

**BUSITEMA UNIVERSITY**

**FACULTY OF HEALTH SCIENCES**

**DEPARTMENT OF COMMUNITY AND PUBLIC HEALTH**

**RESEARCH DISSERTATION**

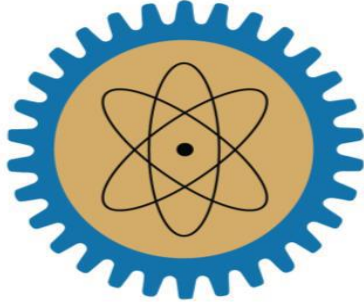
**RISK FACTORS FOR TEENAGE PREGNANCY DURING  
COVID-19 IN PAKWACH DISTRICT: A MIXED STUDY  
DESIGN**

**By**

**ALUNYO JIMMY PATRICK**

**This Research Dissertation is submitted to the Directorate of Graduate Studies, Research and Innovation in partial fulfilment of the requirement for the award of the degree of Masters of Public Health of Busitema University.**

**MAY 2022**



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## ABSTRACT

**Introduction:** Teenage pregnancy has become a global public health problem. Teenage pregnancy remains the leading cause of death in girls aged 15-19. It is also a major barrier to education continuity and productivity among in-school girls. Its high rate signifies a major problem with the sexual and reproductive health of the country's youth. Limited data exists on risk factors for teenage pregnancies during the COVID-19 pandemic in Uganda. Therefore, we conducted a cases control study to investigate the risk factors and a cross-sectional study to generate data for time series analysis of the effect of lockdown on this trend in Pakwach district.

**Methods:** This was a mixed design study of both a matched case-control design and a cross-sectional design to generate data for a time series data analysis. We recruited 362 teenage girls aged 10-19 years from Pakwach district and divided them into two groups in the ratio of 1:1 (cases = 181 & controls = 181). The study period was from March 2020 to January 2021 for the case-control arm, and for the ITSA, we analyzed data for 25 months starting from March 2019 to March 2021.

**Results:** Pregnancies in adolescent girls, a global public health phenomenon during the COVID-19 lockdown was associated with teenage play description AOR [1.3, 95% CI = (0.5, 3.1)], having only girls as peers [AOR 3.0, (0.1, 104.4)] However, having a Radio/TV at home [AOR 0.2, CI= (0.1, 0.6)], age at first sexual encounter (15-19 years) [AOR 0.1, 95% CI= (0.03, 0.9)], describing teenage pregnancy as sexual abuse [AOR 0.1, CI= (0.02, 0.4)], feeling comfortable to ask questions during consultation [AOR 0.5, 95% CI= (0.2, 1.3)], and having enough privacy during consultation was associated with less likelihoods of pregnancy in adolescents. The ITSA analysis revealed an 8% increase in teenage pregnancies and an increasing trend compared to the period before during the COVID-19.

**Conclusion:** In conclusion, the increase in teenage pregnancies during the COVID-19 pandemic in Pakwach district was primarily a result of the lockdown. The 8% increase shown by our data gives us the magnitude in Pakwach district. Therefore, we recommend that actions and interventions around teenage pregnancy the government and partnerships with NGOs focus on providing more information to adolescents to modify the behaviours that contributed to increased teenage pregnancies during the lockdown.

**Keywords:** Case-control study, attending clinicians, COVID-19, teenage/adolescent pregnancy, interrupted time series analysis, and outcomes.

**DECLARATION**

I ALUNYO JIMMY PATRICK declare that the work in this report is original and my work, except where due acknowledgement has been made. It has never been presented for any academic award before, either wholly or partially, to any other institution of higher learning.

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**APPROVAL**

This Reasearch Dissertation has been submitted with the approval of the following supervisors:

1. Professor Peter Olupot Olupot, MB.ChB, MPH, Ph.D, FUNAS

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## **DEDICATION**

I dedicate this research to my father, Mr Ayeni John Peter, my late mother, Acio Esther, my brother Oiti Geoffrey Katiti, and the Almighty God for his constant support and provision during the entire course study.

## ACKNOWLEDGEMENT

Completing this Research Proposal could not have been possible without the contribution and assistance of many people whose names may not be all enumerated. Their contribution is sincerely appreciated and gratefully acknowledged. However, I would like to express my deep appreciation and indebtedness to the following people.

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## LIST OF ABBREVIATIONS

COVID-19	-	Coronavirus Disease 2019
DRC	-	Democratic Republic of Congo
DHO	-	District Health Officer
MDGs	-	Millennium Development Goals
NDHS	-	National Demographic Health Surveys
NSTCM&TP	-	National Strategy to End Child Marriages and Teenage Pregnancies
TV	-	Television
UDHS	-	Uganda Demographic Health Survey
UN SDGs UN	-	Sustainable Development Goals
UNICEF	-	United Nations Children's Fund
UNFPA	-	United Nations Population Fund
WHO	-	World Health Organization
ITSA		Interrupted time series analysis

## OPERATIONAL DEFINITION

Key concepts	Definitions
1. Teenage Pregnancy/ Adolescent pregnancy	Pregnancies happening in a woman below the age of 20 years as defined by WHO (Leftwich & Alves, 2017). Teenage pregnancy and adolescent pregnancy are used interchangeably in this study.
2. Attending Clinicians	This includes doctors, nurses, midwives, clinical officers who offer pregnancy-related services at the facility during any consultation by a teenager
3. Outcomes	The outcomes of this study are limited to the facility/home delivery, school dropout, live birth, neonatal death, abortion as opposed to the adverse obstetric outcomes of pregnancies in adolescents
4. Interrupted time series analysis	It is defined as a practical study design for evaluating the effectiveness of population-level health interventions that have been implemented at a clearly defined point in time(Bernal et al., 2017). In this case, the lockdown is used in our study as the intervention implemented to prevent large scale community transmission of COVID-19
5. Intervention	In this study, intervention refers to interruption due to the COVID-19 lockdown on the trend of teenage pregnancies.
6. Case-Control Study	It is defined here as a study that compares people who have a disease or outcome of interest (cases) with people who do not have the disease or outcome (controls). And it looks back to compare the exposure history to a risk factor present in each group to determine the relationship between the risk factor and the outcome. In our study, pregnant teenagers were the (cases) and non-pregnant teenagers (controls)
7. Young adolescent	The young adolescent for this study refers to a teenager aged 10-14 years
8. Older adolescent	The older adolescents are teenagers aged 15-19 year
9. A mixed study design	It is defined here as using both Case-control and cross-sectional study design in the same study.

## CHAPTER ONE: INTRODUCTION

### 1.1 Background

Teenage pregnancy is a global phenomenon occurring in high, middle, and low-income countries, but disproportionately high in the latter. Adolescent pregnancy happens when a woman under 20 gets pregnant. It usually applies to teens between the ages of 15-19 (Darroch et al., 2016). It can also include girls as young as 10. Teenage pregnancy and adolescent pregnancy are used interchangeably. The prevalence of teenage pregnancies is much higher (95%) in low- and middle-income countries (LMICs) than in high-income countries. However, despite a considerable decline in teenage pregnancy rates in developed countries in recent decades, the US adolescent pregnancy rate of 57 per 1,000 in 2010 was the highest. Outside the USA, New Zealand had the second-highest rate of 51 per 1000 in 2010. According to a study by (Sedgh et al., 2015), Europe had the highest adolescent pregnancy rates in England and Wales, 47 per 1000 in 2011, and Scotland, 46 per 1000 (Sedgh et al., 2015). In developing countries, the prevalence of teenage pregnancies is high in West and Central Africa, East and Southern Africa, South Asia, Latin America, and the Caribbean (UNFPA, 2013). However, despite developing countries' attempts to prevent teenage pregnancies, approximately 18 million girls under 20 still give birth each year (UNFPA, 2013). At least 10 million unintended pregnancies still occur each year among adolescent girls aged 15–19 years (Darroch et al., 2016).

The pooled prevalence of adolescent pregnancy in Sub-Saharan countries stands at 18.8% (Kassa et al., 2018a), with significant variation across regions. The East African region has the highest prevalence of 21.5%, followed by 20.4% in Southern Africa, 17.7% in West Africa, 15.8% in Central Africa, and Northern Africa, with the lowest at 9.2% (Kassa et al., 2018b). According to a recent study, there is even more significant variation within countries in Africa across the five regions, as reflected in their National Demographic Health Survey (NDHS). For example, Congo in Central Africa has the lion's share of 44.0% (NDHS 2011-2012); in West Africa, Liberia has the highest at 38.9% NDHS 2013, followed by Gabon at 38.0% (NDHS 2012), Mali at 36.3% (NDHS 2018). In East Africa, Uganda has the highest teenage pregnancy rate of 26.1% (UDHS 2016), followed by Tanzania at 25.1% (NDHS 2015-2016), then Kenya at 18% (NDHS 2014), Burundi at 7.9% (NDHS 2016-2017), and Rwanda with the least at 7.2% (NDHS 2015-15). In Southern Africa, Angola has the highest prevalence of 39.4% (NDHS 2015-2016), followed by Namibia at



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