

**PREVALENCE AND FACTORS ASSOCIATED WITH POSTPARTUM
HEMORRHAGE AMONG WOMEN DELIVERING AT KAMPALA
INTERNATIONAL UNIVERSITY TEACHING HOSPITAL
BUSHENYI DISTRICT**

BY

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DCM/0134/143/DU

**A RESEARCH DISSERTATION SUBMITTED TO THE SCHOOL OF ALLIED
HEALTH SCIENCES IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR AWARD OF DIPLOMA IN
CLINICAL MEDICINE AND COMMUNITY
HEALTH OF KAMPALA INTERNATIONAL
UNIVERSITY WESTERN CAMPUS
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JULY, 2017

DECLARATION

I **NAMAGEMBE JOAN** hereby declare that this research proposal is my own and has never been submitted to any institution for any academic award.

Signature..... Date.....

APPROVAL

This report has been prepared under the guidance of my supervisor.

Supervisor's name

Signature

Date

Mr. COLLINS ATUHEIRE

.....

.....

DEDICATION

I dedicate this research project to KIU-TH community and the staff at large for their commitment and work done to ensure the prevention and control of PPH and the wellbeing of their patients.

MAY GOD BLESS YOU ALL.

ACKNOWLEDGMENT

I would like to give my sincere thanks to GOD. Special thanks goes to MR NYANZI STEVEN and MRS. NALUBEGA HASIFAH for the financial support and advice given to me throughout my academics.

I am indebted to KAMPALA INTERNATIONAL UNIVERSITY WESTERN CAMPUS for awarding me a scholarship to pursue my Diploma in Clinical Medicine.

Finally, thanks goes to my lecturers DR. Odwee Ambrose , MR. Mburugu Martin and my supervisor MR. Collins Atuheire for their cooperation and guidance upon my piece of work.

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LIST OF ACRONYMS

ANC	Antenatal Care
CBS	Central Bureau of Statistics
C/S	Cesarean section
DHO	District Health Officer
HIV/AIDS	Human Immune Virus/Acquired Immune Deficiency
ICD	International Statistical Classification of Diseases and Related Health Problems
KIU TH	Kampala International University Teaching Hospital
KIU WC	Kampala International University Western Campus
LC	Local Council
LMIC	Low and Middle Income Countries
MDG5	Millennium Development Goal 5
MOH	Ministry Of Health
MMR	Maternal Mortality Ratios
NGO	Non-Government Organisation
PPH	Postpartum Haemorrhage
SVD	Spontaneous vaginal delivery
TBA	Traditional Birth Attendants
UNICEF	United Nations International Children's Emergency Funds
UNFPA	United Nations Funds Population Organisation
WHO	World Health Organisation

OPERATION DEFINITIONS

Postpartum Haemorrhage-Is blood loss greater or equal to 500mls in 24 hours after child birth and severely when blood loss is greater or equal to 1000mls within 24 hours (WHO, 2004).

Postpartum period-Begins immediately after child birth and extends to about six weeks. In this time the mother's body including hormonal levels and uterus size return to none pregnant state.

Puerperium-The period after delivery up to six weeks post-partum.

ABSTRACT

Background.

PPH Is blood loss greater or equal to 500mls in 24 hours delivered by SVD, and when blood loss is greater or equal to 1000mls after Caesarean section within 24 hours (WHO, 2006).

Postpartum hemorrhage is one of the leading causes of maternal death in Africa and accounting for almost a half of the total number of deaths in these regions and in sub Saharan Africa is estimated to be 10.5 %.Thus in Uganda prevalence of PPH is 6% and considered as the greatest burden experienced in low income countries (WHO, 2005).

PPH is estimated to cause complications like obstetric shock resulting into maternal mortality. Ones' susceptibility to PPH is related to factors such as maternal age, parity, multiple pregnancies, and antepartum hemorrhage.

General Objective

The aim of this study was to determine the prevalence and factors associated with postpartum hemorrhage. This study employed a cross section descriptive study with a sample size of 36 patient of the age ranging from 19 to 45 in KIU-TH through examining the risk factors associated with this condition of PPH.

Results

Data was collected by administering questionnaires to all those who met the inclusion criteria in my study. The data that was collected was analyzed using Microsoft excel and then presented in form of percentages frequencies/ numbers using tables and charts.

From the demographic obtained it showed that women aged between 36-45 years were mainly affected while the least affected age was 19-26 years. According to level of education, 41.7% who had never gone to school were the most affected group and the least affected were 8.3% who attended tertiary and university levels. Most affected mothers were the married by 83.3% and unmarried least affected by 16.7%. Most of the affected mothers were of high parity 44.4%, 56% had delivered by caesarian section and 55.6% attributed to induced labour.

Discussion and recommendations

Parity showed greatest impact since some women with lower parity were less affected. Results showed that there is inadequate knowledge about the etiology of PPH of which 72% were aware about PPH existence and 28% did not have knowledge about it.

Therefore adequate prerequisites are required to perform PPH awareness and family planning to the mothers both in the hospital and the community at large. The above factors tend to underscore the need for MOH to provide funds to aid in the facilitation of campaigns to create awareness and elaborate more on the need for family planning methods.

CHAPTER ONE

1.0 INTRODUCTION

This chapter comprises of background, problem statement and purpose of the study, study objectives, research questions, justification and scope of the study.

1.1 BACKGROUND

Postpartum Haemorrhage (PPH) is considered as one of the leading causes of maternal mortality (Sham Shad et al., 2010). Mothers who carry pregnancies greater than 20 weeks gestation are at a risk of PPH and its complications. When PPH was first observed its effective prevention occurred when the three components of active management of third stage of labor were first described in 1962: the administration of a prophylactic Uterotonic drug, early cord clamp and cutting and controlled cord traction. By 1980's the routine counseling and testing of active management of third stage of labor showed a significant reduction in the incidence of PPH (Predinville et al, 1988).

Globally PPH has been associated with risk factors such as past history of PPH, multiple pregnancy, fetal macrosomia, prime gravidity, grand multi-parity, old age greater than 40 years, preterm births, HIV/AIDs and intra uterine fetal deaths (Calvert, 2014).

The maternal mortality rate due to pregnancy related conditions in United States (US) has been suggested to be 7 to 10 women per 100,000 live births and an approximation of 8% of these deaths is due to PPH, and in industrialized countries PPH is suggested to be one of the top three causes of maternal mortality (Ronald M Ramus et al., 2016). Thus global prevalence of PPH is 6% and considered as the greatest burden experienced in low income countries, Uganda inclusive (WHO, 2006).

Maternal mortality can be as a result of obstetric complication directly during pregnancy and or after delivery or from preexisting diseases indirectly that weaken the body immune system because of their chronicity thus ending into death. Direct causes can include some of the following such as antepartum and postpartum bleeding, preeclampsia, sepsis, prolonged labor, obstructed labor and complications related to labor, account for the great majority of maternal deaths in developing world (Ronsmans, 2006).

WHO revealed that postpartum hemorrhage is one of the leading cause of maternal death in Africa and Asia accounting for almost a half of the total number of deaths in these regions and in sub Saharan Africa is estimated to be 10.5 % (Khan KS, 2006).

In Uganda PPH has been attributed to have cause 25% of all maternal deaths (WHO, 2006). Millennium Development Goal 5 focuses on healthy of mothers to reduce the maternal mortality rate by 75% between 1990 and 2015 (Yerevan, 2008).

According to Doctor (Joseph Ahimbisibwe, 2015), PPH is an emergency condition characterized by excessive bleeding after normal or cesarean delivery.

However the commonest causes to PPH include retained placental tissues or other products of conception, lower genital tract trauma and thrombosis (John, R., Rogers, J, 2016).

1.2 PROBLEM STATEMENT

In Uganda, postpartum hemorrhage has been attributed to have caused 25% of all maternal deaths (WHO, 2006). Millennium Development Goal 5 focuses on healthy of mothers to reduce the maternal mortality rate by 75% between 1990 and 2015 (Yerevan, 2008).

Maternal mortality in Uganda accounts for 505/100000 live births with postpartum hemorrhage contributing the highest percentage 26% and the commonest cause being uterine atony ranked 60% (Joseph Ahimbisibwe, 2015).

Therefore the government of Uganda together with the ministry of health have setup clinical guideline that are followed by all health facilities during natal periods in collaborating with NGOs and partnering with private hospitals, to offer services to all pregnant mothers thus minimizing chances for complications after delivery like PPH (WHO, 2006).

Despite all these efforts by Ugandan government, PPH still remains a great burden to the health of pregnant mothers in Uganda, therefore the need for this study to determine the prevalence and factors associated with PPH and the outcomes will draw attention for possible solutions.

1.3 OBJECTIVES

1.3.1 GENERAL OBJECTIVE

To assess the prevalence and factors associated with postpartum hemorrhage among women delivering at Kampala International University Teaching Hospital.

1.3.2 SPECIFIC OBJECTIVES

- (i) To determine the prevalence of postpartum haemorrhage among women delivering at Kampala International University Teaching Hospital.
- (ii) To assess the patients' factors associated with postpartum hemorrhage among women delivering at Kampala International University Teaching Hospital.
- (iii) To assess the health service factors associated with postpartum Haemorrhage among women delivering at Kampala International University Teaching Hospital.

1.4 RESEARCH QUESTIONS

- (i) What is the prevalence of postpartum hemorrhage among women delivering in Kampala International University Teaching Hospital?
- (ii) What are the patients' factors that associated with postpartum hemorrhage among women delivering at Kampala International University Teaching Hospital.?
- (iii) What are the health service factors that associated with postpartum Haemorrhage among women delivering at Kampala International University Teaching Hospital?

1.5 SIGNIFICANCE

Postpartum hemorrhage in developing countries has been increasing however much the government's efforts and other stake holders to reduce on its impact, whose maternal mortality rate is in excess of 1000 women per 100,000 live births (WHO, 2006).

Knowing the patient factors that predispose mothers to PPH will create an alarm to health person to carryout community out reaches and health education talks via mass media.

This study has also come up with hospital factors that predispose mothers to PPH so as to upgrade and improve on the working environmental and evaluating their skills.

Uganda being a developing country, information obtained from this research will help health personnel particularly in KIU-TH to sensitise women on the dangers and causes of PPH. The findings will act as an important tool by availing knowledge of risk factors to inform public interventions for PPH control and to the clinicians, identifying risk factors in Antenatal Care (ANC) and intra partum periods may provide an opportunity for timely interventions to prevent PPH. From this study, stake holders and other concerned shall use the knowledge of the objectives to improve on the safe motherhood and pregnancy status there by meeting one of the pillars of Millennium Development Goal.

This information will be disseminated to the local authorities; District Health Officer DHOs, Health Inspectors, LCs, NGOs and In-charges of Health Centers around the town with a hope that they will take up their role towards implementation of the recommendations herein.

1.6 CONCEPTUAL FRAME WORK

FIGURE 1: A drawing by the researcher showing factors influencing postpartum haemorrhage.

INDEPENDENT VARIABLES

SOCIODEMOGRAPHIC

FACTOR

- Age
- Religion
- Tribe
- Occupation
- Parity

PATIENT FACORS

- Underlying medical conditions like preeclampsia, HIV status,
- Trauma to the lower genital tract.
- Maternal age
- Toxemia
- Multiparity,
- Multiple pregnancy
- Malnutrition

HOSPITAL FACTORS

- Retained products of conception,
- Lacerations
- Labour induction
- Prolonged labour.

**POSTPARTUM
HEMORRHAGE**

1.7 SCOPE OF THE STUDY

1.7.1 GEOGRAPHICAL SCOPE

The study was conducted in Kampala International University Teaching Hospital Ishaka Bushenyi district, located along Mbarara-Ishaka road in south western Uganda- a landlocked country in Africa, lies along equator bordered by Congo in the west, Tanzania in the south and Rwanda in the south west.

1.7.2 TIME SCOPE

The research was conducted in KIU-TH from 21ST/APRIL/2017 to 4TH/JUNE/2017 where data collection was obtained during the time of drug administration morning hours and evening hours.

1.7.3 CONTENT SCOPE

The research was limited to the study topic.

CHAPTER TWO:

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter entails literature from earlier researchers concerning prevalence, patient and hospital factors associated with postpartum haemorrhage.

2.1 PATIENTS' FACTORS ASSOCIATED WITH POSTPARTUM HEMORRHAGE

Uterine rupture due to forceful contraction as early before the cervical OS completely opens equal or above 8cm. Uterine inversion; the uterus prolapses through the vaginal opening exposing the placental site to the external environment hindering its contractility to stop bleeding, this may result into complicated labour causing PPH in turn (Ronald et al, 2016).

Familial diseases like hemophilia where a patient genetically lacks clotting factors in blood, sickle cell disease and Von Will Brand's disease and other coagulopathies; where a mother lacks clotting factors that could form a wire mesh network of cascade in the vascularity to arrest bleeding. These predispose many mothers to instances of PPH thus accounting to their death (Khan et al, 2006).

According to the TBA, multi-porous women were more likely to bleed than prime gravid, bleeding is mainly due to having a full bladder, retained membranes, early or premature separation of the placenta-this is attributed to women being involved in heavy work like digging before delivery. They further explain that one mug (Tumpeco) of blood loss which is equivalent to 500mls of blood does not only contain blood but also other components like urine (Khan et al, 2006).

Poverty. Imparts the inability to seek for medical attention for immediate assessment of complications during ANC visits and when labour sets in mothers tend to go to traditional birth attendants with less knowledge and equipment for assisting in delivering mothers. This also renders mothers delay at getting the appropriate medical assistant once the mother reaches at the facility to assess for her labour progression thus labour complications like PPH (Ronsmans, 2006).

Chronic diseases such as HIV/AIDs and malignancies tend to suppress mothers' immune system thus making them susceptible to uterine infections such as chorioamnionitis (inflammation of the chorion) and placenta attachment disorderscausing retained placental membranes which further causes bleeding after birth predisposing many women to PPH(Sham Shad, 2010).

2.2PREVALENCE OF POSTPARTUM HEMORRHAGE.

In the year 1990, the Millennium Development Goals estimated that 10 million women have died due topregnancy related complications and four millionnew born have died within twenty eight days of life. Therefore, changes in both maternal and neonatal health do not match with those of child survival, registering a marked reduction in the global under-five mortality rate between 1990 and 2007(Ann M, Adegbala R, 2010).

Postpartum haemorrhage is the leading cause of maternal mortality accounting for about 35% of all maternal deaths. About 14 million women around the world suffer from postpartum haemorrhage every year (26 women every minute). The majority of these deaths occur in low and middle income countries with Uganda inclusive (Paul Ashigbie, 2013).

Globally, efforts to decrease maternal deaths due to pregnancy related complications have been no progress than other areas of development; meaning having a child remains a serious health risk to women.

In a study which was done in India showed that most obstetrical admissions were due to post natal complications commonly among young patients of 15–25 years of age, 66.3%, of lower parity, 63.0%, low socioeconomic status, 65.20, uneducated patients, 78.2%, home deliveries, 73.9%, prolong labour, 58.6, prolong rupture of membranes from 48–72 hours, 73.8% and deliveries that were conducted by untrained TBAs 60.5(Sham Shad et al, 2010).

It has been estimated in one study in the United States where the studypopulation may be considered to be of a similar background to those in developing countries. This study looked at women from low socioeconomic backgrounds and reported an incidence rate of 6.18%(Husein, J. and Walker, 2011).

It is also said that obstetrical haemorrhage is the world's greatest burden to maternal health causing about 24% of the total maternal deaths annually mainly affecting and accounting to the developing countries (WHO, 2005).

Postpartum hemorrhage has been documented to be unpredictable, with two-thirds of its cases occurring in women with no clearly identified risk factors. In cases of improper management, postpartum hemorrhage can be life threatening rapidly progress to cause life-threatening blood loss, often within several hours. Because of this unpredictability and rapid progression, reducing the incidence of PPH, and improving PPH outcome when it does occur has remained a challenge. On average, each day a round 1500 women are estimated to be dying from pregnancy related conditions such as PPH and most of them are coming from sub Saharan Africa and south Asia (Khan, 2006).

In another study low and middle income countries (LMICs) account for about 99 percent of the global maternal deaths, with sub-Saharan Africa (SSA) having the highest regional maternal mortality ratio (MMR), estimated at 500 maternal deaths for every 100,000 live births (WHO, 2005).

MMR estimates for Kenya vary widely depending on the source used. For example, the Kenya Demographic and Health Survey reports that the MMR in 1998 was 590 per 100,000 live births. This number dropped to 414 in 2003. However, in 2010 a slightly higher MMR of 488 was recorded, a reversal in gains seen with regard to maternal mortality. Latest estimates from WHO/UNICEF/UNFPA/World Bank put MMR in Kenya at 360 per 100,000 live births in 2010, a drop from estimates of 460 per 100,000 live births in 1990, while the Population Reference Bureau puts it at 530 per 100,000 live births (WHO, 2006).

The highest risk of maternal mortality has been prevalently seen in Niger as 1 in 7 compared to developed world where maternal mortality is 1 in 8000. This further emphasizes the fact that developing countries have an increased PPH incidence (Ann M, Adegba R, 2010).

2.3 HEALTH FACILITY FACTORS ASSOCIATED WITH POSTPARTUM HAEMORRHAGE

Maternal mortality is defined by the ICD-10 as "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of duration and site of the pregnancy, from any

cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes (WHO, 2004).

Postpartum haemorrhage is one of the top causes of death in developing countries for women of reproductive age with an estimation of about 287,000 women die annually at a worldwide level and has checked on the population and poses a negative effect of diminishing the number of people leaving (WHO, 2012).

Administration of drugs like uterine relaxants which relaxes the uterus inhibiting it from contracting thus predisposing to prolonged bleeding after delivery and Induced labour which is done to a mother who is at term but having no labour contractions. Uterotonic like oxytocin are administered as infusions until adequate contractions attained which predisposes the mother to vigorous contractions causing uterine rupture (Joseph Ahimbisibwe, 2015).

Incisions made like episiotomy, and tears sustained in the cause of pushing the baby tend to bleed after birth contributing to occurrence of PPH. Poor obstetric practices like failure to massage the uterus and forceful cord traction of the placenta. Trauma to the lower genital tract such as the perineum and the vaginal wall which is as a result of macrosomia (big babies). Over distension of the uterus which is as a result of polyhydramnios and multiparity; where a mother has had more than five pregnancies which weakens the uterus thus unable to sufficiently contract so as to arrest the bleeding at the placental site (Husein, J. and Walker, 2011).

Lower genital tract trauma, Lacerations such as tears and episiotomy done by midwives to provide adequate preparation for mothers during delivery due to twin babies and macrosomia babies on small, short mothers render them lose much blood thus death from hemorrhage (WHO, 2006)

CHAPTER THREE

3.0 METHODOLOGY

This chapter describes the various methods to be used in the study to collect and present the information required as well as describing the area and population to be studied.

3.1 STUDY DESIGN

The study was a descriptive cross sectional study design.

3.2 STUDY AREA

Kampala International University Teaching Hospital [KIU-TH] is situated on about 70 acres of land at Ishaka town in Bushenyi District, along Mbarara –Kasese Road in Western Uganda.

The presence of the university has strongly led to the development of various businesses in Ishaka town, with the students and staff of the university comprising of the major clientele of these businesses. Businesses range from boutiques, restaurants, supermarkets, bars, and night clubs.

Bushenyi District has a population of 241,500 people made up 124,000 females according to the projected population estimates of 2014 of which KIU-TH maternity receives about 40 pregnant mothers in a month.

The hospital receives about ten mothers with complaints concerning Postpartum Haemorrhage every week where most of them are above 30 years of aged peasant farmers. These mothers most of them have multiple pregnancies with parity greater than one and have undergone caesarian section.

The economy of the district depends mainly on agriculture. Agriculture is a source of food for the population, subsistence income for most families, and provides direct employment to 86.7% of the district population, as well as supplying raw materials for industries (www.Bushenyi.Org.com).

3.3 VARIABLES: DEPENDENT AND INDEPENDENT

The prevalence and factors associated with PPH was the dependent variable of the study while the independent variables were: Socio-demographic factors such as: age, occupation, education, knowledge on PPH, marital status and parity status, Obstetric factors including: mode of delivery, prolonged labour and place of delivery. Patient's characteristics including: knowledge on PPH, facility factors including availability of adequate equipment, finance, distance and hygiene.

3.4 STUDY POPULATION

The study focused on the mothers who presented to KIU-TH from Bushenyi, Mitooma, Rubilizi, Sheema and Buhweju districts. According to the In-charge maternity ward, the hospital gets about 10 mothers with postpartum haemorrhage in a week, which gave a reflection of PPH. The majority of people in Bushenyi are small scale subsistence farmers, earning less than 1 dollar per day, with main cash crop being coffee and food crop is matooke (District records, 2009).

3.5 SAMPLE SIZE DETERMINATION

The sample size was determined using Morgan and R. V Krejcie (1970) from the specified population and was limited to mothers diagnosed with postpartum haemorrhage at KIU-TH. The target population was 40 mothers who visit KIU-TH. By using the Morgan table sample size was 36.

Therefore: $n = 36$

3.6 SAMPLING METHODS

To determine the prevalence of postpartum haemorrhage, a systemic sampling method using in-patient numbers was used. To determine the patient and the hospital factors a questionnaire were distributed among the patients.

3.7 INCLUSION AND EXCLUSION CRITERIA

3.7.1 INCLUSION CRITERIA

Every mother who had been diagnosed of PPH and found in maternity ward at time of the interview was included provided she was willing to take part in the study.

3.7.2 EXCLUSION CRITERIA

Mothers who were mentally ill and critically ill were excluded to avoid irrelevant information to the study.

3.8 DATA COLLECTION METHODS

The data was collected using a questionnaire, which was a mixture of structured questions. The data was collected by the researcher herself and ensured that the person who filled the questionnaire met the inclusion criteria. A record review tool was used to collect relevant information about hospital factors to determine the prevalence. Data was collected for two months since the hospital works every day.

3.9 METHODS OF DATA ANALYSIS

The data for prevalence and the factors were analyzed using Microsoft Excel manually and interpreted into average and percentages and presented on tables and pie charts.

3.10 DATA QUALITY CONTROL

The questionnaire was pretested in a similar population of KIU-TH Bushenyi District Western Uganda to ensure clarity of questions. The wrongly stated questions were corrected. At the end of the interview I checked for completeness of the questionnaire and participants were selected randomly to eliminate bias.

3.11 DATA PRESENTATION METHODS

The data collected was presented in form of charts, and tables depending on the data that was analyzed.

3.12 ETHICAL CONSIDERATION

I sought approval from KIU authorities and the research committee of KIU western Campus, who in turn upon approval, granted me permission to conduct the study with an introductory letter. The letter was addressed to the medical Director KIU-TH who introduced me to the in charge of the maternity. Verbal consent was sought from mothers of PPH to interview them and also confidentiality was strictly observed at all stages of research.

CHAPTER FOUR: FINDINGS OF THE STUDY (RESULTS)

4.0 INTRODUCTION.

This chapter contains results for data collected which was analyzed and interpreted in form of tables, pie charts, histograms, line graphs and simple statements. Data was analyzed by use of a calculator.

A total number of 36 mothers were interviewed with questionnaires.

4.1 RESPONDENTS DEMOGRAPHIC DATA.

Data collected in this study indicates that the most affected age group is from 36 to 45 (44.4%) 16, most of them being married 30(83.3%), majority were from Muslim religious affiliation 15(41.7%), by tribe the highest number of participants were Banyankore 20(55.5%). Furthermore, most participants had never gone to school 15(41.7%) which rendered majority of them peasants 18(50%) by occupation.

TABLE 1: Showing the sociodemographic characteristics of the study of mothers diagnosed of postpartum hemorrhage in KIU-TH (n=36)

Variable	frequency	Percentage (%)
Age (years)		
19-25	8	22.2
26-35	12	33.3
36-45	16	44.4
Marital status		
Married	30	83.3
Un married	6	16.7
Religion		
Muslims	15	41.7
Protestants	12	33.3
Catholics	5	13.9
Others	4	11.1
Tribes		

Banyankole	20	55.5
Baganda	10	27.8
Basoga	4	11.1
Others	2	5.6
Occupation		
Peasants	18	50
Traders	12	33.3
Teachers	2	5.6
Unemployed	4	11.1
Education level		
Nil	15	41.7
Primary	10	27.8
Secondary	5	13.9
University	3	8.3
Tertiary	3	8.3

OBSTETRICAL DATA

4.2. PREVALENCE FOR POSTPARTUM HEMORRHAGE AMONG WOMEN DELIVERING IN KIU-TH ISHAKA BUSHENYI.

4.2.1. PREVALENCE OF POSTPARTUM HEMORRHAGE.

Most of the mothers negative about PPH 26(72%) and a few number of them were positive about PPH and these accounted for 10(28%)only of the total number of respondents.

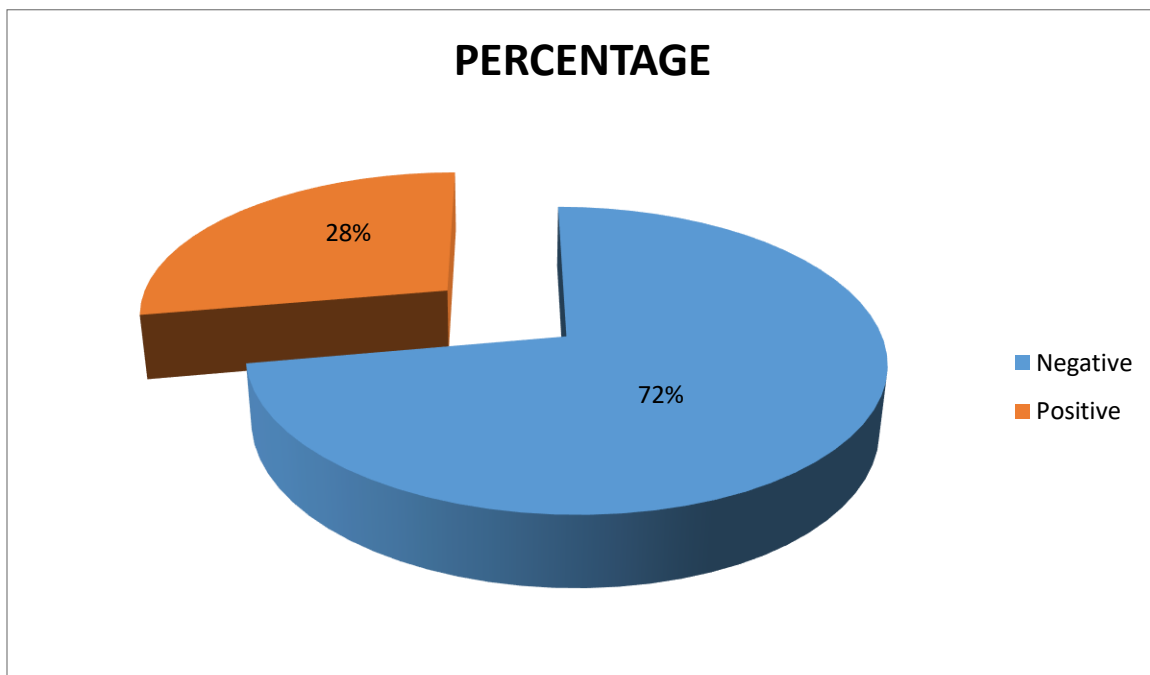


FIGURE 2:Showing prevalence of PPH among women.

4.3.PATIENT FACTORSASSOCIATED WITH POSTPARTUM HEMORRHAGE AMONG WOMEN DELIVERING IN KIU-TH, ISHAKA BUSHENYI.

Mothers who contributed the largest number had had more than four deliveries 16(44.4%).Most of them attributed the occurrence of PPH to multiple pregnancy which accounted for 16(44.4%), 32(88.9%) of the total number of mothers interviewed had had their deliveries at health center.

TABLE2:Showing patient factors.

Variable	Frequency	Percentage
Number of deliveries		
1	10	27.8
2	5	13.9
3	5	13.9
>=4	16	44.4
Associated factor		
Multiple pregnancy	16	44.4
Previous PPH	10	27.8
Antepartum hemorrhage	8	22.2
Don't know	2	5.6
Place of delivery		
Health center	32	88.9
Home	4	11.1

4.4. HOSPITAL FACTORS ASSOCIATED WITH POSTPARTUM HEMORRHAGE AMONG WOMEN DELIVERING IN KIU-TH,ISHAKA BUSHENYI

Majority of the mothers had delivered by cesarean section 20(56%).The hospital associations towards PPH included induced labor 20(55.6%) which ranked as the highest, Majority of mothers were assisted by doctors 16 (44.4%).

TABLE 3: Showing hospital factors

Variable	Frequency	Percentage (%)
Patient mode of delivery		
C/S	20	56
SVD	16	44
Assistant during delivery		
Doctor	16	44.4
Midwife/Nurse	15	41.7
TBA	5	13.9
Associated factor		
Induced labour	20	55.6
Instrumental delivery	1	2.8
Retained placental products	5	13.9
Episiotomies	10	27.8

CHAPTER FIVE:DISCUSSION,CONCLUSIONS AND RECOMMENDATIONS.

5.0 INTRODUCTION

This chapter contains the discussion and conclusions of the findings from the data collected at KIU-TH and then put forward the possible recommendations.

5.1 DISCUSSION

A total number of 36respondents were interviewed at KIU-TH from 21st of April to 4thof June of the year 2017.

5.1.1. PREVALENCE.

Most mothers 26(72%) were negative about PPH hence 32(88.9%) had delivered from health centers 4(11.1%) had delivered from home whilst 10(28%) were positive about PPH. In the previously investigated research, 70% had delivered from home (MathaiM, GulmezogluAM, 2007).

5.1.2. HOSPITAL FACTORS.

Majority of deliveries were done by caesarian section 20(56%) under assistance of Doctors 16(44.4%)and other deliveries were by spontaneous vaginal delivery 16(44%) of which 15(41.7%) were assisted by mid wives and 5(13.9%) by TBAs. Induced labour ranked 20(55.6%) of all the hospital associated factors for PPH followed episiotomies 10(27.8%) in addition to maternal age and mothers parity.Cesarean section and induced labour were the major risks to PPH among mothers which coincide with study done by (OonaMR, 2016). This could be as a result of doctors handling emergencies and complicated cases aiming to save lives of either one or two (mother and the baby).

5.1.3. PATIENT FACTORS.

The major cause of PPH to mothers was multiple pregnancy which ranked 16(44.4%) followed by previous history of PPH 10(27.8%).These findingsare comparable to the findings of (OyeleseY, 2010),this because having more than fetus in a mother's womb tend to over stretch it thus losing its tonicity failing to arrest bleeding after delivery.

Mostly affected mothers were those of parity greater or equal to four 16(44.4%) while the least affected were the prime gravid 10(27.8%). These findings differ from the study done

by(Olowokere, 2013) indicating that the list affected were the multi gravid 3.8% and most affected were the prime gravid 24.4%. This could be due to negligence of multi gravid mothers since they think that they are now used to delivering and tend to neglect ANC services where they can identify risks to PPH.

Place of delivery also complicates delivery; as most mothers in my findings had delivered from health centers 32(88.9%) as compared to those who had delivered from their homes 4(11.1%).This differs from the findings done by (Olowokere, 2013)were mothers who had delivered from homes ranked 85.3% and those from hospitals were 14.7%.This difference may be due to the little awareness mothers had before about PPH.

STRENGTH AND WEAKNESSES

My study was being facilitated and helped by nurses and in charge maternity to archive my goal.

However the sample size was insufficient and this may affect the generalization of the findings to other settings where the patient numbers are large. However the clear outcome variables were captured from hospital records.

5.2 CONCLUSION.

The prevalence of postpartum haemorrhage was 28%, mostly among women of parity greater or equal to four.

Most mothers who presented with PPHhad delivered by Caesarian section 56%, and others 44% delivered spontaneously, in addition to induced labour and episiotomies.

Multiple pregnancy and previous history of PPH are also noted factors, this is comparable to the findings of (OyeleseY, 2010).

Therefore,induced labor and caesarean section, multiple pregnancies and multiparity,together with previous history of PPH werethe major factors for Postpartum hemorrhage among women delivering in KIU-TH.

5.3 RECOMMENDATIONS

From the findings of this study, the following recommendations can be drawn;

Prevalence factors.

There is more need to Educate the community more about safe and timely delivery by skilled personnelsfor pre pregnant mothers and those who are pregnant generally women of child bearing ages through more community outreaches by community health workers and Village health teams.

According to the identified factors, health workers should put an eye on such mothers during labor to prevent PPH occurrence.

Awareness of mothers to have routine ANC services for early detection of some of the risk factors.

Hospital factors.

Government through the Ministry Of Health should partner with hospitals creating affordable costs to mothers to render them services during pregnancy and during postpartum periods so that they can access when a problem arise.

Management protocol should be well defined and blood transfusion services should be made accessible so as to deal with severe PPH.

The need to avail knowledge on Antenatal attendance for screening and use of skilled delivery attendants who observe safe delivery techniques like controlled cord traction.

Increase on recruitment and salary payment to health workers in time to motivate their work.

Patient factors.

Emphasis to be put on to mothers by Mother and Child Health clinics(MCH) educating them about Family planning methods as this gives time for the uterus to regain its tonicity.

Mothers should be strongly advised to go for ANC visits at leastfour times during the pregnancy so as to assess for all risks and do blood grouping in case PPH occurs blood is easily accessed.

REFERENCE:

- Ann M, Adegbala R, O. A. (2010). Pattern of Antepartum haemorrhage at Lagos University Teaching Hospital.
- Blum, J., Bates, L., Chapotera, G. K., McKew, S. (2010). Maternal Mortality in Sub-Saharan Africa: the contribution of ineffective blood transfusion services. *International Journal of Obstetrics and Gynaecology*.
- Calvert, Mageun E F, Evans S, C. R. (2014). Postpartum haemorrhage after vaginal delivery and increased risk factors.
- Husein, J. and Walker, L. (2011). Postartum Haemorrhage in low and middle income settings.
- John, R., Rogers, J, .et al. (2016). Active versus expectant management of third stage of labor (2016). Randomized Controlled Trial.
- Joseph Ahimbisibwe. (2015). Active of third stage of labour;Uganda Demographic statistics.
- Khan KS, Wojdyla D, Gulmezoglu A M, V. L. A. F. (2006). Systemic review of maternal death.
- MathaiM, GulmezogluAM, H. (2007). Saving women's Lives:Evidence Based recommendations for prevention of postpartum hemorrhage.
- Olowokere, K. (2013). The prevalence, management and outcome of postpartum hemorrhage in selected health care facilities in Nigeria.
- OonaMR, WandabwaJ, OnongeS, M. F. (2016). Department of Obstetrics and GynaecologyMakerere University College of Health Sciences.
- OyeleseY. (2010). Postpartum Hemorrhage:Epidemiology,riskfactors and causes,Clinical Obstetrics and Gynaecology. *Pakistan Journal of Medical And Health Sciences*.
- Paul Ashigbie, B. (2013). Tropical medicine international health and experience, lesson leant.
- Predinvile W J, Elbourin D, M. S. (1988). Briston 3rd stage trial. Active management of third stage of labour.
- Ronald, M., Irgens, L. M., Bergsjø, P., Dalaker, K. (2016). Perinatal morbidity and mortality in antepartum haemorrhage. Department of obstetrics and gynaecology.
- Ronsmans C, tolosa J, Finney k, C. T. (2006). International variant to prevent Postpartum Haemorrhage.
- Sham Shad, sharafat F, Iqbal K, Z. A. (2010). Comparison of different pregnancy outcomes.
- WHO. (2004a). Maternal mortality fact sheet. Number 348, 2004.
- WHO. (2004b). Postpartum haemorrhage. *Ethiopia: Occurrence of PPH among Women of*

Productive Age.

WHO. (2005). Make every mother and child count report.

WHO. (2006). Working together for health. WHO Geneva.

WHO. (2012). International Survey Of Variation in Practice of Management of Third Stage of Labor.

Yerevan, T., Campbell, O. M., Graham, W. J. (2008). Lancet Maternal Survival Series steering. Strategies on Reducing Maternal Mortality.

APPENDIX A; CONSENT FORM

I am **NAMAGEMBE JOAN (DCM/0134/143/DU)** a third year student doing Clinical medicine and community health at KIU-WC, carrying out a study on the prevalence and factors associated with puerperal sepsis among women delivering at Kampala International university Teaching Hospital Western Campus IshakaBushenyi.

Your participation in this study will be completely voluntary and you should not expect any payments at the end of the exercise, you also have a right to say no or change your mind at any time and withdraw. Whether you choose to participate or not will not have any effect on the health services to be given to you.

All information that will be obtained in this study will remain confidential and will only be disclosed with your permission or as required by the Law.

I hope that this information will be used to draw intervention on the management of puerperal sepsis.

If the participant accepts will be required to sign below:

Signature of volunteer

.....

Signature of Student

.....

Date.....

APPENDIX B: QUESTIONNAIRE

INTRODUCTION

I **NAMAGEMBE JOAN** a student of KIU-WC pursuing a Diploma in Clinical Medicine and Community Health. I am carrying out a research on prevalence and factors associated with puerperal sepsis among women delivering atKampala International University Teaching Hospital Western Campus IshakaBushenyi this will be submitted for partial fulfillment of the requirement for the award of above mentioned Diploma.

You are kindly requested to fill the questionnaire below.

Your cooperation will be highly appreciated

INSTRUCTIONS TO BE FOLLOWERED BY THE PARTICIPANTS

Donot write your name on this questionnaire.

Tick the most correct answer in the boxes provided.

Fill in the blank spaces where necessary.

A. RESPONDENTS SOCIAL DEMOGRAPHIC DATA

1. AGE (YEARS)

- | | |
|-----------------------------------|-----------------------------------|
| a. 19-25 <input type="checkbox"/> | c. 36-45 <input type="checkbox"/> |
| b. 26-35 <input type="checkbox"/> | |

2. EDUCATIONAL LEVEL

- | | |
|--|---|
| a. Primary <input type="checkbox"/> | c. Tertiary institutions <input type="checkbox"/> |
| b. Secondary <input type="checkbox"/> | d. University <input type="checkbox"/> |
| e. Never went to school <input type="checkbox"/> | |

3. OCCUPATION

- | | |
|--------------------------------------|--------------------------------------|
| a. Traders <input type="checkbox"/> | c. Un employed |
| b. Teachers <input type="checkbox"/> | d. Peasants <input type="checkbox"/> |

4. TRIBE

- | | |
|--|------------------------------------|
| a. Banyankole <input type="checkbox"/> | c. Basoga <input type="checkbox"/> |
| b. Baganda <input type="checkbox"/> | |

5. RELIGION

- a. Catholics []
- b. Protestants []
- c. Muslims []
- d. SDA []
- e. Other specifics []

6. MARITAL STATUS

- a. Married []
- b. Un married []

B. OBSTETRICS DATA

7. How many deliveries have you had before?

- a. 1 []
- b. 2 []
- c. 3 []
- d. ≥ 4 []

8. Where do you normally deliver from?

- a. Health Center facility []
- b. Home []
- c. Others []

9. By what mode of delivery was your last delivery?

- a. Spontaneous vaginal delivery []
- b. Cesarean section []
- c. Others []

10. Where you assisted during delivery? If yes, who assisted you?

- a. Doctor []
- b. Mid wife/ Nurse []
- c. Traditional Birth Attendant []
- d. Others []

11. Do you know about the existence of postpartum haemorrhage?

- a. Yes []
- b. No []

12. Tick any of the following that caused PPH to you.

- a. Previous history of PPH []
- b. Multiple pregnancy []
- c. Antepartum hemorrhage []

d. Don't know ☐

13. Tick the factor associated with postpartum haemorrhage due to the hospital?

a. Episiotomies ☐

b. Induced labour ☐

c. Instrumental delivery ☐

d. Retained placental tissues ☐

APPENDIX C: WORK PLAN

ACTIVITIES	JAN	FEB	MAR	APRIL	MAY	JUN
Choosing and presentation of research topic for approval						
Proposal writing , typing and binding the proposal and handing the proposal to the supervisor.						
Data collection , distribution of data collection tools.						
Data analysis and project writing , compiling the analysed information, results, discussion, conclusion and recommendations.						
Dissemination , copies of dissertation presented to University.						

[illegible]

APPENDIX E: A MAP OF BUSHENYL.



APPENDIX F: INTRODUCTORY LETTER



KAMPALA
INTERNATIONAL
UNIVERSITY

EXPLORING THE HEIGHTS TEACHING HOSPITAL

School of Allied Health Sciences (SAHS) Ishaka,
P.O.BOX 71 Bushenyi,
Tel: 0703786082/0773786082
Email: christinekyobuhaire@gmail.com

OFFICE OF THE ADMINISTRATOR –SAHS

19th April 2017

The Executive Director KIUTH

Dear Professor,

SUBJECT: DATA COLLECTION

Academic research project is an Academic requirement of every student pursuing a 3 year Diploma in Clinical Medicine & Community Health (DCM) of Kampala International University- Western Campus (KIU-WC). DCM program is housed in the School of Allied Health Sciences (SAHS).

The students have so far obtained skills in Proposal writing especially chapter one, Three & Questionnaire design. The student's topic has been approved by SAHS Research Unit and is therefore permitted to go for data collection alongside full proposal & dissertation writing. As you may discover the student is in the process of full proposal development. However, the student MUST present to you his questionnaire and her research specific objectives that she wishes to address. We as academic staff of Allied Health Sciences are extremely grateful for your support in training the young generation of Health Professionals. I therefore humbly request you to receive and allow the student **NAMAGEMBE JOAN** Reg.No. **DCM/0134/143/DU** in your hospital to carry out her research. Her topic is hereby attached. Again we are very grateful for your matchless support and cooperation.

Topic: **PREVALENCE AND FACTORS ASSOCIATED WITH POSTPARTUM HEMORRHAGE AMONG WOMEN DELIVERING AT KIUTH -WESTERN CAMPUS ISHAKA BUSHENYI.**

Sincerely yours,

Christine Kyobuhaire, Administrator- SAHS

CC: Dean SAHS
CC: Associate Dean SAHS
CC: Coordinator, Research Unit- SAHS
CC: H.O.D Dept. Public Health
CC: H.O.D Laboratory Sciences
CC: Coordinators; TLC & DEC



"Exploring the Heights"

APPENDIX G: MORGAN AND KREJCIE TABLE

Table for Determining Sample Size for a Given Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size
 "S" is sample size.