



KIBOGORA POLYTECHNIC



**FACULTY: HEALTH SCIENCE
DEPARTMENT: GENERAL NURSING**

**ASSESSMENT OF FACTORS ASSOCIATED WITH POST PARTUM HEMORRHAGE
AMONG MOTHERS WHO HAVE DELIVERED AT KIBUYE REFFERAL HOSPITAL.**

Case Study : Kibuye Refferal Hospital

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Kibogora ,March 2022

DECLARATION

Declaration by the candidates

We UMUTONIWASE Marie Claudine and NYIRANSINZI Raissa hereby declare that this is our own original work and not a duplication of any similar academic work. It has therefore not been submitted to any other institution of higher learning. All materials cited in this paper which are not our own have been duly acknowledged.

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ABSTRACT

This research carried out on factors associated with postpartum hemorrhage among mothers who have delivered at Kibuye Referral hospital. Its specific objective is to assess the factors associated with postpartum hemorrhage among mothers who have delivered at Kibuye referral hospital and to determine the prevalence of PPH among mothers who are delivered at Kibuye referral hospital. The study adopted a retrospective cross-sectional study design with a quantitative and qualitative approach. The study was included a target population 144 mothers and sample size of 94 mother attending maternity at kibuye referral hospital from 2018-2021, we use a check list in order to obtain data and data analysis was performed by using the statistical package for social sciences(SPSS) software version 24.

Our study shows that the majority factor are cervical laceration with chi-square of 1.101 and p-value of .127, fetal macrosomia with chi-square of 1.402 and p-value of .206, parity with chi-square 1.040 and p-value .382, previous of uterine atony with chi-square 1.040 with p-value .287, duration of labor with chi-square 1.598 with p-value .319 these all factor are significant to PPH and other factor such as marital status with chi-square .135 with p-value .556, obstetrical are facilitator with chi-square with 1.519 with p-value .532 and history of antenatal care with chi-square .554 with p- value 1.000 are not significant to PPH at Kibuye referral hospital during that year and also most of woman in social demographic factor are advanced age where the majority are the woman aged at 18,31.37 years old were 6(6.4%), occupation the farmer women were 30(31.9%), educational level the woman who have primary level were 40(42.6%) and marital status the woman who are married were 68(72.3%), most of them where the multipara were 68(72.3%) and their delivery was no episiotomy done were 83(88.3%) and there is no history of obstructed labor were 85(90.4%) and the onset of labor it was spontaneous were 68(72.3%) where the duration of labor is below 24 hours were 59(62.8%) and the mode of delivery was vaginal delivery were 59(62.8%) where the duration of third stage of labor is above 30 minutes were 64(68.1%) and there is no history of previous retained placenta among them were 91(96.8%) and there is no previous uterine atony among them were 88(93.6%) and here is no previous PPH were 87(92.6%) and most of them they belong in cat 1 of ubudehe were 42(44.7%) their obstetrical care facilitator were general practitioner 59(62.8%) and most of them they live far away of health care facilities were 60(63.3%).

The main associated factors found in this study were similar to the results found in many literature studies which are cervical laceration, uterine rupture, previous PPH, multiple pregnancy as compared to the study we done, the prevalence of PPH was higher in obstetrical factors and social demographic factors. The main factor being cervical laceration, uterine rupture, multiple pregnancies and other complications can be picked up early and identify the mothers at risk for intensive interventions. The mother should not be delivered at home. However further studies are needed to investigate the reason for cervical laceration in Kibuye referral hospital.

DEDICATION

I. DEDICATED

TO:

The Almighty God

My husband

My son

My Friends relatives and Classmates

My Supervisor

NYIRANSINZI Raissa

II. DEDICATED

TO:

The Almighty God

My parents

NDAYIZIGIYE Emmanuel

My Beloved Brothers

My Supervisor

UMUTONIWASE Marie Claudine

ACKNOWLEDGMENT

We sincerely want to thank our God for his existence in our life, Jesus who is crucified to save us and the Holy Spirit who continues to guide us in our every day's life. We sincerely express our thanks to our Government that let Kibogora polytechnique doing its best to enable us in order to pursue our studies may God bless and increase our economy's country. Indeed Kibogora polytechnique administration especially General nursing staff for their good assistance, their diligent effort and guidance that were enabled us to accomplish this research project.

Especially we have deep thanks to KANAKUZE Chris Adrien as the one help us in our journal of this research. We would also like to express our sincere gratitude to our parents, sisters, brothers; colleagues for their continuous support, encouragement and their regular parental advice are unforgettable forever and ever.

We extend our thanks to our classmates who have been so helpful and encourage us.

May God bless you all!

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ACRONYMS

AMTSL: Active Management of the Third Stage of Labor

CHWs: Community Health Workers

EMOC: Emergency Obstetric Care

HC: Health Center

ISSN: International Standard Serial Number

KRH: Kibuye Referral Hospital

MCHIP: Maternal and Child Health Integrated Program

MDA: Maternal Death Audit

MDG: Millennium Development Goals

MMR: Maternal Mortality Ratio

MNH: Maternal and new born Health

MOH: Minister Of Health

NVD: Normal Vaginal Delivery

PPH: Postpartum Hemorrhage

PROM: Premature rupture of membranes

SPSS: Statistical package for social science

USAID: United States Agency for International Development

USFDA: United States Food and Drugs Administration

WHO: World Health Organization

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CHAPTER I: GENERAL INTRODUCTION

I.0. INTRODUCTION

Post-partum hemorrhage (PPH) is a leading cause of maternal mortality worldwide and is responsible for 34% of maternal deaths in Africa. It is defined as blood loss of more than 500 ml following vaginal delivery or more than 1000 ml following caesarian delivery(Thepampan et al. 2021). Blood loss can occur during the first 24 hours (primary PPH) or from 24 hours up to 6 weeks after delivery (secondary PPH). Primary PPH classified by site is either placental or extra-placental bleeding. Secondary PPH is abnormal or excessive bleeding from the birth canal between 24 hours and 12 weeks postnatal(Thepampan et al. 2021).

I.1. Background

Post-partum hemorrhage (PPH) is a leading cause of maternal mortality worldwide and is responsible for 34% of maternal deaths in Africa(Mvandal and Coletha 2021). It is defined as blood loss of more than 500 ml following vaginal delivery or more than 1000 ml following caesarian delivery. Blood loss can occur during the first 24 hours (primary PPH) or from 24 hours up to 6 weeks after delivery (secondary PPH). Primary PPH classified by site is either placental or extra-placental bleeding. Secondary PPH is abnormal or excessive bleeding from the birth canal between 24 hours and 12 weeks postnatal (Bazirete, Nzayirambaho, Umubyeyi, Uwimana, and Evans 2020a)

Evidence shows that PPH is the leading cause of maternal mortality and is responsible for around 25% of maternal deaths worldwide with a prevalence rate of approximately 6%. Africa has the highest rate of PPH at about 10.5%. PPH can also cause long-term severe morbidity, and approximately 12% of women who survive PPH will have severe anemia. Additionally, women having severe PPH and surviving are significantly more likely to die in the year following the PPH. In Africa and Asia, PPH accounts for more than 30% of all maternal deaths whose proportions vary between developed and developing countries, suggesting that deaths from PPH are preventable(Collins et al. 2019).

In the sub-Saharan Africa, the main direct causes of maternal death are bleeding (34%), infection (10%), preeclampsia /eclampsia (9%) and obstructed labour (4%) .In South Sudan, about 42% of women who go into labour experience excessive bleeding. The

maternal mortality ratio (MMR) was found to be 2,054 per 100,000 live births(Mvandal and Coletha 2021).

In Rwanda, each year at least 2,767 women die from complications of pregnancy or deliveries, 13,000 neonates do not live beyond the first month of life, and nearly 28,800 infants die before their first birthday. Meanwhile, 50 percent of all these deaths are preventable. If Rwanda is to meet MDGs 4 and 5, reducing child mortality and improving maternal health, respectively, a renewed focus on these two area is essential.

According to Maternal Death Audit (MDA) from health facilities report, many women still die each year in Rwanda from causes related to pregnancy complications and/or child birth. In 2010, the Rwandan women had a risk of 1/40 (21%) to die from a cause related to pregnancy childbirth during. Among 134 maternal death reviewed in this report from different hospitals, the main cause of death is still severe bleeding (46.3%) and more than ¾ cases occurred during postpartum period(Umubyeyi, Uwimana, and Marilyn, n.d.).

I.2. Statement of the problem

In Rwanda, each year at least 2,767 women die from complications of pregnancy or Delivery, 13,000 neonates do not live beyond the first month of life, and nearly 28,800 infants die before their first birthday. Meanwhile, 50 percent of all of these deaths are preventable. If Rwanda is to meet MDGs 4 and 5, reducing child mortality and improving maternal health, respectively, a renewed focus on these two areas is essential.

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The Data Collection, it was conducted from September 2012 to February 2013, followed by data entry, data cleaning, data analyzing. Preliminary results have been shared with MOH and USAID. The report has been shared with ministry of health and MCHIP is

waiting to Ministry of Health (MOH) comments on the report to finalize it and plan for a dissemination meeting. The study assured uterotonic provision was reinforced both at community with misoprostol but also at health facility with oxytocin. So that due to the statistics has done before show that how to overcome the post-partum hemorrhage affected the women after delivering kid that is why we choose to make research on factors associated with post-partum hemorrhage among mother's who have delivered at kibuye referral hospital.

I.3. Objectives

I.3.1 Overall objectives

The main objective of this study is to assess the factors associated with postpartum hemorrhage among mothers who have delivered at Kibuye referral hospital.

I.3.2. Specific objectives

- To determine the prevalence of PPH among mothers who delivered at Kibuye referral hospital.
- To assess factors associated with postpartum hemorrhage.

I.4. Research questions

- What is the prevalence of PPH among mothers who delivered at Kibuye referral hospital.
- What are the factors associated with postpartum hemorrhage

I.5. Justification and significance of the study

I.5.1. Personal interest

This research will help us to identify the factors affecting PPH in our setting and to know prevalence of PPH in kibuye referral hospital, and it will help us to strengthen our knowledge about PPH as future health professional.

I.5.2 Scientific interest

This research will help scientist to know the factor affecting and prevalence of PPH at kibuye referral hospital, also will show a gap for further research and will add knowledge on postpartum hemorrhage.

I.5.3 Social interest

This research will rise awareness about postpartum hemorrhage and prevention of associated factors.

I.6 Scope of the study

This research of assessment the factors associated with postpartum hemorrhage among delivered mothers is carried out at Kibuye referral hospital in karongi district, western province, Rwanda country in 2022.

CHAPTER II. LITERATURE RIVIEW

II.1 Global Context

Post-partum hemorrhage is responsible for 25% of maternal pregnancy related deaths and it is the first cause of maternal morbidity and mortality worldwide. PPH occurs in 5% of all deliveries and is responsible for a major part of maternal mortality. The majority of these deaths occur within four hours of delivery, which indicates that they are a consequence of the third stage of labor(Kawakita et al. 2019).

Despite the use of uterotonics and active management of third stage of labor to prevent PPH, increase in PPH rates have been reported from high income countries, including Canada, the United States, the United Kingdom and Australia. Rate of severe PPH and of transfusion for treatment also appear to be rising. Rates of PPH and severe postpartum hemorrhage continued to increase in Canada between 2013 and 2016 (from 3.9 % in 2013 to 5% in 2016) and occurred in most provinces and territories(Collins et al. 2019).

In lower- income countries, the incidence of severe postpartum hemorrhage (PPH) has increased. This has important public health relevance because severe PPH is a leading cause of major maternal morbidity. However, few studies have identified risk factors for severe PPH within a contemporary obstetric cohort(Reale, Bateman, and Farber 2021).

An estimated 287,000 maternal deaths occurred in Africa in 2010, the major causes were primary postpartum hemorrhage (PPH). PPH is defined as blood loss from the genital tract of 500 mL or more following a normal vaginal delivery (NVD) or 1,000 mL or more following a cesarean section within 24 hours of delivery. It is the leading cause of maternal deaths and is responsible for 25% of deaths annually. It is the leading cause of maternal mortality in sub-Saharan Africa. The region has poor health care facilities that are inadequate and inaccessible due to financial constraints(Thepampan et al. 2021).

According to D'alton (2017),In Tanzania, postpartum hemorrhage remains a significant cause of maternal mortality with primary PPH occurring between 1% and 5% of all deliveries, and secondary PPH occurring between 0.2% and 2% of all pregnancies, based on data collected by the Royal College of Midwives the incidence of major obstetric hemorrhage is 3.7 per 1000 births and is still recognized as one of the leading causes of maternal death (RCM 2012), with no significant reductions in death rate since 2009.

According to Maternal Death Audit (MDA) from health facilities report, many women still die each year in Rwanda from causes related to pregnancy complications and/or child birth. In 2010, the Rwandan women had a risk of 1/40 (21%) to die from a cause related to pregnancy childbirth during. Among 134 maternal death reviewed in this report from different hospitals, the main cause of death is still severe bleeding (46.3%) and more than ¾ cases occurred during postpartum period.

II.2.THEORITICAL STUDY

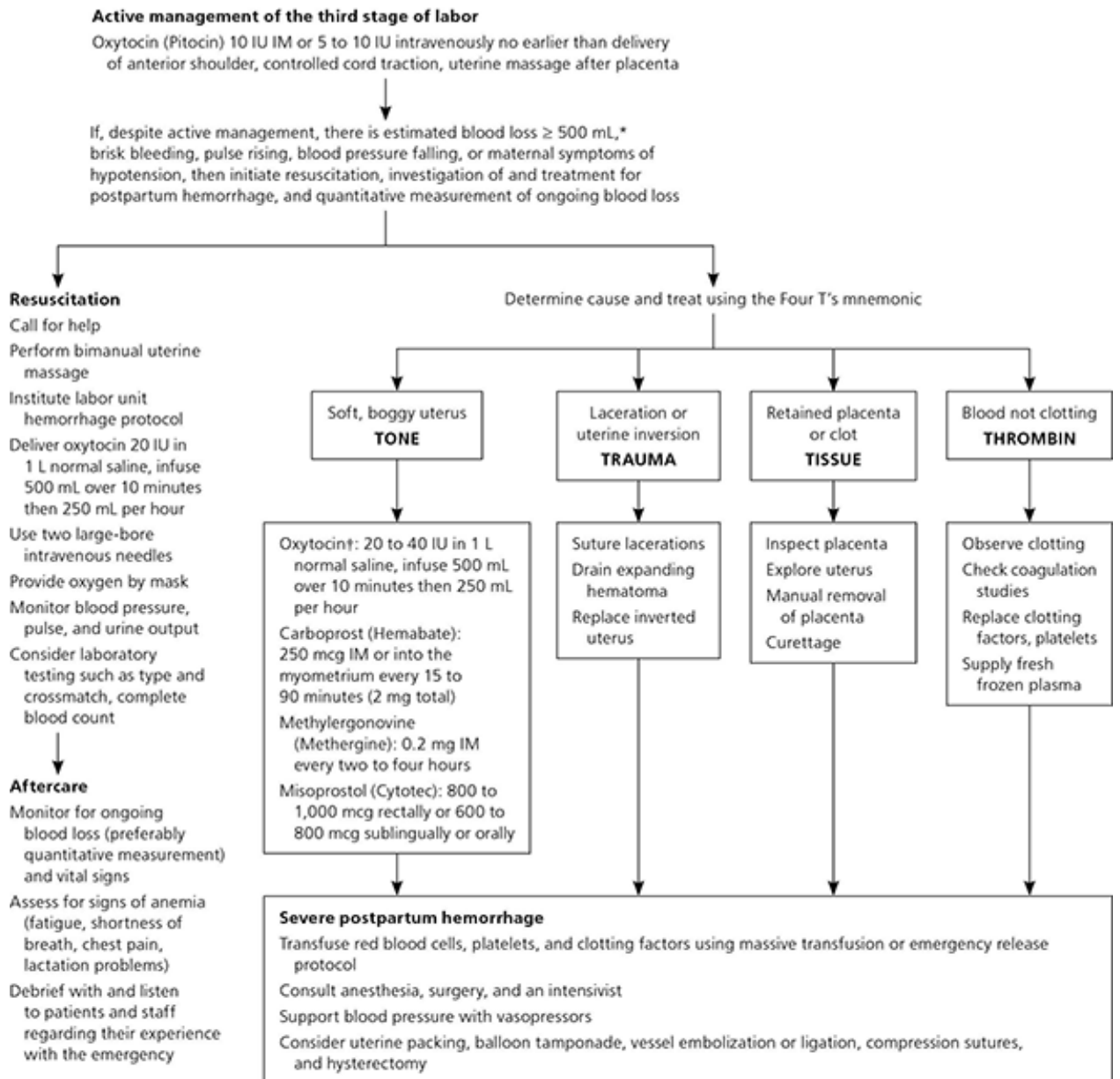
Postpartum hemorrhage (PPH) is defined as blood loss greater than or equal to 500ml within 24 hours after vaginal delivery or blood loss greater than or equal to 1000ml after C-section delivery, severe above 2,000 ml(Mvandal and Coletha 2021). By classifications of postpartum hemorrhage; There are Primary postpartum hemorrhage occurs in the first 24 hours following delivery and Secondary postpartum hemorrhage occurs 24 hours to six weeks following delivery. (Bazirete, Nzayirambaho, Uwimana, et al. 2020).

postpartum hemorrhage is caused by uterine atone, retained tissue, cervical and vagina trauma and thrombin(Bazirete, Nzayirambaho, Umubyeyi, Uwimana, and Marilyn 2020). and the signs and symptoms of PPH includes; Palpitations, Dizziness, Tachycardia, Weakness, Sweating, Restlessness, and pallor(Collins et al. 2019).

The management of postpartum hemorrhage Call for help, Massage the uterus, Oxytocin administration, Ensure an empty bladder by inserting an indwelling urinary catheter, followed by strict assessment of hourly urinary output, Examine the patient to exclude causes of bleeding other than uterine atony such as placental tissue, vaginal and cervical lacerations, uterine rupture and broad ligament haematoma, Recheck placenta for completeness if delivered, Bimanual compression & massage, Curettage, Uterine packing(Collins et al. 2019). and therefore the management of secondary postpartum hemorrhage The main treatment in secondary PPH is Antibiotics: usually a combination of ampicillin (clindamycin if penicillin allergic) and metronidazole, Hysterectomy Gentamicin should be added to the above combination in cases of endomyometritis (tender uterus) or overt sepsis, Uterotonics: examples include oxytocin, prostaglandin F2 and misoprostol (Prostaglandin E1), there are also surgical management which are Pressure

occlusion of the aorta, Uterine artery ligation, and Hysterectomy (Bazirete, Nzayirambaho, Umubyeyi, Uwimana, and Evans 2020a)

Figure 1: SHOW THE MANAGEMENT OF PPH



*—The American College of Obstetricians and Gynecologists defines early postpartum hemorrhage as blood loss of 1,000 mL or more accompanied by signs and symptoms of hypovolemia; cumulative blood loss of 500 to 999 mL alone should trigger increased supervision and potential interventions as clinically indicated.

†—Oxytocin should be used as a first-line agent, with other agents added only if needed to control hemorrhage.

II.3.EMPRICAL STUDY

II.3.1. Prevalence of factors affecting postpartum hemorrhage

Globally postpartum hemorrhage (PPH) is a leading cause of maternal mortality the global prevalence of PPH is 6 %, and the highest burden is experienced in low-income countries. The magnitude of PPH in sub-Saharan Africa is high at 10.5 %. In Uganda PPH causes 25 % of all maternal deaths, while in Rwanda 70% of maternal deaths. Result from direct causes and postpartum bleeding is the leading direct cause of maternal death with 22.7% of all documented cases while the most critical area where PPH is a burden is in Northern Province(Mvandal and Coletha 2021)

II.3.2. FACTORS ASSOCIATED WITH POST PARTUM HEMORRHAGE

II.3.2.1. OBSTETRICAL FACTORS

A history of previous caesarean section associated with greater complication of postpartum hemorrhage. labor duration, Prolonged active phase of labor, known to alter muscle contractility, was associated with an increased risk of PPH, In addition, bleeding risk was higher when the active phase of labor exceeded six hours has been recognized as cause of obstetric hemorrhage(Bazirete, Nzayirambaho, Umubyeyi, Uwimana, and Evans 2020b)

The mode of delivery, eight studies found that vaginal delivery and emergency caesarean were both associated with PPH. Previous PPH, onset of labor, multiparity, history of retained placenta, history of obstructed labor nonattendance of ANC is also a factor associated with postpartum hemorrhage(Kawakita et al. 2019)

II.3.2.2. SOCIOL DEMOGRAPHIC FACTORS

Regarding the social demographic variables, prevalence of PPH in women according to their age group, a study was identified and analyzed that maternal age under 18 and above 40 years associated with greater complications in childbirth, causing more cesarean sections, which aggravates the risk, increases the frequency of PPH and consequently maternal death.(Reale, Bateman, and Farber 2021).

The level of education present predominant distribution in women who had access to high school, and a variable that is necessary to investigate when addressing women in the scope of health promotion, protection, and recovery behaviors. In this younger adults with low schooling are less regularly exposed to preventive tests, indicating the presence of inequalities in the use of services(Reale, Bateman, and Farber 2021).

Marital status, there was a women without a partner. It is important to think about unofficially and/or open marital relationships since it is frequent to break the relationship between the baby's father and mother, and/or make different decisions when discovering a pregnancy. These ruptures generate the woman's lack of support and support from a network, if mothers, as well as widows and divorcees, have the propensity to make up an unprotected group(Bazirete, Nzayirambaho, Uwimana, et al. 2020).

I.3.2.3. SOCIAL ECONOMIC FACTORS

Participants expressed that the lack of knowledge and insufficient information sharing across all levels of care is a barrier to the recognition of the clients at risk of PPH, some people consider "use of family planning as sinful" and as a result give birth frequently without birth spacing(Reale, Bateman, and Farber 2021)

Women and their relatives commented that giving birth at home heightens the risk of complications such as retained placenta or tears of genital organs resulting in PPH, that poverty and poor nutrition exposes the woman to developing PPH. that poor families experience the challenge of not being able to afford to buy basic food or to seek care at the health facility, which is believed to increase their risk for PPH. Family conflict was also expressed as a challenge associated with socioeconomic conditions. Families living with conflict may be less likely to make good decisions regarding health and pay for medical insurance, hence they don't access medical services on time contributing to childbearing complications(Bazirete et al. 2021)

Also economic category(ubudehe) belonging contributes to PPH were most of people fail to pay insurance.

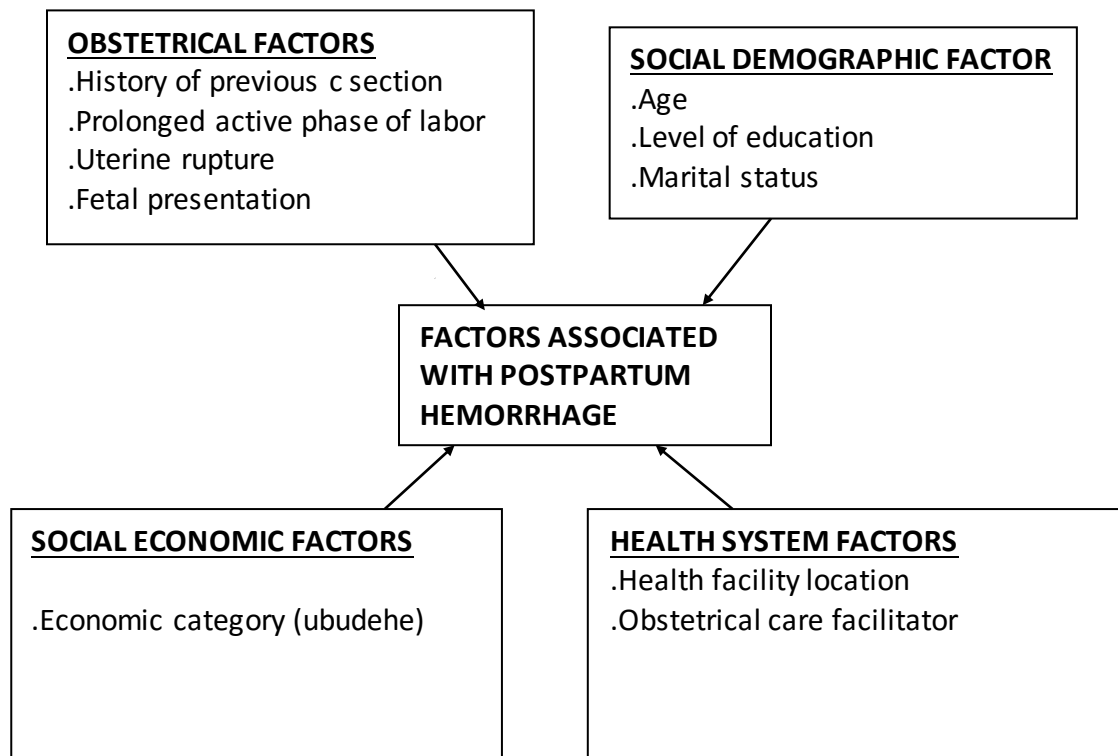
II.3.2.4. HEALTH SYSTEM FACTORS

For the health service factors, the results demonstrated that the levels of district hospital and general hospital were more likely to increase the odds of having PPH. The hospitals

with inadequate nurse and midwife to patient ratio had significantly increased the odds of having PPH two times compared to the hospitals that had adequate nurse and midwife to patient ratio, The study found that lack of nurse and midwives working experience of 6–10 years in the unit were more likely to increase the risk of having PPH more than two times (Reale, Bateman, and Farber 2021).

The hospitals with inadequate emergency obstetric care resources had significantly increased rate of PPH by 6.47 times compared to the hospitals that had adequate equipment and supply for EmOC. workload more than 25 days, ratio of nurse and midwives in afternoon and night shifts less than 2 persons, and inadequate equipment and supplies for EmOC. All significant maternal and health service factors variables were analyzed by using multiple logistic regression models(Bazirete, Nzayirambaho, Umubyeyi, Uwimana, and Evans 2020a).

Figure 2:SHOW THE FACTORS CONTRIBUTING TO PPH



CHAPTER III: METHODOLOGY

This chapter presents the study area, study design, study population, study sample and sampling strategy, method and procedures, data collection, data analysis, ethical consideration.

III.1 Study Area

Kibuye Referral Hospital (KRH) is located in Karongi District, Bwishyura sector, Kibuye cell and Gatwaro Village. In fact Karongi District is one of the seven Districts in the western Province and also among districts that form Kivu belt; Karongi has three hospitals by which two are subsidiaries. Kibuye Referral hospital is the only fully public Hospital in Karongi District. It Hospital supervises 10 health centers which are; Kibuye, Rubengera, Bubazi, Rufungo, Kiziba, Musango, Bigugu, Gisunzu, Kirambo and Bubazi HC. It also serves a people from Districts Hospitals such as: Kilinda, Mugonero, Bushenge, Murunda.

III.2. Staff

Hospital staffs: 185 in total (9 Specialists, 11 General Practitioners, 69 nurses, 16 Midwives, 35 Allied health professionals, 45 supporting staff).

III.3. Study Design

In this research project, researchers use retrospective study using quantitative approach of inquiry and data management to generate and measure results.

III.4. Target Population

The target population is all cases of PPH patient files recorded from 2018-2021 in maternity ward at Kibuye Referral Hospital.

III.5. Sampling procedure

The systematic random sampling method used and calculated using Cochran's formula $n = n_0 / (1 + (n_0 - 1) / N)$ where n_0 equal to $(n_0 = (Z^2 pq / e^2))$ was used to calculate the sample size from population of interest to be reviewed. The n_0 (is Cochran's sample size recommendation), N (is the population size), n (is the new adjusted sample size).

The Z (variate from normal distribution that represents the level of confidence) was 1.96; p (estimated proportion of attribute present in a population; and $q = 1 - p$. The desired level of precision (e) was set at 95% (minimum acceptable errors at 5%) giving a total sample to be reviewed. This study included all files recorded in register from Labor ward of woman who delivered at Kibuye Referral Hospital at a specified period of 2018 and 2021. By calculation $n_0 = (1.96)^2 * 0.227 * (1 - 0.227) / (0.05)^2$ equal to 270, if $N = 144$, $n = 270 / (1 + ((270 - 1) / 144))$ equal to **94**

III.6. Sample Size

In this study, the sample size composed of **94** patient files recorded from 2018 to 2021 at Kibuye Referral Hospital.

III.7. Inclusion Criteria

All recorded postpartum hemorrhage files in maternity ward at Kibuye referral hospital from 2018-2021.

III.8. Exclusion Criteria

All recorded file which are not related to postpartum hemorrhage from 2018-2021 and those which are not meet with our criteria

III.9. Research instrument for data Collection

Check list used in data collection, pen , file, computer machine and calculator.

III.10. Data Collection Procedures and Tools

The researchers going to the hospital and present themselves to the staff and explain briefly the study. The check list used, therefore, after collecting data hospital thanked. The data collected during 7 day time period.

Our research use structured check list as a data collection tools.

III.11. Validity and Reliability Measure

III.11.1. Validity

To ensure validity we use checklist for previous research as it is used to adopt document which used in prior research related to factors affecting PPH.

III.11.2. Reliability

We conduct pilot study in order to ensure reliability of instrument. It conduct by testing small sample of our study population therefore we use a check list to review a recorded document as sample size at Kibuye referral hospital for making sure that our instrument would provide accurate results, it conducted before actual data collection.

III.12. Data Analysis

Results obtained after being recorded on data collection sheets, MS excel for data entry and processing and SPSS version 24 will be used to enter the data after being coded using the computer machine and presented in tables in form of frequencies and percentages to determine the factors associated with postpartum hemorrhage among mothers who have delivered at Kibuye referral hospital.

III.13. Ethical Issue

Before conducting the research, students receive ethical clearance from KIBOGORA POLYTECHNIC in the department of nursing and midwifery. And presented to KRH's administration. The students also get the permission from KRH's administration to conduct the research. The outcome of the study should remain confidential, and for academic only.

CHAPTER IV: DATA PRESENTATION, ANALYSIS, INTERPRETATION AND SUMMARY

IV.0. INTRODUCTION

In this chapter, the data from the client's files and Maternity logbook are presented, analyzed, and interpreted. The result of the study on the factors associated with of post-partum

haemorrhage among mothers who are delivered at Kibuye Referral Hospital. The data analysis was done by statistical package for socio science (SPSS) software version 24. And the result was presented using descriptive statistics. Analytical statistics were used to compare independent and dependent variables in order to establish the relationship between these variables. For the statistical test p-value of < 0.05 was considered to be statistically significant with 95%.

IV. 1. PRESENTATION OF FINDINGS AND INTERPRETATION

IV.1. 2. PREVALENCE OF PPH AT KIBUYE REFERRAL HOSPITAL

The results of our study show that the prevalence of PPH at Kibuye referral hospital during 2018 to 2021 were 2% in overall 22.7% in Rwanda we saw it by calculation where we take the total number of cases (c) which are 144 and divided by total population (p) which are 6027 and multiply by %. We found that most of mothers are negative about PPH 5883(98%) and a few number of them were positive about PPH and these accounted for 144(2%)

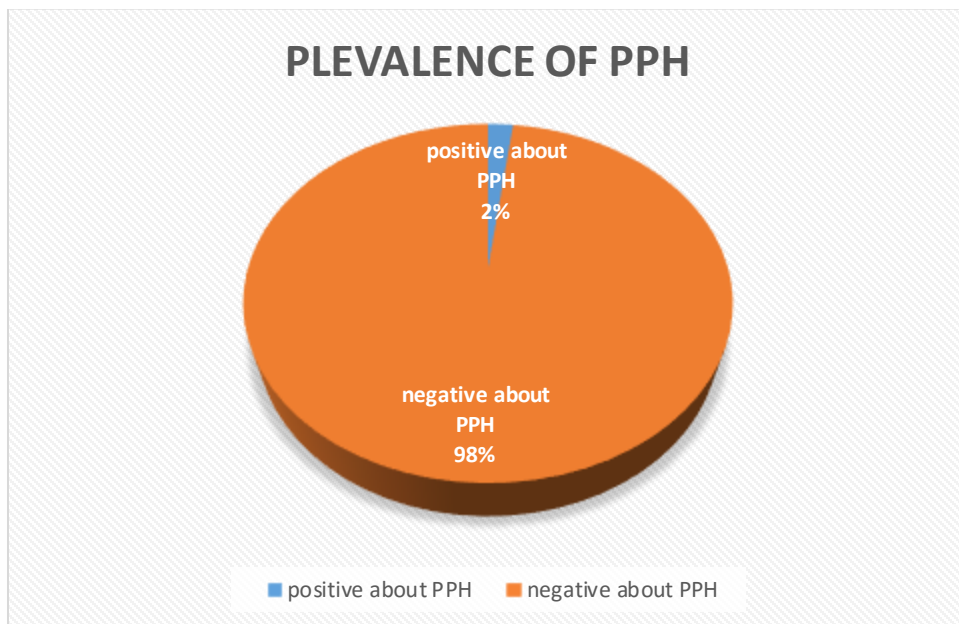


Figure 3: showing prevalence of PPH at Kibuye referral hospital

Table 1:Distribution of social demographic factors

Factor (n = 94)	Frequency	Percentage
Maternal age		
<20	15	16.0
20 to 34	48	51.0
≥ 35	31	33.0
Occupation		
Student	20	21.3
Unemployed	19	20.2
Farmer	30	31.9
Employed	25	26.6
Educational level		
No formal education	11	11.7
Primary	40	42.5
Secondary	29	30.9
University	14	14.9
Marital status		
Single	26	27.7
Married	68	72.3

The above table showed that among 94 women reviewed in this study, about 48 (51.0%) of them were aged between 20 to 34 years. In terms of occupational status, 30 (31.9%) are Farmers and Majority of them 68 (72.3%) were married.

Table 2: Distribution of obstetrical factors

FACTORS (n=94)	FREQUENCY	PERCENTAGE
History for antenatal care		
Yes	90	95.7
No	4	4.3
Parity		
Primipara	26	27.7
Multipara	68	72.3
history of obstructed labor		
Yes	9	9.6
No	85	90.4
onset of labor		
Spontaneous	68	72.3
Induced	26	27.7
duration of labor		
<24	59	62.8
>24	35	37.2
delivery with episiotomy		
Yes	11	11.7
No	83	88.3
mode of delivery		
vaginal delivery	59	62.8
C-section	35	37.2
duration of third stage labor		
<30	30	31.9
>30	64	68.1
cervical laceration		
Yes	16	17.1
No	78	82.9
fetal macrosomia		
Yes	3	3.2
No	91	96.8
previous retained placenta		
Yes	3	3.2
No	91	96.8
previous of uterine atony		
Yes	6	6.4
No	88	93.6
previous PPH		
Yes	7	7.4
No	87	92.6

The above table showed that among 94 women reviewed about 68 (72.3%) was multiparous. Majority 90 (95.7%) had a history of ANC follow-up for their last pregnancy. Concerning the mode of delivery, 59 (62.8%) was vaginal delivery. 35 (37.2%) had history of prolonged labor, 10(10.6%) had history of delivery with episiotomy, and 7(7.4%) had history of postpartum hemorrhage.

Table 3:Distribution of social economic factors

Factor (n = 94)	Frequency	Percentage
Economic category		
Category 1	42	44.7
Category 2	28	29.8
Category 3	24	25.5

The above table showed that among 94 woman reviewed in this study the majority of them was the woman who are in category 1 of ubudehe were 42(44.6%)

Table 4:Distribution of health system factors

Factors (n=94)	Frequency	Percentage
Obstetrical care facilitator		
Specialist	12	12.8
General practitioner	59	62.8
Nurses/ Midwife	23	24.5
Health care location		
Near	34	36.2
Distant	60	63.8

The above table showed that among 94 woman reviewed in this study the majority of them are woman who live distant from health location were 60(63.8%)

IV.2. RELATIONSHIP BETWEEN FACTORS ASSOCIATED WITH PPH AT KIBUYE REFERRAL HOSPITAL DURING 2018-2021

	Pearson Square	Chi-Df	Exact Sig. (2-sided)
Parity	1.040 ^a	1	.382
previous of uterine atony	1.415 ^a	1	.287
Previous PPH	1.670 ^a	1	.344
Duration of labor	1.598 ^a	1	.319
Fetal macrosomia	1.402 ^a	1	.206
Cervical laceration	1.101 ^a	1	.127
Mode of delivery	4.333 ^a	1	.509
History of antenatal care	.554 ^a	1	1.000
History of obstructed labor	1.319 ^a	1	.592
Advanced age	3.335 ^a	1	.489
Ubudehe category	1.493 ^a	1	.501
Obstetrical care facilitator	1.519 ^a	1	.532
Marital status	.135 ^a	1	.556

The above table of relationship between factor affecting PPH at Kibuye referral hospital from 2018 to 2021 shows that the majority factor are cervical laceration with chi-square of 1.101 and p-value of .127, fetal macrosomia with chi-square of 1.402 and p-value of .206, parity with chi-

square 1.040 and p-value .382, previous of uterine atony with chi-square 1.040 with p-value .287, duration of labor with chi-square 1.598 with p-value .319 these all factor are significant to PPH and other factor such as marital status with chi-square .135 with p-value .556, obstetrical are facilitator with chi-square with 1.519 with p-value .532 and history of antenatal care with chi-square .554 with p- value 1.000 are not significant to PPH at Kibuye referral hospital during that year.

IV.3. DISCUSSION OF FINDINGS

The findings of research project about the factors associated with postpartum hemorrhage among mothers who have delivered at Kibuye referral hospital, this study had 144 postpartum hemorrhage cases recorded file from 2018 to 2021. The result of this study revealed that the factors associated with postpartum hemorrhage among 6027 mothers who have delivered at Kibuye referral hospital showed that the prevalence of postpartum hemorrhage at kibuye referral hospital is 2% in overall of 22.7% prevalence in Rwanda during 2018 and 2020 (Bazirete, Nzayirambaho, Uwimana, et al. 2020). This result is compared with previous study where prevalence of PPH in Rwandan referral hospitals was 19.3% (Jean Paul Semasaka Sengoma, 2017). Also compared with the study conducted in Africa was reported relatively different prevalence rates of PPH in Africa, ranging from 1.13% in Nigeria to 23.63% in Cameroon. This Review found the overall prevalence rate of PPH in Africa to be 3.51%

In our study shows that the majority factor are cervical laceration with chi-square of 1.101 and p-value of .127, fetal macrosomia with chi-square of 1.402 and p-value of .206, parity with chi-square 1.040 and p-value .382, previous of uterine atony with chi-square 1.040 with p-value .287, duration of labor with chi-square 1.598 with p-value .319 these all factor are significant to PPH and other factor such as marital status with chi-square .135 with p-value .556, obstetrical are facilitator with chi-square with 1.519 with p-value .532 and history of antenatal care with chi-square .554 with p- value 1.000 are not significant to PPH at Kibuye referral hospital during that year.

Most of woman in social demographic factors are advanced age where the majority are the woman aged between 20 to 34 years old were 48(51.0%), about the occupation the farmer women were 30(31.9%) and the woman who have primary level of education are likely to have

PPH were 40(42.6%) and most of them are married were 68(72.3%). Similarly to the study conducted in Bossama hospital in Cameroon (Ononge, 2016). In obstetrical factors most of women where the multipara were 68(72.3%) and most of them they deliver without episiotomy done were 83(88.3%) and without history of obstructed labor were 85(90.4%) and the onset of labor it was spontaneous were 68(72.3%) where the duration of labor is below 24 hours were 59(62.8%) and the mode of delivery was vaginal delivery were 59(62.8%) and about the duration of third stage of labor is above 30 minutes were 64(68.1%) and there is no history of previous retained placenta among them were 91(96.8%) and there is no previous uterine atony among them were 88(93.6%) and here is no previous PPH were 87(92.6%). This result is similar to the previous study done at Yiergalem general hospital in Ethiopia (Mehrabadi A, 2014). In social economic factors most of them they belong in cat 1 of ubudehe were 42(44.7%) their obstetrical care facilitator were general practitioner 59(62.8%) and most of them they live far away of health care facilities were 60(63.3%). This is similar to the study done in northern province(Bazirete, Nzayirambaho, Umubyeyi, Uwimana, and Evans 2020a).

Women's associated with postpartum haemorrhage of determinants of PPH, as evidenced by higher percentage of women among the one attend kibuye referral hospital. The research findings showed the high percentage of PPH with women multiparty ,prolonged labour and advanced age In Rwanda in this paper introduction of maternal health now highlight that the main reason for death during childbirth and during the 24 hours following the birth are associated to medical and obstetrical condition including PPH (Bazirete, Nzayirambaho, Uwimana, et al. 2020).

One of the millennium development goals set by the United Nations in2014 is to reduce maternal mortality by three quarter by 2015. One of the millennium development goals set. if this is to be achieved, maternal deaths related to postpartum hemorrhage (PPH) must significantly reduce. In support of this, health workers in developing countries need to have

Access to appropriate medications and to be trained in relevant procedures .but beyond this; countries need evidence-based guidelines on the safety, quality, and usefulness of the various Interventions. These will provide the foundation for the strategic policy and programmed Development needed to ensure realistic and sustainable implementation of appropriate interventions. PPH is generally defined as blood loss greater than or equal to 500 ml within 24 hours after birth, while severe PPH is blood loss greater than or equal to 1000 ml within 24

hours. PPH is the most common cause of maternal death worldwide. most cases of morbidity and mortality due to PPH occur in the first 24 hours following delivery and these are regarded as primary PPH whereas any abnormal or excessive bleeding from the birth canal occurring between 24 hours and 12 weeks postnatal is regarded PPH is globally one of the most common cause of maternal death worldwide especial in developing country. A totally a number of 80% cases of postpartum haemorrhage that fulfilled selection criteria were included Data collection and analysed in patient with PPH medical and surgical management.

In Rwanda reduction of maternal mortality and morbidity is major globally health priority. However, much remains unknown regarding factors associated with postpartum hemorrhage among child bearing women in Rwanda context. The aim of this is to explore the influencing factor for prevention of PPH and early detection of childbearing women at risk as perceived by beneficiaries and health workers in Northern Province

In present most cases were multigravida 60% and more than 50% require and blood products in present most in postpartum bleeding cases management by medical method. Uterotonic drugs 42.5% this was possible due to early and timely identifications (Umubyeyi, Uwimana, and Marilyn, n.d.).

CHAP.V.GENERAL CONCLUSION AND RECOMMENDATION

V.0. INTRODUCTION

The findings of our research project the factors associated with postpartum hemorrhage among mothers who have delivered at Kibuye referral hospital. According To Maternal Death Audit (MDA) From Health Facilities report, many women still die each year in Rwanda from causes related to pregnancy complications and/or childbirth. In 2010, the Rwandan woman had a risk of 1/40 (2.5%) to die from a cause related to pregnancy childbirth. Among 134 maternal death reviewed in this report from different hospitals, the main cause of death is still severe bleeding (46.3%) and More than 3/4 cases occurred during postpartum period. (Rwanda National Institute of Statistics; 2015.).

Therefore, is why we choose to make research on factors associated with post-partum hemorrhage among mother's who have delivered at kibuye referral hospital, our research study use systematic random sampling method which calculated using Cochran's formula $n = n_0 / (1 + (n_0 - 1) / N)$ and use retrospective study using quantitative approach of inquiry and data management to generate and measure results. Also our study use structured check list as a data collection tools.

The research question was the prevalence of PPH among mothers who delivered at Kibuye referral hospital where we found the prevalence of 2% of PPH cases in overall 22.7% PPH prevalence in Rwanda, about the factors associated with postpartum hemorrhage we found that the majority factor are cervical laceration with chi-square of 1.101 and p-value of .127, fetal macrosomia with chi-square of 1.402 and p-value of .206, parity with chi-square 1.040 and p-value .382, previous of uterine atony with chi-square 1.040 with p-value .287, duration of labor with chi-square 1.598 with p-value .319 these all factor are significant to PPH and other factor such as marital status with chi-square .135 with p-value .556, obstetrical are facilitator with chi-square with 1.519 with p-value .532 and history of antenatal care with chi-square .554 with p-value 1.000 are not significant to PPH at Kibuye referral hospital during that in this year also the woman aged at 18,31,37 years old were 6(6.4%), occupation the farmer women were 30(31.9%), educational level the woman who have primary level were 40(42.6%) and marital status the woman who are married were 68(72.3%),most of them where the multipara were 68(72.3%) and their delivery was no episiotomy done were 83(88.3%) and there is no history of obstructed labor

were 85(90.4%) and the onset of labor it was spontaneous were 68(72.3%) where the duration of labor is below 24 hours were 59(62.8%) and the mode of delivery was vaginal delivery were 59(62.8%) where the duration of third stage of labor is above 30 minutes were 64(68.1%) and there is no history of previous retained placenta among them were 91(96.8%) and there is no previous uterine atony among them were 88(93.6%) and here is no previous PPH were 87(92.6%) and most of them they belong in cat 1 of ubudehe were 42(44.7%) their obstetrical care facilitator were general practitioner 59(62.8%) and most of them they live far away of health care facilities were 60(63.3%). The main associated factors found in this study were similar to the results found in many literature studies which are cervical laceration, uterine rupture, previous PPH, multiple pregnancy as compared to the study we done, the prevalence of PPH was higher in obstetrical factors and social demographic factors. The main factor being cervical laceration, uterine rupture, multiple pregnancies and other complications can be picked up early and identify the mothers at risk for intensive interventions. The mother should not be delivered at home. However further studies are needed to investigate the reason for cervical laceration in Kibuye referral hospital.

V.1 CONCLUSION

Multiparty, advanced maternal age, prolonged labor, previous c section , vaginal delivery, duration of third stage of labor, category 1 of ubudehe and the location which is distant from health facilities are highly associated to the factors affecting PPH among woman delivered at kibuye referral hospital

V.2.RECOMMENDATIONS

PPH is the one of serious complications in maternity that affects the women 15-45 after delivery. It is reason why we recommend:

V.2.1. Kibuye referral hospital recommendation

The medical team should ensure good health promotion and education concerning reproductive health in rural areas and emphasizing the women to deliver in health facilities, for their own

safety and newborns especially for those who experienced antenatal pregnancy complication and those with previous history of PPH or any other complication of previous pregnancy.

V.2.2. Recommendation at kibogora polytechnic university

- I. Special research is needed for management of postpartum haemorrhage contribution to special training.
- II. Improve the research module as well still the gap in statistics e.g. (Use of SPSS).
- III. The supervisors they would conduct many research trainings for their student in order to have the common understanding in it because we encountered some contradictions between supervisors.

V.3. SUGGESTION FOR FURTHER STUDY

The main factors were multiple pregnancies, duration of third stage of labor, prolonged labor distant location and other complications can be picked up early and identify the mothers at risk for intensive interventions. The mother should not be delivered at home.

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APPENDICES

Appendix a

CHECK LIST FOR DATA COLLECTION

Factors	Frequency	Percentage	Tick
Social demographic factors			
Maternal age			
<20			
20 to 34			
≥ 35			
Occupation			
Student			
Unemployed			
Farmer			
Employed			
Educational level			
No formal education			
Primary			
Secondary			
University			
Marital status			
Single			
Married			
Obstetrical factors			
History for antenatal care			
Yes			
No			
Parity			
Primipara			
Multipara			
history of obstructed labor			
Yes			
No			
onset of labor			
Spontaneous			
Induced			
duration of labor			
<24			

>24			
delivery with episiotomy			
Yes			
No			
mode of delivery			
vaginal delivery			
C-section			
duration of third stage labor			
<30			
>30			
cervical laceration			
Yes			
No			
fetal macrosomia			
Yes			
No			
previous retained placenta			
Yes			
No			
previous of uterine atony			
Yes			
No			
previous PPH			
Yes			
No			
social economic factors			
Economic category			
Category 1			
Category 2			
Category 3			
Health system factors			
Obstetrical care facilitator			
Specialist			
General practitioner			
Nurses/ Midwife			
Health care location			
Near			
Distant			

Appendix b: Budget for research dissertation

Activities	Cost / Rwf
Transport	20, 000
Data collection and internet	50, 000
Printing, photocopy &Binding	15, 000
Total	85,000

Appendix c: Research timeline

Activities	Period
Writing proposal	August to October, 2021
Writing Chapter 1 to 2	November to December, 2021
Data collection	January to February, 2022
Data analysis	February, 2022
Writing and submitting final report	March, 2022