PREGNANCY OUTCOMES AMONG ADOLESCENTS ATTENDING A RURAL HEALTH FACILITY IN UGANDA A CASE OF APAC GENERAL HOSPITAL, APAC DISTRICT.

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DECLARATION

I OULA ALEX BU/GS16/MPH/20 hereby declare that this dissertation is original and it's a result of my effort and that no part has been presented anywhere for an academic award.

Sign: _____ **Date:** _____/_____/_____

DEDICATION

I dedicate this work to my family; Julliet, Dorine, Geoffrey Ongom, Oscar Ogwang, Agatha Awor, and Bonaventure Oula who supported me spiritually during the development of this dissertation. Lastly to my parents and work-mates who supported me during this period.

DISSERTATION APPROVAL

This dissertation is submitted as partial fulfillment for the award of the Master's Degree in Public Health of Busitema University with our approval as supervisors.

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ACRONYMS AND ABBREVIATIONS

ANC Antenatal Care

APGAR Appearance, Pulse, Grimace, Activity, Respiration

BWT Birth Weight

IRB Institutional Review Board

MOD Mode of delivery

MOH Ministry of Health

MUAC Mid Upper Arm Circumference

PROM Premature rupture of membrane

SVD Spontaneous Vertex Delivery

TBA Traditional Birth attendant

UBOS Uganda Bureau of Statistics

UDHS Uganda Demographic Health Survey

UNPF United Nations Population Fund

UNICEF United Nation Children Fund

WHO World Health Organization

WOA Weeks of Amenorrhea

POR Place of residence

PPH Post-Partum Hemorrhage

OPERATIONAL DEFINITIONS

Pregnancy Outcomes: This is the result of a fertilization event

Adolescent: Is defined by WHO as a person aged between 10 to 19 years

Antenatal Care (ANC): Antenatal care is the service provided by skilled health care professionals to a mother during her pregnancy**.**

APGAR score: This is a quick assessment of the baby's wellbeing immediately after birth at one minute and five minutes. It is done by scoring the cardiac rate, respiratory rate, assessing for muscle tone, skin color, and response to stimuli.

Pre-eclampsia: This is a multisystem disorder characterized by new-onset hypertension and proteinuria or new-onset hypertension and significant end-organ dysfunction with or without proteinuria after 20 weeks gestation up to end of puerperium

Eclampsia: Refers to the occurrence of new-onset convulsions in a woman with preeclampsia which cannot be attributed to any other cause.

Low Birth Weight: Babies born below 2.5 kg/ percentile

Maternal Death: This is the death of a woman during pregnancy or within her puerperium from any cause which is linked to pregnancy or worsened by pregnancy or in the process of management of pregnancy but not due to accidental or incidental cause.

Postpartum Hemorrhage: This is defined as a blood loss of 500 ml or more within 24 hours after birth

Pregnancy: Pregnancy is defined as the period from conception to birth.

Premature Rupture of Membranes: This is the rupture of amniotic fluid membranes before the onset of labor. If it is before 37 weeks it is called preterm PROM.

Anaemia in pregnancy: Anaemia in pregnancy is defined by WHO as the haemoglobin concentration less than 11g/dl in the first and last trimester but <10.5g/dl in the mid-trimester.

Cesarean Section: This is the delivery of a fetus through surgical incisions made through the abdominal wall and the uterine wall after 28 weeks of gestation or the viability of the fetus.

ABSTRACT

Background: Adolescent pregnancy is a public health problem and it is estimated that about 23 million adolescent girls aged 15 to 19 years become pregnant and around 16 million give birth every year globally. About 95% of these births are concentrated in middle and low-income countries. Adolescent pregnancy is associated with high maternal and perinatal morbidity and mortality. Despite interventions by the government, adolescent pregnancy has remained high.

Objective: This study, therefore, aimed to determine pregnancy outcomes among adolescents who delivered at Apac Hospital from first July 2016 to 30th June 2018

Methodology: This was a cross-sectional study in which records of adolescent women aged 15-19 years who delivered in Apac hospital from July 2016 to June 2018 were reviewed. Data was collected using a data abstraction tool, coded and entered into Microsoft Excel, and exported to Stata 14.0 statistical software for analysis. At the Univariate level, descriptive statistics like mean, frequencies, and percentages were used to assess the maternal and fetal outcomes among adolescent mothers who delivered at Apac hospital. Bivariate analysis (chi-square test) was carried out between the dependent and independent variables to determine their association and help in selecting variables to enter into the multivariate models. Variables with a P-value ≤0.25 at bivariate levels were selected for entry into the multivariate models. Other variables selected for entry into the multivariable models were those with biological plausibility and those known to be confounders. Multivariable logistic regression analysis was carried out to assess the strength and direction of statistical association of fetal outcomes, maternal outcomes, and the independent factors affecting these outcomes. For fetal outcome which was sparsely distributed, penalized logistic regression was conducted to adjust for the sparse distribution. The strength of statistical association was measured by adjusted odds ratios at 95% confidence intervals. Statistical significance was declared at P<0.05. The results were presented in form of tables, figures, and charts.

Results: Of the 501 records reviewed and analyzed, most adolescents, 79.4% (n=398) who delivered at Apac hospital were 18-19years, and most of them were from rural

areas, 70.0% (n=353). The prevalence of stillbirth was at 4.4% (n=22), low birth weight at 20.9% (n=106), and birth asphyxia was at 9.6% (n=48). The commonest maternal outcomes were; post-partum hemorrhage (PPH) at 11.2 %(n=56), followed by obstructed labour at 10.2% (n=51) and cesarean delivery at 10.2% (n=51). At multivariate level, for fetal outcomes, low birth weight babies (<2.5kg) had higher odds of death, aOR 0.50(95%CI; 3.73-24.25, P<0.0001), as well as male babies, aOR 3.96(95%CI; 1.33-11.77, P=0.013). Infants born to adolescents with a parity of 2 or more had higher odds of death compared to infants born to adolescents giving birth for the first time, aOR 4.89 (95%CI; 1.65-14.55, P=0.004). For maternal outcomes, adolescent mothers not monitored using a partograph had higher odds of delivery by caesarian section compared to those monitored using a partograph, aOR 2.42 (95%CI; 1.22-4.80, P=0.011).

Conclusion: Adolescent pregnancy is associated with poor fetal and maternal outcomes, including perinatal death (stillbirth), low birth weight, birth asphyxia, high rate of caesarian delivery, obstructed labor, and postpartum hemorrhage.

Recommendation: All adolescent mothers in labor should be monitored on partograph as non-partograph use was associated with higher odds of caesarian section. Adolescent pregnant women with low birth weight babies (estimated) and those with a repeat pregnancy should be closely monitored right from antenatal, through the perinatal period to minimize stillbirth.

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CHAPTER ONE

INTRODUCTION

1.1 Background

Adolescent pregnancy is of growing public health concern worldwide with approximately 16 million babies born to adolescents aged 15 to 19 every year, and about 95% of these births occur in low and middle-income countries[1]. The burden is more in sub-Saharan Africa where it is estimated that about half of the women give birth before the age of 20 years, with a resultant high pregnancy-related morbidity and mortality [2,3]. In addition, babies born to adolescent mothers have an increased risk of adverse outcomes like prematurity and its related complications, perinatal and neonatal death, and low birth weight[4].

Complications during pregnancy and childbirth are the main cause of death among adolescents globally and the main causes of death include; postpartum hemorrhage, pregnancy-induced hypertension, and obstructed labor. Increased risk of stillbirth, preterm delivery, low birth weight, perinatal death, perineal tears, obstetric fistulae, and maternal deaths has also been reported. Unsafe abortions and perinatal deaths are the most common poor pregnancy outcomes that lead to maternal death[3].

Early pregnancy exposes adolescents to poor outcomes of pregnancy, as a result, many adolescent girls do exit schooling and are sometimes rejected by their parents with long-lasting mental torture and a girl with little or no education has fewer skills and opportunities to find a job. In addition, children born to adolescents have a higher risk of poverty and low intelligent quotient with its associated poor school performance and are unemployed in the future. The result of this is its contribution to the vicious cycle of ill health, neglect, and poverty worldwide[3].

Uganda has one of the highest rates of adolescent pregnancy in Sub- Saharan Africa with 25% of adolescent girls becoming pregnant before the age of 20years[5]. Several studies have shown that adolescent pregnancy is associated with an increased incidence of several adverse maternal and perinatal outcomes such as low birth weight, preterm delivery, low APGAR scores, small for gestational age infants, perinatal death, Eclampsia, operative vaginal delivery, obstructed labor, fistula, stillbirths, neonatal death and maternal death [6–9]. The risk of pregnancy-related death is twice as high for girls aged 15-19 years and five

times higher for girls aged 10-14years compared to women above twenties [10]. Most of these studies were however done in urban settings. There are few studies on pregnancy outcomes among adolescents in rural settings [2,11].

My study therefore will be conducted in the rural setting where there is low access and poor quality health services delivery. The study will determine the pregnancy outcomes of adolescents delivering in Apac hospital and examine the factors associated with these outcomes.

1.2 Statement of the Problem

In Apac district, the adolescent pregnancy rate is 28%, higher than the national prevalence of 25%[5], also higher than the average rate for rural areas in Uganda estimated at 27% and 19% in urban areas[12]. The risk of maternal mortality is highest for adolescent girls under 15 years old [13]. Adolescents contribute to an estimated 25% of maternal death in Uganda[5]. Although Uganda has registered a decline in maternal mortality among adolescents from 23.9% in 2017 to 11% in 2018, northern Uganda registered the highest proportion of 23%[14].

In Apac district, the rate of stillbirth increased from 14 death to16 in 2017 and 2018 and this is also true for macerated stillbirth i.e., from 24 to 26 deaths (dhis2), in adolescents alone we don't know the statistics thus need to study pregnancy outcomes among adolescents

1.3 Justification of the Study

This study is beneficial to scholars as it adds to the existing literature on maternal health care services in Uganda, the main factors of the demand for maternal health care services, and their role in the development agenda. It also contributes to the existing literature in addressing future research problems on adolescent mothers.

Policymakers are expected to use this study to evaluate the impact of the government interventions on the main components of maternal health care services to improve the quality and access to maternal health care services in Uganda. The study, therefore, is useful for evaluating existing policies that assist in developing clear and relevant policies that are aimed at reducing maternal mortalities and morbidities.

The study may also assist the government in the budgeting process as it forms the basis of determining how resources should be allocated to our health deliveries to reduce maternal deaths while promoting economic growth and development.

Finally, with the implementation of free maternal health care in all government facilities, this study may assist policymakers in the jubilee government to develop a comprehensive policy framework to guide the implementation.

1.4 Research Questions

1. What is the proportion of stillbirth among adolescent mothers delivering in Apac hospital?
2. What are the maternal outcomes of adolescent pregnancies delivered in Apac Hospital?
3. What are the factors associated with fetal and maternal outcomes among the adolescents delivered in Apac Hospital?

1.5 Study objectives

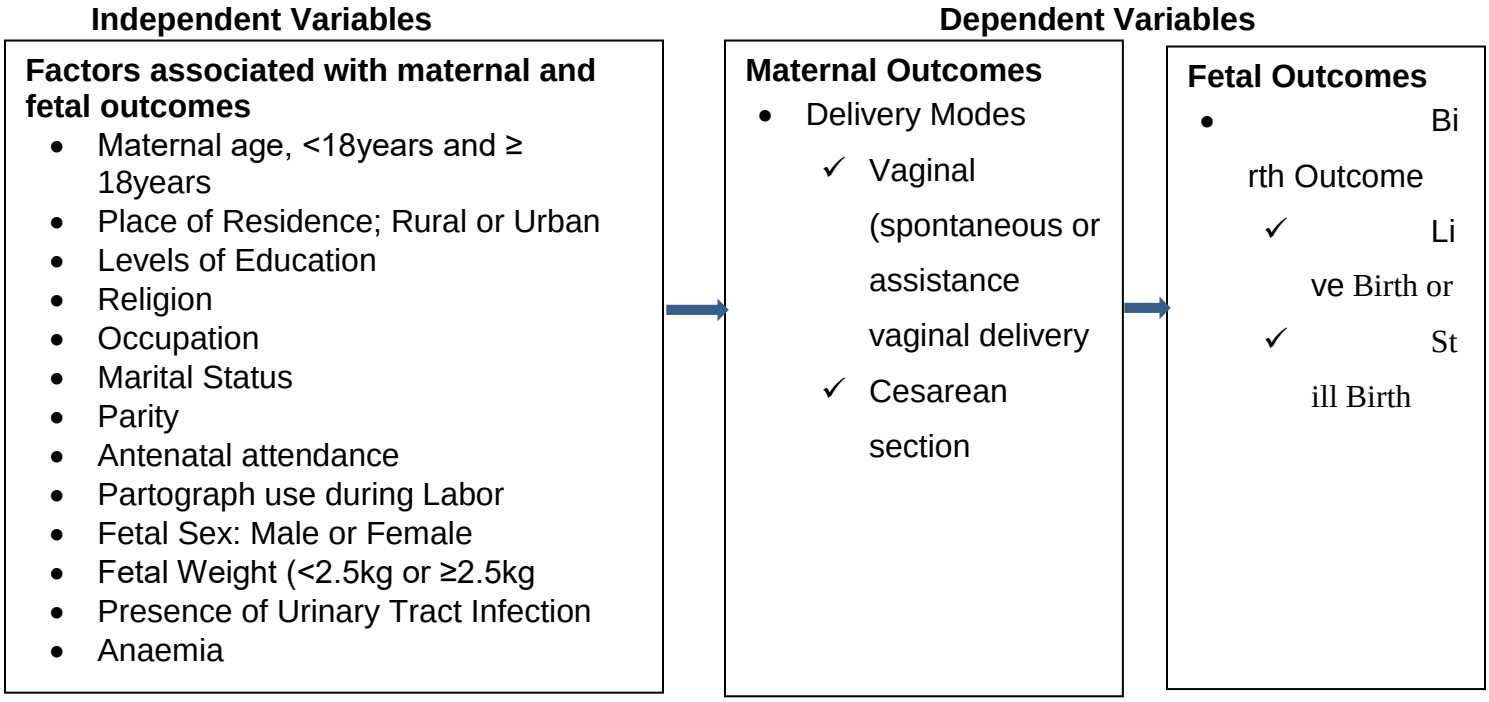
1.5.1 General Objectives

To determine pregnancy outcomes among the adolescent who delivered in Apac Hospital

1.5.2 Specific Objectives

1. To determine the fetal outcomes in adolescent mothers delivered in Apac hospital
2. To determine the maternal outcomes of adolescent mothers delivered in Apac hospital
3. To determine the factors associated with fetal and maternal outcomes among adolescents who delivered in Apac Hospital.

1.6 Conceptual Framework



Narrative Conceptual Framework

Mothers < 18 years have an increased risk of cesarean section due to contracted pelvis and they are likely to get obstructed labor. Distance from health facilities causes delay to provide services to emergency obstetric conditions as a result risk of maternal and perinatal death is increased.

Neonates with low birth weight (<2.5kg) have an increased risk of complications such as early neonatal death. Maternal occupation influences birth outcomes due to its contribution to incomes thus the ability to afford better maternal health care services c. Education is believed to promote a woman's knowledge and skills that enable her to overcome some of the negative physiological effects associated with maternal factors

Marital status is another independent variable, which is assumed to influence pregnancy outcome, and maternal morbidity. Usually, single young mothers are known to lack enough resources for accessing health services. It is also conceptualized that the level of education of both the young mother and her spouse determines the way the mother access and utilizes health care services. Maternal education and education of the spouse is also known

to influences ANC attendance, choice of place for delivery and assistance during delivery, and the type of care the mother gets during pregnancy.

Maternal anemia may lead to intrauterine fetal death and maternal death if intervention is not done early. Multiparty may lead to postpartum hemorrhage, severe anemia with resultant maternal death.

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