Nurses' Knowledge regarding Routine Postpartum Care at Wad Medani Obstetrics and Gynecology Teaching Hospital, Gezira State, Sudan (2016)

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B.Sc. in Nursing Sciences

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Nurses' Knowledge regarding Routine Postpartum Care at Wad Medani Obstetrics and Gynecology Teaching Hospital, Gezira State, Sudan (2016)

Mona Ahmed Abdel Majed Abdalla

Supervision Committee

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Date: 4/2017
Nurses' Knowledge regarding Routine Postpartum Care at Wad Medani Obstetrics and Gynecology Teaching Hospital, Gezira State, Sudan (2016)

Mona Ahmed Abdel Majed Abdalla

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Date of Examination: 4/2017
Dedication

I dedicate this work to:

My Parent.....

Husband ..........

Family..................

And my Friends ......................
Acknowledgment

After thanking my great Allah for giving me strength, willing and ability to achieve this research. I would like to express my sincere thanks and gratitude to my main Supervisor Dr. Bothyna Bassyonie Elssayed Etewa and my Co. Supervisor Dr. Amna El-Tom Ibrahim Hassan for their valuable guidance and for their patience, without their kind supervision this research could not be achieved. Also great thanks and gratitude to the nursing staff at Obstetrics and Gynecology Teaching Hospital for their participation in collecting the data of this study. My thanks and gratitudes extended also to the staff of the Faculty of Applied Medical Sciences, M.Sc. program of nursing for their unlimited cooperation and helpful.

Finally my thanks goes to everyone help and advice me during the period of my study.
Nurses' Knowledge regarding Routine Postpartum Care at Wad Medani Obstetrics and Gynecology Teaching Hospital, Gezira State, Sudan (2017)

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Abstract

A postpartum period or postnatal period is the period beginning immediately after the birth of a child and extending for about six weeks. A descriptive hospital based study was conducted at Obstetrics and Gynecology Teaching Hospital, Wad Medani Gezira State, Sudan aimed at assessing nurses' knowledge regarding routine postpartum care during the period from January to March 2017. The sample size consisted of all (63) available nurses who work in the study setting. Data was collected using a structured type questionnaire designed for the study. The data was analyzed using this is a program statistical package for social sciences (SPSS). The results revealed that (63.5% and 60.5%) of the study sample responded with correct answers regarding definition of postpartum and normal postpartum anatomic and physiologic changes respectively. (55.6% and 47.6%) of the study sample responded with correct answers regarding factors that can slow uterine involution and factors that enhance involution respectively. (58.7% and 46.0%) of the study sample responded with correct answers regarding endocrine system changes and neurologic system changes respectively. (28.6% and 31.8%) of the study sample responded with correct answers regarding Practices to reduce risk of hemorrhage and postpartum depression respectively. (55.6% and 33.3%) of the study sample responded with correct answers regarding care in preparation for discharge and care of newborn respectively. The study concluded that most of the nurses' knowledge regarding routine postpartum care at obstetrics & gynecology teaching hospitals were inadequate with total mean (68.3%). It recommended that learning facilities as library books and, periodical journals and internet about nurses' knowledge regarding routine postpartum care should be available for the nurses at hospital.
يلكة، السودان (2017)

منى أحمد عبد الماجد عبدالله

ملخص الدراسة

فترة ما بعد الولادة هي الفترة التي تبدأ مباشرة بعد ولادة الطفل وتمتد لمدة ستة أسابيع. أجريت هذه الدراسة الوصفية بمستشفى النساء والتوليد، ودمدني في ولاية الجزيرة. هدف الدراسة إلى تقديم معرفة الممرضات فيما يتعلق بالرعاية الروتينية بعد الولادة في مستشفى النساء والتوليد خلال فترة الدراسة من يناير إلى مارس 2017. تكون حجم العينة من (63) ممرضة بالمستشفى. تم جمع البيانات باستخدام استمارة تصميمت لأغراض الدراسة. تم تحليل البيانات باستخدام برنامج الحزمة الإحصائية للعلوم الاجتماعية (SPSS). أظهرت النتائج أن (63.5٪ و 60.5٪) من أفراد عينة الدراسة كانت إجاباتهن صحيحة فيما يتعلق بتعريف فترة ما بعد الولادة والتحذيرات التشريحية والفسيولوجية بعد الولادة الطبيعية على التوالي. (55.6٪ و 47.6٪) من أفراد عينة الدراسة أن إجاباتهن صحيحة عن العوامل التي يمكن أن تؤدي إلى إبطاء رجوع الرحم والعوامل التي تعزز العزلة على التوالي. (58.7٪ و 46.0٪) من أفراد عينة الدراسة كانت إجاباتهن صحيحة عن تغيرات نظام الغدد الصماء وتغيرات في النظام العصبي على التوالي. (28.6٪ و 31.8٪) من أفراد عينة الدراسة كانت إجاباتهن صحيحة فيما يتعلق بالحالة الصحية في أولى رجوع الرحم والاكتئاب بعد الولادة على التوالي. (55.6٪ و 33.3٪) من أفراد عينة الدراسة كانت إجاباتهن صحيحة تتعلق بالرعاية عند إعداد الأمهات للخروج من المستشفى ورعاية المواليد الجدد على التوالي. خلصت الدراسة إلى أن معرفة معظم الممرضات فيما يتعلق بالرعاية الروتينية بعد الولادة في مستشفى النساء والتوليد كانت قياسية بمتوسط حسابي (68.3٪). أوصت بأن توفر كتب ومجلات دورية وإقامة دورات تدريبية بالمستشفيات للممرضات عن الرعاية الروتينية بعد الولادة.
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<td>Postnatal Care</td>
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<td>IMCI</td>
<td>Integrated Management of Childhood Illness</td>
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<td>FSH</td>
<td>Follicle-Stimulating Hormone</td>
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<td>PPH</td>
<td>Postpartum Hemorrhage</td>
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<td>AMTSL</td>
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<td>PPD</td>
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<td>Low-Birth Weight</td>
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1. Introduction

1.1 Background

The postpartum period, also known as the puerperium, begins with the delivery of the baby and placenta. The end of the postpartum period is less well-defined, but is often considered the six to eight weeks after delivery because the effects of pregnancy on many systems have resolved by this time and these systems have largely returned to their pre-pregnancy state. However, all organ systems do not return to baseline within this period and the return to baseline is not necessarily linear over time. In some studies, women are considered postpartum for as long as 12 months after delivery. Health care providers should be aware of the medical and psychological needs of the postpartum mother and sensitive to cultural differences that surround childbirth, which may involve eating particular foods and restricting certain activities. (Dennis C, et al, 2007).

At no other time is family-centered maternity care more important than in the routine postpartum period. Nursing care is provided in the context of the family unit and focuses on assessment and support of the woman’s physiologic and emotional adaptation after birth. (Mike, et al. 2009). During the early postpartum period components of nursing care include assisting the mother with rest and recovery from the process of labor and birth, assessing physiologic and psychologic adaptation after birth, preventing complications, educating regarding self-management and infant care, and supporting the mother and her partner during the initial transition to parenthood. In addition, the nurse considers the needs of other family members and includes strategies in the nursing care plan to help the family adjust to the new baby. (Lange N, et al, 2012).

1.2 Problem Statement:

Worldwide The majority “strongly agreed” or “agreed” with the statement “having nurses screen for depression using a brief screening tool is a good idea”. Most (67.1%) chose the Ob-Gyn Clinic as the appropriate site for such screening. Regarding treatment by nurses, the vast majority of nurses (93.7%) “agreed” or “strongly agreed” with the statement “nurse-delivered counseling with mildly
depressed women is a good idea.” Almost one-half of the nurses already regularly provided some form of counseling and approximately three quarters were willing to participate in a counseling skills training program. Less than 1.0% (n=3) indicated that nurse-delivered counseling should not be implemented. The most frequently. (Lisa S et al, 2010).

In developed countries: According to the World Health Organization, (2010) the majority of all neonatal deaths (75%) occur during the first week of life. Of those deaths, between 25% and 45% occur within the first 24 hours. Further, the neonatal period—which comprises of the first 28 days of life—accounts for 37% of all deaths among children under five. Each year 62,000 newborn babies die and an additional 43,000 are stillborn. Most of these babies die from preventable or treatable causes, and it is estimated that up to two-thirds could be saved if essential care reached all mothers and newborns. Maternal and newborn survival is interconnected and the most dangerous time in a child’s life is during birth, as the majority of newborns die due to stressful events surrounding delivery. Newborn babies account for more than 40% of deaths amongst children under age five. The Lancet Newborn Series emphasizes essential newborn care including hygienic cord care, maintenance of warmth, and immediate and exclusive breastfeeding as a means to reducing newborn deaths. All of the immediate newborn care interventions observed are simple to perform and use minimal resources. (WHO 2010).

In developing countries: This is a qualitative and convergent-care study, using the framework of the Carraro Care Model, with the aim to identify how the variables that can interfere in the vital power of postpartum women manifest during home care provided by a nurse. Data were collected between April and June of 2011, using the Carraro Care Model during home visits for four women experiencing immediate and late postpartum. In the course of the home visits, the manifestations of variables interfering in the vital power of these women were diverse, oscillating between neutrality, negativity and positivity when faced with the cared provided, oriented and discussed. By identifying these manifestations, it is believed that the nurse can plan, act and evaluate the care provided, thereby positively influencing the vital power of postpartum women. (Texto et al, 2014).
The new mother is expected to demonstrate knowledge and confidence in her ability to provide adequate care for herself and her newborn prior to discharge from the hospital (American Academy of Pediatrics & American College of Obstetrics and Gynecology [AAP & ACOG], 2007). During the hospital stay, information provided to new mothers about self-care and newborn care can allay concerns and boost confidence levels (Mantha, Davies, Moyer, & Crowe, 2008). The amount of education that is mandated by government and regulatory agencies and recommended by professional organizations for the postpartum mother may be overwhelming, and brief postpartum hospital stays leave insufficient time for nurses to address a new mother’s learning needs effectively. Devastating outcomes for the infant and family may result when new mothers do not understand newborn care issues prior to discharge. Limited evidence is available that addresses the health outcomes of in-hospital education; however, a study by Weiss and Lokken (2009) found that poor quality discharge education was associated with more newborn emergency room or urgent care visits. Nurses need to know what strategies facilitate an efficient postpartum educational process in the hospital setting. (Barbara L., et al., 2012).

In Sudan: Postpartum maternal health care is a neglected aspect of women's health care. This neglect is evident in the limited national health objectives and data related to maternal health. Missed opportunities for enhancing the health care of postpartum women occur in the scope of routine postpartum care. Differing perceptions of maternal needs between nurses and new mothers also contribute to inadequate health care. Therefore, collecting national data on postpartum maternal morbidity, reforming postpartum care policies, providing holistic and flexible maternal health care, encouraging family support and involvement in support groups, and initiating educational programs are recommended. Further research is needed on issues related to postpartum maternal health. (Asia, S, 2015).
1.3 Justification:

The routine postpartum care of woman should always be integrated into the discharge planning. It is important to make sure that the woman is well taken care of, for she would also be responsible for the welfare of her newborn. A healthy mother will be able to raise a healthy mother and the newborn without any difficulty.

Nurses are managing their clinical responsibilities at a time when the nursing profession and the larger health care system require an extraordinary range of skills and talents of them. Nurses are expected to deliver the highest possible quality of care un a compassionate manner, while also being mindful of costs. To accomplish these diverse (and sometimes conflicting) gorals, nurses must access and evaluate extensive clinical information, and incorporate it into their clinical decision-making. In today's world, nurses must become lifelong learners, capable of reflecting on, evaluating, and modifying their clinical practice based on new knowledge. And nurses are increasingly expected to become producers of new knowledge through nursing research.

The researcher focus on this study because of its significance for nurses should have the adequateknowledge regarding routine postpartum period care for woman and her baby to provide patients safety. This study will open a chance for more studies in the future.
1.4 Objectives:

1.4.1 General objective:
- To study nurses' knowledge regarding Routine Postpartum Care in Obstetrics and Gynecology Teaching Hospital at Wad Medani, Gezira State, Sudan during the period of the study from January to March 2017

1.4.2 Specific objectives
- To assess nurses' knowledge regarding routine postpartum care such as (definition of routine postpartum care, hemorrhage, infection, depression and nursing care regarding of women on postpartum care).
- To find out if this is any association within soci-demographic background of the participate with their level of knowledge.
2. Literature Review

2.1 Definition of Postpartum:

A postpartum period or postnatal period is the period beginning immediately after the birth of a child and extending for about six weeks. Less frequently used are the terms puerperium or puerperal period. The World Health Organization (WHO) describes the postnatal period as the most critical and yet the most neglected phase in the lives of mothers and babies; most deaths occur during the postnatal period. It is the time after birth, a time in which the mother's body, including hormone levels and uterus size, returns to a non-pregnant state. Lochia is postpartum vaginal discharge, containing blood, mucus, and uterine tissue. (WHO, 2014).

In scientific literature, the term is commonly abbreviated to Px, where x is a number; for example, "day P5" should be read as "the fifth day after birth". This is not to be confused with medical nomenclature that uses G P to stand for number of pregnancy and outcome of pregnancy. (Lange N, et al, 2012).

The postpartum period, also known as the puerperium, begins with the delivery of the baby and placenta. The end of the postpartum period is less well-defined, but is often considered the six to eight weeks after delivery because the effects of pregnancy on many systems have resolved by this time and these systems have largely returned to their prepregnancy state. However, all organ systems do not return to baseline within this period and the return to baseline is not necessarily linear over time. In some studies, women are considered postpartum for as long as 12 months after delivery. (John M, 2014).

2.2 Normal Postpartum Anatomic And Physiologic Changes

Shivering — Postpartum shivering (postpartum chills, rigors) are observed in 25 to 50 percent of women after normal deliveries. Shivering usually starts 1 to 30 minutes post-delivery and lasts for 2 to 60 minutes. The pathogenesis of postpartum chills is not clear; several mechanisms have been proposed including fetal-maternal hemorrhage, micro-amniotic emboli, bacteremia, maternal thermogenic reaction to a sudden thermal imbalance due to the separation of the placenta, drop in body temperature following labor, use of misoprostol, and an anesthesia-related etiology.
No treatment is necessary other than supportive care (eg, warm blanket). Anesthesia-related shivering can be treated pharmacologically. (Thom, D; et al, 2010).

Uterine involution — Immediately after delivery of the placenta, the uterus begins to involute (ie, contract). Myometrial retraction is a unique characteristic of the uterine muscle that enables it to maintain its shortened length following successive contractions. Contraction of the interlacing myometrial muscle bundles constricts the intramyometrial vessels and impedes blood flow, which is the major mechanism preventing hemorrhage. In addition, large vessels at the placental site thrombose, which is a secondary hemostatic mechanism for preventing blood loss at this site. On examination, the fundus should be nontender, firm, and more globular than in its pregnant state. A soft, boggy uterus in the presence of heavy vaginal bleeding suggests inadequate contraction of the uterus (ie, atony). The diagnosis of heavy bleeding is based primarily on the judgment of care providers. Typically hemorrhage implies a degree of bleeding that threatens to cause, or is associated with, hemodynamic instability. (Lange N, et al, 2012).

2.2.1 Factors that can slow uterine involution:

- Prolonged labour.
- Incomplete expulsion of placenta and membranes.
- Anesthesia
- Previous labours.
- Distended full bladder.

2.2.2 Factors that enhance involution:

- Uncomplicated labour and birth.
- Breastfeeding.
- Early frequent ambulation.

2.3 Cervix and Fundal level changes:

Is soft by 18 hours is shortened and regained, it's form the external as never regains. It's original appearance. The cervix is soft immediately after birth. By 18 hours postpartum it has shortened, become firm, and regained its form. The cervix up to the lower uterine segment remains edematous, thin, and fragile for several days after birth. The ectocervix (portion of the cervix that protrudes into the vagina)
appears bruised and has some small lacerations—optimal conditions for the development of infection. The cervical os, which dilated to 10 cm during labor, closes gradually. Two fingers may still be introduced into the cervical os for the first 4 to 6 days postpartum; however, only the smallest curette can be introduced by the end of 2 weeks. The external cervical os never regains its prepregnant appearance; it is no longer shaped like a circle but appears as a jagged slit that is often described as a "fishmouth." Lactation delays the production of cervical and other estrogen-influenced mucus and mucosal characteristics. (Ranta P, et al, 2009).

2.3.1 Afterpains

In first-time mothers, uterine tone is good, the fundus generally remains firm, and the mother does not perceive uterine cramping. Periodic relaxation and vigorous contraction are more common in subsequent pregnancies and may cause uncomfortable cramping called afterbirth pains (afterpains), which persist throughout the early puerperium. Afterpains are more noticeable after births in which the uterus was overdistended (e.g., large baby, multifetal gestation, polyhydramnios). Breastfeeding and exogenous oxytocic medication usually intensify these afterpains because both stimulate uterine contractions. (Ranta P, et al, 2009).

2.3.2 Lochia

Post childbirth uterine discharge, commonly called lochia, initially is bright red and changes later to a pinkish red or reddish brown. It may contain small clots. For the first 2 hours after birth the amount of uterine discharge should be approximately that of a heavy menstrual period. After that time, the lochia flow should steadily decrease.

Lochia rubra consists mainly of blood and decidual and trophoblastic debris. The flow pales, becoming pink or brown (lochia serosa) after 3 to 4 days. Lochia serosa consists of old blood, serum, leukocytes, and tissue debris. Approximately 10 days after childbirth the drainage becomes yellow to white (lochia alba). Lochia alba consists of leukocytes, decidua, epithelial cells, mucus, serum, and bacteria. Lochia alba may continue for 2 to 6 weeks after the birth. If the woman receives an oxytocic medication, the flow of lochia is usually scant until the effects of the medication wear off. The amount of lochia is usually less after cesarean births. Flow of lochia usually
increases with ambulation and breastfeeding. Lochia tends to pool in the vagina when the woman is lying in bed; the woman then may experience a gush of blood when she stands. This gush should not be confused with hemorrhage. (Ranta P, et al, 2009).

Persistence of lochia rubra early in the postpartum period suggests continued bleeding as a result of retained fragments of the placenta or membranes. Recurrence of bleeding approximately 10 days after birth is from the healing placental site. However, any bleeding occurring 3 to 4 weeks after birth may be caused by infection or subinvolution. Continued flow of lochia serosa or lochia alba may indicate endometritis, particularly if fever, pain, or abdominal tenderness is associated with the discharge. Lochia should smell like normal menstrual flow; an offensive odor usually indicates infection. Not all postpartal vaginal bleeding is lochia; vaginal bleeding after birth may be due to unrepaired vaginal or cervical lacerations. Table 1 distinguishes between lochial and nonlochial bleeding. (Ranta P, et al, 2009).

- Lochial Bleeding and Nonlochial Bleeding

Lochia usually trickles from the vaginal opening. The steady flow is greater as the uterus contracts. If the bloody discharge spurts from the vagina, there may be cervical or vaginal tears in addition to the normal lochia. A gush of lochia may result as the uterus is massaged. If it is dark in color, it has been pooled in the relaxed vagina, and the amount soon lessens to a trickle of bright red lochia (in the early puerperium). If the amount of bleeding continues to be excessive and bright red, a tear may be the source. (Saito M, et al; 2015).

2.4.1 Musculoskeletal System

Adaptations of the mother's musculoskeletal system that occur during pregnancy are reversed in the puerperium. These adaptations include the relaxation and subsequent hypermobility of the joints and the change in the mother's center of gravity in response to the enlarging uterus. The joints are completely stabilized by 6 to 8 weeks after birth. However, although all other joints return to their normal prepregnancy state, those in the parous woman's feet do not. The new mother may notice a permanent increase in her shoe size. The good body mechanism's and correct posture are important to help relieve low back pain. (Saito M, et al; 2015).
2.4.2 Vital Signs

Few alterations in vital signs are seen under normal circumstances. There may be a small, transient rise in both systolic and diastolic blood pressure that lasts approximately 4 days after the birth. Respiratory function returns to nonpregnant levels by 6 to 8 weeks after birth. After the uterus is emptied, the diaphragm descends, the normal cardiac axis is restored, and the point of maximal impulse and the electrocardiogram are normalized. (Goetzl L., 2012)

- Temperature
- Pulse
- Respiration
- Blood Pressure

2.4.3 Urinary System

The hormonal changes of pregnancy (i.e., high steroid levels) contribute to an increase in renal function; diminishing steroid levels after childbirth may partly explain the reduced renal function that occurs during the puerperium. Kidney function returns to normal within 1 month after birth. From 2 to 8 weeks are required for the pregnancy-induced hypotonia and dilation of the ureters and renal pelves to return to the nonpregnant state. In a small percentage of women, dilation of the urinary tract may persist for 3 months, which increases the chance of developing a urinary tract infection. (Waldenström U. 2011).

2.4.4 Gastrointestinal System:

- The mother usually is hungry shortly after the birth and can tolerate a light diet. Most new mothers are very hungry after full recovery from analgesia, anesthesia, and fatigue. Requests for double portions of food and frequent snacks are not uncommon.
- Constipation is common due to lack of solid food and limited fluid intake fairly of pain from haemorrhoids and episitomy. (Waldenström U. 2011).
2.4.5 Endocrine System

Placental Hormones

Significant hormonal changes occur during the postpartal period. Expulsion of the placenta results in dramatic decreases of the hormones produced by that organ. Decreases in human chorionic somatomammotropin, estrogens, cortisol, and the placental enzyme insulinase reverse the diabetogenic effects of pregnancy, resulting in significantly lower blood sugar levels in the immediate puerperium. Mothers with type 1 diabetes will be likely to require much less insulin for several days after birth. Because these normal hormonal changes make the puerperium a transitional period for carbohydrate metabolism, it is more difficult to interpret glucose tolerance tests.

Estrogen and progesterone levels drop markedly after expulsion of the placenta and reach their lowest levels 1 week postpartum. Decreased estrogen levels are associated with breast engorgement and with the diuresis of excess extracellular fluid accumulated during pregnancy. In nonlactating women, estrogen levels begin to rise by 2 weeks after birth and by postpartum day 17 are higher than in women who breastfeed (Bowes & Katz, 2012).

Pituitary Hormones And Ovarian Function

Lactating and nonlactating women differ considerably in the time when the first ovulation occurs and when menstruation resumes. The persistence of elevated serum prolactin levels in breastfeeding women appears to be responsible for suppressing ovulation. Because levels of follicle-stimulating hormone (FSH) have been shown to be identical in lactating and nonlactating women, it is thought that the ovulation is suppressed in lactating women because the ovary does not respond to FSH stimulation when increased prolactin levels are present. Prolactin levels in blood rise progressively throughout pregnancy. In women who breastfeed, prolactin levels remain elevated into the sixth week after birth. Serum prolactin levels are influenced by the frequency of breastfeeding, the duration of each feeding, and the degree to which supplementary feedings are used. Individual differences in the strength of an infant's sucking stimulus probably also affect prolactin levels. In nonlactating women, prolactin levels decline after birth and reach the prepregnant range in 4 to 6 weeks. The first menstrual flow after childbirth is usually heavier than normal. Within three
to four cycles the amount of menstrual flow returns to the woman's prepregnancy volume. (Waldenström U. 2011).

### 2.4.6 Neurologic System

Neurologic changes during the puerperium are those that result from a reversal of maternal adaptations to pregnancy and those resulting from trauma during labor and childbirth. Pregnancy-induced neurologic discomforts abate after birth. Elimination of physiologic edema through the diuresis that follows childbirth relieves carpal tunnel syndrome by easing compression of the median nerve. The periodic numbness and tingling of fingers that afflicts 5% of pregnant women usually disappears after the birth unless lifting and carrying the baby aggravates the condition. Headache requires careful assessment. Postpartum headaches may be caused by various conditions, including pregnancy-induced hypertension, stress, and leakage of cerebrospinal fluid into the extradural space during placement of the needle for epidural or spinal anesthesia. Depending on the cause and effectiveness of the treatment, the duration of the headaches can vary from 1 to 3 days to several weeks. (Hodnett E; 2012).

### 2.5 Routine Postpartum Care:

Basic care for all newborns should include promoting and supporting early and exclusive breastfeeding, keeping the baby warm, increasing hand washing and providing hygienic umbilical cord and skin care, identifying conditions requiring additional care and counselling on when to take a newborn to a health facility. Newborns and their mothers should be examined for danger signs at home visits. At the same time, families should be counselled on identification of these danger signs and the need for prompt care seeking if one or more of them are present. Newborns with who have preterm birth or low birth weight, who are sick or are born to HIV-infected mothers need special care. (Thom, D; et al, 2010).

Newborns born in health facilities should not be sent home in the crucial first 24 hours of life, and postnatal visits should be scheduled. For all home births a visit to a health facility for postnatal care as soon as possible after birth is recommended. In high mortality settings and where access to facility based care is limited, WHO and
UNICEF recommend at least two home visits for all home births: the first visit should occur within 24 hours from birth and the second visit on day 3. If possible, a third visit should be made before the end of the first week of life. (WHO, 2014).

Physiologic changes in the minutes after birth modulate newborn warmth, respiratory and cardiac stability, breastfeeding, maternal-infant attachment, and routine postpartum blood loss. These normal physiologic changes include:

- physiologic closure of the umbilical arteries and veins,
- placental transfusion of approximately 35 ml of blood per kilogram of infant weight, which combined with decreased pressure in the lungs, assists with initiation of newborn respiration and effective gas exchange,
- vasodilation of the maternal superficial blood vessels in the chest to exchange heat with the infant,
- newborn reflexes including “the breast crawl” and self-attachment at the breast,
- expulsion of the placenta and involution of the uterus, and interconnected hormonal shifts, including elevated oxytocin levels for mother and infant, increased oxytocin receptors in the mother’s brain, decreased beta-endorphin levels, rapid decrease in stress hormones (especially epinephrine), peak levels of prolactin, and increased prolactin receptors. (Jacobson, H. 2014).

2.6 Postpartum hemorrhage (PPH)

Postpartum hemorrhage (PPH) is an obstetrical emergency. It is a major cause of maternal morbidity, and one of the top three causes of maternal mortality in both high and low per capita income countries, although the absolute risk of death from PPH is much lower in high income countries (1 in 100,000 deliveries in the United Kingdom versus 1 in 1000 deliveries in the developing world). With timely diagnosis, appropriate resources, and appropriate management, however, PPH may be the most preventable cause of maternal mortality. This research will present an overview of major issues relating to postpartum hemorrhage, including management of secondary postpartum hemorrhage. Specific issues in management of PPH depend on the setting, vaginal or cesarean delivery, and will be discussed separately: (Jacobson, Hilary. 2014).
2.6.1 Definition of Postpartum hemorrhage (PPH)

Postpartum hemorrhage PPH is described as primary or secondary: Primary PPH occurs in the first 24 hours after delivery (also called early PPH) and secondary PPH occurs 24 hours to 12 weeks after delivery (also called late or delayed PPH). (Bolliger D, 2012).

2.6.2 Practices to Reduce Risk of Hemorrhage

Prevention of postpartum hemorrhage (PPH) is a critical goal in all maternity care settings. Since 2003, offering active management of the third stage of labor (AMTSL) for prevention of PPH has been a recommended international standard of care, and ensuring that resources and capabilities for active management are available in all birth settings has been prioritized in maternal safety efforts. In AMTSL, an uterotonic agent is given followed by controlled cord traction and massage of the uterine fundus. Other than the use of uterotonics, other components of AMTSL have not been well-described or well-studied; however in mixed-risk populations, AMTSL has been found to reduce the incidence of postpartum blood loss for women in the categories of >500 ml and >1000 ml, and reduce in incidence of postpartum hemoglobin < 9, and need for transfusion when compared with expectant management of third stage labor. In contrast, depending on the uterotonic agent, AMSTL can increase postpartum pain, need for analgesia, vomiting, and potential for return to the hospital for bleeding later post partum in international investigations. In women at low-risk of hemorrhage, AMTSL reduced the incidence of postpartum blood loss >500 ml but had no significant effect on blood loss >1000 ml or on the need for blood transfusion (however those studies may be underpowered). For those women who are at risk, the uterotonic with the least side effects is Pitocin;\textsuperscript{13} administration can be at the time of birth or following the placenta, in intramuscular or intravenous (diluted) routes, and does not require special storage. The routine use of Pitocin given intravenously in many institutions after the placenta delivers, is not consistent with the evidence base for active management of third stage labor and instead should be used with caution based on risk factors and or clinical evidence of ongoing risk for increased blood loss post partum. (Thom, D; et al, 2010).
Interventions in labor and birth, including induction or augmentation of labor, episiotomy, instrumental vaginal delivery, and cesarean may predispose women to excess postpartum bleeding due to disruption of hormonal physiology, trauma to tissues, or both. Low rates of postpartum hemorrhage in home and birth center settings suggest that healthy, low-risk women who have not been subjected to medical or surgical interventions may safely be offered physiologic care in the third stage of labor as an alternative to active management. (Thom, D; et al, 2010).

2.7 Postpartum depression

Postpartum depression (PPD), also called postnatal depression, is a type of clinical depression which can affect both sexes after childbirth. Symptoms may include sadness, low energy, changes in sleeping and eating patterns, reduced desire for sex, crying episodes, anxiety, and irritability. While many women experience self-limited, mild symptoms postpartum, postpartum depression should be suspected when symptoms are severe and have lasted over two weeks.

Although a number of risk factors have been identified, the causes of PPD are not well understood. Hormonal change is hypothesized to contribute as one cause of postpartum depression. The emotional effects of postpartum depression can include sleep deprivation, anxiety about parenthood and caring for an infant, identity crisis, a feeling of loss of control over life, and anxiety due to lack of support from a romantic or sexual partner. Many women recover with treatment such as a support group, counseling, or medication. (John Marshall, 2014).

Between 0.5% to 61% of women will experience depression after delivery. Postpartum psychosis occurs in about 1–2 per thousand women following childbirth. Among men, in particular new fathers, the incidence of postpartum depression has been estimated to be between 1% and 25.5%. In the United States, postpartum depression is one of the leading causes of the murder of children less than one year of age which occurs in about 8 per 100,000 births. (Jacobson, Hilary. 2014).

2.8 Nursing care plan for postpartum care

A nursing care plan is an instrument used by nurses which outlines the care to be received by a patient. It is a set of actions the nurse will implement to resolve
nursing problems identified by assessment. In the care of a postpartum hemorrhage, the plan will involve determining the cause, stopping the bleeding, and repairing the damage. (Jacobson, H. 2014).

**Care in Preparation for Discharge**

Before the woman is discharged, she must be educated properly regarding the care of the newborn and herself at home.

- Assess first the ability of the mother to absorb new instructions and to listen.
- Conducting group classes regarding newborn care could greatly help mothers learn not only what the instructors teach but also from the experiences that some mothers could share to the group.
- It is also recommended for fathers to attend such classes so the mother would have someone she can rely on with the newborn care.
- Individual instruction is also sought after postpartum, as the family will need to know how to care for the woman and the newborn after discharge.
- Teaching should not always be formal; it may come in the form of comments during classes or procedures.
- Instruct the woman to avoid lifting heavy objects for the first three weeks after birth.
- Advise the woman to allot a rest period every day, or to rest and sleep while her newborn is also asleep so she can regain her energy.
- Be certain that the woman is aware that she must return to the healthcare facility after 4 to 6 weeks for examination and that she must arrange an appointment for her baby to be examined by a pediatrician at 2 to 4 weeks of age.
- Make sure that the woman and the family understood the discharge instructions amidst all the frenzy of the new baby; review instructions with parents before they leave.
- Calling or visiting 24 hours after discharge is the best way to evaluate whether the family has been able to grasp all instructions and integrate the newborn into the family. (Jacobson, H. 2014).
Assessment and Nursing Diagnoses

A complete physical assessment, including measurement of vital signs, is performed on admission to the postpartum unit. If the woman’s vital signs are within normal limits, they are usually assessed every 4 to 8 hours for the remainder of her hospitalization. Other components of the initial assessment include the mother’s emotional status, energy level, degree of physical discomfort, hunger, and thirst.

Intake and output assessments should always be included if an intravenous infusion or a urinary catheter is in place.

If the woman gave birth by cesarean, her incisional dressing should also be assessed. To some degree, her knowledge level concerning self-care and infant care can also be determined at this time. (Thom, D; et al, 2010).

Ongoing physical assessment

The new mother should be evaluated thoroughly during each shift throughout hospitalization (Guidelines/Guías box). Physical assessments include evaluation of the breasts, uterine fundus, lochia, perineum, bladder and bowel function, vital signs, and legs. If a woman has an intravenous line in place, her fluid and hematologic status should be evaluated before it is removed. (Saito M, et al; 2015).

Care Management—Physical Needs

May be identified during the assessment process are listed in the Signs of Potential Complications. Routine laboratory tests Several laboratory tests may be performed in the immediate postpartum period. Hemoglobin and hematocrit values are often evaluated on the first postpartum day to assess blood loss during childbirth, especially after cesarean birth. In some hospitals a clean-catch or catheterized urine specimen may be obtained and sent for routine urinalysis or culture and sensitivity, especially if an indwelling urinary catheter was inserted during the intrapartum period. In addition, if the woman’s rubella and Rh status are unknown, tests to determine her status and need for possible treatment should be performed at this time. (Jacobson, H. 2014).
Nursing diagnoses

Although all women experience similar physiologic changes during the postpartum period, certain factors act to make each woman’s experience unique. From a physiologic standpoint the length and difficulty of the labor, type of birth (i.e., vaginal or cesarean), presence of episiotomy or lacerations, parity, and whether the mother plans to breastfeed or bottle-feed are factors to be considered with each woman. After analyzing the data obtained during the assessment process, the nurse establishes nursing diagnoses that will provide a guide for planning care. Examples of nursing diagnoses expected Outcomes of Care The nursing plan of care includes both the postpartum woman and her infant, even if the nursery nurse retains primary responsibility for the infant. In many hospitals, couplet care (also called mother-baby care or single-room maternity care) is practiced. Nurses in these settings have been educated in both mother and infant care and function as primary nurses for both mother and infant, even if the infant is kept in the nursery. This approach is a variation of rooming-in, in which the mother and infant room together and mother and nurse share the care of the infant. The organization of the mother’s care must take the newborn into consideration. The day actually revolves around the baby’s feeding and care times. (John M, 2014).

Expected outcomes for the postpartum period are based on the nursing diagnoses identified for the individual patient.

Examples of common expected outcomes for physiologic needs are that the woman will do the following:

• Demonstrate normal involution and lochial characteristics

• Remain comfortable and injury free

• Demonstrate normal bladder and bowel patterns

Demonstrate knowledge of breast care, whether breastfeeding or bottle-feeding

• Integrate the newborn into the family. (John M, 2014).
Plan of Care and Interventions

Once the nursing diagnoses are formulated, the nurse plans with the woman what nursing measures are appropriate and which are to be given priority. The nursing plan of care includes periodic assessments to detect deviations from normal physical changes, measures to relieve discomfort or pain, safety measures to prevent injury or infection, and teaching and counseling measures designed to promote the woman’s feelings of competence in self-care and baby care. Family members are included in the teaching. The nurse evaluates continuously and is ready to change the plan if indicated. Almost all hospitals use standardized care plans or care paths as a basis for planning. The nurse’s adaptation of the standardized plan to specific medical and nursing diagnoses results in individualized patient care (Plan of Care). Nurses assume many roles while implementing the nursing care plan. They provide direct physical care, teach mother-baby care, and provide anticipatory guidance and counseling. Perhaps most important of all, they nurture the woman by providing encouragement and support as she begins to assume the many tasks of motherhood. Nurses who take the time to “mother the mother” do much to increase feelings of self-confidence in new mothers. (John M, 2014).

The first step in providing individualized care is to confirm the woman’s identity by checking her wristband. At the same time the infant’s identification number is matched with the corresponding band on the mother’s wrist and, in some instances, the father’s wrist. The nurse determines how the mother wishes to be addressed and then notes her preference in her record and in her nursing care plan.

The woman and her family are oriented to their surroundings. Familiarity with the unit, routines, resources, and personnel reduces one potential source of anxiety—the unknown. The mother is reassured through knowing whom and how she can call for assistance and what she can expect in the way of supplies and services. If the woman’s usual daily routine before admission differs from the facility’s routine, the nurse works with the woman to develop a mutually acceptable routine. Infant abduction from hospitals in the United States has increased over the past few years. As a result, many units now have special limited entry systems in place. The mother should be taught to check the identity of any person who comes to remove the baby from her room. Hospital personnel usually wear picture identification
badges. On some units, all staff members wear matching scrubs or special badges. Other units use closed-circuit television, computer monitoring systems, or fingerprint identification pads. As a rule, the baby is never carried in a staff member’s arms between the mother’s room and the nursery but is always wheeled in a bassinet, which also contains baby care supplies.

Patients and nurses must work together to ensure the safety of newborns in the hospital environment. (John M, 2014).

**Prevention of infection**

One important means of preventing infection is maintenance of a clean environment. Bed linens should be changed as needed. Disposable pads and draw sheets may need to be changed frequently. By not walking barefoot, women avoid contaminating the linens when they return to bed. Personnel must be conscientious about their hand-washing techniques to prevent cross-infection. Standard Precautions must be practiced. Staff members with colds, coughs, or skin infections (e.g., a cold sore on the lips [herpes simplex virus type 1]) must follow hospital protocol when in contact with postpartum patients. In many hospitals, staff members with open herpetic lesions, strep throat, conjunctivitis, upper respiratory infections, or diarrhea are encouraged to avoid contact with mothers and infants by staying home until the condition is no longer contagious.

Proper care of the episiotomy site and any perineal lacerations prevents infection in the genitourinary area and aids the healing process. Educating the woman to wipe from front to back (urethra to anus) after voiding or defecating is a simple first step. In many hospitals a squeeze bottle filled with warm water or an antiseptic solution is used after each voiding to cleanse the perineal area. Heat lamps and sitzbaths, once commonly used to promote healing, are now much less frequently used for this purpose. The woman should change her perineal pad from front to back each time she voids or defecates and wash her hands thoroughly before and after doing so.

**Prevention of excessive bleeding**

The most common cause of excessive bleeding after birth is uterine atony, failure of the uterine muscle to contract firmly. The two most important interventions for preventing excessive bleeding are maintaining good uterine tone and preventing
bladder distention. If uterine atony occurs, the relaxed uterus distends with blood and clots, blood vessels in the placental site are not clamped off, and excessive bleeding results.

Excessive blood loss after childbirth may also be caused by vaginal or vulvar hematomas, unrepaired lacerations of the vagina or cervix, and retained placental fragments. (Jacobson, H. 2014).

A perineal pad saturated in 15 minutes or less and pooling of blood under the buttocks are indications of excessive blood loss, requiring immediate assessment, intervention, and notification of the physician or nurse-midwife. (John M, 2014).

Accurate visual estimation of blood loss is an important nursing responsibility. Blood loss is usually described subjectively as scant, light, moderate, or heavy (profuse). Although postpartal blood loss may be estimated by observing the amount of staining on a perineal pad, it is difficult to judge the amount of lochial flow based only on observation of perineal pads. More objective estimates of blood loss include measuring serial hemoglobin or hematocrit values; weighing blood clots and items saturated with blood (1 ml equals 1 g); and establishing how many milliliters it takes to saturate perineal pads being used. Any estimation of lochial flow is inaccurate and incomplete without consideration of the time factor. The woman who saturates a perineal pad in 1 hour or less is bleeding much more heavily than the woman who saturates one perineal pad in 8 hours. (Saito M, et al; 2015).

**Previous studies:**

**Worldwide:**

The postpartum period is a time of increased morbidity for mothers and infants under 12 months, yet is an under-researched area of primary care. Despite a relatively clear framework for involving general practitioners (GPs) in antenatal care, the structure of maternity service provision in some Australian jurisdictions has resulted in highly variable roles of general practice in routine postpartum care. This study aimed to investigate the views and experiences of mothers and GPs about postpartum care in general practice. This was a qualitative study of mothers and GPs in rural, regional and metropolitan areas of Queensland, Australia. Semi-structured interviews
were conducted with 88 mothers and six general practitioners between September 2010 and February 2012. Interviews were recorded and transcribed verbatim. Data were analysed thematically and compared across groups. Three main themes emerged: The relationship between the mother and GP; practice management; and GP visits. This paper focuses on the theme GP visits and its subthemes: recommendations for GP visits; scope of practice; and content of a routine visit. Recommendations about GP visits given to mothers varied by birthing sector, obstetric provider and model of maternity care resulting in confusion amongst mothers about the timing and role of GPs in routine postpartum care. Similarly, GPs voiced concerns about a lack of consistent guidelines for their involvement in routine postpartum care. Although ideally placed to provide primary care to mothers and their infants in the postpartum period, the lack of consistent guidelines for the role of GPs is of concern to both the GPs and early parenting women. (Wendy B, et al 2013)

In developed countries:

Study done by Seyedeh T. et al, (2014). They stated that: Postpartum care at home is a post delivery care method that can be provided by public health nurses, trained health workers, or midwifery nurses. A study conducted to compare effect of two midwife visits at home to usual postpartum care on the healthy behaviors of low-risk Iranian mothers. A randomized controlled trial conducted on 200 mothers at a reference center for screening for infant hypothyroidism in Tehran. Mothers were randomized to either home-based (n = 100) or routine-based postpartum care (n = 100). Each mother and her neonate received two cares. Home-based cares were provided by a midwife in the intervention group. Postpartum cares in the control group were provided by care providers of primary health care system. Healthy behavior was measured using a validated and reliable researcher made instrument. The data were analyzed using independent sample t-tests, paired t-test, and χ2-test. The data showed that a significant number of subjects in the control group did not receive their postpartum care (P < 0.001). The mean score of maternal healthy behaviors in the intervention group increased from 120.5 (SE = 0.76) to 148.9 (SE = 1.02) (P < 0.001) and in the control group from 119.9 (SE = 1.06) to 140.9 (SE = 1.08) (P < 0.001). The mean score of maternal healthy behaviors in the intervention group had significant differences with that in the control group at the end of study (P
< 0.001.(Early postpartum care at home by trained midwives can be positively
effective for improving maternal healthy behaviors in less developed countries.

In developing countries:

Study done by Richard Mangwi A et al. (2014). Illustrated that: the aimed of
this study to determine the level of knowledge related to prenatal and immediate
newborn care among primary healthcare workers in Masindi, Uganda. Methods: A
cross-sectional study was conducted. Interviews comprised of 25 multiple-choice
questions were administered to health workers who were deployed to offer prenatal
and postnatal care in Masindi in November 2011. Questions were related to four
domains of knowledge: prenatal care, immediate newborn care, management of
neonatal infections and identifying and stabilizing Low-Birth Weight (LBW) babies.
Corresponding composite variables were derived; level of knowledge among health
workers dichotomized as 'adequate' or 'inadequate'. The chi-square statistic test was
used to examine associations with independent variables including level of training
(nursing assistant, general nurse or midwife), level of care (hospital/health centre
level IV or health centre level III/II) and years of service (five years or less, six years
or more). Results: 183 health workers were interviewed: general nurses (39.3%),
midwives (21.9%) and nursing assistants (38.8%). Respectively, 53.6%, 46.5%, 7.1%
and 56.3% were considered to have adequate knowledge in prenatal care, newborn
care, management of neonatal infections and identifying/stabilizing LBW babies.
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. Conclusion: Knowledge regarding prenatal
and newborn care among primary healthcare workers in Masindi was very low. The
highest deficit of knowledge was in management of neonatal infections. Efforts are
needed to orientate health workers regarding prenatal and newborn care especially the
offer of infection management among newborns. Similar levels of knowledge
between health workers deployed to hospital/health centre level IV and health centres
of level III/II raise important implementation questions for the referral system which
is crucial for maternal and newborn survival. (Richard M, A et al, 2014)
Study done by Piyanee Klainin, \textit{et al}, (2009). The Objectives: Postpartum depression (PPD), a major health concern, produces insidious effects on new mothers, their infant, and family. This literature review aims to explore risk factors for postpartum depression among women in Asian cultures, which has not been fully elaborated. Data sources: A literature search was undertaken by using various electronic research databases. Studies were eligible for this review if they (a) examined risk factors for PPD, (b) were conducted in Asian countries using quantitative or qualitative methodologies, and (c) were published in English in peer-reviewed journals between 1998 and 2008. A total of 64 studies from 17 countries were reviewed, summarised, and synthesised. Results: The prevalence of postpartum depression in Asian countries ranged from 3.5\% to 63.3\% where Malaysia and Pakistan had the lowest and highest, respectively. Risk factors for postpartum depression were clustered into five major groups: biological/physical (e.g., riboflavin consumption), psychological (e.g., antenatal depression), obstetric/paediatric (e.g., unwanted pregnancy), socio-demographic (e.g., poverty), and cultural factors (e.g., preference of infants’ gender). Traditional postpartum rituals were not found to provide substantial psychological benefits for the new mothers. Conclusions: This review informs a current state of knowledge regarding risk factors for postpartum depression and has implications for clinical practice. Health care professionals should be aware that the phenomenon is as prevalent in Asian cultures as in European cultures. Women should be screened for potential risk factors and depressive symptoms during pregnancy and postpartum periods so that appropriate interventions, if needed, can be initiated in a timely fashion. (Piyanee K, \textit{et al} 2009).
3. Materials and Methods

3.1 Study Design

This is a descriptive hospital based-study.

3.2 Study area:

The study was conducted at Obstetrics & Gynecology Teaching Hospital in Wad Medani town, the capital of Gezira State, which is 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, prenatal ward, postnatal ward. {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 and Qualified Nurses (private)</td>
<td>50</td>
</tr>
<tr>
<td>Technical Nurses Certificate</td>
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</tr>
<tr>
<td>Auxiliary Nurses</td>
<td>17</td>
</tr>
<tr>
<td>Pharmacists and Assistant Pharmacists</td>
<td>7</td>
</tr>
<tr>
<td>Nutritionists and Psychologists and socialist</td>
<td>13</td>
</tr>
<tr>
<td>Statistics</td>
<td>21</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>241</td>
</tr>
</tbody>
</table>

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

All registered staff nurses working at the Obstetrics & Gynecology Teaching Hospital in postnatal ward, during the period of the study were included in the study from January to March 2017.

3.3.1 Inclusion criteria:

- Available registered trained nurses who work at postnatal ward with BSc., Diploma, Technical nursing Certificate and Pots graduate in the setting hospital
- Nurses with one year and more experiences.
- Nurses working in the antenatal, postnatal, gyna and ICU wards were included in the study during the period from January to March 2017. Agree to participate to collect the data.

3.3.2 Exclusion criteria:

- Under training nurses were not involved in this study.
- Nurse students.
- Nurses with experience less than one year

3.4 Sample Size and sampling technique:

The total coverage of the study sample consisted of all {63} available nurses.

3.5 Data Collection tools:

One tool for data collection, a structured questionnaire was designed by the researcher including data about socio-demographic characteristics for nurses, data about the nurses’ knowledge regarding routine postpartum care during the period of the study.

Questionnaire was distributed for each available nurse to fill within 20-30 minutes under the researcher guidance.
3.6 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 and verbal acceptance was obtained from them.

3.7 Data analysis:

The data collected was incorporated and entered in the computer, described and analyzed by using statistical package for social sciences {SPSS}.

Scale:

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
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<td>From 0 to 1</td>
<td>Wrong answer</td>
</tr>
<tr>
<td>From 1 to 2</td>
<td>Correct incomplete</td>
</tr>
<tr>
<td>From 2 to 4</td>
<td>Correct complete answer</td>
</tr>
</tbody>
</table>
4. Results and Discussion

4.1 Results:

Demographic data:

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

<table>
<thead>
<tr>
<th>Age Group</th>
<th>No</th>
<th>%</th>
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<tbody>
<tr>
<td>20 to 24 years</td>
<td>5</td>
<td>8.0%</td>
</tr>
<tr>
<td>25 to 29 years</td>
<td>14</td>
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<td>15</td>
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<td>40 years and more</td>
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</tr>
<tr>
<td>Total</td>
<td>63</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table (4.1): showed that (8.0%) of the study sample their age group ranged between 20 to 24 years, (22.2%) at age group between 25 to 29 years, (23.8%) of them their age ranged between 30 to 34 years while (27.0%) the age ranged between 35 to 39 years and (19.0%) of them their age 40 years and more.
Table (4.2): Distribution of the study sample according to their educational level and years of experience

<table>
<thead>
<tr>
<th>Education level</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical nursing certificate</td>
<td>7</td>
<td>11.1%</td>
</tr>
<tr>
<td>Diploma</td>
<td>17</td>
<td>27.0%</td>
</tr>
<tr>
<td>Bachelor</td>
<td>34</td>
<td>54.0%</td>
</tr>
<tr>
<td>Post graduate</td>
<td>5</td>
<td>8.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>63</td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years of experience</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 4 years</td>
<td>12</td>
<td>19.0%</td>
</tr>
<tr>
<td>5 to 9 years</td>
<td>22</td>
<td>35.0%</td>
</tr>
<tr>
<td>10 to 14 years</td>
<td>29</td>
<td>46.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>43</td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Table (4.2): revealed that (54.0%) of the study sample their level of educational were bachelor, (46.0%) of them their years of experience ranged between 10 to 14 years.
Figure (4.1): Distribution of the study sample according to their source of knowledge regarding routine postpartum care:

This figure showed (46.0%) from university.
Figure (4.2): Distribution of the study sample according to their receiving training program about routine postpartum care:

This figure shows that (79.4%) of the study sample did not had received training program regarding routine postpartum care before.
Table (4.3): Distribution of the study sample according to their responses regarding definition of postpartum and Normal postpartum Anatomic and physiologic changes:

\[ \text{no} = 63 \]

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct complete answers</th>
<th>Correct incomplete answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>definition of postpartum</td>
<td>40 63.5</td>
<td>23 36.5</td>
<td>0 0.0</td>
<td>63 100</td>
</tr>
<tr>
<td>normal postpartum anatomic and physiologic changes</td>
<td>38 60.5</td>
<td>24 38.1</td>
<td>1 1.6</td>
<td>63 100</td>
</tr>
</tbody>
</table>

Table (4.3): revealed that (63.5% and 60.5%) of the study sample responded with correct complete answers regarding definition of postpartum and normal postpartum anatomic and physiologic changes respectively.
Table (4.4): Distribution of the study sample according to their responses regarding Factors that can slow uterine involution and Factors that enhance involution:

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct complete answers</th>
<th>Correct incomplete 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>factors that can slow uterine involution</td>
<td>35</td>
<td>55.6</td>
<td>23</td>
<td>36.5</td>
</tr>
<tr>
<td>factors that enhance involution</td>
<td>30</td>
<td>47.6</td>
<td>27</td>
<td>42.9</td>
</tr>
</tbody>
</table>

Table (4.4): showed that (55.6% and 47.6%) of the study sample responded with correct complete answers regarding factors that can slow uterine involution and factors that enhance involution respectively.
Table (4.5): Distribution of the study sample according to their responses regarding musculoskeletal system changes and Vital Signs changes:

\[ n = 63 \]

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct complete answers</th>
<th>Correct incomplete answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>musculoskeletal system</td>
<td>25 39.7</td>
<td>29 46.0</td>
<td>9 14.3</td>
<td>63 100</td>
</tr>
<tr>
<td>changes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vital signs changes</td>
<td>27 42.9</td>
<td>30 47.6</td>
<td>6 9.5</td>
<td>63 100</td>
</tr>
</tbody>
</table>

Table (4.5): illustrated that (39.7% and 42.9%) of the study sample responded with correct complete answers regarding musculoskeletal system changes and vital signs changes respectively.
Table (4.6): Distribution of the study sample according to their responses regarding urinary system changes and gastrointestinal system changes

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct complete answers</th>
<th>Correct incomplete 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>urinary system changes</td>
<td>35</td>
<td>55.6</td>
<td>22</td>
<td>35.0</td>
</tr>
<tr>
<td>gastrointestinal system changes</td>
<td>38</td>
<td>60.3</td>
<td>21</td>
<td>33.3</td>
</tr>
</tbody>
</table>

Table (4.6): revealed that (55.6% and 60.3%) of the study sample responded with correct complete answers regarding urinary system changes and gastrointestinal system changes respectively.
Table (4.7): Distribution of the study sample according to their responses regarding endocrine system changes and neurologic system changes

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct complete answers</th>
<th>Correct incomplete 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>endocrine system changes</td>
<td>37</td>
<td>58.7</td>
<td>20</td>
<td>31.8</td>
</tr>
<tr>
<td>neurologic system changes</td>
<td>29</td>
<td>46.0</td>
<td>24</td>
<td>38.1</td>
</tr>
</tbody>
</table>

Table (4.7): showed that (58.7% and 46.0%) of the study sample responded with correct complete answers regarding endocrine system changes and neurologic system changes respectively.
Table (4.8): Distribution of the study sample according to their responses regarding routine postpartum care and postpartum hemorrhage

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct complete answers</th>
<th>Correct incomplete 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>routine postpartum care</td>
<td>25</td>
<td>39.7</td>
<td>24</td>
<td>38.1</td>
</tr>
<tr>
<td>postpartum hemorrhage</td>
<td>20</td>
<td>31.8</td>
<td>25</td>
<td>39.7</td>
</tr>
</tbody>
</table>

Table (4.8): revealed that (39.7% and 31.8%) of the study sample responded with correct complete answers regarding routine postpartum care and postpartum hemorrhage respectively.
Table (4.9): Distribution of the study sample according to their responses regarding Practices to reduce risk of hemorrhage and postpartum depression

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct complete answers</th>
<th>Correct incomplete 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>Practices to reduce risk of hemorrhage</td>
<td>18</td>
<td>28.6</td>
<td>23</td>
<td>36.5</td>
</tr>
<tr>
<td>postpartum depression</td>
<td>20</td>
<td>31.8</td>
<td>24</td>
<td>38.1</td>
</tr>
</tbody>
</table>

Table (4.9): illustrated that (28.6% and 31.8%) of the study sample responded with correct complete answers regarding Practices to reduce risk of hemorrhage and postpartum depression respectively.
Table (4.10): Distribution of the study sample according to their responses regarding routine care of newborn and nursing care plan for mother:

\[ \text{no} = 63 \]

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct complete answers</th>
<th>Correct incomplete 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>routine care of newborn</td>
<td>22</td>
<td>35.0</td>
<td>26</td>
<td>41.3</td>
</tr>
<tr>
<td>nursing care plan for mother</td>
<td>20</td>
<td>31.8</td>
<td>25</td>
<td>39.7</td>
</tr>
</tbody>
</table>

Table (4.10): revealed that (35.0% and 31.8%) of the study sample responded with correct complete answers regarding routine care of newborn and nursing care plan for mother respectively.
Table (4.11): Distribution of the study sample according to their responses regarding nursing diagnosis and planning:

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct complete answers</th>
<th>Correct incomplete 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>nursing diagnosis</td>
<td>27</td>
<td>42.9</td>
<td>21</td>
<td>33.3</td>
</tr>
<tr>
<td>planning</td>
<td>27</td>
<td>42.9</td>
<td>30</td>
<td>47.6</td>
</tr>
</tbody>
</table>

Table (4.12): revealed that (42.9% and 42.9%) of the study sample responded with correct complete answers regarding nursing diagnosis and planning respectively.
Table (4.12): Distribution of the study sample according to their responses regarding care in preparation for discharge and care of newborn at home:

\[ \text{no} = 63 \]

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct complete answers</th>
<th>Correct incomplete answers</th>
<th>Wrong answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>care in preparation for discharge</td>
<td>35 55.6</td>
<td>22 35.0</td>
<td>6 9.5</td>
<td>63 100</td>
</tr>
<tr>
<td>care of newborn</td>
<td>21 33.3</td>
<td>25 39.7</td>
<td>17 27.0</td>
<td>63 100</td>
</tr>
</tbody>
</table>

Table (4.13): illustrated that (55.6% and 33.3%) of the study sample responded with correct complete answers regarding care in preparation for discharge and care of newborn at home respectively.
Table (4.13): Distribution of the study sample according to their responses regarding assessment and nursing diagnoses

<table>
<thead>
<tr>
<th>Nurses’ knowledge</th>
<th>Correct complete answers</th>
<th>Correct incomplete 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>assessment and nursing diagnoses</td>
<td>20</td>
<td>31.8</td>
<td>25</td>
<td>39.7</td>
</tr>
</tbody>
</table>

Table (4.14): revealed that (31.8%) of the study sample responded with correct complete answers regarding assessment and nursing diagnoses, while (39.7%) of them responded with correct incomplete answers respectively.
4.2 Discussion:

A descriptive hospital based study was conducted at Obstetrics and Gynecology Teaching Hospital, Gezira State Sudan aimed at assessing nurses’ knowledge regarding routine postpartum care at Obstetrics and Gynecology Teaching Hospital during the period of the study from January to March 2017. The population of the study all registered staff nurses working in at the Obstetrics & Gynecology Teaching Hospitals, during the period of the study were included in the study. The sample size consisted of all (63) available nurses who work in the setting hospitals was included in the study during the period from January to March 2017. The data was collected by using a structured questionnaire will be designed by the researcher for the purposes of the study. The data was and analyzed by using statistical package for social sciences (SPSS).

Demographic data:

The results revealed that (8.0%) of the study sample their age group ranged between 20 to 24 years, (22.2%) at age group between 25 to 29 years, (23.8%) of them their age ranged between 30 to 34 years while (27.0%) the age ranged between 35 to 39 years and (19.0%) of them their age 40 years and more. Table (4.1)

(54.0%) of the study sample their level of educational were bachelor, (27.0%) of them hold diploma and (11.1%) technical nurses and only (8.0%) had post graduate degree. (19.0%) of the study sample their years of experience ranged between 1 to 4 years, (35.0%) of them had experience range between 5 to 9 years and (46.0%) of them their years of experience ranged between 10 to 14 years. Table (4.2)

In Figure (4.1) showed that (11.1%) of the study sample their source of knowledge regarding routine postpartum care from mass-media (9.5%) of them their source from colleagues, (14.3%) from training program (19.0%) from books and references and (46.0%) from university. (20.6%) of the study sample had received training program regarding routine postpartum care before while most of the study sample (79.4%) didn’t. Figure (4.2). Also this result revealed that (63.5% and 60.5%) of the study sample responded with correct complete answers regarding definition of postpartum and normal postpartum
anatomic and physiologic changes respectively, while (36.5% and 38.1%) of them responded with correct incomplete answers respectively. Table (4.3)

(55.6% and 47.6%) of the study sample responded with correct complete answers regarding factors that can slow uterine involution and factors that enhance involution respectively, while (36.5% and 42.9%) of them responded with correct incomplete answers respectively. Table (4.4)

On the other hand this result showed that (55.6% and 60.3%) of the study sample responded with correct complete answers regarding urinary system changes and gastrointestinal system changes respectively, while (35.0% and 33.3%) of them responded with correct incomplete answers respectively. Table (4.6)

(58.7% and 46.0%) of the study sample responded with correct complete answers regarding endocrine system changes and neurologic system changes respectively, while (31.8% and 38.1%) of them responded with correct incomplete answers respectively. Table (4.7)

In contrast the result revealed that (39.7% and 31.8%) of the study sample responded with correct complete answers regarding routine postpartum care and postpartum hemorrhage respectively, while (38.1% and 39.7%) of them responded with correct incomplete answers respectively. Table (4.8)

(28.6% and 31.8%) of the study sample responded with correct complete answers regarding Practices to reduce risk of hemorrhage and postpartum depression respectively, while (36.5% and 38.1%) of them responded with correct incomplete answers respectively. Table (4.9)

In Table (4.10) this result revealed that (35.0% and 38.1%) of the study sample responded with correct complete answers regarding routine care of newborn and cutting the umbilical cord care of the cord respectively, while (41.3% and 39.7%) of them responded with correct incomplete answers respectively. This is similar study done by Study done by Seyedeh T. et al, (2014). They stated that: Postpartum care at home is a post delivery care method that can be provided by public health nurses, trained health workers, or midwifery nurses. A study conducted to compare effect of two midwife visits at home to usual postpartum care on the healthy behaviors of low-risk Iranian mothers. A randomized controlled trial conducted on 200 mothers at a
reference center for screening for infant hypothyroidism in Tehran. Mothers were randomized to either home-based (n = 100) or routine-based postpartum care (n = 100). Each mother and her neonate received two cares. Home-based cares were provided by a midwife in the intervention group. Postpartum cares in the control group were provided by care providers of primary health care system. Healthy behavior was measured using a validated and reliable researcher made instrument. The data were analyzed using independent sample t-tests, paired t-test, and χ2-test. The data showed that a significant number of subjects in the control group did not receive their postpartum care (P < 0.001). The mean score of maternal healthy behaviors in the intervention group increased from 120.5 (SE = 0.76) to 148.9 (SE = 1.02) (P < 0.001) and in the control group from 119.9 (SE = 1.06) to 140.9 (SE = 1.08) (P < 0.001). The mean score of maternal healthy behaviors in the intervention group had significant differences with that in the control group at the end of study (P < 0.001). Early postpartum care at home by trained midwives can be positively effective for improving maternal healthy behaviors in less developed countries.

Also the result illustrated that (42.9% and 42.9%) of the study sample responded with correct complete answers regarding nursing diagnosis and planning respectively, while (33.3% and 47.6%) of them responded with correct incomplete answers respectively. Table 4.11)

Finally this result illustrated that (55.6% and 33.3%) of the study sample responded with correct complete answers regarding care in preparation for discharge and care of newborn respectively, while (35.0% and 39.7%) of them responded with correct incomplete answers respectively. (31.8%) of the study sample responded with correct complete answers regarding assessment and nursing diagnoses, while (39.7%) of them responded with correct incomplete answers respectively. Tables (4.12 and 4.13)
5. Conclusion and Recommendations

5.1 Conclusion

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

- Most of the nurses' knowledge regarding routine postpartum care at obstetrics & gynecology teaching hospitals were inadequate with total mean (68.3%) especially definition, benefits, physiological changes, definition of postpartum depression and hemorrhage and etc.
5.2 Recommendations:

Based on the results of this study the following recommendations were suggested:

- Learning facilities as library books and, periodical journals and internet about nurses' knowledge regarding routine postpartum care should be available for the nurses at hospital.

- Training program for all nurses working at the obstetrics and gynecology teaching hospital on theoretical background, reasoning and appreciation for every activity for each step for care of the mothers and her babies for upgrading their knowledge and practices through more qualified nurses.
References


Lisa S. Segre, PhD, RN, Michael W. O'Hara, PhD, Stephan Arndt, PhD, and Cheryl Tatano Beck, DNSc, CNM, FAAN. (2010). Nursing Care for Postpartum Depression, Part 1: Do Nurses Think they should offer both Screening and


Questionnaire about nurses' knowledge regarding Routine Postpartum Care in Obstetrics and Gynecology Teaching Hospital at Wad Medani, Gezira State, Sudan 2017

I. Socio-demographic Data

1. Age group:
   a. 20 – 24 years ( )
   b. 25 – 29 years ( )
   c. 30 – 34 years ( )
   d. 35 – 39 years ( )
   e. 40 years and more ( )

2. Education level:
   a. Technical Nurses ( )
   b. Diploma ( )
   c. Bachelor ( )
   d. Post graduate

3. Years of experience:
   a. 1 – 4 years ( )
   b. 5 to 9 years ( )
   c. 10 to 14 years ( )
   d. 15 years and more ( )

4. Source of Nurses' knowledge regarding routine postpartum care:
   a. Colleagues ( )
   b. Books and references ( )
   c. Training programs ( )
   d. Mass-media ( )
   e. University ( )

5. Did you receive training programs regarding routine postpartum care before?
   a. Yes ( )
   b. No ( )

6. If yes when? ..................................................................................................................
II. Nurses' Knowledge regarding routine postpartum care:

1. Definition of Postpartum:
   a. A postpartum period is the beginning immediately after the birth of a child  
   b. Is the period extending for about six weeks after birth  
   c. Is the terms puerperium or puerperal period  
   d. The most critical and neglected phase in the lives of mothers and babies  

2. Normal postpartum Anatomic and physiologic changes:
   a. Uterine involution changes  
   b. Musculoskeletal and Gastrointestinal changes systems  
   c. Vital signs and urinary system changes  
   d. Endocrine and Neurologic system changes  

3. Factors that can slow uterine involution include:
   a. Prolonged labour and Incomplete expulsion of placenta and membranes  
   b. Anesthesia  
   c. Previous labours  
   d. Distended full bladder  

4. Factors that enhance involution include:
   a. Uncomplicated labour and birth.  
   b. Breastfeeding.  
   c. Early frequent ambulation  

5. Musculoskeletal System changes
   a. Musculoskeletal system that occur during pregnancy are reversed in the puerperium  
   b. The joints are completely stabilized by 6 to 8 weeks after birth.
c. The new mother may notice a permanent increase in her shoe size  

d. Good body mechanism's and correct posture are important to help relieve low back pain. 

6. Vital Signs changes 

a. Temperature  
b. Pulse  
c. Respirations  
d. Blood Pressure 

7. Urinary System changes 

a. The hormonal changes of pregnancy contribute to an increase in renal function  
b. Diminishing steroid levels after childbirth may partly explain the reduced renal function that occurs during the puerperium.  
c. Kidney function returns to normal within 1 month after birth.  
d. In a small percentage of women, dilation of the urinary tract may persist for 3 months, which increases the chance of developing a urinary tract infection. 

8. Gastrointestinal System changes: 

a. The mother usually is hungry shortly after the birth and can tolerate a light diet  
b. Most newmothers are very hungry after full recovery from analgesia, anesthesia and fatigue.  
c. It Requests for double portions of food and frequent snacks are not uncommon  
d. Constipation is common due to lack of solid food and limited fluid intake fairly of pain from haemorrhoids and episitomy. 

9. Endocrine System changes 

a. Hormonal changes occur during the postpartal period  
b. Estrogen and progesterone levels
c. Lactating and nonlactating women differ considerably in the time when the first ovulation occurs and when menstruation resumes

d. Prolactin levels in blood rise progressively throughout pregnancy

10. Neurologic System changes:

a. Neurologic changes during the puerperium result from a reversal of maternal adaptations to pregnancy

b. Neurologic changes resulting from trauma during labor and childbirth


d. Elimination of physiologic edema through the diuresis that follows childbirth relieves carpal tunnel syndrome by easing compression of the median nerve.

11. Routine postpartum care:

a. Woman giving birth as she is medically stable and chooses to leave

b. Though the average for a vaginal birth is 1–2 days

c. The average caesarean section postnatal stay is 3–4 days

d. Mother is monitored for bleeding, bowel and bladder function, and baby care

12. Postpartum Hemorrhage:

a. Postpartum hemorrhage is an obstetrical emergency

b. Postpartum hemorrhage is a major cause if maternal morbidity

c. Postpartum hemorrhage is primary occurs in the first 24 hours after delivery

d. Postpartum hemorrhage is secondary occurs 24 hours to 12 weeks after delivery

13. Practices to reduce risk of hemorrhage:

a. Prevention of postpartum hemorrhage is a critical goal in all maternity

b. Interventions in labor and birth, including induction or augmentation of labor, episiotomy, instrumental vaginal delivery
c. Low rates of postpartum hemorrhage in home and birth center settings suggest that healthy ( )
d. Low-risk women who have not been subjected to medical or surgical interventions may safely be offered physiologic care ( )

14. Postpartum Depression:
a. Postpartum depression is postnatal depression ( )
b. Is a type of clinical depression which can affect both sexes after childbirth ( )

15. Routine care of newborn:
a. One of the first checks is the Apgar test ( )
b. Evaluate respiration and maintain clear airway ( )
c. Maintain respirations and Trendelenburg position – head lower than the body ( )
d. Cutting the umbilical cord Care of the cord and The Apgar Scoring System ( )

III. Nursing care plan for postpartum care

16. Nursing Care Plan
a. Assessment and diagnosis ( )
b. Planning ( )
c. Intervention ( )
d. Rationale and Evaluation ( )

17. Nursing diagnosis depend on:
a. Airway ( )
b. Breathing ( )
c. Circulation ( )
d. All of the above ( )
18. Planning:

a. Determine the short-term goal
b. Determine the long-term goal
c. Familiarize with different nursing interventions

d. None of the above

19. Care in Preparation for Discharge

a. Assess first the ability of the mother to absorb new instructions and to listen
b. Conducting group classes regarding newborn care could greatly help mothers
c. Instruct the woman to avoid lifting heavy objects for the first three weeks after birth
d. Advise the woman to allot a rest period every day, or to rest and sleep while her newborn is also asleep so she can regain her energy
e. Make sure that the woman and the family understood the discharge instructions amidst all the frenzy of the new baby; review instructions with parents before they leave
f. Calling or visiting 24 hours after discharge to the family.

d. None of the above

20. Assessment and Nursing Diagnoses

a. A complete physical assessment, including measurement of vital signs
b. Other components of the initial assessment include the mother’s emotional status, energy level, degree of physical discomfort, hunger, and thirst.
c. Intake and output assessments should always be included if an intravenous infusion or a urinary catheter is in place.
d. Concerning self-care and infant care can also be determined at this time

d. None of the above