Nurses’ Knowledge and Practice Regarding Post-Miscarriage Care in Omdurman Maternity Hospital, Khartoum State, Sudan (2015)

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A Dissertation
Submitted to the University of Gezira In Partial Fulfillment for the Award of the Degree of Master of Science in Community Health Nursing
Department of Nursing
Faculty of Applied Medical Science

2016
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Supervision Committee

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Date.....2016
**Nurses’ Knowledge and Practice Regarding Post-Miscarriage Care in Omdurman Maternity Hospital, Khartoum State, Sudan**

(2015)

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**Examination Committee**

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Date of Examination  21 April 2016
بسم الله الرحمن الرحيم

إِنَّمَا يَخْشَى اللَّهُ اِلْعُلَمَاءَ ۖ إِنَّ اللَّهَ عَزِيزٌ غَفُورٌ

صدق الله العظيم

سورة فاطر الآية 28
Dedication
To the soul of my beloved father and Mother
My kind teacher
To my sisters
To my brothers
To all relatives
To my colleagues
To my friends
To all nurses working in hospitals throughout the world

Amna
Acknowledgements

Firstly, my thanks go to the almighty God for giving me the courage for the preparation, writing and assembling of my study in the way I planned.

I would like to express my gratitude to my supervisor, Dr. Itemed Ibrahim Mohammed Kambal. Her expertise, understanding, and patience, added considerably to my experience. I appreciate her vast knowledge and skill in many areas, and her assistance in writing reports, which have on occasion made me with envy.

I would like to thank my co-advisor Dr. Bothyna Bassyonie Elssyed Etewa for the assistance they provided at all levels of the research project, without her motivation and encouragement I would not have considered a graduate career in nursing research.

I thank Gezira University, Faculty of Applied Medical Sciences for the great work they gave to us.

I would also like to thank my family for the support they provided me through my entire life and in particular, I must acknowledge my wife and best friend, Nancy, without whose love, encouragement and editing assistance, I would not have finished this thesis.

My deepest thanks also go to my uncle for his support. In conclusion, I recognize that this research would not have been possible without the financial assistance of my family.
Nurses’ Knowledge and Practice Regarding Post-Miscarriage Care in Omdurman Maternity Hospital, Khartoum State, Sudan (2015)
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Abstract
Miscarriage is the spontaneous loss of a pregnancy before 20 weeks gestation, it is one of the complications of major public health problems that threaten the lives of women around the world due to lack of knowledge and correct practices among the nurses, which need many efforts to be solved. A descriptive hospital based study was conducted in Omdurman Maternity Hospital Khartoum State, Sudan. It aimed at assessing Nurses' practices regarding Post-Miscarriage Care. The study covered 100 nurses. They constitute the available sample during the study period from (junior –distemper 2015). Data were collected by using a questionnaire designed for the purpose of the study. Data were analyzed using the Statistical Package for Social Science (SPSS). The study revealed that 42% of the study sample responded with correct answers regarding Instructing the client to empty the bladder, 84% of them responded correctly regarding Isolate of infected patients, 30% of study sample responded with correct answers regarding importance of Hand washing, 60% of them responded correctly regarding Assess Vaginal bleeding, 50% of the study sample responded with correct answers regarding pain management, 60% of them responded correctly regarding importance of Emotional support, 59% of the study sample responded with correct answers regarding Check vital signs. 48% of them responded correctly regarding Explanation the procedure to the patient, 70% of the study sample responded with correct answers regarding Perineum care, the study concluded that nurse's Practice in post miscarriage care has adequate but need more providing psychological support to help miscarriages women to cope with their loss the study recommended that periodic must be conducted and log book for nurses and maintain the high quality training programs for nurses regarding post miscarriage care is essential policies and conducting further research on issues related post miscarriage care to maintain maternal health.
مراعاة و ممارسة الممرضات بالرعاية التمريضية بعد الإجهاض بمشفى أم درمان للولاية ولاية الخرطوم- السودان 

(2015)

آمنة علي حسين حسن

ملخص الدراسة

الإجهاض هو فقدان تلقائي للحمل قبل 20 أسبوعا من الحمل، وهو واحدة من المضاعفات الخطيرة ويمثل مشكل كبير في الصحة العامة في كل أنحاء العالم وتهدد حياة الكثير من النساء وذلك بسبب الإفقار للمعرفة والممارسة الصحيحة من قبل الممرضين. وهذه العملية تحتاج لمزيد من الجهود لوضع الحل المناسب لها. أجريت هذه الدراسة الوصفية في مستشفى الداوات في أم درمان حيث أنها تهدف إلى تقييم معرفة الممرضات حول ما يتعلق برعاية الإجهاض، وأنشأت في عام 2015، حيث كانت مصلحة العينية المتاحة خلال فترة الدراسة 2014-2015. جمعت البيانات بالاستبيان المصمم للدراسة. حالت البيانات باستخدام الحزم الإحصائية للعلوم الاجتماعية (SPSS).

وكشفت الدراسة أن 42% من عينة الدراسة كانت إجاباتهن صحيحة فيما يتعلق بتوجيه المريضة لإفراغ المثانة، 84% من عينة الدراسة كانت إجاباتهن صحيحة فيما يتعلق بالإفرازات، 70% من عينة الدراسة كانت إجاباتهن صحيحة فيما يتعلق بالإفرازات، 70% من عينة الدراسة كانت إجاباتهن صحيحة فيما يتعلق بالإفرازات، 70% من عينة الدراسة كانت إجاباتهن صحيحة فيما يتعلق بالإفرازات، 70% من عينة الدراسة كانت إجاباتهن صحيحة فيما يتعلق بالإفرازات.

ولكن المهم هو أن الأطباء والأخصائيين المختصين في قضايا الصحة المتعلقة بالانتهاك والدعم النفسي للمريضة، وتوفير التدريب الدائم للممرضات، وتطوير السياسات الرعاية النهائية، وإجراء المزيد من البحوث حول القضايا المتعلقة بالرعاية للمرأة بعد الإجهاض.
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<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
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<td>ASC</td>
<td>Abgar Scoring Chart</td>
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<td>ACOG</td>
<td>American College Of Obstetricians And Gynecologists</td>
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<td>ANMS</td>
<td>Auxiliary Nurse Midwives</td>
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<tr>
<td>CBC</td>
<td>Complete Blood Count</td>
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<td>DES</td>
<td>Diethylstilbestrol</td>
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<tr>
<td>ERPC</td>
<td>Evacuation Of Retained Products Of Conception</td>
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<td>GNA</td>
<td>Global Newborn Action</td>
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<td>ICU</td>
<td>Intensive Care Unit</td>
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<td>MDG</td>
<td>Millennium Development Goal</td>
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<td>Recently Delivered Women</td>
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<td>SPSS</td>
<td>Statistical Package For Social Sciences</td>
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<td>WHO</td>
<td>World Health Organization</td>
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1. INTRODUCTION

1.1 Background

Miscarriage is a common loss of pregnancy that occurs in many women through the world, experience during their childbearing years. In the United States, approximately one in four women will experience a miscarriage, the most common type of pregnancy loss, according to the American College of Obstetricians and Gynecologists (WHO 2012), a miscarriage or spontaneous abortion, is commonly defined in the United States, as the spontaneous loss of a fetus before the 20th week of pregnancy. While it is estimated that half of all fertilized eggs are spontaneously lost before a woman may know she is pregnant, approximately 15-20% of known pregnancies end in miscarriage with 80% of miscarriages typically occurring before the 12th week of pregnancy (Blum et al. 2013), for women of reproductive age, pregnancy can represent the realization of a dream or an unexpected event in a woman’s life, however pregnancy and subsequent miscarriage are both highly emotional occurrences for any woman. While a woman is adjusting to being pregnant and preparing for the physiologic and emotional changes that occur with pregnancy, a miscarriage abruptly ends the usual progression of her pregnancy.

The actual loss of pregnancy can affect women experiencing, miscarriage in many physiologic and emotional ways, Miscarriage can also put a strain on relationships with spouses, partners, and friends, which often compounds emotional stress related to the woman’s condition, in early pregnancy is common many factors can causes Miscarriage and is difficult to say certainty what causes a particular to miscarriage to occur, one or more problems with the pregnancy can be found, in significant percentage of early miscarriage in some cases medical condition in the mother, such uncontrolled diabetes or uterine fibroid. Sporadic miscarriage, is the most common complication of early pregnancy, Two or three consecutive pregnancy losses is a less common phenomenon, and this is considered a distinct disease entity. Sporadic miscarriages are considered to primarily represent failure of abnormal embryos to progress to viability, recurrent miscarriage is thought to have multiple etiologies, including parental chromosomal anomalies, maternal thrombophilic disorders, immunedysfunction, and various endocrine disturbances, however none of these conditions is specific to recurrent miscarriage or always associated with repeated early pregnancy loss. In recent years, new theories about the mechanisms behind sporadic and recurrent miscarriage have emerged.
and genetic studies suggest a multi factorial background where immunological
deregulation in pregnancy may play a role, as well as lifestyle factors and changes in sperm DNA integrity, recent experimental evidence has led to the concept that the decasualizedendometrial acts as biosensor of embryo quality, which if disrupted may lead to implantation of embryos destined to miscarry. These new insights into the mechanisms behind miscarriage offer the prospect of novel effective interventions that may prevent this distressing condition (WHO 2012).
1.2 problem statement

**Worldwide:** miscarriage is one of the common complications of the pregnancy. Incidence of rates significant cause of morbidity and mortality in the world, which occurs an estimated 5-15% of pregnancies (Slava et al., 2015) the world health organization (WHO) estimated that 21.6 million unsafe abortions occurred worldwide in 2010, the miscarriage rate is roughly 10% to 20% while rates among all conceptions is around 30% to 50%. About 5% of women have two miscarriages in a row (WHO 2010), up to 20% of pregnancies result in spontaneous miscarriage prior to 20 weeks gestation, 80% of these occur before 12 weeks, a miscarriage can be a significant event in a woman’s life, and may lead to prolonged grief, depression, anxiety and symptoms of stressful life in ended miscarriage, and need psychosocial support, approximately 20% of pregnancies in the United States result in miscarriage (Schiavon, 2011).

**In developing countries:** WHO estimated rates of miscarriage in developed countries range it occurs up to 20% of clinical pregnancies equating to approximately 14,000 miscarriages per annum in Ireland. Historically, the majority of women who miscarried underwent routine surgical uterine evacuation, the prevalence of miscarriage increase considerably with the age of the parents, pregnancies from women younger than twenty five years are 40% less likely to end in miscarriage, than pregnancies from women 25-29 years. Pregnancies from women older than forty years are 60% more likely to end miscarriage, than the 25-29 year age group, in women by the age of forty five, 75% of pregnancies may end in miscarriage. Approximately 10% of miscarriage is performed in developed countries, 35.5% of miscarriage in developing countries and 26.8% of miscarriages in Asian countries, pregnancy miscarriage" (WHO 2015).

**In developed countries:** Complications of miscarriage and unsafe abortion are major public health problems that threaten the lives of women around the world (WHO 2012) in developed countries range. According to WHO, every year in the world there are an estimated 40-50 million abortions, this corresponds to approximately 125,000 abortions per day, in the USA, where nearly half of pregnancies are unintended and four in 10 of these are terminated by abortion, there are over 3,000 abortions per day. Twenty-two percent of all pregnancies in the USA (excluding miscarriages) end in abortion, (Kinaroet al., 2009). According to the findings in 2012, 50% of all unintended
pregnancies ended in abortion, 38% in unplanned births, and 13% in miscarriage (WHO 2015)

In Sudan abortion and miscarriage complications are responsible for the death of 100,000 to 200,000 women every year, amounting to 13% of maternal deaths globally. WHO in its technical (2012) report stated that a high maternal mortality ratio in Sudan suggest gaps in quality and accessible maternal health services. (WHO 2012)
1.3 Justification

The practice and skill of the health care providers affect the quality of miscarriage services. Even though there is a great service led by nurses throughout the world, and there are only little data available about the practice of post miscarriage care in health facilities Sudan has the highest maternal death rate ratios in the world, the purpose of the present study was to improve the level of practice of post miscarriage care to reduce maternal death.
1.4 Objectives

1.4.1 General Objective
To study Nurses Knowledge and Practice Regarding Care of Post Miscarriage in Omdurman Maternity hospital in Khartoum state during the period from (2014-2015)

1.4.2 Specific Objectives

1. To assess the level of Knowledge and Practice of staff nurse include biographical data regarding post miscarriage care.
2. To identify post miscarriage prevention and control guidelines as necessary measures to reducing incidence of post miscarriage complication.
3. To identify the availability of resources towards care given.
2. Literature review

2.1 Introduction

Miscarriage is usually a very stressful experience for the pregnant woman. A miscarriage is labeled "incomplete" if the bleeding has begun and the cervix is dilated, but tissue from the pregnancy still remains in the uterus. Most of the time, a miscarriage that is "incomplete" at the time of diagnosis will run its course without further intervention, but sometimes the body has trouble passing the tissue from the pregnancy, the miscarriage remains incomplete until the woman seeks treatment. Miscarriages pregnancy losses occurring prior to 20 weeks gestation or a fetal weight of less than 500 grams, are the most common complication up to 20% of pregnancies result in spontaneous miscarriage prior, 80% of these occur before 12 weeks, a miscarriage can be a significant event in a woman’s life and may lead to prolonged grief, depression, anxiety and symptoms of posttraumatic stress, treatment for a miscarriage is focused on medically managing, the process rather than preserving the pregnancy, as nothing can be done to halt it. Women frequently seek medical care in busy emergency departments (EDs) due to the urgency and uncertainty associated with vaginal bleeding, abdominal pain, and their implications for the wellbeing of the pregnancy, the emotional needs of the patient, the impact of the event, and the grieving period following the loss are often overlooked and underappreciated by health care. Depending on the significance of the pregnancy and the presence or absence of psychosocial support, women who have experienced miscarriages are higher risk of developing prolonged grief, anxiety, depression and, in some cases even post traumatic stress disorder, post abortion care (PAC) as a global approach towards solving the problem of maternal mortality and morbidity due to spontaneous or induced miscarriage complications. The participants of the international Conference on Population and Development addressed router of high quality and clemency medical services to manage complications of miscarriage. WHO stated that the woman as a patient has the right to prompt, high-quality post-miscarriage medical care and counseling, whether their miscarriage was spontaneous or induced (WHO, 2010)
2.2 Definition of Miscarriage

Miscarriage means loss of an embryo or fetus before the 20th week of pregnancy. Most miscarriages occur during the first 14 weeks of pregnancy, the medical term for miscarriage is spontaneous abortion, a miscarriage is often a traumatic event for both partners, and can cause feelings similar to the loss of a child or other member of the family. Fortunately, 90% of women who have had one miscarriage subsequently have a normal pregnancy and healthy baby; 60% are able to have a healthy baby after two miscarriages. Even a woman who has had three miscarriages, in a row still has more than a 50% chance of having a successful pregnancy the fourth time (WHO 2012).

2.2.1 Causes of Miscarriage

There are many reasons why a woman’s pregnancy ends in miscarriage, often the cause is not clear. However more than half the miscarriages that occur in the first eight weeks of pregnancy involve serious chromosomal abnormalities, or birth defects that would make it impossible for the baby to survive, these are different from inherited genetic diseases, they probably occur during development of the specific egg or sperm, and therefore are not likely to occur again, in about 17% of cases, miscarriage is caused by an abnormal hormonal imbalance that interferes with the ability of the uterus to support the growing embryo, in another 10% of cases, there is a problem with the structure of the uterus or cervix. This can especially occur in women whose mothers used diethylstilbestrol, when pregnant with them. There are a variety of causes of miscarriage, common causes may include:

- chromosomal problems,
- unhealthy lifestyle (obesity, drug and alcohol use)
- maternal age infections
- trauma
- untreated thyroid disease
- diabetes (WHO 2010)

2.2.2 Symptoms of a Miscarriage

The most common symptom of miscarriage is bleeding from the vagina, which may be light or heavy. However bleeding during early pregnancy is common and is not always serious, many women have slight vaginal bleeding after the egg implants in the uterus (about 7-10 days after conception), which can be mistaken for a threatened miscarriage, a few women bleed at the time of their monthly periods through the
pregnancy, However, any bleeding in the first three months of pregnancy (first trimester) is considered a threat of miscarriage. (Joseph, 2012)

Women should not ignore vaginal bleeding during early pregnancy, in addition to signaling a threatened miscarriage, it could also indicate a potentially life-threatening condition, the cramping occurs because the uterus attempts to push out the pregnancy tissue, if a pregnant woman experiences both bleeding and cramping the possibility of miscarriage is more likely than if only one of these symptoms is present (WHO 2010), if a woman experiences any sign of impending miscarriage, she should be examined by a practitioner, the doctor or nurse will perform a pelvic exam to check if the cervix is closed as it should be, If the cervix is open, miscarriage is inevitable and nothing can preserve the pregnancy. Symptoms of an inevitable miscarriage may include dull relentless or sharp intermittent pain in the lower abdomen or back. Bleeding may be heavy, Clotted material and tissue (the placenta and embryo) may pass from the vagina, a situation in which only some of the products in the uterus have been expelled is called an incomplete miscarriage, pain and bleeding may continue and become severe, an incomplete miscarriage requires medical attention "missed abortion" occurs when the fetus has died but neither the fetus nor placenta is expelled, there may not be any bleeding or pain, but the symptoms of pregnancy will disappear. the physician may suspect a missed abortion if the uterus does not continue to grow, the physician will diagnose a missed abortion with an ultrasound examination, woman should contact her doctor if she experiences any of the following any bleeding during pregnancy, pain or cramps during pregnancy, passing of tissue, fever and chills during or after miscarriage. (Joseph, 2012)

2.2.3 Types of miscarriage

Although ‘miscarriage’ is used as a general term, there are several different types. By feeling the cervix (the neck of the womb), a doctor can often determine the type and stage of miscarriage, threatened miscarriage this is used to describe bleeding in early pregnancy, where the cervix is found to be tightly closed, the pregnancy is most likely to continue. Inevitable miscarriage this describes bleeding in early pregnancy where the cervix is found to be open, suggesting that the pregnancy will be lost, incomplete miscarriage has definitely started, but there is still some pregnancy tissue left in the womb. The cervix is usually found to be open. Complete miscarriage when the pregnancy has been lost, the womb is now empty and the cervix has closed. Missed
miscarriage when the pregnancy stopped growing some weeks ago, but there was no bleeding at this time. This type of miscarriage usually causes a slight, dark-brown blood loss and the sudden end of normal pregnancy symptoms. It is sometimes called a blighted ovum. miscarriage later in pregnancy. (Garrido-Gimenez, et al. 2015)

Four-fifths of miscarriages occur in the first 12 weeks (first trimester) of pregnancy. Pregnancy loss later than this is much less common, and the causes may be different to those described above. They are more likely to be related to physical problems, for example with the structure of the womb, the strength of the cervix holding the weight of the growing pregnancy, or problems with the function of placenta. A medical specialist can provide specific advice. (AgarwalK, and Alfirevic Z 2012)

2.2.4 Diagnosis

A miscarriage may be confirmed via obstetric ultrasound and by the examination of the passed tissue. When looking for microscopic pathologic symptoms, one looks for the conception. If a woman experiences any sign of impending miscarriage she should see a doctor or nurse for a pelvic examination to check if the cervix is closed, as it should be. If the cervix is open, miscarriage is inevitable, an ultrasound examination can confirm a missed abortion if the uterus has shrunk and the patient has had continual spotting with no other symptom. Health care providers will probably use an ultrasound to help assess whether your pregnancy is healthy. An ultrasound can help determine whether there is a fetal heartbeat and whether the amniotic sac that surrounds the fetus is normal. It can also tell whether the placenta is separating. An ultrasound will also help determine whether the pregnancy is ectopic (occurring outside the uterus, such as in one of the fallopian tubes) or whether you may have spontaneously aborted one fetus in a twins or triplets pregnancy. (Garrido-Gimenez, et al 2015)

A blood test can determine whether pregnancy hormones are being produced. A complete blood count (CBC) may be done to determine the degree of blood loss, and several other tests may be done to rule out potential infection. Your health care provider may also perform a pelvic exam, looking for signs of miscarriage, including changes to the cervix and ruptured membranes. Your blood type will also be checked. If you are Rh negative and have miscarried, an injection of rho (D) immune globulin will be given to help prevent problems associated with incompatible blood types in future pregnancies.because chromosomal abnormalities of the embryo are identified
in more than half of miscarriages occurring in the first 13 weeks, doctors don't usually recommend special testing to look for a cause. The chances are excellent that the next pregnancy will be healthy. After three or more miscarriages, consider consulting an. testing for clotting and bleeding disorders may be performed. Special hormone tests and exams looking for connective tissue disorders in the mother may also be given. You and your partner should also discuss undergoing genetic testing with your health care provider. An X-ray or ultrasound of your reproductive organs may be recommended to look for structural differences that may have played a role in your miscarriages (WHO2010).

2.2.5 Treatment of miscarriage

Treatment of miscarriage need good supportive care, medication treatment or aspiration of the products of conception can be used to remove remaining tissue. Emergency care may become necessary in cases of very heavy bleeding or fever. For women who experience bleeding and cramping, bed rest is often ordered until symptoms disappear. Women should not have sex until the outcome of the threatened miscarriage is determined. If bleeding and cramping are severe, women should drink fluids only. An incomplete miscarriage or missed abortion may require the removal of the fetus and placenta by a D&C (dilatation and curettage). In this procedure the contents of the uterus are scraped out. It is performed in the doctor's office or hospital. After miscarriage, a doctor may prescribe rest or antibiotics for infection. There will be some bleeding from the vagina for several days to two weeks after miscarriage. To give the cervix time to close and avoid possible infection, women should not use tampons or have sex for at least two weeks. Couples should wait for one to three normal menstrual cycles before trying to get pregnant again (Garrido-Gimenez, et al 2015).

2.2.6 Prognosis

A miscarriage that is properly treated is not life-threatening, and usually does not affect a woman's ability to deliver a healthy baby in the future. Feelings of grief and loss after a miscarriage are common, in fact, some women who experience a miscarriage suffer from major depression during the six months after the loss. This is especially true for women who don't have any children or who have had depression in the past. The emotional crisis can be similar to that of a woman whose baby has died after birth (WHO2010).
2.2.7 Prevention

The majority of miscarriages cannot be prevented because they are caused by severe genetic problems determined at conception. Some doctors advise women who have a threatened miscarriage to rest in bed for a day and avoid sex for a few weeks after the bleeding stops., other experts believe that a healthy woman (especially early in the pregnancy) should continue normal activities instead of protecting a pregnancy that may end in miscarriage later on, causing even more profound distress, if miscarriage was caused by a hormonal imbalance (luteal phase defect), this can be treated with a hormone called progesterone to help prevent subsequent miscarriages, if structural problems have led to repeated miscarriage, there are some possible procedures to treat these problems. Other possible ways to prevent miscarriage are to treat genital infections, eat a well-balanced diet, and refrain from smoking and using recreational drugs(WHO2012).

Diethylstilbestrol (DES) — This is a synthetic estrogen drug that is used to treat a number of hormonal conditions, However, it causes problems in developing fetuses and should not be taken during pregnancy. From about 1938 to 1971, DES was given to pregnant women because it was thought to prevent miscarriage. Children of women who took the drug during pregnancy are at risk for certain health problems.

Dilation and curettage (D&C) — A procedure in which the neck of the womb (cervix) is expanded and the lining of the uterus is scraped to remove pregnancy tissue or abnormal tissue.

Embryo — An unborn child in the first eight weeks after conception. After the eighth week until birth, the baby is called a fetus (WHO2010).

2.2.4 Risk factors for miscarriage

Though any woman can miscarry, some are more likely to miscarry than others. Here are some risk factors:

- **Age:** Older women are more likely to conceive a baby with a chromosomal abnormality and to miscarry as a result. In fact, 40-year-olds are about twice as likely to miscarry as 20-year-olds. Your risk of miscarriage also rises with each child you bear.

- **A history of miscarriages:** Women who have had two or more miscarriages in a row are more likely than other women to miscarry again.


• **Chronic diseases or disorders:** Poorly controlled diabetes and certain inherited blood clotting disorders, autoimmune disorders (such as antiphospholipid syndrome or lupus), and hormonal disorders (such as polycystic ovary syndrome) are some of the conditions that could increase the risk of miscarriage.

• **Uterine or cervical problems:** Having certain congenital uterine abnormalities, severe uterine adhesions (bands of scar tissue), or a weak or abnormally short cervix (known as cervical insufficiency) up the odds for a miscarriage. The link between uterine fibroids (a common, benign growth) and miscarriage is controversial, but most fibroids don't cause problems.

• **A history of birth defects or genetic problems:** If you, your partner, or family members have a genetic abnormality, have had one identified in a previous pregnancy, or have given birth to a child with a birth defect, you're at higher risk for miscarriage.

• **Infections:** Research has shown a somewhat higher risk for miscarriage if you have listeria, mumps, rubella, measles, cytomegalovirus, parvovirus, gonorrhea, HIV, and certain other infections (Natalie et al, 2014).

• **Smoking, drinking, and using drugs:** Smoking, drinking alcohol, and using drugs like cocaine and MDMA (ecstasy) during pregnancy can all increase your risk for miscarriage. Some studies show an association between high levels of caffeine consumption and an increased risk of miscarriage.

• **Medications:** Some medications have been linked to increased risk of miscarriage, so it's important to ask your caregiver about the safety of any medications you're taking, even while you're trying to conceive. This goes for prescription and over-the-counter drugs, including no steroidal anti-inflammatory drugs (NSAIDs) like ibuprofen and aspirin.

• **Environmental toxins:** Environmental factors that might increase your risk include lead; arsenic; some chemicals, like formaldehyde, benzene, and ethylene oxide; and large doses of radiation or anesthetic gases.

• **Paternal factors:** Little is known about how the father's condition contributes to a couple's risk for miscarriage, though the risk does rise with the father's age. Researchers are studying the extent to which sperm could be damaged by environmental toxins but still manage to fertilize an egg. Some studies have
found a greater risk of miscarriage when the father has been exposed to mercury, lead, and some industrial chemicals and pesticides.

- **Obesity:** Some studies show a link between obesity and miscarriage.
- **Diagnostic procedures:** There’s a small increased risk of miscarriage after chorionic villas sampling and amniocentesis, which may be performed for diagnostic genetic testing, (Robinson et al2014).

2.3 Miscarriage and the Role of the Nurse

Nurses play an important role in ensuring the patient’s psychological needs are met throughout their treatment of a miscarriage. First, the nurse must establish trust with the patient and it should be made sure that enough time is spent with these patients to allow discussion and show support, the nurse should not avoid discussing the sensitive issue, and most importantly, should acknowledge the patient's loss. The grieving process after a miscarriage may go on for a year or longer so nurses should encourage parents to grieve and let them know there is no limit to the grieving process. The nurse should also let the family know that it is okay to feel sad during this time, but not to let the seedlings' control them. The nurse should encourage the family to do enjoyable things and not to feel guilty about these things. The family should be told that celebrating some joys is not dishonorable to their loss, and that laugh and joy help the healing process (Robinson et al., 2014).

Historically nursing care of women experiencing a miscarriage in the ED concentrated on the medical interventions to correct hemodynamics and nursing care to promote physical recovery. The plan of care was devoid of bereavement support and the communication and activities to validate the miscarriage as the loss of life. Bereavement care acknowledges miscarriage as the loss of life and demonstrates that the products of conception need to be handled with respect and dignity. Bereavement care considers the spiritual, emotional and cultural expression of the pain that accompanies the loss of a baby. The depth of this pain does not correlate with the duration of the pregnancy. It cannot be assumed that because it was an eight-week pregnancy, the woman will not mourn the loss. This stated we cannot conclude that all women who miscarry will cry or require perinatal bereavement support. However, nurses must explore the personal meaning of the pregnancy loss being mindful of offering choices and accommodating individual requests (Mahoney, et al., 2013).
The emergency department is fast-paced, has high nurse: patient ratios and often the standard operating procedure for the woman whose chief complaint is vaginal bleeding and not far enough along to send to labor and delivery, is hemodynamic stabilization and discharge home. Perinatal nurses are sometimes asked to tend to the emotional needs of a distressed woman in the ED. Although perinatal nurses may happily accommodate the request, they may also be reluctant to leave the L&D unit and disrupt patient care there. ED and perinatal nurses working together in this regard could be viewed as collaborative but this approach can lead to fragmented care when women who are miscarrying are in need of continuity (Burkey, 2014).

There are barriers to implementing perinatal bereavement care as the standard for women who miscarry in the ED. Besides time and culture, the most significant barrier is the inexperience with and knowledge of perinatal bereavement care communication skills and activities (Mahoney, et al., 2013). Emergency nurses acknowledge they should provide specialized emotional care and support after a miscarriage but believe they lack the communication skills and knowledge to provide the best care (Chan et al., 2003). Fearful of saying something wrong, some ED nurses choose to remain silent, however, saying nothing may be as harmful as saying the wrong thing (Merrigan, 2015).

2.4 The key elements of post miscarriage care are:
1- Counseling and client provider interaction to identify and respond to women’s emotional and physical health needs and other concerns.
2- Treatment of incomplete and unsafe miscarriages and complications that can become life threatening at any time; the availability of emergency treatment is essential.
3- Contraceptive and family planning services help women prevent an unwanted Pregnancy or practice birth spacing.
4- Community services provider partnerships for prevention of unwanted pregnancies and unsafe miscarriage and mobilization of resources. The first component: emergency treatment of miscarriage using a combination of the drugs mifepristone and misoprostol, which have been on WHO’s complementary List of Essential Medicines since

Medical method of miscarriage, specifically, oral mifepristone followed by a single dose of misoprostol, for pregnancies of gestational age up to 9 weeks (63 days) medical method of miscarriage for pregnancies of gestational age over 9 weeks (63
days) – oral mifepristone followed by repeated doses of misoprostol where mifepristone is not available: misoprostol alone, in repeated doses. There are two approaches to surgical miscarriage: vacuum aspiration and dilatation and curettage (Robinson et al, 2014).

2.4.1 Manual Vacuum aspiration
Vacuum aspiration is a very safe, effective procedure which should, whenever possible, replace dilatation and curettage. It is used up to 12 weeks from last menstrual period, expert providers can use it up to 14 weeks, aspiration is more than 99.5 per cent effective.(Robinson et al, 2014).

2.4.2 Dilatation and curettage
D&C involves dilating the cervix with mechanical dilators or pharmacological agents and using sharp metal curettes to scrape the walls of the uterus. D&C is less safe than vacuum aspiration and considerably more painful for women Therefore; vacuum aspiration should replace D&C. (Robinson et al, 2014).

2.4.3 Pain Management
Women require pain management for emergency treatment with sharp curettage and vacuum Aspiration, there is conflicting evidence on the effectiveness of Para cervical block using 1% lidocaine on pain reduction.(Robinson et al, 2014).

2.4.4 Treatment for post-miscarriage complications
1. An initial assessment to confirm the presence of miscarriage complications.
2. Supporting the woman while assessing her condition and explaining the treatment plan.
3. Assessment of the signs and symptoms of septic miscarriage, such as fever >38.5°C 48 hours following miscarriage, chills or sweats, foul-smelling vaginal discharge, lower abdominal tenderness and/or pain, mucous from the cervix, prolonged bleeding (for more than 8 hours).

2.5 The role of nurse in post miscarriage care
2.5.1 Assessment of pre-miscarriage care:-
Determining the gestational age is a critical factor in selecting the most appropriate miscarriage method. Bimanual pelvic examination, abdominal examination and recognition of symptoms of pregnancy are usually adequate. Laboratory or ultrasound testing may also be used, if needed, general health (pulse, blood pressure, heart, lungs
and temperature), check for anemia, malnutrition and other signs of ill health. Refer if necessary to a higher level provider for a pre-miscarriage medical assessment (WHO2010)

2.5.2 During miscarriage care
Check vital signs
Asses vaginal bleeding
Pain management as prescribed
Frequent change of pads
Use a septic technique to prevent infection during care (WHO, 2010).

2.5.3 After care advice following miscarriage:-
Use sanitary towels rather than tampons. Take contraception immediately as you will be at your most fertile after having an miscarriage. Take regular over the counter painkillers Complete the full course of antibiotics if you have been given them to ensure any infection is completely cleared. Leaving an infection untreated can cause serious medical complications and infertility. Have sexual intercourse straight away (WHO, 2010).

2.5.4 Miscarriage care follow-up:-
Routine follow-up visits after miscarriages are intended to confirm that the miscarriage is complete and to diagnose and treat complications. Many clinicians also take advantage of the follow-up visit to provide general reproductive health care: discussing contraceptive plans and providing family planning services; diagnosing sexually Transmitted infections; performing a Pap test or discussing abnormal Pap results (WHO2010).

2.5.5 Treatment of miscarriage complication
Miscarriage Misoprostol is included on the WHO Essential medicines list for the management of incomplete miscarriage, in addition to having access to the drug, staff at all healthcare facilities should be trained and provided with equipment to treat incomplete miscarriage through re-evacuation of the uterus with vacuum aspiration. this treatment must be provided with special attention to the possibility of infection or hemorrhage.

Failed miscarriage refers to cases where a woman has undergone a surgical or medical miscarriage, but her pregnancy continues. healthcare facilities must possess the capacity to terminate a pregnancy through vacuum aspiration, or a D&E for second trimester pregnancies to treat such cases hemorrhage. all service-delivery sites
must possess the capacity to stabilize a hemorrhage as quickly as possible, including through evacuation of the uterus and administration of drugs to stop the bleeding, intravenous fluid replacement, blood transfusions, laparoscopy, or exploratory laparotomy.

*Infection healthcare* staff must be equipped and trained to provide treatment for infections that may result from unsafe miscarriages. Such treatment includes the administration of antibiotics and evacuation of the uterus where the infection is caused by retained products.

*Uterine perforation* to treat uterine perforation, healthcare facilities must be equipped with antibiotics and be capable of conducting laparoscopies and laparotomies to diagnose and repair damaged tissue of conception. (WHO, 2010).

### 2.5.5 Prevention of post miscarriage complication:

Post- miscarriage care should be made available as close to women’s homes as possible. Such care should be provided by personnel who are adequately trained and supported to provide that care. The prevention of miscarriage-related maternal mortality is dependent on the provision of quality emergency miscarriage and post-miscarriage care at all levels of the health care system, from the basic rural health post to the tertiary level facility. At least some components of post-miscarriage care (e.g. stabilization and referral, uterine evacuation, family planning information and services) should be available at all service delivery points offering reproductive health services, where feasible 24 hours a day. (WHO, 2010).

### 2.5.6 Assessment for uterine involution; treat or refer as appropriate.

Educate mother on care of self, including rest and nutrition and on how to identify Complications such as hemorrhage. Identify indicators of miscarriage-related complications (including uterine perforation); treat or refer for treatment as appropriate. Post miscarriage care services using manual vacuum aspiration (WHO2015).

### 2.5.7 Counseling

Counseling is an essential feature of the care-giving process that complements and contributes to pain management. This exchange of information between client and provider (and increasingly, other family members) covers many topics, such as procedures to be followed before, during and after evacuation and contraceptive options. Counseling is a vital element of care, moving post miscarriage services from being purely curative to being preventive. It helps providers determine when women
need special care because of extreme emotional distress or circumstances such as young age, inexperience with the health care system or fear of discrimination. Some expected benefits of counseling are that client-provider interactions will be more respectful, treatment will be less painful and more effective, women’s understanding and use of other health services will increase, their satisfaction with the health care encounter will raise and health outcomes will improve. When medical miscarriage was introduced in 1992 there were some hesitations about offering young women this method, because the pain and bleeding might be frightening for them. However when given adequate information before and friendly care during the procedure many young women choose and prefer this method (WHO 2012).

2.5.8 Community and Service Provider Partnerships
This element of the model recognizes community members’ vital role in treatment, prevention and advocacy efforts. Community health education and mobilization have been identified as key strategies to combat unsafe miscarriage, increase access to and quality of post miscarriage care programs, and improve women's reproductive health and lives (International Confederation of Midwives 2010).

2.5.9 Treatment of Incomplete Miscarriage
For women who have retained tissue for more than two weeks after a miscarriage diagnosis, the usual treatment would be D & C. Some doctors may also offer medication such as misoprostol (Cytotec) to boost the odds that the body will pass the remaining tissue without surgery. (American Pregnancy Association, 2014).

If a miscarriage has begun, there is nothing that can be done to stop it. Any treatment you have will be aimed at avoiding heavy bleeding and infection. A discussion with the doctor or nurse will help you to work out which treatment options are best and safest for you (Natalie et al, 2014).

2.5.10 Future pregnancies after a miscarriage
One of the most common concerns following a miscarriage is that it might happen again. However, if you have had one miscarriage the next pregnancy will usually be normal. They suggest that you wait at least until after the next normal period (four to six weeks) before trying again, as there is a slightly higher risk of miscarriage if you get pregnant straight away. It is possible to become pregnant straight away, so if you plan to wait, use contraception. If you do try for another pregnancy, try and avoid smoking, alcohol and excess caffeine as they increase the risk of miscarriage. It is recommended that all women take folic acid while trying to conceive, and continue
until three months of pregnancy. In your next pregnancy you are encouraged to see your GP and have an ultrasound at about seven weeks. If ultrasound is done too early in pregnancy the findings are often uncertain and cause unnecessary worry (Robinson et al, 2014).

2.5.11 Feelings and reactions

There is no ‘right’ way to feel following a miscarriage. Some degree of grief is very common, even if the pregnancy wasn’t planned. Partners may react quite differently, just as people can respond differently to a continuing pregnancy. Feelings of loss may persist for some time and you may have mixed feelings about becoming pregnant again. Some friends and family may not understand the depth of emotion that can be attached to a pregnancy and may unreasonably expect for you to move on before you are ready, some couples decide that they want to try for a pregnancy straight away, while others need time to adjust to their loss. If you feel anxious about a possible loss in future pregnancies, you may find it helpful to talk to someone about this. If it’s difficult to speak with your friends and family about these issues, your doctor, community support group and counselors can provide information and assistance.

2.6 Care plan

Concentrated on the medical interventions to correct hemodynamics and nursing care to promote physical recovery. The plan of care was devoid of bereavement support and the communication and activities to validate the miscarriage as the loss of life. Bereavement care acknowledges miscarriage as the loss of life and demonstrates that the products of conception need to be handled with respect and dignity. Bereavement care considers the spiritual, emotional and cultural expression of the pain that accompanies the loss of a baby. The depth of this pain does not correlate with the duration of the pregnancy. It cannot be assumed that because it was an eight-week pregnancy, the woman will not mourn the loss. This stated we cannot conclude that all women who miscarry will cry or require perinatal bereavement support. However, nurses must explore the personal meaning of the pregnancy loss being mindful of offering choices and accommodating individual requests (Mahoney, et al., 2013).

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2.7 Previous studies:

Developed world

Gavino (2013) in Canada aimed to explore nurses’ understanding of their practice when caring for women experiencing miscarriage in the emergency department (ED) examined through a descriptive qualitative methodology. The study concluded that nurse who have cared for women experiencing miscarriage in the emergency department were purposefully selected to ensure their ability to speak to the phenomenon being examined. Semi structured in-depth interviews were used to collect data centered on exploring factors that inform and guide their practice. The tensions emergency nurses encountered while caring for women experiencing miscarriage were then identified using content analysis. As a result, two spheres of influence were noted to affect nursing practice. External influences with subthemes that examine: 1) a medical triage system that de-prioritizes non-urgent pregnancy related needs; and emotional care as secondary to biomedical care; 2) an emergency nursing ‘image’; and 3) gendered explanations about who can best care for miscarrying women, and internal influences which include: nurses 1) perceived lack of perinatal nursing knowledge; and 2) personal life context.

Wallbank and Robertson (2012) found that nurses felt more confident in their ability to meet the physical care of women versus delivering appropriate counseling or psychological care. In many clinical areas, nurses viewed the care and needs of a
woman experiencing miscarriage as less of a priority in comparison to other circumstances taking place in that same health care setting.

Evans (2012) also agrees that HCPs tend to place their efforts towards the physical aspects of miscarriage more so than the emotional consequences. He further recognized that nurses expressed discomfort in dealing with miscarriages because of feelings of lack of preparedness to care for these patients.

According to Neugebauer and Ritsher (2012) miscarriage should be viewed as a “form of bereavement and not simply as an obstetrical event”. Nurses identified that there was a knowledge and training deficit on how to support the emotional needs of women and the provision of bereavement care, making them inadequately equipped to handle this challenge.

**Worldwide**

Nurses rationalize that emotional and psychological needs of women experiencing miscarriage are less urgent than the physical needs or medical priorities of acutely ill patients such as those requiring major surgery or emergency cases (Murphy & Philpin, 2010).

Murphy & Merrell (2014) also best described the nurses’ perception of tensions in practice as differences between “how they would like to practice and what was actually possible”. Nurses noted that although they had awareness of the emotional sequelae of miscarriage, contextual limitations such as time and financial constraints, prevented them from delivering optimal care to meet women’s needs. An example of this was the lack of opportunity to be able to sit and listen to the concerns of the patient and her family and provide sufficient time to demonstrate emotional support because they were too busy with the demands of other patients on the unit.

Nurses shared their views on being emotionally available and responsive to women when they provide care. While the dominant notion was that displaying any type of emotional response or reaction to miscarriage was considered inappropriate or unprofessional behaviour (McCleary, 2015).

**Developed world**

The aim in this study was to know how nursing professionals perceive comprehensive care and reproductive counseling to women who miscarried. This exploratory and descriptive study with a qualitative approach was conducted with 19 nursing professionals who work at the maternity and birth center of a University Hospital in the South of Brazil. The data were collected through semi-structured interviews in
November 2012. For data analysis, the Collective subject discourse method was applied. In the results, the central ideas gave rise to two categories: comprehensive care to women hospitalized for abortion and reproductive counseling as a strategy to promote reproductive health. In these, the subjects showed that they perceive comprehensive care as the satisfaction of biological needs and reproductive advice centered on contraception guidelines. Thus, the importance of the qualification of nursing professionals and other studies with different approaches is highlighted (Adanu, 2011).

**Underdeveloped world**

Stead (2013) also recognized that in order for ED nurses to respond effectively to the care of women, they have to be understanding of the woman’s perspective on experiencing miscarriage and her unique needs. Similar to the previous discussion on nurses’ perceptions of miscarriage, studies examining the management and care in the ED of these patients support that emergency staff and ED nurses collectively view miscarriages as a common occurrence.

**In Sudan**

Unfortunately, no previous studies regarding practice of nurses toward post miscarriage care are available. So the study mainly depended on previous studies done in developed, developing, underdeveloped countries which mentioned above and used in the discussion of the results of the study.
3. Materials and Methods

3.1. Study design
A descriptive cross sectional hospital based study was conducted aimed at assessing the nurses' practice regarding post miscarriage care in Omdurman maternity hospitals, Khartoum state, Sudan during the period of study from 2014-2015.

3.2. Study setting
The study was conducted in Omdurman, Omdurman Maternity Hospital OMH had been and remained to be the first and largest specialized maternity hospital in Sudan. It’s located in the east side of Almouradastreet, Omdurman province, Khartoum State.

It was established in 1957 mainly to provide training for midwives from the near midwifery school (which was established between the year 1917-1922) as well as delivering maternity services to women from the greater Khartoum area and the surrounding villages.

The role of the hospital gradually progressed and it become a national training center in obstetrics for medical student, house officers, registrars and specialists. It also provides maternity healthcare services to women from different states of the country.

To coup up with the demand of client’s needs, the hospital has to expand and has established many medical activities including the following:

- Reception and Guiney
- A special baby care nursery unit with all the necessary equipment's and staff.
- I.C.U caring for the critically ill and high risk patients
- Isolation and room 3
- Laparoscopic surgical and diagnostic unit.
- -maternal unit and zero room
- VIP cotainlauper room for vey retch pation
- Antenatal clinic receiving patients from all over the country and has an effective health awareness unit, HIV/AIDS, Reproductive health including family planning clinics, vaccination, health education and cervical cancer as well as breast cancer-screening programs.
- Central blood bank and laboratory.
- .postnatal word
• Statistic unit, ambulance, engineering, diet therapy, kitchen and management department. Burning room for medical west. Pig storages, Landry

3.3 Study population
Participant included all register nurses with different categories worked in gynecological ward and bleeding rooms in selected health setting during the study period. 2014-2015

3.4 Data tools
A structure questionnaire was designed to collect the necessary data for this study. First the social demographic such age, education, experience, second practice
An observational check list was designed to check participant practice

3.5 Data analysis
Collected data was analyzed using the Statistical Package of Social Sciences (SPSS) program version 100simple. They constitute the available sample during the study period frequencies and percentage tables were used to presents the results

2.6 Ethical Considerations
The researcher took permission from the hospital of the study with an official letter from the Faculty of Nursing Sciences to the director of the hospital with the agreement of the target population, every individual observed once. Verbal consent from the interviewed persons was also taken after explaining the study and its objectives to them. Confidentiality was given consideration and the information is used for the research purpose only.
4. Results and Discussion

4.1 Results

Figure 4.1 shows that the educational level of vast majority of the study sample (64%) was bachelor, while the remainder 36% have hospital scholar certificate. That means the nurses with higher degrees of qualification were more common in the study population than the nurses with lower qualifications.
Figure 4.2 Distribution of the Study Sample According to Years of Experience (n=100)

Figure 4.2 shows that the highest majority of the study sample (31%) had 6-10 years experience in working in care of miscarriage, followed by 26% who have experience of 11-16 years, 24% more than 16 years and 19% less than 5 years. That means half of the nurses have years of experience between less than 5 years to ten years.
Figure 4.3 Distribution of the Study Sample According to their Age (n=100)

Figure 4.3 shows that the highest majority of the study sample (35%) has age more than 30 years, followed by 23% in the age group 25-30 years, 22% in the age group 30-35 years, 20% aged between 20-25 years. That means the nurses with older ages (> 30 years) are more common the study sample than nurses younger than 30 years.
Table (4-1): Distribution of study sample according to their attendance of nurses training program regarding post miscarriage care

(n=100)

<table>
<thead>
<tr>
<th>Variable</th>
<th>F</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>30</td>
<td>30%</td>
</tr>
<tr>
<td>No</td>
<td>70</td>
<td>70%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

In table (4.2) 70% reported that they did not attended any training program regarding post miscarriage care, and 30% attended such training. This means that the majority of them well have not received the required training to care women after miscarriage.
Table (4.2) Distribution of the study sample according to their nurses’ knowledge post miscarriage care

(n=100)

<table>
<thead>
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<th>Components</th>
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<th></th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>1. Treatment of miscarriage complications</td>
<td>40</td>
<td>40%</td>
<td>60</td>
<td>60%</td>
</tr>
<tr>
<td>2. Counseling to identify and respond to women’s emotional and physical health needs</td>
<td>28</td>
<td>28%</td>
<td>72</td>
<td>72%</td>
</tr>
<tr>
<td>3. Contraceptive and family-planning services to help women prevent future unwanted pregnancies and abortions</td>
<td>53</td>
<td>53%</td>
<td>47</td>
<td>47%</td>
</tr>
<tr>
<td>4. Reproductive and other health services that are preferably provided on-site or via referrals to other accessible facilities</td>
<td>36</td>
<td>36%</td>
<td>64</td>
<td>64%</td>
</tr>
<tr>
<td>5. Community and service-provider partnerships to ensure timely care for miscarriage complications, and to make sure health services meet community expectations and needs.</td>
<td>31</td>
<td>31%</td>
<td>69</td>
<td>69%</td>
</tr>
</tbody>
</table>

Results in table (4-2) reflect that the nurses in this study the nurses knowledge about post miscarriage care came as follow Treatment of miscarriage complications 40%, Counseling to identify and respond to women’s emotional and physical health needs 53%, Contraceptive and family-planning services to help women prevent future unwanted pregnancies and abortions 36%, Reproductive and other health services that are preferably provided on-site or via referrals to other accessible facilities 36%, and Community and service-provider partnerships to ensure timely care for miscarriage complications, and to make sure health services meet community expectations and needs 31%.
Table (4-3) Distribution of the study sample according to their nurses' practice toward post miscarriage care

<table>
<thead>
<tr>
<th>Item</th>
<th>Done</th>
<th>Not done</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>1. Perform Hand washing</td>
<td>30</td>
<td>30%</td>
<td>70</td>
</tr>
<tr>
<td>2. Check vital signs (PR BP TEMP)</td>
<td>59</td>
<td>59%</td>
<td>41</td>
</tr>
<tr>
<td>3. Emotional (psychological) support</td>
<td>60</td>
<td>60%</td>
<td>40</td>
</tr>
<tr>
<td>4. Instructing the client to empty the bladder</td>
<td>42</td>
<td>42%</td>
<td>58</td>
</tr>
<tr>
<td>d. Perineum care</td>
<td>70</td>
<td>70%</td>
<td>30</td>
</tr>
<tr>
<td>5. Assessing Vaginal bleeding</td>
<td>60</td>
<td>60%</td>
<td>40</td>
</tr>
<tr>
<td>6. Check for hemoglobin level</td>
<td>66</td>
<td>66%</td>
<td>34</td>
</tr>
<tr>
<td>7. Pain management</td>
<td>50</td>
<td>50%</td>
<td>50</td>
</tr>
<tr>
<td>8. Perform bimanual pelvic examination</td>
<td>70</td>
<td>70%</td>
<td>30</td>
</tr>
<tr>
<td>9. Explanation the procedure to the patient</td>
<td>48</td>
<td>48%</td>
<td>52</td>
</tr>
<tr>
<td>10. Isolation of infected patients</td>
<td>84</td>
<td>84%</td>
<td>16</td>
</tr>
</tbody>
</table>

Results in table (4-3) reflect that the nurses in this study the nurses practice toward post miscarriage care is well done in isolation of infected patients (84%), perineum care (70%), performing bimanual pelvic examination (70%), and check for hemoglobin (66%), as it done by more than two thirds of the nurses. In other items the nurses practice towards post miscarriage was not well done as it done correctly by less than two thirds of the study sample and this is clear in emotional support (60%) assessing vaginal bleeding (60%), checking vital signs (59%), instructing the clients to empty the ladders (42%), performing management (50%), explanation the procedure to the patient by (48%), and hand washing was done by (30%). It is clear that the nurses in this study well performing only three items out of ten of the required practices to be done for women care after miscarriage, hence the overall practice in this regard is weak.
Table (4-5) Distribution of the study sample according to Availability of resources in health facility

(\(n=100\)): 

<table>
<thead>
<tr>
<th>Item</th>
<th>Available</th>
<th>Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>Place for hand washing</td>
<td>96</td>
<td>96%</td>
</tr>
<tr>
<td>recovery rooms</td>
<td>85</td>
<td>85%</td>
</tr>
<tr>
<td>Sterite gloves</td>
<td>70</td>
<td>70%</td>
</tr>
<tr>
<td>Anticeptic solution</td>
<td>90</td>
<td>90%</td>
</tr>
<tr>
<td>Available soap</td>
<td>94</td>
<td>94%</td>
</tr>
<tr>
<td>Mask</td>
<td>80</td>
<td>80%</td>
</tr>
<tr>
<td>disposable gloves</td>
<td>69</td>
<td>69%</td>
</tr>
<tr>
<td>Sphygmanometer</td>
<td>70</td>
<td>70%</td>
</tr>
<tr>
<td>Thermometer</td>
<td>78</td>
<td>78%</td>
</tr>
</tbody>
</table>

Results of table (4.4) show clearly observed that to Availability of resources in health facility and all targeted hospitals during data collection periods. All the resources were found to be available in more than three fourth of the studied health facilities. For example place for hand washing in (96%) of the health facilities, soap in (94%), antiseptic solutions in (90%), recovery room in (85%), masks in (80%), thermometers in (78%), sphygmanometers in (70%) and disposable gloves in (69%) of the health facilities.
Table (4.5) Distribution of the study sample according to Availability of resources in health facility 

(n=100):

<table>
<thead>
<tr>
<th>Item</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>1. Laminated ‘engaged’ signs should be placed on doors to help avoid interruptions</td>
<td>20</td>
<td>20%</td>
<td>80</td>
</tr>
<tr>
<td>2. The staff should treat women in these circumstances in cubicles that have both curtains and doors with catches to allow temporary locking</td>
<td>37</td>
<td>37%</td>
<td>63</td>
</tr>
<tr>
<td>3. Checking examination lamps should be on daily department checklists, and the presence of faulty lamps should be reported immediately</td>
<td>40</td>
<td>40%</td>
<td>60</td>
</tr>
<tr>
<td>4. Checklists for the equipment on gynaecological equipment trolleys should be used, and these trolleys should be restocked both daily and after use</td>
<td>35</td>
<td>35%</td>
<td>65</td>
</tr>
<tr>
<td>5. All women who present should be provided with hygiene packs consisting of pants, pads, wipes and disposal bags</td>
<td>41</td>
<td>41%</td>
<td>59</td>
</tr>
<tr>
<td>6. Copies of the pelvic examination guidelines should be placed on the gynaecological trolley.</td>
<td>28</td>
<td>28%</td>
<td>72</td>
</tr>
</tbody>
</table>

Results in table (4.5) reflect that the nurses care regarding post miscarriage care is only done by less than half of them, as it clear when finding that the items of care plan came as follow: Laminated ‘engaged’ signs should be placed on doors to help avoid interruptions (20%), the staff should treat women in these circumstances in cubicles
that have both curtains and doors with catches to allow temporary locking (37%), checking examination lamps should be on daily department checklists, and the presence of faulty lamps should be reported immediately (40%), checklists for the equipment on gynaecological equipment trolleys should be used, and these trolleys should be restocked both daily and after use (35%), all women who present should be provided with hygiene packs consisting of pants, pads, wipes and disposal bags (41%), copies of the pelvic examination guidelines should be placed on the gynaecological trolley (28%). Overall this result reflects that the hospital in which the majority of nurses in the study population lack the required items of any care plan to be set for care of women after miscarriage.
4.2 Discussion
Miscarriage is: one of the common complications of pregnancy is a major problem in developing world as an important public health problem in the world endangers women's lives by exposing them to complications which may have an impact on their health in a bio-psychosocial context. By living this situation, the woman experiences beyond the physical pain, manifested by signs and symptoms presented an existential pain for the loss of pregnancy. And led to increased mortality and morbidity death (Annam A et al, 2012)

Results of the current study revealed that Nurses’ practice regarding miscarriage is an important issue. This descriptive hospital-based study was conducted in Omdurman Maternity hospital with a main aim of assessing nurses’ practices regarding post miscarriage care. It involved 100 nurses in this study as available during the period of study.

The all findings of this study revealed that most respondent in this study were females 64% were having bachelor degrees, (30% of respondents attended training programs on mischarge control, 70% did not attend, more 30% the highest majority of the study sample according to age, 31% of study sample had 6-10 years of experience. Results of the current study revealed that 42% of the study sample responded with correct answers regarding instructing the client to empty the bladder and 84% of them responded with correct answers regarding Isolate of infected patients. 30% of study sample responded with correct answers regarding perform hand washing, 60% of them responded with correct answers regarding assess vaginal bleeding, 50% of the study sample responded with correct answers regarding pain management, 92% of them responded with correct answers regarding inform consent, 70% of the study sample responded with correct answers regarding Perform bimanual pelvic examination, 66% of the them responded with correct answers regarding check for hemoglobin level, 48% of the study sample responded with correct answers regarding explaining the procedure to the patient, 60% of them responded with correct answers regarding apply emotional (psychological) support. Gavino (2013) in Canada aimed to explore nurses’ understanding of their practice when caring for women experiencing miscarriage in the emergency department (ED) examined through a descriptive qualitative methodology. The study concluded that nurse who have cared for women experiencing miscarriage in the emergency department were purposefully selected to ensure their ability to speak to the phenomenon being examined.
Semistructured in-depth interviews were used to collect data centred on exploring factors that inform and guide their practice. The tensions emergency nurses encountered while caring for women experiencing miscarriage were then identified using content analysis. As a result, two spheres of influence were noted to affect nursing practice. External influences with subthemes that examine: 1) a medical triage system that de-prioritizes non-urgent pregnancy related needs; and emotional care as secondary to biomedical care; 2) an emergency nursing ‘image’; and 3) gendered explanations about who can best care for miscarrying women, and internal influences which include: nurses 1) perceived lack of perinatal nursing knowledge; and 2) personal life context.

Also the study revealed that available recovery rooms, 78% available thermometers, 94% available soaps, 70% available sphygmomanometers, 90%, available antiseptic solution, 70% available sterile gloves, 69% available disposable gown, 92% available censed form in all targeted hospitals during data collection periods. Wallbank and Robertson (2008) found that nurses felt more confident in their ability to meet the physical care of women versus delivering appropriate counselling or psychological care. In many clinical areas, nurses viewed the care and needs of a woman experiencing miscarriage as less of a priority in comparison to other circumstances taking place in that same health care setting. Evans (2012) also agrees that HCPs tend to place their efforts towards the physical aspects of miscarriage more so than the emotional consequences. He further recognized that nurses expressed discomfort in dealing with miscarriages because of feelings of lack of preparedness to care for these patients. According to Neugebauer and Ritsher (2012) miscarriage should be viewed as a “form of bereavement and not simply as an obstetrical event”. Nurses identified that there was a knowledge and training deficit on how to support the emotional needs of women and the provision of bereavement care, making them inadequately equipped to handle this challenge.

The study concluded periods that nurse's practice in post miscarriage care has adequate but need more providing psychological support my study similar (University Hospital in the South of Brazil (Annam A et al ,2012) in A study (1) and similar in A study2 in New South Wales, Australia BioMed Central (SelisvaneR et al, 2009).

Results of this study reflect that the nurses care regarding post miscarriage care is only done by less than half of them, as it clear when finding that the items of care plan
came as follow: Laminated ‘engaged’ signs should be placed on doors to help avoid interruptions (20%), the staff should treat women in these circumstances in cubicles that have both curtains and doors with catches to allow temporary locking (37%), checking examination lamps should be on daily department checklists, and the presence of faulty lamps should be reported immediately (40%), checklists for the equipment on gynaecological equipment trolleys should be used, and these trolleys should be restocked both daily and after use (35%), all women who present should be provided with hygiene packs consisting of pants, pads, wipes and disposal bags (41%), copies of the pelvic examination guidelines should be placed on the gynaecological trolley (28%). Overall this result reflects that the hospital in which the majority of nurses in the study population lack the required items of any care plan to be set for care of women after miscarriage. According to Neugebauer and Ritsher (2012) miscarriage should be viewed as a “form of bereavement and not simply as an obstetrical event”. Nurses identified that there was a knowledge and training deficit on how to support the emotional needs of women and the provision of bereavement care, making them inadequately equipped to handle this challenge.
Chapter Five

4. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

- The study concluded that nurse's practices in post miscarriage care was adequate in three items and not adequate in seven, such as providing psychological support to help miscarriages women to cope with their loss studies have shown, the psychological impact of post miscarriage can given
- The hospital in which the majority of nurses in the study population lack the required items of any care plan to be set for care of women after miscarriage.
- The majority of the nurses in this study lack the required training to deal with care of women after miscarriage.
- All the resources were found to be available in more than three fourth of the studied health facilities.
5.2 Recommendations

- Enhancing training service through conduction of periodic training programs to promote the quality of post miscarriage care.
- Improve availability of resources and equipment.
- Directors advised to provide the miscarriage care services with written guidelines and protocols for the aim of proper care.
- Continuous training in post miscarriage care should be encouraged to all nurses in the hospital.
References


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• Kate Middleton (2012) Miscarriage Report: Kensington Palace Confirms False Claims, Duchess Not Pregnant However, sources have insisted that the 'Mean Girls' star's miscarriage story was just a trick to gain sympathy. 2012.


• LiLo (2012) uses her 'miscarriage excuse' to buy time in court East Enders yesterday declined to comment but a source insisted the actress didn't have a miscarriage on the set.


• Merrigan, J. L. (2015). Perinatal bereavement care for women who miscarry in the emergency department. Unpublished manuscript, School of Nursing and Health Sciences, Capella University, Minneapolis, MN.


• Post abortal care alarm edition program vol;(4) chapter8 page2;2013. Available at: http://www.glowm.com/pdf


Observational Check list

A/ Personal information
1/ Age :
20-25(  ) 25-30 (  ) 30-35 (  ) above 35(  )
2/ Educational level
Hospital scholar certifications (  ) Bachelors (  )

3/ Experience years
Less than 5 years (  ) 6-10 years (  ) 11-16 years (  )
More than 16 years (  )

4/ Receiving of previous formal training regarding post miscarriage care
Yes (  ) no (  )

A/ Assessment of nurses knowledge about post miscarriage care

<table>
<thead>
<tr>
<th>Components</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Treatment of miscarriage complications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Counseling to identify and respond to women’s emotional and physical health needs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Contraceptive and family-planning services to help women prevent future unwanted pregnancies and abortions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Reproductive and other health services that are preferably provided on-site or via referrals to other accessible facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Community and service-provider partnerships to ensure timely care for miscarriage complications, and to make sure health services meet community expectations and needs.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B/ Assessment nurse practice post miscarriage:

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Done</th>
<th>NO Done</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Perform Hand washing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Check vital signs(PR BP TEMP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Emotional (psychological) support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Instructing the client to empty the bladder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Perineum care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Assessing Vaginal bleeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Check for hemoglobin level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Ultrasound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Pain management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Perform bimanual pelvic examination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Explanation the procedure to the patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Isolation of infected patients</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
C/ Assessment availability of resources in health facility:

<table>
<thead>
<tr>
<th>Item</th>
<th>Available</th>
<th>Not Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Place for hand washing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Recovery rooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Sterile gloves</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Anticeptic solution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Available soap</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Available Gown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Mask</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Available Sphygmomanometer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Available Thermometer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D- Care plan

<table>
<thead>
<tr>
<th>Items</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Laminated ‘engaged’ signs should be placed on doors to help avoid interruptions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The staff should treat women in these circumstances in cubicles that have both curtains and doors with catches to allow temporary locking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Checking examination lamps should be on daily department checklists, and the presence of faulty lamps should be reported immediately</td>
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<tr>
<td>4. Checklists for the equipment on gynaecological equipment trolleys should be used, and these trolleys should be restocked both daily and after use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. All women who present should be provided with hygiene packs consisting of pants, pads, wipes and disposal bags</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Copies of the pelvic examination guidelines should be placed on the gynaecological trolley.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>