

**PREVALENCE OF TEENAGE DELIVERIES, AND THE SUBSEQUENT MATERNAL
AND NEONATAL OUT COMES AMONG WOMEN DELIVERING FROM BWERA
HOSPITAL, KASESE UGANDA**

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DCM/0019/152/DU

**A RESEARCH REPORT SUBMITTED TO THE SCHOOL OF ALLIED HEALTH
SCIENCES IN PARTIAL FULFILMENT OF AWARD OF
A DIPLOMA IN CLINICAL MEDICINE AND COMMUNITY HEALTH OF
KAMPALA INTERNATIONAL UNIVERSITY**

DECEMBER 2017

DECLARATION:

I **Tabula Joseph** declare that this study is solely as a result of my independent work and has never been presented for any award in any institution and has never been published

All the views expressed herein are mine and, authors were quoted in the reference where reviewed extracts were made.

Signature

.....

Date.....

SUPERVISOR'S APPROVAL

This research report under the title” **The prevalence of teenage deliveries, and the subsequent maternal and neonatal out comes among women delivering from Bwera hospital Kasese Uganda** was done under my supervision and be submitted for examination purpose with my full approval as the supervisor.

SIGNATURE.....

DR. KINTU MUGAGGA

DATE.....

DEDICATION.

I dedicate this work to my fallen parents Mr. Matovu John Baptist and Mrs. Theresa Nyaburungu.

Since 31. July 1993, it is now 25years of missing you. My you rest in eternal peace. Amen.

ACKNOWLEDGEMENT

GOD you are the mighty one watching over me always, please keep around me. My one and only Brother Mwasa Ludovic, thanks for being my parent. A family of Mr. And Mrs. Musoke, thank you for your love for us and your assistance has moved me this far.

My dear Teachers thank you very Much, Mr. Collins Atuheire, you are such an inspiration to me, thank you in a special way.

My Supervisor Dr. Kintu, thank you for sacrificing your time for me.

John Paul My dear, there are unlimited treasures in guided Education and be good to your neighbors, friends and family.

LIST OF ACRYNOMS:

APGAR	Appearance, Pulse, Grimace, Activity, and Respiration.
BH	Bwera Hospital,
CS:	Caesarean section;
CPD	Cephalo-pelvic disproportion
ICD:	International statistical classification of diseases and related health problems;
KIU	Kampala International University.
LCV	Local Council Five.
LGA:	Large for gestational age;
LMICs	Low and Middle Income Countries.
MDGs	Millennium Development Goals.
MHS	Maternal Health Services.
NGO	Non-Governmental Organizations
NICU	Neonatal Intensive Care Unit.
SD:	Standard deviation;
SDGs	Sustainable Development Goals.
SGA:	Small for gestational age
U.S	United States
UBOS	Uganda Bureau Of Statistics
UDHS	Uganda Demographic Health Survey
UDHS	Uganda Demographics and Health Survey
UK	United Kingdom
UNFPA	United Nations Population Agency
UNICEF	United Nations Children’s Fund.
WHO	World Health Organization.

DEFINATION OF TERMS:

- Cesarean section:** Incision through the abdominal wall and the uterus (abdominal hysterectomy) for extraction of the foetus
due to pregnancy or the influence of a recent pregnancy.
- Eclampsia:** Occurrence of one or more convulsions, not attributable to other cerebral conditions such as epilepsy or cerebral haemorrhage, in a patient with pre-eclampsia.
- Fresh previous cesarean scar:**
A cesarean section scar that is less than 2 years old.
- Gravidity:** The number of pregnancies (complete or incomplete) experienced by a woman
- Infant:** A child less than one year.
labour or delivery
- Low birth weight:** New born baby weighing less than 2.5Kg
- Maternal morbidity:** Medical complications in a woman caused by pregnancy,
- Maternal mortality:** The pregnancy-related death of a woman while pregnant or within 42 days
- Neonatal death:** Death of a young, live born infant
- Neonate:** A new born baby who is less than 28 days.
of termination of pregnancy irrespective of the gestation and site
of the pregnancy.
- Perennial tear:** Tears involving the structures with in the perennial region.
- Pre-eclampsia:** Development of hypertension with proteinuria or oedema, or both,
- Prime gravida:** A woman carrying her first pregnancy.
- Teenager:** A person aged (11-18) years.

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ABSTRACT

Background Globally, complications during pregnancy and child birth are the second leading cause of death among girls aged (15-19) years old (Banke-thomas, Banke-thomas, & Ameh, 2017). The teenage birth rates range from 8% in East Asia to 55% in sub-Saharan Africa (Garba, Adewale, Ayyuba, & Abubakar, 2016). In Uganda, 24% prevalence was reported by (Gideon, 2013) this increased in a study carried out from Mbarara Regional Referral Hospital, adolescent deliveries accounted for 23.4% of all the deliveries (Masembe, 2016). Thus Uganda has the highest prevalence in Sub-Saharan Africa. Delivery complications of teenage mothers include; increased risks to caesarean delivery, vaginal instrument delivery. Obstetric fistulae, episiotomies genital tears and PPH, (Florent Y et al., 2015). Teenage mother babies are at an increased risk of preterm delivery, low birth weight, dying as infants as compared to those born to (20-24) years old mothers(Banke-thomas et al., 2017).

Aims and objectives. The study was carried out to determine the prevalence of teenage deliveries and the subsequent maternal and neonatal outcomes among women delivering in Bwera Hospital during the year 2016.

Methods. A retrospective analysis of facility-based cross-sectional data from Bwera hospital records from January 2016 to December 2016 was carried out. Data was collected on structured proforma designed according to the specific objectives of the study. Relevant statistical analyses were carried out using SPSS, and the results were presented in form of frequency tables.

Results. In 2016, Bwera Hospital registered 4220 deliveries, and 795(18.8%) were teenage deliveries. Many delivered by SVD 421(53.0%), and 374(47.0%) delivered by caesarean. The maternal complications were Perennial tear 139(31.2%), followed by PPH 95(21.3%), Hypertensive disorders 63(14.1%), Mal-presentation 54(12.1) Obstructed labour and Prolonged labour each presented with 23(5.2%), Maternal distress 43(9.6%) and Retained placenta 6(1.3%) were the least common there were 5 (0.62%) maternal deaths. Among the babies, 47(5.6%) had birth asphyxia, 33(4.2%) Fetal distress, 6(0.8%) neonatal death, macerated still births 25(3.1%)

and 14(1.8) Fresh still births. 22.5% low APGAR score < 7 in five minutes, normal birth weight >2.5kg were 506(66.9%). Low birth weight was 179(23.7%) very low birth weight was 71(9.4%)

Conclusion. Teenage deliveries are risky. It's important to reduce the teenage pregnancy by improving the socio-economic condition, education, public awareness, strict implementation of law, good ANC care, nutrition, access to contraceptive services and sex education

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

Adolescence (10-19) years is a transitional phase of physical and mental development, involving profound biological, social and psychological changes(Fouelifack et al., 2014).

Among the girls in the age group of (15-19) years, about 16 million girls give birth every year, and of which 95% of these births occur in low and middle income countries (LMICs) (Banke-thomas et al., 2017). In a more recent report, it was shown that girls aged (15-19) years, contribute to 12% of the global annual births, however also make up 10% of the global annual maternal deaths(Banke-thomas et al., 2017).

Globally, complications during pregnancy and child birth are the second leading cause of death among girls aged (15-19) years old (Banke-thomas et al., 2017).

Sub-Saharan Africa recorded the highest prevalence of teenage pregnancy in the world in 2013(Akanbi, Kk, & Ab, 2016) Cameroon has a high rate of adolescent pregnancies. According to the 2011 Demographic Health Survey (DHS), 23.3% (Fouelifack et al., 2015)

In Uganda, 24% of the adolescent girls become pregnant before the age of 19. This therefore makes Uganda to have one of the highest rates of adolescent pregnancies in Sub-Saharan Africa. The country's highest adolescent pregnancy rate has 2 distinct implications. First the risk of maternal death is higher in adolescent girls than in older women. In addition, pregnant adolescent girls are more susceptible to pregnancy and child related complications because they have not yet developed the physical maturity required for healthy pregnancy(Gideon, 2013)

Pregnancy during teenage years is associated with socioeconomic and health inequalities as regard both mother and child, including higher risks of deprivation, behavioral and emotional

difficulties, maltreatment, morbidity and premature mortality(Leppälahti, Gissler, Mentula, & Heikinheimo, 2013). Many end in school dropout, juvenile violence, suicide and sometimes homicide also are often socially disadvantaged (Florent Y et al., 2015). Many of these raise their babies as single parents, they are unable to complete their education, and consequently have a limited capacity to secure a job and sustain a livelihood to support themselves and their children(Manlove et al., 2011; Medicine, 2015)

The health of the babies born to these mothers is compromised. These babies are at an increased risk of preterm delivery, low birth weight, dying as infants as compared to those born to (20-24) years old mothers(Banke-thomas et al., 2017).

Obstetric risks of these teenage pregnancies and deliveries are often divided into categories of maternal complications during pregnancy such as; maternal anemia, hypertensive problems, and preterm birth(Leppälahti et al., 2013). Delivery complications include; increased risks to caesarean delivery, vaginal instrument delivery. Obstetric fistulae, episiotomies genital tears and postpartum hemorrhage(Florent Y et al., 2015).

This has made teenage pregnancies a global concern, although most pronounced in the developing countries but also still remains a challenge in the developed countries (Leppälahti et al., 2013). The incidence of teenage pregnancy ending in delivery varies widely with Nordic countries having comparatively low rates; for example, reports showed teenage pregnancies ending into delivery of (6/10000 in Sweden, and (9/1000) in Finland, compared with (24/1000) in England and Wales, and (34/1000) in the USA in 2010(Leppälahti et al., 2013).

The government of Uganda, has made considerable progress in improving the status of the girl child over the last decade through creating greater opportunities for girls' education and in creation and/ or promotion of women and children rights(Florent Y et al, 2015). Universal primary and Secondary education in Uganda, (Walter F et al, 2016) In addition to numerous pieces of legislation that have been passed which include the Penal Code Act, the Children's Act, the Domestic Violence Act and the Female Genital Mutilation Act have all worked in synergy to create a sense of increased protection of the girl child in Uganda and prevent child marriages and pregnancies(Florent Y et al, 2015).

Also the government of Uganda in conjunction with UNICEF, came up with a strategy in 2015, known as “THE NATIONAL STRATEGY TO END CHILD MARRIAGE AND TEENAGE PREGNANCY 2014/1015-2019/2020”(Florent Y et al, 2015). All these are aimed at preventing the burden that follows teenage pregnancies and deliveries at an individual, family, community and the country as a whole. This study therefore, will be focused on the prevalence of teenage deliveries and the subsequent maternal and neonatal outcomes at Bwera Hospital.

1.2 PROBLEM STATEMENT

The intrapartum health of teenage mothers is often challenged by the physical and obstetric complications whose effects are socially negative. Many of these raise their babies as single parents, they are unable to complete their education, and consequently have a limited capacity to secure a job and sustain a livelihood to support themselves and their children (Banke-thomas et al., 2017).

Their babies are at an increased risk of preterm delivery, low birth weight, dying as infants as compared to those born to (20-24) years old mothers (Banke-thomas et al., 2017). This study therefore, is intended to study the prevalence of these challenging deliveries and how they affect both the mother and the baby amongst the community attending BH.

1.3 OBJECTIVES

1.3.1 Broad objective

To determine the prevalence of teenage deliveries, and the subsequent maternal and neonatal outcomes among women delivering from Bwera Hospital.

1.3.2 Specific objectives

1. To find out the proportion of teenage deliveries out of all the deliveries conducted in BH from January 2016 to December 2016.
2. To establish the maternal out comes following teenage deliveries in BH from January 2016 to December 2016.
3. To assess the neonatal out comes from teenage deliveries in BH from January 2016 to December 2016.

1.4 Research Questions

1. What is the proportion of the teenage deliveries out of all the deliveries conducted in BH from January 2016 to December 2016?
2. What maternal outcomes are encountered following teenage deliveries conducted in BH from January 2016 to December 2016?
3. What are the neonatal out comes from teenage deliveries conducted in BH from January 2016 to December 2016?

1.5 JUSTIFICATION AND SIGNIFICANCE OF THE STUDY

1.5.1 Justification of The Study

Globally, complications during pregnancy and child birth are the second leading cause of death among girls aged (15-19) years old (Banke-thomas et al., 2017). Knowledge of these complications will help to reduce the trend of teenage mortality at all levels.

Uganda has one of the highest rates of adolescent pregnancies in Sub-Saharan Africa where, 24% of the adolescent girls in Uganda become pregnant before the age of 19 (Richard, 2010) But there is little known about the outcomes of these pregnancies.(Walter F et al, 2016) not even in BH. This further calls for this study initiative.

Pregnancy during teenage years is associated with socioeconomic and health inequalities to both the mother and child, including higher risks of deprivation, behavioral and emotional difficulties, maltreatment (Leppälähti et al., 2013) these results into high morbidity and prenatal/neonatal mortality, (K. I. Report, 2017) the MoH is fighting to reduce this maternal and child mortality burden as one of the goals in the sustainable development goals (Undiyaundeye, 2016) this further clearly justifies this study which will be conducted in BH looking at full records of the year 2016.

1.5.2 Significance of The Study

The study findings will be helpful to the administration, maternal and child health department of BH in policy making and identifying high risk pregnancies and deliveries.

It will work as an informative tool for policy makers in the Ministry of Health.

NGOs who are interested in improving mother and child health can use its findings to draw policies for their projects.

1.6 SCOPE OF THE STUDY

1.6.1 Content Scope

The study focused on the prevalence of teenage deliveries, intrapartum and postpartum maternal complications and neonatal outcome following the deliveries.

1.6.2 Time Scope

The study reviewed hospital maternal register records from January 2016 to December 2016.

1.6.3 Geographical Scope

This study was conducted in Bwera Hospital (BH), located in the town of Bwera Kasese District, near the international border with DR. Congo. It is Approximately 79km Southwest of Fort Portal Regional Referral Hospital, approximately 163km Northwest of Mbarara Regional Referral Hospital,

It serves the surrounding sub-counties in the Kasese District, and patients from neighboring DR. Congo. Bed capacity is 100. Although many times it admits up to 300 patients.

1.7 Conceptual framework

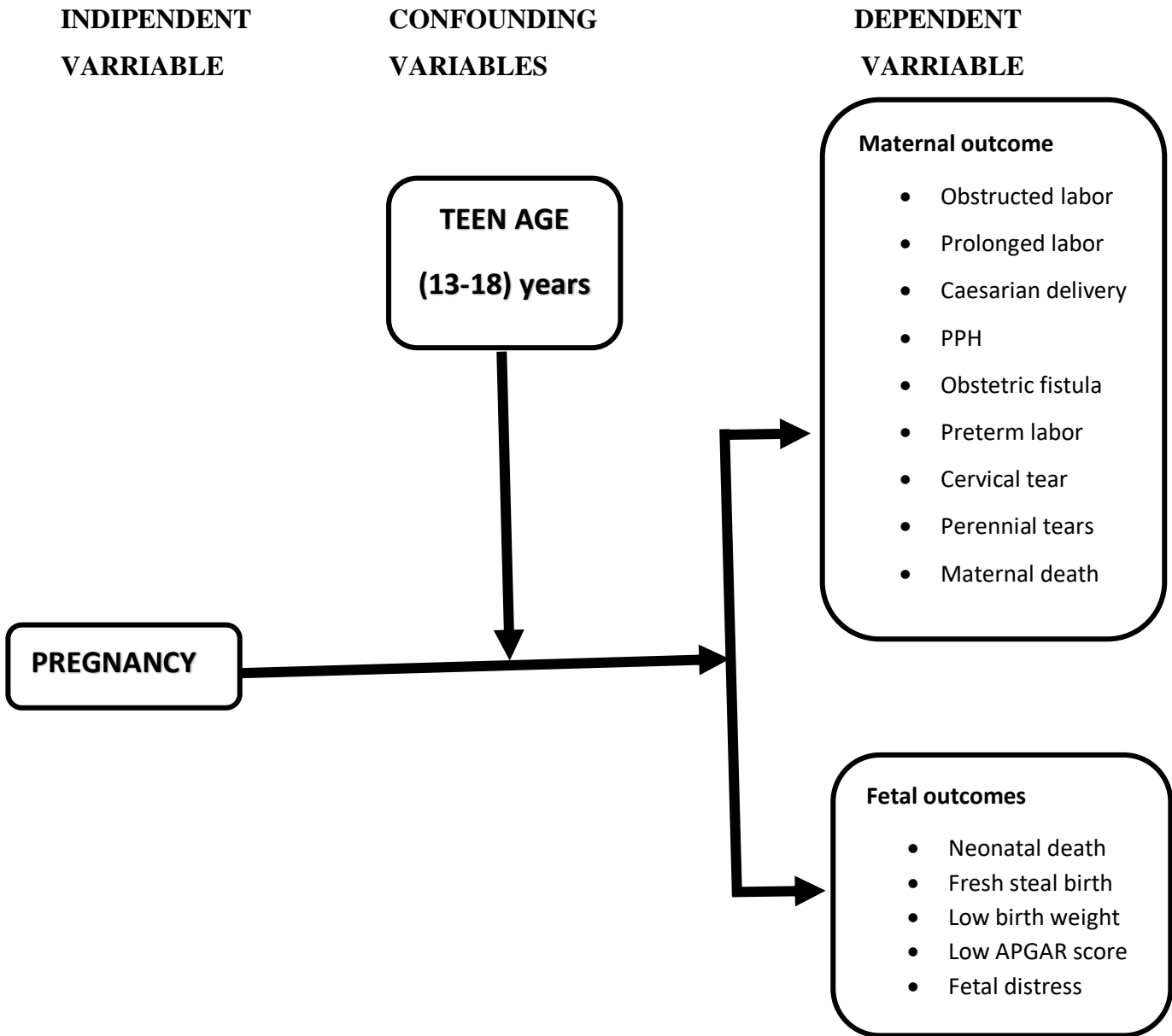


Figure 1. Conceptual framework

Teenage age and how it affects deliveries, intrapartum and postpartum outcomes, maternal and neonatal complications following the delivery.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION:

This chapter seeks to assess the prevalence of teenage deliveries, maternal complications and fetal outcome among women delivering from BH. Therefore, different documents have been reviewed in relation to the study so as to give a review on what already exists and also continue to identify some gaps left by the previous researchers. Therefore, this chapter tends to link the objectives of the study to the already existing literature.

2.2 Prevalence of teenage deliveries:

Globally, girls aged (15-19) years, contribute to 12% of the global annual births(Banke-thomas et al., 2017) and previous studies showed that approximately 16 million girls give birth every year, and of which 95% of these births occur in low and middle income countries(Akanbi et al., 2016)..

The incidence of teenage pregnancy ending in delivery varies widely with Nordic countries having comparatively low rates; 6/1000 in Sweden, and 9/1000 in Finland, compared with 24/1000 in England and Wales and 34/1000 in the USA in 2010(Leppälahti et al., 2013).

A national survey carried out in Sweden to assess the prevalence of teenage deliveries between 1973 to 2010, showed that there has been a decline over the years in the prevalence that is from 7.7% to 1.6%(Tyrberg, Blomberg, & Kjølhedde, 2013). In developing countries, the common causes for teenage pregnancy are early menarche, low education level, poverty, sexual activity is initiated at a much younger age, low use rate of contraception, and early marriages(Aparna, 2013) its be true that associated factors vary between developed and developing countries(Papers, n.d.) in support, another study showed that the teenage pregnancy and birth rate of developed countries are significantly lower than that of developing countries(Yasmin & Kumar, 2014)

Previous studies carried out in India showed that the prevalence of teenage deliveries was 29.6% out of all the deliveries conducted during the study period(Thobbi, Dandavate, Bijjaragi, & Askar, 2017). However, this is higher than reported in 2010 by the National Family Health

Survey (NFHS)-3 of India which revealed that 16% of women, aged 15-19 years, have already started childbearing(Mukhopadhyay, Chaudhuri, & Paul, 2010) it shows an increasing trend.

Studies carried out in South Africa, revealed that the prevalence of adolescent deliveries was 16% as compared to the deliveries among the older women(“A : e s a,” 2010). it is seen to have reduced in 2015 study where the overall, teenage pregnancy rate over the study period was 10.3% (Hoque, Towobola, Mashamba, & Monokoane, 2015)

In Cameroon, a study done in the South western region of the country showed that the prevalence of teenage deliveries was 13.3%(Florent Y et al., 2015), while another study also carried out in Cameroon but in the Central part showed the prevalence to be 9.3%(Fouelifack et al., 2014). Showing a decreasing trend.

The different studies carried out in Nigeria still about the prevalence of teenage deliveries, one carried out in Niger Delta showed that they accounted for 6.2% of all the deliveries(Isa, n.d.), while another study still in Nigeria documented the deliveries to account for 6.5%(Iklaki, Inaku, Ekabua, Ekanem, & Udo, 2012).

In Uganda, evidence suggests that the proportion of teenagers who have started child bearing has declined over time, from 43% in 1995 UDHS, to 31% in the UDHS 2000-01, to 25% in the 2006 UDHS, and finally to 24% in 2011 (Akanbi et al., 2016). As expected, the percentage of who have started their reproductive life increases with age because of the longer exposure, from 2% of women aged 15 to 58% of women aged 19(Gideon, 2013).

A study carried out recently in 2015, from Mbarara Regional Referral Hospital to assess the prevalence of adolescent deliveries showed that it accounted for 23.4% of all the deliveries (Masembe, 2016). But full data on pregnancies are only available if the mother attends antenatal care (Trusts, n.d.) It is speculated that actual figures may be much higher, because many such pregnancies go unreported (Sulaiman et al., 2013)

A high rate of teenage pregnancies and deliveries indicate problems with the sexual and reproductive health of a country’s young population, which again poses serious implications for health issues such as the spread of sexually transmitted infections including Human Immune deficiency Virus plus life threatening maternal and neonatal complications(“A : e s a,” 2010).

2.3 MATERNAL OUTCOMES

Teenage mothers are at an increased risk of obstetric complications since their pelvises are not yet well developed, leading to obstructed labor and other complications such as prolonged labor, still births, and maternal distress(Masembe, 2016). However, in Sweden the risks for obstetric and neonatal complications for adolescents are lower than for women age 20–30 except for the risk of prematurity, most likely because of the high quality of antenatal, delivery and neonatal care and social welfare provided to all(Tyrberg, Blomberg, Kjölhede, et al., 2013)

Prolonged labor

In fact teenage(18) and elderly primiparae(19) often have prolonged labour, perform poorly during delivery and are likely to have cephalo-pelvic disproportion necessitating Caesarian section(Tumwine, 2003) likewise in the study conducted in Busia, Only 14% of the teenage mothers reported to have had some complications during and soon after delivery and they mostly included loss of blood, stitches and prolonged labour(Richard, 2010) however, Proper monitoring of the progress of labour is important to prevent prolonged labour.(Yasmin & Kumar, 2014) it was also noted that The most noted maternal complication was prolonged rupture of the membrane, with 20.3%(Azevedo, Diniz, & Evangelista, 2014)

Obstructed labor

The life threatening complications during teenage child delivery. As such they may suffer obstructed labour and uterus ruptures (Undiyaundeye, 2016) it was also reported that the leading cause of cs were Malpresentation (19.72%), Contracted Pelvis, CPD and other causes of Obstructed Labour(Yasmin & Kumar, 2014) Most maternal deaths are due obstetric complications such as severe bleeding, infection, hypertensive disorders, and obstructed labor cannot miss to be mentioned (Experiences, Progress, & Health, 2015) It has been suggested that adolescents are at an increased risk of obstructed labour and caesarean section indicated for cephalo-pelvic disproportion because of the immaturity of their pelvic bone(Ganchimeg et al., 2014)

Caesarian delivery

In the World Health Organization multicounty study 2013, It was suggested that adolescents are at an increased risk of obstructed labour and caesarean section indicated for cephalopelvic disproportion because of the immaturity of their pelvic bone. (Ganchimeg et al., 2014) this was also in some study results where 23.3% had lower segment caesarean section cephalopelvic disproportion was the indication in 10.83%.(Bharti & Vidyarthi, 2017) Also another study carried out in Babylon teaching Hospital for Maternity and Pediatrics showed that teenage women were more likely to deliver via cesarean (21.9%) as compared to (11.57%) in the older women(Witwit, 2015).

Mbarara Regional Referral Hospital (MRRH) showed that during the period of the study, of all the teenage mothers 39.4% had a cesarean delivery and the main indication was contracted pelvis(Masembe, 2016).

Benha University and Al-Azhar University study revealed that, 67.2% of the study group had normal delivery and 32.8% had caesarean delivery. For the control group, 62.6% had normal delivery and 37.4% caesarean delivery. And the difference was statistically non-significant ($p = 0.18$)(“Pregnancy related complications and neonatal outcomes among primigravida teenage mothers,” 2015).

However, a study in one hospital in South Africa, a significantly higher rate of caesarean delivery was found among adult mothers compared to teenage mothers ($p=0.002$)(Hoque et al., 2015). The University of Malaya, Kuala Lumpur, Malaysia study, showed that the adolescents had a significantly higher rate of normal vaginal delivery and a lower caesarean section rate compared with the adult group (Sulaiman et al., 2013). This was also supported by Tyrber’s study findings where Teenagers were more likely to deliver normally vaginally (aOR 1.70 (95%CI 1.64-1.75), less likely to have Caesarean section (aOR 0.61 (95%CI 0.58-0.64)(Tyrberg, Blomberg, Kjölhede, et al., 2013)

Post-Partum Hemorrhage

Post-Partum Hemorrhage (PPH) was defined as blood loss greater than 500 ml following birth of baby during the hospital stay (Aparna, 2013) The most often described maternal complications in the selected studies, hemorrhagic syndromes,(Azevedo et al., 2014) in some case control study, The study group was found to have Post-partum hemorrhage 0.9%

compared to the control group, Post-partum hemorrhage 0.6%, and the difference was statistically non-significant ($p = 0.29$). (“Pregnancy related complications and neonatal outcomes among primigravida teenage mothers,” 2015)

However, some studies show that no significant difference in the PPH risks between adolescents and older mothers (Medicine, 2015)

Obstetric fistula

These youngest, first-time mothers face significant risks during pregnancy, including obstetric fistula among others (“ADOLESCENT PREGNANCY : A Review of the Evidence ADOLESCENT PREGNANCY : A Review of the Evidence,” n.d.) Accounting for about 11% of all births worldwide, maternal conditions in adolescents cause 13% of all deaths and 23% of all disability adjusted life years (Pendse et al., 2008)

Perennial Tears

Overt perennial tears are classified into mild (first and second degree) or severe (third or fourth degree), according to the extent of injury (Groutz et al., 2011). A third degree tear is defined as one that involves disruption of the anal sphincter muscles while a fourth degree tear is defined as one that involves the rectal mucosa (Groutz et al., 2009).

A study carried out in Cameroon to assess the prevalence and outcome of teenage hospital births showed that the major maternal adverse effect was perennial tears (OR, 1.6, 95% CI, 0.95-2.7) (Florent Y et al., 2015).

Another study carried out Mbarara Regional Referral Hospital, in Uganda, also revealed that the major complication among teenage deliveries was perennial tears accounting for 32.6% (Masembe, 2016).

These perennial tears are the second leading cause of obstetric fistulae. A study carried out to assess risk factors to obstetric fistulae showed that delivery at an early age was one of the contributing factors and the study showed the prevalence of obstetric fistulae among teenagers to be 8.9 to 86% of the study sample (Tebeu et al., 2012)

Other factors that predispose these mothers to perennal tears were primiparity, assisted forceps delivery, persistent occipito posterior position and birth weight greater than 4000g(Groutz et al., 2011).

Preterm Labor

Preterm birth is defined by the World Health Organization (WHO) as birth of an infant prior to 37 weeks, (259days) completed gestation.

Immaturity of the uterine or cervical blood supply in teenage pregnancy could increase the risk of subclinical infection and prostaglandin production, and lead to increased risk of pre-term delivery(Aparna, 2013)

The most important outcome of preterm labor is a premature neonate. Prematurity accounts for 11.1% of all live births worldwide and accounts for 60-80% of neonatal mortalities. One of the major risk factor of preterm labor is mother's age less than 20 years(Press, 2012).

In a study carried out in Turkey showed that teenage mothers less or equal to 15 years had an increased risk to preterm delivery that is 42.4%, also those between 16-19 years at 22% but also at an even increased risk of early preterm delivery that is below 34 weeks of gestation where those who were 15 and below accounted for 21.2% and those between 16-19 years for 10% of all the deliveries during the study period(Demirci et al., 2016).

Also a study carried out in Finland showed that teenage women were at an increased risk to preterm delivery as compared to older women and they accounted for (2.5, 1.2 to 5.3)(Leppälahti et al., 2013).

As regards pregnancy related complications, preterm labor occurred significantly higher in teenage group("Pregnancy related complications and neonatal outcomes among primigravida teenage mothers," 2015) Preterm labour and anemia were the obstetric complications in the teenage pregnancy(Hospital & Hospital, 2006)

Other Outcomes:

Studies have showed that teenage mothers are at an increased of preeclampsia (3.7, 1.5 to 9.0), anemia adjusted OR 1.8, 95% CL 1.6 to 2.1), and eclampsia (3.2,1.4 to 7.3)(Leppälahti et al., 2013). Also another study carried out from Babylon teaching Hospital for Maternity

and pediatrics showed that teenage mothers were at an increased risk of preeclampsia (5%) as compared to the 2% among the older women(Witwit, 2015). Whereas a study carried out in Cameroon showed that teenage births were not significant in causing preeclampsia/eclampsia(Florent Y et al., 2015).

Also anemia has been labelled as a complication of teenage deliveries; a study carried out in Finland showed that the teenage mothers were at an increased risk of developing anemia adjusted (OR 1.8, 95% CL 1.6 to 2.1) (Leppälahti et al., 2013). Another study carried out in Babylon Teaching Hospital showed that teenage mothers had a higher incidence of anemia at 29%(Witwit, 2015). Also another study carried out in India showed that anemia was among the major maternal complications following teenage deliveries at 16%(Thobbi et al., 2017).

Others include post-partum hemorrhage and premature rupture of membranes(Banke-thomas et al., 2017).

2.4 NEONATAL OUTCOMES:

The rates of still births and death in the first week of life are 50% higher among babies born to mothers younger than 20 years than among babies born to mothers (20-29) years old. Also the rates of preterm births, low birth weight and asphyxia are higher among the children of the adolescents, of which increase the chance of death and of future health problems of the baby(Rupakala, Shruthi, & Nagarathnamma, 2016).

A study carried out in India, showed that the major fetal adverse effects following teenage deliveries were, low birth weight (19.7%) and still births at 1%(Rupakala et al., 2016).

Also in an Indian study showed that 29.2% teenagers had low birth weight children as compared to 16.6% adults who had such children. 31.7% of the teenage neonates required NICU admissions as compared to 12.27% neonates of the adult mothers(“Maternal and Perinatal Outcome in Teenage Vs . Vicenarian Primigravidae - A Clinical Study,” 2013).

Another study carried out carried out in India, showed that as compared to adult deliveries, teenage deliveries had low APGAR scores in 12% of the babies in relation to 5% amongst the adults. Also low birth weight babies were born more in the teenage mothers as compared to the

adults that is (20% vs 10%) and also neonatal death occurred in 20 babies of the teenage group as compared to 8 babies in the adult group(College, Hospital, & Cantt, 2010).

A national survey study carried out in Sweden showed that although the rate of babies born with APGAR score < 7 at 5 minutes was similar between teenagers and adults, the teenagers' neonates showed low fetal distress and meconium aspiration(Tyrberg, Blomberg, & Kjølhed, 2013).

A study carried out in Babylon, showed that teenage deliveries had a higher rate of prematurity (11.0%) compared to 6% in the adult mothers. Low birth weight babies were 8% as compared to 4% in the adult population. Neonatal death was also higher in the teenage deliveries 5.49% compared to 3.16% in the older mothers(Witwit, 2015).

In Romania, a study carried out showed that teenage pregnancies were at an increased risk for preterm birth < 37 weeks of gestation (1.2 (1.08-1.35)), fetal growth restriction (1.34 (1.21-1.48)), and APGAR <7 at 1 minute (2.42 (1.21-1.67))(Socolov et al., 2017).

A study carried out in Cameroon showed that the adolescent parturients had a higher likelihood of apparent fetal death at birth as well as perinatal death after resuscitation efforts (AOR 1.73 95% CL 1.23-2.47 and AOR 1.6995% CL 1.7- 2.45 respectively)(Fouelifack et al., 2014).

In a study carried out from Mbarara Regional Referral Hospital in Uganda, results showed that majority of the babies born to teenage mothers were born alive (97.5%), with 97.3% having APGAR score > 7 at 5 minutes, 74.7% weighed between 2.5 and 3.4kg at birth. Only 0.4% died in the first 24 hours of birth while 0.1% had other complications such as; asphyxia, prematurity, hydrocephalus, and spinal bifida (Masembe, 2016).

CHAPTER THREE: METHODOLOGY:

3.1 Introduction:

This chapter highlights what was done during data collection. It gives the description of the area of study, the study design, study population, sample selection procedures and methods of data collection.

3.2 Study Design:

A retrospective analysis of facility-based cross-sectional data from BH teaching hospital records from January 2016 to December 2016 was conducted.

3.3 Study Area:

This study was conducted in Bwera Hospital (BH), located in the town of Bwera Kasese District, near the international border with DR. Congo.

It is Approximately 79 Miles Southwest of Fort Portal Regional Referral Hospital, approx. 163km Northwest of Mbarara Regional Referral Hospital,

It serves the surrounding sub-counties in the Kasese District, and patients from neighboring DR. Congo. Bed capacity is 100. Although many times it admits up to 300 patients. It is a teaching Hospital of Bwera School of Nursing and midwifery.

3.4 Study Population:

The study included all teenage deliveries and their new born babies from BH between January to December) 2016.

3.5 Sample Size Determination:

The study included all data on teenage deliveries and their new born babies from BH between (January to December) 2016.

3.6 SELECTION CRITERIA:

3.6.1 Inclusion criteria:

The study included all teenage deliveries age group of 13-18 years in BH between (January to December) 2016.

3.6.2 Exclusion criteria:

All deliveries by mothers whose age was above 18 years were excluded from the study

3.7 Data Collection Methods and Tools:

The admissions and deliveries book on Maternity ward was reviewed in which the total number of deliveries and out comes between (January and December) 2016 were recorded.

From the records department of BH, the information was retrieved using a data collection sheet designed according to the objectives.

3.8 Data Analysis, Recording

The analysis and processing was computed scientifically and edited using SPSS version 16. It was then presented in the form of frequency tables.

3.9 Dissemination of results

On completion of this study, reports, were disseminated, to the District Health Officer Kasese district, Bwera Hospital Executive Administrator as well as Kampala International University - Western Campus Research and Ethics committee.

3.10 ETHICAL CONSIDERATION

3.10.1 Informed consent

The permission was obtained from the research committee of KIU Western campus and the concerned authorities in the administration. Also permission to obtain data for the research was obtained from the administration of Bwera Hospital.

3.10.2 Risk and benefit

This research had more benefits than risks.

3.10.3 Autonomy

The rights of the patient were respected.

3.10.4 Confidentiality

This was strictly observed at all stages of data handling.

CHAPTER FOUR RESULTS

4.0 introduction

This chapter presents the collected data in frequency tables analyzed using percentages.

4.1 PREVALENCE OF TEENAGE DELIVERIES

During the study period from January 2016 to December 2016, Bwera Hospital registered 4220 total deliveries. Among which 795(18.8%) were teenage deliveries (13-18)years as seen in table 1 below.

Figure 1: Total deliveries

Age	Number of cases	%
19 -45	3425	81.2
13-18	795	18.8
Total	4220	100

4.2. Characteristics of the study population

4.2.1 Age

Age distribution of teenage mothers were 13-15 years 346 (43.5%), 16-18 years were 449 (56.5%)

Table 2: Age distribution of teenage mothers

Age	Frequency	Percent %
13-15	346	43.5
16-18	449	56.5
Total	795	100.0

4.2.2 Preterm labour by Gestation age

Data showed that most teenage mothers with <37 weeks of gestation were 377(47.4%) and those 37-40 weeks were 418(52.6%) as shown in table 3 below

Table 3: Gestation age

Gestation	Frequency	Percent %
<37	377	47.4
37-40	418	52.6
Total	795	100.0

4.3 MATERNAL OUTCOMES

4.3.1 Mode of delivery.

Most teenage mothers delivered by SVD 421(53.0%), and 374(47.0%) delivered by caesarean section.

Table 4. Mode of delivery Mode of delivery

Mode of delivery	Frequency	Percent	Valid Percent	Cumulative Percent
SVD	421	53.0	53.0	53.0
Caesarean Section	374	47.0	47.0	100.0
Total	795	100.0	100.0	

4.3.2 Maternal complications during teenage deliveries.

43.9% of the teenage mothers had no complication during delivery, while 446(56.1%) had complications. Table 5

Table 5. Presence of complication

Complication	Frequency	%
No	349	43.9
Yes	446	56.1
Total	795	100

4.3.3 Common maternal complications during teenage deliveries.

Among 446 mothers that were recorded to have complications during teenage deliveries, they included; the highest Perennial tear 139(31.2%), followed by PPH 95(21.3%), Hypertensive disorders 63(14.1%), Mal-presentation 54(12.1) Obstructed labour and Prolonged labour each presented with 23(5.2%), Maternal distress 43(9.6%) and Retained placenta 6(1.3%) were the least common as shown in table 6 below

Table 6: Common maternal complications during teenage deliveries (n=446)

Complication	Frequency	Percent
Obstructed labour	23	5.2
Prolonged labour	23	5.2
Maternal distress	43	9.6
PPH	95	21.3
Retained placenta	6	1.3
Hypertensive disorders	63	14.1
Perennial tear	139	31.2
Mal-presentation	54	12.1
Total	446	100.0

4.5 Maternal adverse outcomes in teenage deliveries

In this one-year study period, there were 5 (0.62%) maternal deaths out of 795 teenager mothers. Some of these were due to indirect causes of maternal mortality. One was a domestic violence led to placenta abruptual, two were delayed referrals from TBAs and clinics and the rest, one died of severe Eclampsia and one due to sever PPH secondary to coagulation disorders.

Table 7. Adverse Maternal outcome

Outcome	Frequency	Percent
Alive	790	99.4
Maternal Death	5	.6
Total	795	100.0

4.6 NEONATAL OUTCOMES

4.6.1 Neonatal/fetal birth outcomes

84% of the babies, were live and health, 47(5.6%) had birth asphyxia, Fetal distress 33(4.2%). There was a record of 6(0.8%) neonatal death, Macerated still births were 25(3.1%) and 14(1.8) cases of Fresh still births as shown below.

Table 8: Neonatal/fetal birth outcomes

General condition	Frequency	Percent
Good	670	84.3
Birth asphyxia	47	5.9
Foetal distress.	33	4.2
neonatal death	6	0.8
MSB	25	3.1
FSB	14	1.8
Total	795	100.0

4.6.2 APGAR score.

As shown in tables 9a and 9b, 22.5% teenage deliveries were associated with low APGAR score of less than 7 in five minutes, this kind of low score is almost evenly distributed among all age groups as seen in table10b. 84 children were from 13-15years mothers and 95 children from 16-18years old mothers. Note that FSB and MSB were grouped under APGAR score <7 in 5min.

Table 9a. APGAR score

APGAR Score	Frequency	Percent
<7 in 5 min	179	22.5
>7 in 5 min	616	77.5
Total	795	100.0

Table 9b. APGAR score per age group.

		APGAR score	
		<7 in 5 min	>7 in 5 min
		Count	Count
Age	13-15	84	262
	16-18	95	354

4.6.2 Birth weight.

Babies with very low birth weight <1.5kg were 71(9.4%), low birth weight 1.5-2.5kg were 179(23.7%) and those of normal birth weight >2.5kg were 506(66.9%) as shown in table 11 below.

Table 10. Birth Weight (n=756)

Classification	Weight (Kg)	Frequency	Percent
very low birth weight	<1.5	71	9.4
low birth weight	<1.5-2.5	179	23.7
Normal birth weight	>2.5	506	66.9
Total		756	100.0

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This chapter interprets and discusses the findings objectively in relation to the study background information, problem statement, relevant literature reviews to answer research questions, suggest recommendations and finally conclude on the prevalence and maternal and neonatal outcomes of teenage deliveries among mothers attended BH, in the study period of January 2016 to December 2016.

5.1 Prevalence of teenage deliveries

Data findings of this study showed that the period from January 2016 to December 2016, Bwera Hospital registered 4220 total deliveries among which 795(18.8%) were teenage deliveries (13-18) years. This study is in agreement with the recent report by UBOS demographic report findings of 19% teenagers' birth (K. I. Report, 2017). In India, teenage deliveries were at 5.10% in 2014 (Yasmin & Kumar, 2014), but it increased in a very recent study in the same country to teenage pregnancy incidence of 12.29% (Asavapiriyant, Hospital, & Health, 2017).

Teenage deliveries are coming as one of the most important social and public health problems all over the world with a varying prevalence rate. In recent years the incidence is increasing due to early onset of puberty, early sexual activity in girls and relative lack of education on contraceptive methods. Although adolescent marriage is a cognizable offence in Uganda, it is still a common practice in many parts of the country. A high fertility rate social customs, poverty and ignorance make early marriage a common feature in this part of Uganda. The teenage period itself constitutes a high risk group requiring high priority services of which many are unmet. One study in 2013 by UNFPA, ("ADOLESCENT PREGNANCY : A Review of the Evidence ADOLESCENT PREGNANCY : A Review of the Evidence," n.d.) showed that, about 80 per cent of women aged 30 to 34 have their family planning demand satisfied, compared to only 46 per cent of adolescents, the lowest among all age groups.

This region carries many risky teenage mothers, prone to life threatening observed complications in this study. Not ruling out the fact that in most developed countries (including the USA) 30–

60% of adolescent pregnancies end in abortion, while in developing countries including Uganda abortion rate was found to be between 8-10% among teenage mothers(Aparna, 2013).

It is a common practice for unmarried mothers to go either for termination of pregnancy or to quacks and TBAs for delivery because of strong social taboos preventing them to attend a large public hospital like Bwere Hospital. (District, 2007; Experiences et al., 2015; Richard, 2010) This means the incidence of teenage delivery in this study would be probably higher. Am pleased that these present study findings agree with other studies.

Preterm labor by Gestation age.

Data findings showed teenage mothers delivering at with <37 weeks of gestation were 377(47.4%) And those 37-40 weeks were 418(52.6%) this shows a situation of preterm labour. In Romania, a study carried out showed that teenage pregnancies were at an increased risk for preterm birth < 37 weeks of gestation (Socolov et al., 2017). A study in Cameroon, reports preterm babies (<37 weeks) (OR: 1.85; 95 % CI, 1.01-3.41),(Florent Y et al., 2015)

5.2 Mode of delivery

Most teenage mothers delivered by normal Spontaneous Vertex Delivery 421(53.0%), and 374(47.0%) delivered by caesarean section. Reasons for Caesarean deliveries were Obstructed labour 23(5.2%) Mal-presentation 54(12.1%), Prolonged labour with 23(5.2%) all of which predispose to Maternal distress 43(9.6%) and subsequent foetal distress. A relatively lower incidence of C-section was reported at 11.62%. in a study in Gandhi Medical College, Bhopal by (Kumar, Singh, Basu, Pandey, & Bhargava, 2007), it was 7.7% in a Swedish national survey from 1973 to 2010 by (Tyrberg, Blomberg, Kjölhede, et al., 2013) and it was 18.7% in Rajavithi Hospital by (Yasmin & Kumar, 2014), also reported at 25,5% in South Africa by (Hoque et al., 2015). This shows that the incidence of C-section among teenage mothers in BH of 53%, is very high than ever reported. This is due to a high number of mothers below 18years with premature and Contracted Pelvis, CPD, and the average stature of mothers in this region are short mothers, with high risks of Obstructed Labor. Others delay to report to the hospital, hence come/referred in in critical conditions(Azri, Suan, Ismail, Medicine, & Ghazali, 2015). Overall, the literature suggests that the older teenage years (16-18years) have the least risk of cesarean delivery(Medicine, 2015) this calls for case control studies in BH to ascertain this relationship.

5.3 Complications in teenage deliveries

5.3.1 Maternal complications

Perennial tear

446 teenage mothers were recorded to have complications during teenage deliveries, the highest occurrence was Perennial tear 139(31.2%), a study in Natal S. Africa, fifty percent of all adolescents received episiotomies while, 45(14%) experienced perineal tears(“No Title,” 2015). 47 (64.40%) cases of Perineal tears were reported in Yaoundé, Cameroon (Pascal et al., 2016) There was a significantly (18.9 %) perineal tears among adolescent mothers in another study(Florent Y et al., 2015) therefore, this study findings show a relatively higher rate of perineal tear among teenage mothers.

Postpartum Haemorrhage (PPH)

Postpartum Haemorrhage (PPH) 95(21.3%), Post-partum hemorrhage 0.6%, was statistically non-significant ($p = 0.29$). (“Pregnancy related complications and neonatal outcomes among primigravida teenage mothers,” 2015) However, some studies show no significant difference in the PPH risks between adolescents and older mothers(Medicine, 2015) In several studies Anemia (8.12%) (Bharti & Vidarthi, 2017) was sited a common occurrence. At Chonburi Hospital, the incidence rate of anemia among teenage pregnancies was 17.1%,(Hospital & Hospital, 2006) it is due to PPH, in these under developed uteruses.

Hypertensive disorders

Hypertensive disorders 63(14.1%), in this study seem high. For example, in a case control study done in Nepal Medical College Teaching Hospital, the incidence of hypertensive disorders was 6.4% and 5.6% ($p=0.66$) in test and control group(Kayastha & Pradhan, 2012).Interestingly, studies did not find significant associations between teenage pregnancy and pregnancy-induced hypertension(Azri et al., 2015) Hypotensive disorders were reported highest by(Medicine, 2015) and these are responsible for the high maternal mortality in teenage mothers(Trusts, n.d.) just like reported in this study that one mother died of eclampsia.

Mal-presentation accounted

Mal-presentation accounted for 54(12.1%) cases in this study. It was also reported that the leading cause of CS were Mal-presentation (19.72%), Contracted Pelvis, CPD and other causes of Obstructed Labour(Yasmin & Kumar, 2014). Mal-presentation presentations like Breech was reported in 6% cases in Bhopal, Madhya Pradesh India (Rajoriya & Kalra, 2015) and 9.4%, mal-presentation cases were reported in Karnataka, India (Rita, Naik, Desai, & Tungal, 2017) The noted perinatal complications in a similar study from Muscat, Oman, abnormal presentation was sited important (Lebbe, Rahman, & Razmy, 2017). Nevertheless, there is mixed findings on the prevalence of mal-presentation among teenage mothers in various literatures.

Obstructed labour and Prolonged labour each presented with 23(5.2%), the major cause of Obstructed labor in teenagers is cephalo-pelvic disproportion (CPD). one study showed that the main indication contributing to caesarean delivery is cephalo-pelvic disproportion in teenage pregnancy with 74.2%(Rita et al., 2017) however this was far too high than seen in the current study.

Maternal deaths

In this data reviewed, there were 5 (0.62%) maternal deaths out of 795 teenager mothers. One was a domestic violence complication led to placenta abruptio , two were delayed referrals from TBAs and clinics and the rest, one died of severe Eclampsia and one due to sever PPH secondary to coagulation disorders. In Nigeria, studies reported increased rates of maternal mortality in young pregnant girls <15 years of age (maternal mortality 27/1000 compared to 4/1000 in women 20–24 years)(Trusts, n.d.) A study in Latin America found that maternal death rates for adolescents under 16 are 4 times greater than for women in their 20s.. (Pendse et al., 2008) In Ethiopia, reported maternal mortality rate of 12.7/1000 in mothers 15–19 years of age(Bharti & Vidyarthi, 2017) the current study findings therefore, reviled a lower (0.62%)teenage mortality than ever reported.

5.3.2 Neonatal outcome

Babies delivered by teenage mothers 84% were alive and healthy

Fetal distress

Fetal distress was 33(4.2%) in the present study. It was reported that fetal distress contributed to 9.4% cases in Dharwad, Karnataka, India (**Rita et al., 2017**) also another study reported fetal

distress in 9 (8.8%) cases in Kano, Nigeria (Garba et al., 2016) and in Pradesh, India, foetal distress were 22% cases that indicated CS among teenage mothers(Rajoriya & Kalra, 2015) this was higher than in other various reviewed studies. Therefore, fetal distress was low 4.2% in Bwera Hospital those with There was a record of 6(0.8%) neonatal death, contributing to 12% and 9.4% each.

stillbirth

Macerated still births were 25(3.1%) and 14(1.8) cases of Fresh still births. There were (2.5%). stillbirth cases in Aminu Kano Teaching Hospital, Kano, Nigeria (Garba et al., 2016) In Sweden it was reported at 0.9%(Tyrberg, Blomberg, Kjölhede, et al., 2013) A study carried out in India, showed that of the major fetal adverse effects following teenage deliveries, still births was at 1%(Rupakala et al., 2016). Therefore, this study is in agreement with other studies reviewed.

Neonatal death

There was 6(0.8%) neonatal death registered in the study among teenage mothers. Another study India, repted that 31.7% of the teenage neonates required NICU admissions as compared to 12.27% neonates of the adult mothers(“Maternal and Perinatal Outcome in Teenage Vs . Vicenarian Primigravidae - A Clinical Study,” 2013) This can be due to lack of antenatal care services. Evidence shows that adolescent mothers are twice as likely to die from pregnancy and delivery and their babies or children have higher chances of dying (Florent Y et al, 2015)

However, studies report that, the rates of neonatal death in the first week of life are 50% higher among babies born to mothers younger than 20 years than among babies born to mothers (20-29) years old. (Rupakala et al., 2016). found that the intrauterine death rate and early neonatal death rates were not significantly higher among teenagers compared to the adult age group of 20 - 35years. Therefore, reports on neonatal death, results have not been in unanimous agreement (Tyrberg, Blomberg, Kjölhede, et al., 2013) however NND was as low as 0.8% in teenage mothers. There is need to study this outcome in older age groups to clearly ascertain the incidence of Neonatal death in Bwera Hospital.

APGAR scores

In this study, 22.5% teenage deliveries were associated with low APGAR score of less than 7 in five minutes. In APGAR study done in MULAGO HOSPITAL by (Tumwine, 2003) the

prevalence of low Apgar score at five minutes was 2.8% , adverse outcome was seen in 57.3% of cases: death in 12.1% and clinical complications in 45.2%.cases of APGAR score neonates. However, It is studied that the neonates of Apgar score < 7 at 5 min, exhibited non-significant difference between teenage and adult groups mothers (Asavapiriyant et al., 2017)

Birth weight

Babies with normal birth weight >2.5kg were 506(66.9%). Low birth weight was 179(23.7%) very low birth weight was 71(9.4%). In a study done in Nepal Medical College Teaching Hospital, Proportion of low birth weight babies in test and control group was 7.2% vs 5.9% (p=0.55).(Kayastha & Pradhan, 2012), these are lower than the study findings. Similarly, In New York, 8.3%, or 1 in 12 babies born to women of all ages in 2006 were LBW, but in teen mothers, the rates were higher ranging from 9% for White teens to 13.6% for Black (“Teenage Births: Outcomes for Young Parents and their Children,” 2008). Studies showed the fact that there is a significant association between young age of mother and low birth weight(Kumar et al., 2007) these ranges are close to this study findings.

A similar study in Malaysia the rate of low birth weight was also much higher (24.1%) in the teenage group, and 4.5% of teenage mothers delivered babies of very low birth weight (<1 500 g) (Sulaiman et al., 2013). This can be attributed to nutrition, ANC care, and psycho-social factors; studies show that mothers with depression, have low birthweight babies(Corcoran, 2016) given that these are socially and culturally unacceptable mothers, they are prone to these psychological conditions. The rate of Low Birth Weight 23.7%, was high, and rate of Very low birth weight 9.4% was averagely similar to other study findings.

5.4 CONCLUSION

The present study aimed to evaluate the prevalence and maternal and neonatal outcomes of teenage deliveries. From data, Bwera Hospital registered 4220 total deliveries. Among which 795(18.8%) were teenage deliveries. Most teenage mothers delivered by SVD, but there was a high CS prevalence in BH. The highest complications Perennial tear followed by PPH, Hypertensive disorders, Mal-presentation Obstructed labour and Prolonged Labour Maternal distress and Retained placenta were the least common with a Very low maternal death. Adverse neonatal complications were asphyxia, Fetal distress, neonatal death, Macerated still births,

Fresh still births. and low APGAR score, many with Low birth weight a few with very low birth weight,

5.6 RECOMENDATIONS

Proper monitoring of the progress of teenage labor is important to prevent prolonged labor. There is no doubt that the obstetrical problems can be managed by modern medicine and so the risks associated with Teenage deliveries can be diminished.

The health care provider should consider Teenage pregnancy as a ‘high risk’ pregnancy and should educate the pregnant teenagers to have more number of antenatal visits with home visits, so that the signs and symptoms of various pending delivery complications could be recognized early

Education of the female child can play a significant role in delaying marriage and hence delaying childbearing, thus protecting the young girl from being exposed to the various complications of teenage pregnancy.

There is a need to promote the use of Contraceptives amongst the married teenagers and ensuring the availability of contraceptives at a wider scale for sexually active. Access to contraceptives is the cornerstone in preventing teenage pregnancies while access to abortion services is crucial for managing the risky pregnancies.

Good antenatal and intranatal services, good neonatal services, contraceptive services and abortion services, all together can minimize the various risks associated with teenage pregnancies to a large extent. With all these measures, we can hope for a world-wide decline in the trend of teenage pregnancy rates and complications in the years to come.

Health education about social support, to all pregnant teenagers and teenage mothers, increase health seeking behavior and adequate preparedness for the baby with good maternal health.

5.7 Areas of further research

During this study, I observed some aspects that needs to be researched about teenage mothers and therefore recommends the following areas for further research:

1. An area that needs investigation is the exact causes of teenage pregnancy in this region. Although this study aimed at identifying the burden (prevalence) and its consequences in terms of deliveries and outcomes to both the mother and the neonate.
2. A comparison of pregnancy related complications and neonatal outcomes between teenage pregnancies and a group of older reproductive-age pregnancies

3. In addition, some more research is needed into the positive effects of teenage pregnancy. The fact that this problem has persisted world over despite numerous efforts to control, it may mean that there could be some positive side of it that has not been researched about.

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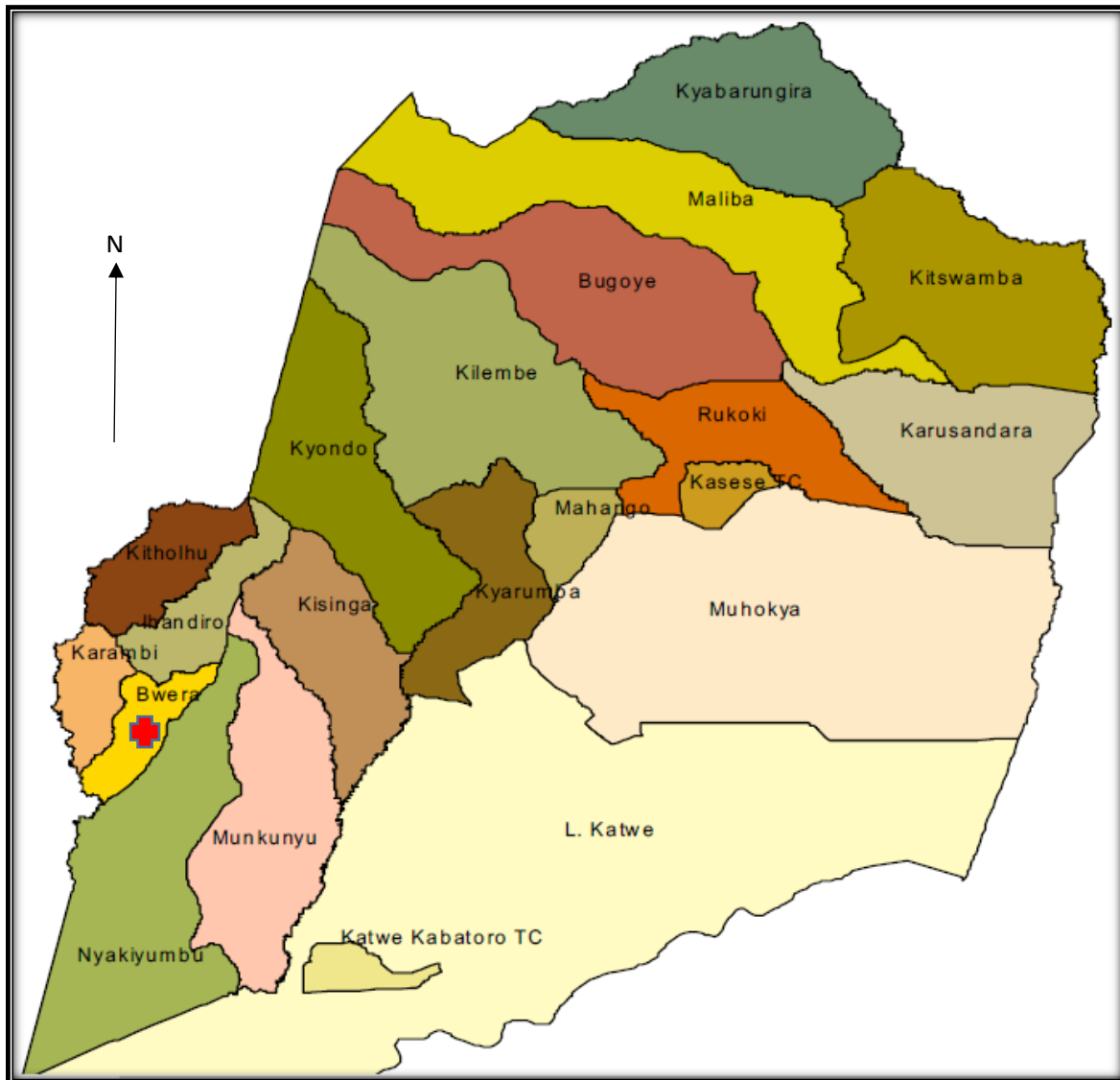
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Appendix II: MAP OF KASESE SHOWING BWERA.



Appendix III: MAP OF UGANDA SOWING KASESE DISTRICT.



Key:



Kasese District.