lack of return to the normal base line, arising base line or diminishing beat to beat variation remain signs of concern if these are heard for the first time in second stage, they may be due to cord compression which may be helped by change in position.
• Midwives who are trained, an experience episiotomy may be considered if the birth is imminent.

(iv) Maternal condition:
The midwife's observation includes an appraisal of mother's ability to cope emotionally as well as assessment of her physical wellbeing maternal pulse rate usually recorded every half hour and blood pressure every hour provided that these remain within normal limits (Walsh, D.2014).

2.6 Delivery of placenta and membranes:

1. Expectant management:
   ➢ A hand is placed over the fundus to feel the signs of placental separation, the state of uterine activity (contraction and relaxation) and any collection of blood in the uterine cavity.
   ➢ When the features of placenta separation it are descending into the lower uterine segment are confirmed, the client is asked to bear down simultaneously with the hardening of the uterus.

2. Expression by fundal pressure:
   ➢ Four fingers of one hand are placed behind the fundus and the thumb in front of the uterus to use as a piston.

2.7 Examination of the placenta and membranes:

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Remove any clots from the maternal surface and replace any broken cotyledons before beginning examination. Items to look for are:

➢ Infarctions that recent or old.
➢ Localised calcifications.
➢ Completeness with presence of all lobes.
➢ Blood vessels denoting normal placenta or presence of succenturiate lobe.
➢ Insertion of the cord-whether central or lateral.
➢ Number of umbilical vessels-two arteries and one vein are normal.
2.8 Bladder care:

As the fetus descends into the pelvis, the bladder is particularly vulnerable to damage from the pressure of advancing head. The bladder pass may become compressed between the pelvic brim and fetal head, the risk of trauma is greatly increase if the bladder is distended the woman should be encouraged to pass urine at beginning of the third stage(Sawls- DJM, 2010).

2.9 Delivery of the placenta:

After birth the nurse midwives prepares for the delivery of placenta the following signs suggests placental separation:

1) The uterus rises upward in the abdomen.
2) As placenta moves down word the umbilical cord lengthens.
3) Sudden trickle of blood appear.
4) The shape of the uterus changes from a disk to a globe. While waiting for these signs palpate the uterus to check for ballooning cause by uterine relaxation and subsequent bleeding in to the uterine cavity after the placenta has separate the woman may be asked to bear down to aide delivery of placenta (Walsh, D.2014).

Oxytocin are frequently given at the time of the delivery of the placenta, so the uterus will contract an bleeding will be minimize, oxytocin 10 to 20 units may be given intravenous (iv) infusion 10uni may be given intramuscular.

In addition to assess and record maternal blood pressure before and after administration of oxytocins. After expulsion of placenta the midwife inspects the placental members to make sure they are intact and that all cotyleons are present. If there is a defect or a part missing from the placenta, a manual uterine examination is one, the midwife record the time of the delivery of the placenta. After the expelled inspects the vagina an cervix for laceration an make any necessary repaired. The episiotomy may be repaired if it has not been one previously (Walsh, D.2014).
Nursing Process:

Assessment:

- Behaviors may range from excitement to fatigue.
- BP increases as cardiac output increases; then returns to normal levels shortly thereafter.
- Hypotension may occur in response to change in cardiac output.
- Normal blood loss is less than 500 ml.
- Extension of episiotomy or birth canal lacerations may be present.
- Dark vaginal bleeding as a trickle occurs as the placenta separates from the endometrium, usually within 3-5 minutes after delivery of the neonate.
- Umbilical cord lengthens at vaginal introitus.
- Uterus changes from discoid to globular shape and rises in abdomen.

Manual of midwifery and gynaecological nursing:

- Clean vulva and perineum with sterile water and antiseptic solution; apply perineal pad.
- Remove client’s legs simultaneously from leg supports if used.
- Assist in transfer from delivery bed to recovery bed as appropriate.
- Obtain sample of cord blood; sent to laboratory for blood typing of newborn and banking as desired.
- Assist with episiotomy repair necessary

2.10 Role of midwives knowledge

1- Postpartum hemorrhage is one of the world’s leading causes of maternal mortality. Active management of the third stage of labor (AMTSL) is a feasible and inexpensive intervention that can help save thousands of women’s lives. AMTSL involves three basic procedures: the use of auterotonic agent (preferably oxytocin) within one minute following the delivery of the baby, delivery of the placenta with controlled cord traction, and massage of the uterus after delivery of the placenta. Based on conclusive evidence from clinical trials, the International Confederation of Midwives (ICM) and the International Federation of Gynecology and Obstetrics (FIGO) issued a joint statement in 2003 stating that every
woman should be offered AMTSL as a means of reducing the incidence of postpartum hemorrhage. The World Health Organization’s Making Pregnancy Safer Technical Update: Prevention of Postpartum Haemorrhage by Active Management of Third Stage of Labour recommends that “AMTSL should be practiced by all skilled attendants at every birth to prevent postpartum haemorrhage.”

2- Postpartum haemorrhage (PPH) remains a major contributor to maternal mortality and morbidity particularly in developing countries. Reduction of maternal mortality within the context of the With Millennium Development Goal has therefore focused on interventions to reduce this complication especially in areas with scarce resources to combat the consequences of excessive postpartum bleeding. A low technology and evidence-based intervention to reduce the incidence of PPH is active management of third stage of labour (AMTSL) which has been promoted globally by several international health and developmental agencies including International Federation of Gynecology and Obstetrics (FIGO), International Confederation of Midwives (ICM) and World Health Organization (WHO).

In spite of the simplicity of this intervention, PPH continues to account for a significant proportion of maternal mortality in resource poor settings. This trend is largely attributable to the lack of universal application of AMTSL at every birth and the wide variation in the adherence of providers to recommended practices in many parts of the world. A possible explanation for the lack of adherence to recommended guidelines may be related to the depth of knowledge of maternity care providers on AMTSL in view of the rapid evolution in these guidelines within the last decade. This is especially pertinent in resource-poor settings where access to evidence-based resources are either haphazard or non-existent and protocols for managing normal deliveries are either lacking or outdated. In an attempt to complement the data derived from a direct observational study of AMTSL practices in all public tertiary obstetric centers in southwest Nigeria, we conducted this study to assess the level and determinant(s) of accurate knowledge of obstetric care providers.

3- Postpartum hemorrhage (PPH) is the leading cause of maternal death worldwide, with an estimated mortality rate of 140,000 per year accounting for approximately one maternal death every 4 minutes (Leduc, Andre & Lalonde, 2009). The prevalence of PPH has been estimated to be 5.77% of all delivery and responsible for 27% of all maternal deaths worldwide (Lubaki, Ngolo & Maniati, 2010). Severe bleeding in the postpartum period is the single most important cause of maternal deaths worldwide and more than half of all maternal
deaths occur within 24 hours of delivery, most commonly from excessive blood loss (AbouZahr, 2003).

Post-partum haemorrhage (PPH) is the single largest cause of maternal death particularly in developing countries (Lubaki and colleagues, 2010). In Africa the situation is worse as 33.9% of maternal deaths are due to PPH (Zubor and colleagues, 2014). Audu, Takai & Bukar (2010) reported that Nigeria with a maternal mortality ratio of 1,500 per 100,000 live births and some 55,000 maternal deaths annually, presently is 2% of the world's population, but accounts for 10% of the world's maternal deaths and ranks second globally in the number of maternal deaths. Gilda, Henshaw, Susheela (2007) reported that a clinical guideline for the prevention of post-partum hemorrhage widely recommend provision of a package of interventions known collectively as Active Management of the Third Stage of Labor (AMTSL). Sheldon, Durocher, Winikoff, Blum & Trussell (2013) discovered that PPH has been shown to be effectively prevented by the use of active management of the third stage of labour (AMTSL). WHO Making Pregnancy Safe Technical Update (2006) also revealed that AMTSL is intended to reduce post-partum blood loss through expediting placental delivery and preventing uterine atony (Winikoff, Blum & Trussell 2013)

**2.11 Nursing care of the third stage of labor:-**

**Nursing Diagnosis**
- Impaired Tissue Integrity related to placental separation
- Risk for Injury related to potential hemorrhage

**Nursing Interventions**

Promoting Tissue Integrity

Ask the woman to bear down gently. Fundal pressure is never applied to facilitate delivery of the fetus or the placenta. Observe for the signs of placental separation

The uterus rises upward in the abdomen.

The umbilical cord lengthens.

Trickle or spurt of blood appears.

The uterus becomes globular in shape.

Evaluate the placenta for size, shape, and cord site implantation. Evaluate placenta for Duncan or Schultze presentation.

Schultze central region of the placenta separates first with the shiny surface of the placenta (fetal side) appearing first. Commonly referred to as shiny Schultze.
Duncan periphery of the placenta separates first with the dull, irregular surface of the placenta (maternal side) appearing first. Commonly referred to as dirty Duncan.

Preventing Hemorrhage

Ensure accurate measurement of intake and output maintained throughout labor and delivery. Immediately after delivery of the placenta, administer oxytocin (Pitocin 10 to 40 units/L at 100 mU/min) either I.V. piggyback or I.M. as directed by facility policy and provider. Infuse as bolus initially, then titrate to uterus (ie, if uterus is firm, decrease the infusion; if boggy, leave as bolus). Pitocin should never be administered I.V. push as it can cause cardiac dysrhythmia and death immediately after initiating Pitocin, massage uterine fundus until firm. Uterine massage is done with two hands, one anchored at the lower uterine segment above the symphysis pubis and the other hand gently massages the fundus.

Check to see that the placenta and membranes are complete.

Evaluate and massage the uterine fundus until firm. (Walsh, D.2014)

Evaluate vaginal bleeding. If bleeding continuously and uterus is boggy, prepare Methergine I.M. (0.2 mg every 2 to 4 hours), Hemabate (Prostaglandin F2 Alpha) I.M. (0.25 mg I.M. every 15 to 90 minutes ≠8 doses), Dinoprostone (Prostin E2) 20 mg per rectum, or Misoprostol (Cytotec) 400 to 1,000 mcg PR.

Administer medications as directed.

Increase I.V. fluids.

Monitor vital signs, especially pulse and blood pressure.

If bleeding continues and uterus is firm, notify health care provider for evaluation of lacerations or retained placental fragments. Inspection and repair of lacerations of the vagina and cervix are made by the health care provider.

If still no relief, notify health care provider and prepare patient for possible surgery (dilation and curettage, B-lynch suture, pelvic pressure packing, and selective arterial embolization).

Autotransfusion (transfusion with one's own blood) is also a treatment available and approved for use by Jehovah's Witnesses.

**Evaluation: Expected Outcomes**

Delivers an intact placenta

Blood loss controlled and hemorrhage prevented (Walsh, D.2014)
Nursing diagnoses:

1. Acute pain.
2. Risk for deficient fluid volume.
3. Risk for maternal injury.

Expected outcomes:

Client will:

1. Verbalise management or reduction of pain.

Nursing intervention:

1. Managing pain:
   - Assist with use of breathing techniques during surgical repair as appropriate.
   - Apply ice bag to perineum after delivery (reduces oedema and produces local comfort).
   - Change wet clothing and bedding.
   - Provide a warm blanket.

2. Maintaining vital signs and blood loss within normal limits.
   - Instruct client to push with contractions, help direct attention toward bearing down (bearing down helps separation and expulsion of placenta).
   - Assess vital signs before and after administering oxytocin.
   - Palpate uterus, note ballooning (suggests uterine relaxation and bleeding into uterine cavity).
   - Monitor for signs of excess fluid or shock (e.g., check BP, pulse, sensorium, skin colour and temperature).
   - Place infant at client's breast if she plans to breastfeed.
   - Massage uterus gently afterplacenta expulsion.
   - Record time and mechanism of placental separation (Schultz mechanism or Duncan's mechanism).
- Inspect maternal and fetal surfaces of placenta. Note size, cord insertion, intactness, vascular changes or calcification.
- Obtain and record information related to inspection of uterus and placenta for retained placental fragments.
- Administer fluid through parenteral route.
- Administer oxytocin through IM route or dilute IV drip in electrolyte solution as indicated.
- Assist with repair of cervix, vagina and episiotomy extension.

3. Being free of injury:
- Palpate uterus, note "ballooning" of uterus and massage gently.
- Gently massage uterus after placental expulsion.
- Client vulvae and perineum with water and antiseptic solution, apply perineal pad.
- Remove client's legs simultaneously from leg supports if used.
- Assist in transfer from delivery bed to recovery bed as appropriate.
- Obtain sample of cord blood, send to laboratory for blood typing of newborn and banking as desired.
- Assist with episiotomy repair as necessary.

Previous studies:

Worldwide:

In a study on active management of third stage of labour with and without controlled cord traction (CCT), it was evident that there were practices like delivering the placenta without using CCT which is an important component of AMTSL. (Artymuk, Surina&Marochko, 2013). However, a study conducted in seven developing countries Benin, El Salvador, Ethiopia, Honduras, Indonesia, Nicaragua and United Republic of Tanzania. It was evident that the use of AMTSL appears to vary greatly between the countries studied, although clear patterns emerged; which are prophylactic uses of uterotonic drug especially oxytocin, during the third stage and fourth stage of labour is nearly universal. Incorrect active management of the third stage of labour is due to multiple deficiencies in practice. Active management appears not to be selectively practiced for women considered at high risk but may be used to a greater extent in national hospitals than in lower level facilities (Staton and colleague,
In addition, studies have shown that many maternity units in most countries do not use the full package of active management but do use some of its components. Most have policies about cutting and clamping the cord, either immediately after the birth or as soon as the cord stops pulsating, but differences in policies about controlled cord traction are much wider. Policies of using uterotonics are very widespread, and differences again relate to the timing of administration together with the pharmacological agent used (Winter et al, 2007).

**In developed countries:**

A study done by Naamala, M (2009). Stated that Severe bleeding is the single most important cause of maternal deaths worldwide. Every year, over 500,000 women die as a result of childbirth. Of these, 25-60% die of postpartum haemorrhage (PPH). Unfortunately, the overwhelming majority of these deaths occur in developing countries like Uganda. Over 90% of women who die of PPH, the most important cause is uterine atony, however, research shows that a simple, inexpensive, effective, adaptable and evidence based practical technique known as active management of third stage of labour (AMTSL), effectively reduces the occurrence of PPH, caused by uterine atony by 60%. This study therefore explores knowledge, attitudes, practices and barriers to AMTSL by mid-wives of mulago hospital (Uganda). This study was a descriptive cross-sectional study design in which quantitative methods were used to collect data. 117 questionnaires and 50 checklists were administered to mid-wives who worked in the three labour wards of mulago hospital (L/S New Mulago, ward 14 upper mulago and ward 6D/E) within the study period of January to February. The findings revealed that, although mid-wives generally had good knowledge about AMTSL 70.9% stated the definition and 81.2% that AMSTL reduces blood, surprisingly their practices were very poor (26%) as regards AMTSL use. Attitudes towards AMSTL was positive, 66.7% stated that AMTSL should be used to all pregnant mothers. Practical aspects of non use of controlled cord traction(26%), use of maternal effort during placenta deliveries (74%) and non use of pitocin (26%) while 8% never used any uterotonics to conduct third stage of labour, demonstrated direct association with very poor practices of midwives as regards AMTSL. In view of the above results AMTSL is extremely poorly practiced (26%) by midwives of mulago hospital and a task force need to be installed to encourage and emphasize AMTSL practice plus support supervision.(Naamala, M 2009)

Studies have shown that during skin to skin contact immediately after birth, newborns have better temperature regulation, higher blood sugars, lowers breathing rates and less crying, compared to babies who are separated and wrapped. One study shows that newborns who
had enjoyed early skin to skin contact had warmer hands and feet – a sign of lower levels of stress hormones up to two days later. Skin to skin contact also benefits the mother who releases high levels of oxytocin which helps the uterus to contract and helps in preventing excessive bleeding. (Sara, S. 2009).

A descriptive study was conducted to determine whether breastfeeding behaviors, skin temperature, and blood glucose values could be influenced through the use of kangaroo care at the time of birth in healthy full term infants. Nine full term neonates were given kangaroo care beginning within 1 minute of birth. Infant skin temperature was taken at 1 and 5 minutes after birth and every 15 minutes thereafter. Blood glucose level was taken 60 minutes after birth and breastfeeding behaviours were observed during the first breastfeeding. Skin temperature rose during birth kangaroo care in eight of the nine infants, and temperature remained within neutral thermal zone for all infants. Blood glucose levels varied between 43 and 85 mg/dL for infants who had not already fed and between 43 and 118 mg/dL for those who had fed. Physicians noted that mothers were distracted from episiotomy or laceration repair discomfort during birth kangaroo care. (Sawls-DJM, 2010).

**In developing countries:**

A study done in Nigeria by Oladapo OT, et al (2009). Was as the following: Background: The disparity between current evidence and practice on active management of third stage of labour (AMTSL) demands assessment of providers' knowledge on the subject. Objective: To assess the level and determinant(s) of accurate knowledge of obstetric providers regarding AMTSL. Methods: Questionnaire-based survey of 361 labour and delivery professionals in public tertiary obstetric centres in southwest Nigeria. Results: Female nurses at different cadres accounted for most of the respondents. Majority (90.6%) of the respondents reported being aware of AMTSL as an obstetric intervention and 49.7% were aware of FIGO/ICM recommendation on AMTSL. Out of 13 potential third stage interventions, 102 respondents (28.3%) correctly and exclusively identified the components of AMTSL as defined by FIGO/ICM. Many procedures reserved for treatment of complicated third stage of labour such as manual placental removal (37.7%), blood transfusion (20.2%), bimanual uterine compression (24.7%) and uterine artery ligation (13.9%) were also selected as AMTSL components. Multivariate logistic regression analysis indicated that being in administrative position (adjusted OR: 2.68; CI 1.19-6.02) and frequent compared to rare or no consultation of books, journal and internet sources for information (adjusted OR: 2.58; CI 1.21-5.52) increased the odds of having accurate knowledge of AMTSL while being a nurse/midwife.
(adjusted OR: 0.15; CI 0.05-0.39), matron (adjusted OR: 0.25; CI 0.08-0.79) or intern (adjusted OR: 0.07; CI 0.01-0.29) compared to postgraduate resident doctors reduced the odds of having accurate knowledge of AMTSL. Conclusion: AMTSL was a familiar but poorly understood intervention among obstetric care providers in this region. Improvement in healthcare quality and practitioners' adherence to recommended guidelines on AMTSL urgently requires educational interventions that target those who provide routine delivery care and organisation of the health care delivery system in such a way that enables providers to act on acquired knowledge. (Oladapo OT, et al; 2009)

In Sudan:

A study done in Khartoum by Hadia I, H (2016). Was the follows: the main objective was to assess the nurses-midwives' knowledge and practices regarding the management of second and 3rd stage of labor and to find out the association between their knowledge and practices and socio-demographic characteristics and working years and experience. Material and methods: A descriptive study was carried out from 2013, to 2016 through total coverage sample of (75) Nurse-Midwives which was from the National Ribat University hospitals. A questionnaire was consisted of two parts: (socio-demographic characteristics and the assessment tool for Nurse-Midwives' knowledge and health practices performed by Nurse-Midwives). The correlation coefficient was (0.90) for knowledge and (0.83) for practices. Data were collected through interview and observational tool and analyzed through the application of descriptive and inferential statistical approaches. Results: The study findings indicated that there was a high mean of scores in Nurse-Midwives' knowledge 69.3% regarding fetal sound heart (FSH) and knowledgeable regarding gown before delivery was 93% and 77.3% of the participants was knowledgeable regarding checks the placental lobe: and a low mean of scores for their practices in 80% of the participant was not knowledgeable regarding Wipe the baby face immediately after delivery of the head. The study findings also indicated that there is a significant association between nurses-midwives' practices and their educational level, and birth number average. highly significant difference between participants' Practices regarding 2nd and 3rd stages of labor and their educational level and birth number average. Recommendations: The study recommends that; educational program for Nurse-Midwives to upgrade the techniques necessary to assess, evaluate and improve the quality of care rendered to laboring women, to emphasis on the Ministry of Health to conduct training course for the Nurse-Midwives in order to change their
malpractices and updating their knowledge with regular supervision on their performance.(Hadia I H, 2016).
3. Materials and Methods

3.1 Study Design

This is a descriptive hospital-based study.

3.2 Study area:

The study was conducted at Wad Medani Obstetrics & Gynecology Teaching Hospital in Wad Medani town, the capital of Gezira State, which is a large agricultural area located in the central region of Sudan. The locality is about 186 Km South Khartoum state. The Obstetrics and Gynecology Teaching Hospital receives the patients from the whole state and neighboring states e.g. Algadarif, Sinner. The hospital units consisted of intensive care unit (ICU) 7 beds, (7) wards (294 beds), Ultra Sound (US), Extracarobnal Shock Waves Lisotop (ESWL) and X-ray unit. [Statistical Department of Obstetrics & Gynecology Teaching Hospital 2017].

Table (3.1): Distribution of manpower in Obstetrics & Gynecology Teaching Hospital:

<table>
<thead>
<tr>
<th>Position</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultants</td>
<td>12</td>
</tr>
<tr>
<td>Registrars</td>
<td>23</td>
</tr>
<tr>
<td>Medical officers</td>
<td>32</td>
</tr>
<tr>
<td>Technical anesthesia</td>
<td>15</td>
</tr>
<tr>
<td>Midwives</td>
<td>21</td>
</tr>
<tr>
<td>Nurses</td>
<td>41</td>
</tr>
<tr>
<td>Nurses with Diploma</td>
<td>17</td>
</tr>
<tr>
<td>Pharmacists and Assistant Pharmacists</td>
<td>7</td>
</tr>
<tr>
<td>Nutritionists and Psychologists and socialistic</td>
<td>13</td>
</tr>
<tr>
<td>Statistics</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>202</td>
</tr>
</tbody>
</table>

Source: Statistical Department of Obstetrics & Gynecology Teaching Hospital(2017)
3.3 Study Population:

Nurses and midwives who are working at the Wad Medani Obstetrics & Gynecology Teaching Hospital in Wad Medani during the period of the study.

3.3.1 Inclusion Criteria:

- Nurses midwives who are working at the Wad Medani Obstetrics & Gynecology Teaching hospital were included in the study
- Nurse midwives with one year experience or more was included in the study.

3.3.2 Exclusion Criteria:

- Under training nurse midwives were not involved in this study.
- Nurses on leave were not involved in this study
- Nurses student were not involved in this study

3.4 Sample Size and Sampling Technique:

The sample size consisted of all (55) available nurses midwives who work in the setting hospital they were included in the study during the period of the study from October to December 2017.

3.5 Ethical Consideration:

- Official letters for the head manager and matron of Obstetrics & Gynecology Teaching Hospital at Wad Medani for approval to collect the data.
- Explanation for the nurses about the study questionnaire.
- A questionnaire was distributed for each available nurse to fill within 20-30 minutes under the researcher guidance.

3.6 Data Collection Tools:

One tool for data collection, a structured questionnaire, was used to collect the data and was designed by the researcher including two phases:

Phase One:
Data about socio-demographic characteristics for nurses midwives such as age groups, level of education and years of experiences and …. etc.

**Phase two:**
Data about the nurses midwives' knowledge regarding active management of third stage of labor at Obstetrics and Gynecology Teaching Hospital, Gezira State, Sudan during the period of the study from October to December 2017.

Scores of the study:

- Knowledge were arbitrarily classified as given below based on percentage of scores obtained:
  - < 50% poor knowledge.
  - 51 to 74% moderately adequate knowledge.
  - > 75% adequate knowledge.

**3.7 Data analysis:**

The data collected were incorporated and entered to computer, then they were described and analyzed by using the Statistical Package for Social Sciences (SPSS).
4. Results and Discussion

4.1 Results:

No 55

Figure (4.1) Distribution of the study sample according to (their age groups)

This figure showed that the age groups 41.8% of the study sample between ranged from 30 and 35 years.
Table (4.1): Distribution of the study sample according to educational level and years of experiences

<table>
<thead>
<tr>
<th>Educational level</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>13</td>
<td>23.6</td>
</tr>
<tr>
<td>Bachelor</td>
<td>32</td>
<td>63.6</td>
</tr>
<tr>
<td>Post graduate</td>
<td>7</td>
<td>12.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>55</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years of experiences</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 5 years</td>
<td>9</td>
<td>16.3%</td>
</tr>
<tr>
<td>6 – 10 years</td>
<td>26</td>
<td>47.3%</td>
</tr>
<tr>
<td>11 – 15 years</td>
<td>20</td>
<td>36.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>55</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table (4.1): This table revealed that 23.6% of the study sample were diploma holders, while 63.6% of them held bachelor degree.
### Table (4.2) Distribution of the study sample according to Source of knowledge regarding active managements of third stage of labour and training program

<table>
<thead>
<tr>
<th>Source of knowledge</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colleagues</td>
<td>8</td>
<td>14.5%</td>
</tr>
<tr>
<td>Book and references</td>
<td>3</td>
<td>5.5%</td>
</tr>
<tr>
<td>Training programs</td>
<td>15</td>
<td>27.3%</td>
</tr>
<tr>
<td>Mass-media</td>
<td>5</td>
<td>9.1</td>
</tr>
<tr>
<td>University training program</td>
<td>24</td>
<td>43.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>training program</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>15</td>
<td>27.3%</td>
</tr>
<tr>
<td>No</td>
<td>40</td>
<td>72.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>55</td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Table (4.2): This table illustrated that 14.5% of the study sample was of knowledge regarding active managements of third stage of labour from colleagues. Regarding training programs, the table shows that 27.3% received training program regarding active managements of third stage of labour while 72.7% of them didn't.
Nurses' knowledge regarding active managements of third stage of labour

Table (4.3): Distribution of the study sample according to knowledge regarding Definition of Active management of third stage of labour and Observation during 3rd stage of labor

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct answers</th>
<th>Incorrect answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>Definition of Active management of third stage of labour</td>
<td>9</td>
<td>6.4</td>
<td>45</td>
<td>81.8</td>
</tr>
<tr>
<td>Observation during 3rd stage of labor</td>
<td>8</td>
<td>4.5</td>
<td>43</td>
<td>78.2</td>
</tr>
</tbody>
</table>

Table (4.3): This table shows that 16.4% and 14.5% of the sample responded with correct answer about definition of active management of third stage of labour and observation during third stage respectively.
Table (4.4): Distribution of the study sample according to their knowledge regarding Bladder care and Separation and descent of the placenta

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct answers</th>
<th>Incorrect answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>Bladder care</td>
<td>11</td>
<td>20.0</td>
<td>39</td>
<td>70.9</td>
</tr>
<tr>
<td>Separation and descent of the placenta</td>
<td>15</td>
<td>27.3</td>
<td>32</td>
<td>58.2</td>
</tr>
</tbody>
</table>

Table (4.4): This table shows that 20.0% and 27.3% of the sample responded with correct answer regarding bladder care and separation and descent of the placenta respectively.
Table (4.5): Distribution of the study sample according to knowledge regarding Delivery of the placenta and Active Management of third stage of labour

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct answers</th>
<th>Incorrect answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>Delivery of the placenta</td>
<td>19</td>
<td>34.5</td>
<td>25</td>
<td>45.5</td>
</tr>
<tr>
<td>Active Management of third stage of labour</td>
<td>9</td>
<td>16.4</td>
<td>45</td>
<td>81.8</td>
</tr>
</tbody>
</table>

Table (4.5): This table shows that 34.5% and 16.4% of the sample responded with correct answer regarding delivery of the placenta and active management of third stage of labour respectively.
Table (4.6): Distribution of the study sample according to knowledge regarding causes of late borne of placenta and prevention of late borne of placenta

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct answers</th>
<th>Incorrect answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>Causes of delay</td>
<td>29</td>
<td>52.7</td>
<td>13</td>
<td>23.6</td>
</tr>
<tr>
<td>Prevention of late borne of placenta</td>
<td>39</td>
<td>70.9</td>
<td>11</td>
<td>20.0</td>
</tr>
</tbody>
</table>

Table (4.6): This table shows that 52.7% and 70.9% of the sample responded with correct answer regarding causes of late borne of placenta prevention of late borne of placenta respectively.
Table (4.7): Distribution of the study sample according to their knowledge regarding risk factors of late borne of placenta and Duration of borne of placenta

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct answers</th>
<th>incorrect answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>risk factors of delay of placenta</td>
<td>15</td>
<td>27.3</td>
<td>32</td>
<td>58.2</td>
</tr>
<tr>
<td>Duration of borne of placenta</td>
<td>19</td>
<td>34.5</td>
<td>25</td>
<td>45.5</td>
</tr>
</tbody>
</table>

Table (4.7): This table shows that 27.3% and 34.5% of the sample responded with correct answer regarding risk factors of late borne of placenta and duration of borne of placenta respectively.
Table (4.8): Distribution of the study sample according to knowledge regarding Natural processes during the third stage and Complications occurring during the third stage of labour

Table (4.8): This table shows that 29.1% and 27.3% of the study samples responded with correct answer regarding Natural processes during the third stage and complications occurring during the third stage of labour respectively.
Table (4.9): Distribution of the study sample according to knowledge regarding Retained placenta and Excessive bleeding (PPH)

No 55

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct answers</th>
<th>Incorrect answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>Retained placenta</td>
<td>22</td>
<td>40.0</td>
<td>23</td>
<td>41.8</td>
</tr>
<tr>
<td>Excessive bleeding (PPH)</td>
<td>9</td>
<td>16.4</td>
<td>45</td>
<td>81.8</td>
</tr>
</tbody>
</table>

Table (4.9): This table shows that 40.0% and 16.4% of the study sample responded with answers regarding retained placenta and excessive bleeding (PPH) respectively.
Table (4.10): Distribution of the study sample according to knowledge regarding The six steps of AMTSL in sequence and administration a uterotonic drug to help the uterus contract

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct answers</th>
<th>Incorrect answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>The six steps of AMTSL in sequence</td>
<td>11</td>
<td>20.0</td>
<td>39</td>
<td>70.9</td>
</tr>
<tr>
<td>Administration a uterotonic drug to help the uterus contract</td>
<td>17</td>
<td>30.9</td>
<td>33</td>
<td>60.0</td>
</tr>
</tbody>
</table>

Table (4.10): This table shows that 20.0% and 30.9% of the study sample responded with answers regarding the six steps of AMTSL in sequence and Administration a uterotonic drug to help the uterus contract respectively.
Table (4.11): Distribution of the study sample according to knowledge regarding controlled cord traction with counter-pressure and how to do controlled cord traction with counter-pressure

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct answers</th>
<th>Incorrect answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>controlled cord traction with counter-pressure</td>
<td>17</td>
<td>30.9</td>
<td>23</td>
<td>41.8</td>
</tr>
<tr>
<td>How to do controlled cord traction with counter-pressure</td>
<td>16</td>
<td>29.1</td>
<td>27</td>
<td>49.1</td>
</tr>
</tbody>
</table>

Table (4.11): This table showed that 30.9% and 29.1% of the study sample responded with answers regarding controlled cord traction with counter-pressure and how to do controlled cord traction with counter-pressure respectively.
Table (4.12): Distribution of the study sample according to their knowledge regarding Massage the uterus and examination the placenta and fetal membranes

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct answers</th>
<th>Incorrect answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>Massage the uterus</td>
<td>13</td>
<td>23.6</td>
<td>35</td>
<td>63.6</td>
</tr>
<tr>
<td>Examination the placenta and fetal</td>
<td>15</td>
<td>27.3</td>
<td>32</td>
<td>58.2</td>
</tr>
<tr>
<td>membranes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table (4.12): This table showed that 23.6% and 27.3% of the study sample responded with answers regarding massage the uterus and examination the placenta and fetal membranes respectively.
Table (4.13): Distribution of the study sample according to knowledge regarding intervention Excessive bleeding (postpartum haemorrhage or PPH) and retained placenta

No 55

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct answers</th>
<th>Incorrect answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>Intervention Excessive bleeding (postpartum haemorrhage or PPH)</td>
<td>21</td>
<td>38.2</td>
<td>29</td>
<td>52.7</td>
</tr>
<tr>
<td>Retained placenta</td>
<td>16</td>
<td>29.1</td>
<td>27</td>
<td>49.1</td>
</tr>
</tbody>
</table>

Table (4.13): This table showed that 38.2% and 29.1% of the study sample responded with complete answers regarding intervention Excessive bleeding (postpartum haemorrhage or PPH) and Retained placenta respectively.
4.2 Discussion

The normal delivery is a physiological process through which the fetus, placenta and membranes are expelled from the uterus. This physiological phenomena includes four stages. The third stage of labour which, starts immediately after the infant is born, includes the separation and detachment of the placenta from the uterine wall, and ends with complete expulsion of the placenta and membrane. A descriptive hospital based study was conducted at Obstetrics and Gynecology Teaching Hospital, Gezira State Sudan aimed at assessing nurses' midwives' knowledge regarding active management of third stage of labor at Obstetrics and Gynecology Teaching Hospital, Gezira State, Sudan during the period of the study from October to December 2017. The sample size consisted of (55) all available nurses who work in the setting hospital, they were included in the study during the period from February to March 2017. The data collected were in corrected into the computer, described and analyzed by using the Statistical Package for Social Sciences (SPSS).

The results revealed 41.8% of the study sample their age group ranged from 30 – 35 years, while 23.6% of the study sample held diploma, 63.6% of them held bachelor and 12.7% had a post graduate degree. 47.3% of the study sample were years of experiences that ranged between 6 to 10 years, while 36.4% of them had experiences ranged from 11 to 15 years. Also this result showed that 14.5% of the study sample had source of knowledge regarding active managements of third stage of labour from colleagues, regarding training programs. This table showed that 27.3% had received training program regarding active managements of third stage of labour while 72.7% of them didn't.

Regarding nurses' knowledge with respect to active managements of third stage of labour the result showed that 16.4% and 14.5% of the sample responded with correct answer about definition of active management of third stage of labour and observation during third stage of labor definition and postpartum period respectively, while 81.8% and 78.2% of them responded with incorrect answer respectively and 20.0% and 27.3% of the sample responded with correct answer regarding bladder care and separation and descent of the placenta respectively, while 70.9% and 58.2% of them responded with incorrect answer respectively.

On the other hand this result revealed that 34.5% and 16.4% of the sample responded with correct answer regarding delivery of the placenta and active management of
third stage of labour respectively, while 45.5% and 81.8% of them responded with incorrect answer respectively.

Fifty two point seven and seventy point nine (52.7% and 70.9%) of the sample responded with correct answer regarding causes of late borne of placenta prevention of late borne of placenta respectively, while 23.6% and 20.0% of them responded with incorrect answer respectively.

In contrast 27.3% and 34.5% of the sample responded with correct answer regarding risk factors of late borne of placenta and duration of borne of placenta respectively, while 58.2% and 45.5% of them responded with incorrect answer respectively.

In additional 29.1% and 27.3% of the sample responded with correct answer regarding natural processes during the third stage and complications occurring during the third stage of labour respectively, while 49.1% and 58.2% of them responded with incorrect answer respectively.

More over 40.0% and 16.4% of the study sample responded with answers regarding retained placenta and excessive bleeding (PPH) respectively, while 41.8% and 81.8% of them responded with incorrect answer respectively.

On the other hand the result showed that 20.0% and 30.9% of the study sample responded with answers regarding the six steps of AMTSL in sequence and Administration uterotonic drug to help the uterus contract respectively, while 70.9% and 60.0% of them responded with incorrect answer respectively.

Also 30.9% and 29.1% of the study sample responded with correct answers regarding controlled cord traction with counter-pressure and how to do controlled cord traction with counter-pressure respectively, while 41.8% and 49.1% of them responded with incorrect answer respectively.

In additional, 23.6% and 27.3% of the study sample responded with answers regarding massage the uterus and examination the placenta and fetal membranes respectively, while 63.6% and 58.2% of them responded with incorrect answer respectively.
Finally this result revealed that 38.2% and 29.1% of the study sample responded with complete answers regarding intervention Excessive bleeding (postpartum haemorrhage or PPH) and Retained placenta respectively, while 52.7% and 49.1% of them responded with correct incomplete answer respectively.

These results are different from of a study done by Richard Mangwi A et al, (2014). Which illustrated that: Global neonatal mortality remains unacceptably high. health workers who attend to prenatal and postnatal mothers need to be knowledgeable in preventive and curative care for pregnant women and their newborn babies. This study aimed to determine the level of knowledge related to prenatal and immediate newborn care among primary healthcare workers in Masindi, Uganda. 183 health workers were interviewed: general nurses (39.3%), midwives (21.9%) and nursing assistants (38.8%). Respectively, 53.6%, 46.5%, were considered to have adequate knowledge in third stage of labour and labour of placenta respectively. Being a general nurse was significantly associated with having adequate knowledge in identifying and stabilizing LBW babies (p < 0.001) compared to being a nursing assistant. Level of care being hospital/health centre level IV was not significantly associated with having adequate knowledge in prenatal or newborn care with reference to health centres of level III/II. (Richard Mangwi A et al, 2014)
5. Conclusion and Recommendations

5.1 Conclusion:

Based on the results of this study, the researcher concluded that:

- All nurse midwives knowledge which is concerned to the active management of the third stage of the labour was weak based on the mean of the correct answers (29.8%).
5.2 Recommendations

Based on conclusion of this study, the researcher recommended that:

- Logbook for nursing about active management of third stage of labor must be made available in the hospital.
- The necessity of making periodical training program must conduct regularly and it should be mandatory, moreover handouts about effective nursing care during the third stage of labour should be made available.
References


Lawrence A (2013). "Maternal positions and mobility during first stage labour”.


Naamala, Mayanja Allen (2012). Knowledge, attitudes and practices of midwives towards active management of third stage of labour to preventing post partum haemorrhage: a case study in Mulago Hospital.


