PREVALENCE AND FACTORS ASSOCIATED WITH POSTPARTUM DEPRESSION AMONG POSTNATAL WOMEN SEEKING CARE IN NSINZE HEALTH CENTRE IV, NAMUTUMBA DISTRICT

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DECLARATION

I **Galikwoleka S. Lillian** declare that this dissertation titled **"Prevalence and factors associated with Postpartum Depression among postnatal women seeking care in Nsinze Health Centre IV, Namutumba District"**, is my original work and has never been submitted to any University or higher institutions of learning for any award,

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Signed:

Date: 12th -February-2025

Declaration by the supervisor

I hereby declare that I have reviewed the thesis titled: ''Prevalence and factors associated with Postpartum Depression among postnatal women seeking care in Nsinze Health Centre IV, Namutumba District'' submitted by Galikwoleka S. Lillian. To the best of my knowledge and belief, the thesis is an original piece that conforms to the guidelines and standards set by Uganda Christian University.

I therefore recommend that the thesis be accepted for the award of a Master's Degree in Public Health Leadership.

MR. Emmanuel D. Otieno, (MPH).

DEDICATION

I dedicate this research report to my parents Mr. and Mrs. Kiruube, my family especially to my husband Richard Akuze and my nephew Elijah James Ibudhi.

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I would like to thank the Almighty God for the gift of life, wisdom and providence that has enabled me to accomplish this work. My sincere gratitude to my supervisor MR. Emmanuel D. Otieno for the great work done and may the Almighty grant many blessings to you.

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LIST OF ACRONYMS AND ABBREVIATIONS

DHO District Health Officer

EMS Expendable Medical Supplies

EPDS Edinburgh Postnatal Depression Scale

HC IV Health Center IV

LMICs Low- and Middle-income countries

MCHPs Maternal and child Health programs

MINI Mini International Neuropsychiatric Interview

MOH Ministry of Health

PPD Postpartum Depression

PTSD Post-traumatic stress disorder

SD Standard Deviation

SDG Sustainable Development Goals

SPSS Statistical Package for Social Sciences

SRQ Self-Reporting Questionnaire

SSA Sub Saharan Africa

UBOS Uganda Bureau of Statistics

UCU Uganda Christian University

OPERATIONAL DEFINITIONS

Demographic Factors	These are factors that are used to define the characteristics of a person or a population. In this study the demographic factors include variables such as age, income, marital status, educational level.
Depression	Is a mental health condition that is characterized by chronic feeling of emptiness, sadness, or inability to feel pleasure that may appear to happen for no clear reason.
EPDS	Is a 10 item self-report measure designed to screen women for symptoms of emotional distress during pregnancy and the postnatal period.
Mental Health	Is a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community.
Postpartum Depression	Is a mental health illness that affects women after giving birth. It can be moderate or severe form depression. It may occur soon after delivery or up to a year later. Most of the time, it occurs within the first 3 months after delivery.
Postpartum Period	Begins soon after the baby's delivery and usually lasts six to eight weeks and ends when the mother's body has nearly returned to its pre-pregnant state.
Prime gravid	Refers to a woman who is between the age of 15 and 49, residing in Namutumba and is pregnant for the first time.
Multi gravid	A woman who has experienced two or more pregnancies, regardless of length or outcome and is between the age of 15 to 49, residing in Namutumba.

ABSTRACT

Introduction: Postpartum Depression is one of the most common and specific problems during pregnancy and after. Postpartum depression affects both the mothers and the development of the infant is affected negatively and yet routine screening of mental health in pregnant women has not been included into health services, specifically maternal health.

Objective: To determine the prevalence and assess factors associated with postpartum depression among postnatal women seeking care in Nsinze Health Centre IV, Namutumba District.

Setting: The study was conducted in Nsinze Health Centre 1V, Namutumba district in Uganda.

Methods: A cross-sectional study was done between December 2023 and February 2024 among 377 mothers. Systematic random sampling was done. Postpartum depression was assessed using a structured interviewer administered questionnaire. Bivariate and multivariate logistic regression analysis were conducted. Findings with x^2 test of p<=05 were considered statistically significant.

Results: Majority of the respondents were between the age of 25 to 35yrs. The prevalence of post-partum depression is 50.3%. The most critical risk factor identified is complications during pregnancy (High blood pressure, gestational diabetes, preeclampsia, placenta Previa or abrasion and Ectopic pregnancy), which affected women being 2.78 times more likely to experience postpartum depression (AOR = 2.78; P = 0.001).

Conclusion: We found a high prevalence of PPD. Findings highlight key risk factors—pregnancy complications, familial depression history, age and buying expendables while at the facility and suggest the need for targeted interventions. Overall, proactive recognition and

management of these risks by healthcare providers are essential for improving maternal PPD health outcomes.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Becoming a mother comes with mixed feelings of pleasure but results in a lot of pressures for women after childbirth. However, many debates discussing the complexities of postpartum depression (PPD) have been going on for quite some time (Sparks, 2013). This has sparked off the development of many diverse theories from 400 B.C. to the present, by several studies. It was argued by Hippocrates that when blood gathers at the breasts of a woman after childbirth it becomes a possible indication of the onset of insanity (Sparks, 2013). In comparison, Trotula de Ruggiero of Salerno (c. 1040s – 1097), in the 12th century discovered that postpartum mental disturbance of women after childbirth is due to increase in frame moisture inside after childbirth, the increased moisture within the frame ends in accumulation of water in the mind that runs over the eyes compelling them to involuntarily shed tears (Sihre HK, Gill P, Lindenmeyer A, McGuiness M, et al, 2019).

On the other hand, Strecker and Ebaugh in 1926 eventually did not find a genuine relationship concerning being pregnant, giving birth and melancholy, concluding that each case of melancholy in women is just an independent psychiatric ailment (Brockinton, 2005). However, in 1928 Gregory Zilboorg disagreed with their findings and indicated that there was a relationship between PPD and immediate family records of misery. Lately, most studies revealed that women with previous mental health are at a higher risk of developing PPD than women who have not had any episode of mental challenge before (Brockinton, 2005). In the meta-evaluation, a study done by Zacher Kjeldsen et al, (2022) suggested that there is an increase in the risk of PPD to women with relatives with records of psychiatric issues by twofold compared with women without own family records of mental disorder. Similarly, other studies specify that

women with relatives with records of psychiatric illness will have a 30% risk of experiencing PPD. (Zacher Kjeldsen et al, 2022). Postpartum depression (PPD) according to the World Health Organization (WHO) is a non-psychotic depressive disorder that manifests in various somatic and emotional signs and symptoms among women after childbirth (Higginbottom, et al, 2013; Gebregziabher, 2020). PPD is a devastating sickness that causes poor maternal health (Agrawal, Mehendale, & Malhotra, 2022), damaging outcomes on the economic productivity, social functioning and the whole wellbeing of the families and society surrounding the affected person (Babatunde & Moreno-Leguizamon, 2012). On the other hand, PPD is treatable and preventable; however, it can cause long lasting adverse effects on the affected children in intellectual performance and constructiveness in adulthood if not dealt with appropriately (Werner, 2015, Atuhaire, 2021, Hanae Tainaka et al, 2022). According to literature, there are varying periods for the onset of PPD. However, it is thought to have an effect on women starting from 4 weeks after birth to 1 year after childbirth (Atuhaire, 2022). PPD is characterized by signs such as excessive mood swings, lack of interest, sleep disturbances, feeling of disappointment, unnecessary crying, fatigability, loss of appetite, and trouble in managing day by day activities as well as thoughts of self-harm or damage to the infant (Ayanda and Sulyman, 2016; Saba Mughal et al 2022).

Globally, it is assumed that the mean prevalence of postpartum women experiencing depression is 15% (Atuhaire, 2022). In developed countries, PPD is estimated at 10.1% in Norway, 8 to 10% in Netherlands (Blom, 2015), 3.9 to 17.6% in Portugal (Pereira, 2015), 8 to 12.3% in Sweden and 8 to 15% in U.S.A (Ayanda and Sulyman, 2016).

The prevalence of PPD in developing countries cannot easily be predicted due to the inadequate studies conducted in settings affected by meagre resources. There is inadequate screening, diagnosis, and under-reporting of mental health services never the less, the African incidence

rate is at 25% (Atuhaire, 2022). Numerous research has been accomplished to determine factors associated with PPD which have stated conflicting findings. Normally, the associated factors have been categorized into social-demographic, psychological and biological, as well as obstetric factors and pediatric factors (Fisher, 2012; Rai, 2015; Gelaye et al, 2016; Daliri et al, 2023). However, PPD risk factors in low-income countries are largely inspired by culture.

In Uganda, the PPD prevalence is reported at 6.1% in a Peri-urban study that applied the Self-Reporting Questionnaire (SRQ-20) tool (Nakku, 2006; Atuhaire et al., 2021), another study using the Edinburgh Postnatal Depression Scale (EPDS) reported a prevalence of 43% in rural Uganda (Kakyo et al., 2012, Atuhaire et al., 2021). The EPDS tool was validated to be used in an urban and peri-urban primary care setting serving the rural community with high postpartum depression prevalence (Atuhairwe, C., Brennaman, L., Nambozi, G., et al, 2023). These variations may be due to variations in the study designs used. In addition, there is no documented Ugandan study that involved the screening and clinical diagnosis of PPD. Despite the district being one of those found in the rural areas in Uganda with poor maternal health outcomes, there is scanty literature in Namutumba District concerning PPD. This may limit policy response to the problem provoking the consequences of mothers and infant. Consequently, this study will be carried out to determine the prevalence and factors associated with postpartum depression in Nsinze HCIV, Namutumba District.

1.2 Problem Statement

Postpartum depression (PPD) is found to be the most frequent maternal mental health disorder that affects women during the perinatal period (Peng, et al, 2021, Daliri, et al, 2023). Pregnancy, the process of childbirth and the challenges that occur while caring for the baby, are risks factors of developing PPD (Gildner, et al 2021, Agrawal 2022). Normally, postpartum depression is

always recognized when the woman's behavior changes significantly and this is when the patient is in the advanced stage of the disorder. PPD affects the women, children and the society at large where this woman stays. (Gebregziabher, et al, 2020, Saharoy, et al, 2023). Globally, the prevalence of PPD is estimated at 13%. However, PPD is a significant public health concern in low- and middle-income countries (LMICs) at 19.8%. A narrative review study done in 2017 reported the prevalence of PPD to be 10%–20%. (Keynejad et al, 2018; Yeboa NK, Muwanguzi P, Olwit C, et al., 2023).

In Sub-Saharan Africa, PPD prevalence ranges from 6.9 to 50.3 percent using EPDS and 6.1 to 47.7 percent using other tools. In East Africa, the prevalence of PPD in women is 24%. (Negesse, A., Hune, Y., Temesgen, H., et al, 2022). PPD prevalence in Uganda ranges from 6.1 to 43 percent both in Peri-urban and rural studies (Atuhaire C, 2021). Several efforts have been implemented by government of Uganda including the WHO recommended screening for and prevention of maternal depression and anxiety during the postnatal period (WHO, 2022). The global Sustainable Development Goal 3 (SDG3) promoting good health was approved by Uganda in 2016. Reforms have been done including Mental health policy 2016 (Nakku J.E.M, 2016; Bina R, 2019).

Despite the efforts, PPD is still a persistent public health concern in Namutumba district. The PPD prevalence has not been documented in any study but could be worse than the national average considering its poor maternal health indicators (Kyaterekera, 2022). The lack of data could mean that the condition is under-diagnosed limiting treatment by the affected mothers (Atuhaire, 2021, Forsyth et al, 2017). In such circumstances, addressing the disorder and its effects becomes very difficult. Therefore, this study was carried out to assess the prevalence and

factors associated with postpartum depression among postnatal women seeking care in Nsinze Health Centre IV, Namutumba district.

1.3 Research Questions

I. What is the prevalence of postpartum depression among postnatal women seeking care in Nsinze HCIV, Namutumba District?

II. What are the factors associated (socio-demographic, medical, obstetric and quality of healthcare) associated with postpartum depression among postnatal women seeking care in Nsinze HCIV, Namutumba District?

1.4 Objectives of the Study

1.4.1 General objective of the study

To determine the prevalence and assess factors associated with postpartum depression among postnatal women seeking care in Nsinze HCIV, Namutumba District.

1.4.2 Specific Objectives

I. To determine the prevalence of postpartum depression among postnatal women seeking care in Nsinze HCIV, Namutumba District.

II. To assess the socio-demographic, medical, obstetric and quality of healthcare factors associated with postpartum depression among postnatal women seeking care in Nsinze HCIV, Namutumba District.

1.5 Scope of the Study

1.5.1 Geographical scope

Geographically, the study was conducted at Nsinze HC IV located 9kms East of Namutumba District and 5 kms south of Busembatya District. The health center offers health services delivery including maternal and child health care services.

1.5.2 Content scope

The study determined the prevalence and assessed factors associated with postpartum depression among postnatal women seeking care in Nsinze HCIV, Namutumba District. The study targeted women within the reproductive age who are 2 hours to 1 year after childbirth that sought postnatal care services at the Nsinze HC1V.

1.5.3 Time Scope

The time scope for this study was from 11 December-2023 to 28 February-2024. Additionally, literature review on postpartum depression and the factors (socio-demographic, medical, obstetric and health facility) associated with PPD is largely 5 years (2019-2024).

1.6 Justification of the Study

Postpartum depression affects the mood change of a woman after birth towards herself, the baby and the society. The health practitioners may not detect the mood changes at an early, not until it gets worse, which sometimes may involve change of behavior and this at an advanced stage. When PPD is missed in the health facility setting the severity of illness may never be known and it may lead to maternal and child mortality. Prevention of PPD can reduce on the prevalence of PPD. This is affected through timely proper diagnosis, appropriate treatment, management and follow-ups implemented.

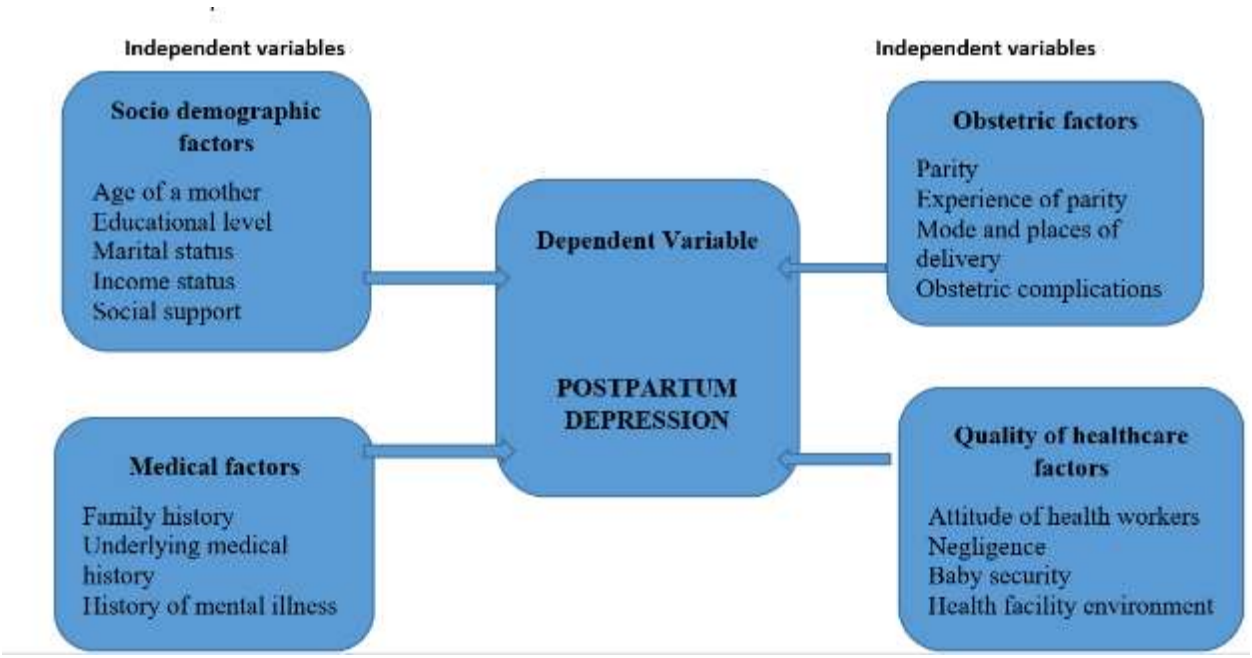
1.7 Significance of the Study

The findings could be used at individual level, to increase the knowledge of postnatal women seeking care in Nsinze HCIV, Namutumba District on the challenge of PPD which will help those with PPD to seek the necessary medical care, improve early detection and PPD management for at-risk mothers. At the community level, the findings might be used to create awareness concerning the prevalence and associated factors of postpartum depression among mothers in Uganda which will be useful to the future researchers and health professionals. At the institutional level, results of this study should enlighten Midwives and Nurses, Obstetricians, other health care workers and health policy makers about the prevalence of postpartum depression and its negative effects, which will inform policy and programming. By determining the prevalence of PPD in our setting, it will sensitize health workers of this silent public health concern. Subsequently, increase their diagnostic insight. This may progress into maternal health policies that would see improved interest in this facet and integration of PPD in training. Thus, improvement in early recognition and management. Given that, there is paucity of studies done concerning PPD in Africa, and no such a study has been done at Nsinze HC IV, Namutumba district this study is anticipated to shed light in this field.

1.8 Conceptual Framework

The conceptual framework shown in figure 1 below has 5 constructs adopted from the literature reviewed for purposes of this study. With that, figure 1 below shows that the study had four independent variables; Socio-demographic, obstetric, medical, quality of healthcare factors. All have been conceptualized as potentially having effects on the prevalence of PPD. Thus, PPD is the dependent variable for this study.

Figure 1. Conceptual framework for prevalence and associated factors of PPD among postnatal women seeking care in Nsinze HCIV, Namutumba District.



1.9 Theoretical Framework

This study posits psychodynamic theory of depression, on which it is built to explain and specify key variables that influence a phenomenon of PPD among postnatal women seeking care in Nsinze HCIV, Namutumba District. Hence, justifies and contextualizes this study.

1.9.1 Psychodynamic Theory of Depression

As stated by Freud (1930), the Psychodynamic theory views depression in terms of inwardly directed anger, lack of self-esteem or self-worth, excessive narcissistic or personality demand, or deprivation in mother-toddler relationship (loss or rejection by a parent). Psychodynamic theory is founded on the idea that the conscious and unconscious mind collide and create conflict. Freud believed that there are three elements of the unconscious mind First, the ID which contain the primitive, instinctual, and is totally unconscious; Second, the superego which contain of moral sense of right and wrong, formed with the aid of society and your experiences to "do what's right", and the Third, ego which has the balances the desires of the identity and the superego.

"Freud focused on the parts of self and mind, which is a reminder that even when something that is traumatic happens externally, there is a possibility of the mind reflecting on such incidences like they are part of us.

Assumptions of the Theory

Freud proposes that unconscious motives, desires, fears, and anxieties drive our actions. When upsetting memories or thoughts begin to find their way into our consciousness, we develop defenses to shield us from these painful realities, called defense mechanisms. Freud believed that many mental illnesses are a result of a person's inability to accept reality. The study looked at the social demographic factors that influence PPD under here we have social support, if the women are not well supported through the period of pregnancy, birth and after birth as desired, they tend to develop fear and anxiety which is a potential risk to PPD.

Since most women have normal pregnancies and give birth easily without any challenge, for those that have got obstetric challenges they tend to reflect on the later and start comparing their

situation to the normal and then blame themselves for the failure to achieve a normal birth like others, this leads them in thought and self-blame leading to PPD.

Freud emphasized the importance of early childhood experiences in shaping our personality and behavior. In our natural state, we are biological beings. We are driven primarily by instincts. During childhood, however, we begin to become social beings as we learn how to manage our instincts and transform them into socially acceptable behaviors.

The experiences we face as we grow, whether good or bad can determine our mental health in the future. The bad experiences wreck a person into a sad mood, lack of self-esteem, self-worth and some big challenges cause trauma which always reflects in someone mind whenever they face any other challenge in life. This addresses the obstetric, medical and socio demographic factors as discussed in the literature.

According to Freud, the conscious and unconscious parts of the mind can come into conflict with one another, producing a phenomenon called repression (a state where you are unaware of having certain troubling motives, wishes, or desires but they influence you negatively just the same). In general, psychodynamic theories suggest that a person must successfully resolve early developmental conflicts (e.g., gaining trust, affection, successful interpersonal relationships, mastering body functions, etc.). to overcome repression and achieve mental health. Mental illness, on the other hand, is a failure to resolve these conflicts.

Naturally people who are genetically predisposed to mental illness, may find themselves unable to cope normal day to day life or they may not easily resolve conflicts they face. They are always suspicious and withdrawn from people, which puts them in a state which is hard for them to open up to people about the issues they face leading to PPD. This reflects the history of mental illness

in the family and how people behave even when they have not yet shown vivid signs of depression.

Depression is often triggered by a loss, either real or symbolic of a loved one or an ideal. The loss is often accompanied by ambivalence, meaning conflicting feelings of love and hate towards the lost object or person. When a woman loses a loved one like child, they tend to fail to pick up themselves easily to find coping mechanism, and will always think that each pregnancy they get will end up that way as the previous. That traumatic event can lead to panic, anxiety and fear which all lead to PPD.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents prevalence of postpartum depression, social demographic factors, obstetric factors, medical factors and quality of health care factors associated with postpartum depression among postnatal women seeking care and treatment and summary of literature.

2.2 The Prevalence of Postpartum Depression

Globally, statistical evidence on the prevalence of postpartum depression among postnatal women is variable among nations, regions and socioeconomic settings. In a systematic review of 565 studies from eighty selected countries, findings indicate that postpartum depression was found at 17.22% (95% CI 16.00–18.51) of the world's population (Wang, Z., Liu, J., Shuai, H., et al., 2021). In a cross-sectional study done by Wake, G. E., Fitie, G. W., Ashenafi, B., T. (2022), amongst 461 postnatal mothers, shown that 10–20% of postnatal women will encounter depressive symptoms, with an average incidence of 13% (Salem, M. N., Thabet, M. N., Fouly, H., et al 2017; Wake GE, et al, 2022) globally.

In developed countries the prevalence of postpartum depression, is predicted at 8 to 15% (Atuhaire, C., Brennaman, L., Cumber, S. N., et al., 2020). In middle–income countries, the pooled occurrence was 24.7% (95% CI, 23.6%-25.9%); 344 research from 21 states composed of (364 103 individuals) and in low-profit countries, the pooled incidence turned out to be 20.7%

(95% CI, 18.4%-23.0%; 50 studies from 7 countries consisting of 40 502 individuals). (Tobón, Amalia & Marengo, et al, 2024). The East Asia and the Pacific region had the lowermost incidence of perinatal depression at 21.4% (95% CI, 19.8%-23.1%) and became significantly enhanced within the middle East and North Africa at 31.5% (95% CI, 26.9%-36.2%; (Mitchell, A. R., Gordon, H., Lindquist, A., et al., 2023). In line with a systematic review of 47 studies from 18 low and lower-income countries, the prevalence is 18.6% (95% CI 18.0–19.2), (Wang, Z., Liu, et al, 2021). It's commonly agreed that the degree is higher in growing states as compared to established states (Amer, S. A., Zaitoun, N. A., Abdelsalam, H. A., et al., 2024).

In some studies, the prevalence of PPD was found to be lowest in low-income settings, (Mitchell, A. R., Gordon, H., et al, 2023). Of those studies, Sub-Saharan Africa registered an extreme as predicted by the Edinburgh Postnatal Depression Scale. The Edinburgh Postnatal Depression Scale has been questioned of its validity in the previous studies within these countries, with said ranges between from 56% to 88% (Larsen, A., Pintye, J., Bhat, A., et al, 2021). In sub–Saharan Africa, the overall estimated prevalence of postpartum depression is registered at 18.6% with a range from 7% to 50.3% (Awini, E., Agyepong, I. A., Owiredu, D., et al, 2023), Further, the PPD prevalence is 6.9% in Morocco and 44% in Burkina Faso. In a cross-sectional study done in Afar region, Northeast Ethiopia in 2021 among 302 postpartum women the prevalence suggested 37.4% (Mulugeta, Y., Mohammed, A. A., Ibrahim, I, et al, 2023). Despite the prevalence rates that have been given, each country has its own prevalence rates that also vary significantly depending on other (confounding) factors within that country. In East Africa, the prevalence of PPD in women is 24% (95% CI: 17.79–30.20), (Adeyemo et al., 2020), this continues to be a challenge. An incidence rate of 12.2% for postpartum depression was determined in a cohort study carried out in Moshi, Tanzania (Holm-Larsen, et al, 2019). Furthermore, in another study

done in Mwanza Tanzania among 386 postpartum women the PPD occurrence of 25.39% was determined (Mwita, M., Patten, S., et al., 2024). A prospective cohort study carried out in Rwanda and the southern province among 311 postpartum ladies, the incidence rate of 20.9% was reported (Umuziga, et al., 2023). A Kenyan study by Kariuki, E. W., Kuria, M. W., et al, 2022), in Lang'ata and Riruta health centers in Nairobi County among 575 postpartum women observed an incidence of 27.1%.

In Uganda, there are a few studies done in relation with the prevalence of PPD among postnatal women (Kabunga, A., Tumwesigye, R., et al., 2024), However the prevalence rates range from 6.1% to 43% (Akongo et al, 2024). A study done in rural Kabarole district among 450 postpartum women reported a prevalence rate of PPD at 43% (Kakyo, T. A., Muliira, J. ok., et al, 2012), when compared to a similar study performed in Mbarara and Rwampara districts the prevalence of PPD was indicated as 27.1% (Atuhairwe et al., 2021). Given that the prevalence of maternal mortality rate in Busoga sub region of Eastern Uganda ranks third in the country at 116 per 100, 000 live births the danger of PPD effect is substantial (MOH, 2023). Apparently, no known PPD study amongst postnatal women has been done in Namutumba district.

2.3 Factors associated with Postpartum Depression

The factors associated with PPD include socio-demographic, obstetric, medical and quality of health care factors.

2.3.1 Social demographical factors

2.3.1.1 Age of a mother

Research reveals that adolescent pregnancy is associated with tension, undesirable marital relationship, stressful life events, undesirable attitude about the pregnancy, and lack of social support, which are major contributors to postpartum depression (Biaggi, A., Conroy, S., Pawlby,

S., et al.,2016). There is a connection between age and depressive signs in the course of the perinatal period and it is reported that depressive signs have been highest amongst women ages 18–24, accompanied with a stepwise decline in rates among the 25–29-yr-olds, and the 30–34 yr. old (Bradshaw, H., Riddle, J. N., Salimgaraev, R., et al., 2022). In a survey conducted by Sytsma, B. A. (2021) on 1950 women at 2–12 weeks after delivery, from their sample of 1662 contributors, concluded that young maternal age stretched the threat of PPD compared to older maternal age. Adolescent mothers experience divergent social and personal private challenges which could affect their postpartum functioning (Nkrumah, I., Atuhaire, C., Priebe, G, et al, 2018). Factors including maternal competence, social isolation, and concerns about body shape or weight make a contribution to the precise adjustment that predicts their level of melancholy (Slomian, J., Honvo, G., Emonts, P., et al., 2019).

2.3.1.2 Education level

It has been advocated that a lack of education is probably related to a loss of facts and information for effective methods of postpartum care and childbearing (Ruderman, R. S., Dahl, E. C., Williams, B. R., et al., 2021). Education has extensively been associated with a woman's health consequences, some research investigating warning factors for PPD amongst postpartum women, reported a robust association between schooling and PPD (Filha, M. M. T., Ayers, S., da Gama, S. G. N., et al., 2016). In a community in Japan, a study was done and it revealed that low training level is associated with a higher incidence of postpartum depression (Madera, P., Zanetti, S., Dal Maso, F., 2022). Women with low education levels had been found to be more depressed compared to those who are more educated. Further, different research also observed that a lower education level was linked to a higher incidence of PPD (Alzahrani, J., Al-Ghamdi, S., Aldossari, et al, 2022). The studies completed in the middle East revealed that low education

was linked to poverty and early-age marriages, leading to PPD in young mothers. It has been proved that knowledgeable girls are informed, have capabilities and approaches to manage and cope with PPD (Alshikh Ahmad, H., Alkhatib, A., & Luo, J. 2021).

2.3.1.3 Marital status

Being unmarried as a woman, presents a vulnerability for indicators of PPD, according to the study done in Japan the results indicated marital status to be correlated with PPD (OR = 1.53, 95% CI = 1.18–1.99). The relationship status of the mother, whether formal or causal relationship is one of the extreme frequently studied elements associated with PPD (Nakamura, A., Sutter-Dallay, A. L., El-Khoury Lesueur, F., et al, 2020; Agrawal, I., et al., 2022). However, in a meta-analyses study done by Akincigil, A., Munch, S., & Niemczyk, K. C. (2010), shows that marital recognition is not a great component in PPD as it is generally believed (Agrawal, I. Mehendale, A. M., & Malhotra, R. 2022).

According to Bedaso, A., et al., (2022), study findings in a scientific review performed in low- and middle-income countries, shows that women who had marital issues even as pregnant had a greater danger of PPD. This will occur through emotions of loneliness and a lack of support. Marital relationships and spousal support are among the supreme essential factors influencing PPD.

2.3.1.4 Income status

Research about danger factors for PPD, have discovered blended findings regarding the connection between income status and PPD amongst postpartum women. (Anbi, A.A., Jahdi, N.S., Ranjbar, F. et al. 2024). Studies have consistently stipulated that postnatal women with a low income are at a danger to PPD, due to increases stress, limited access to resources and inadequate social support (Hymas R, Girard L-C. 2019). About 7.4% women are perceived to be

of low economic reputation, this financial reputation may result in decreased expenditure on the women's health and wellbeing (Agrawal I, et al., 2022).

2.3.1.5 Social support

Social support is a mechanism, which gives and builds confidence and a character of an individual when stress arises (Jiang, P., & Zhang, Z. 2023). There are four forms of social help; they consist of emotional, instrumental, informational and appraisal. Social supports exist in diverse settings which range from individual, family, institutional and community (Haugan, G., & Eriksson, M. 2021). In sub-Saharan Africa, numerous social elements accelerate the danger of poor mental health fitness among women. These consist of gender-based violence, socioeconomic disadvantage, low wages, and income inequality. Women facing those demanding situations often experience heightened stress and shortage of support structures, which can predispose them to mental health issues consisting of PPD (Sewalem, J., & Molla, A. 2022).

The two components of social support in strengthening maternal self-esteem and willingness to be relied upon are strongly associated with depression and tension within the first eight months postpartum (Cornish, D. L., & Dobie, S. R. 2018). Likewise, it's far said that social support and postpartum depression have a close association (Milgrom, J., Hirshler, Y., Reece, J., et al., 2019).

2.3.1.5.1 Relationship with partner

Various research has reported that PPD is linked to having trouble in relationships (Faisal-Cury, A., Tabb, ok. M., et al., 2021). Various research has revealed that PPD affects the intimacy. Women with PPD rated the relationship with their companion as more detached, unfriendly as well as childbirth (Lilja, G., Edhborg, M., et al., 2012; Atuhairwe et al., 2021). Depressed mothers additionally mentioned having greater relationship difficulties, which include romantic

ruin-ups, than non-depressed mothers (Slomian, J., Honvo, G., Emonts, P., et al., 2019), leading to sexual dysfunction for the duration of the first 12 months after childbirth, and felt much less confident than non-depressed over the crucial year (Slomian, J., Honvo, G., Emonts, P., et al., 2019).

2.3.1.5.2 Partner support

Presence of support from the partner, enables postpartum women attain physical and psychological liveliness and a sense of positive anticipation, which prevents the deterioration of the marriage (Gil, N., Fisher, A., Beeken, R. J., et al., 2022). Partner support encompasses all of the supportive intellectual, bodily and behavioral activities from an accomplice. The support from a partner is in the long run the most essential support needed in the course of the postnatal period. More research may help in prioritizing social support as a mechanism for prevention and care of women's mental health challenges in the postnatal period (Cheng, E. R., Rifas-Shiman, S. L., et al., 2016; Bedaso, A., Adams, J., et al, 2021), however the mother's relationship with her partner is considered as a powerful protecting factor than social support. Life-threatening postnatal challenges, are commonly registered in women with low partner support. More specifically, intimate partner violence, infidelity or companion pressure from partner are foundations of woman's dissatisfaction in their relationships (Antoniou, E., Tzanoulinou, M. D., Stamoulou, P., et al., 2022).

2.3.1.5.3 Family relationship

The circle of relative's support reduces the emotional burden and actions associated with infant care and self-care, which requires a whole lot of time and strength. The own family offers mental support by being liable to be in place and take her off the load of thoughts and for her to invite them while something is not understood around childbirth and infant care (Modak, A., Ronghe,

V., Gomase, okay. P., et al., 2023). The circle of relatives also helps in household chores such as cleaning the house, helping to wash, providing meals for the mother, and delivering if the mother ought to go for postnatal care and immunization of the infant (Roos, L. E., Salisbury, M., Penner-Goeke, L., et al., 2021). According to a study in Indonesia, that verified the connection between perceived social support and self-esteem, social support, especially by the inner circle, dramatically affects the improvement of relationship and self-potential, and it performs a crucial position in health, mental progress and quality development and offers a significant effect to reduce the incidence of postpartum depression (Estiningtyas, E., Cahyaningtyas, A. Y., et al., 2021).

2.3.2 Obstetric factors

The obstetric factors that influence PPD include parity, experience of parity, mode and places of delivery, obstetric complications and perinatal mortality.

2.3.2.1 Parity

The relationship between parity (birth order or number of pregnancies) and postpartum depression (PPD) is a complex topic that has been explored in various studies, yielding mixed findings and highlighting some other factors at play (Horton, L. L. 2018).

2.3.2.1.1 First-Time Mothers

The conversion to motherhood for first-time mothers is frequently observed through specific stressors associated with assuming the position and identification of a mother. This adjustment span may be challenging as women adapt to new responsibilities and adjustments of their lives (Kuersten-Hogan, R., & McHale, J. P. 2021; Cox, S. M., Lashley, C. O., Henson, L. G., et al., 2021). This adjustment pressure is assumed to make contributions to a higher danger of PPD

among prime parous women at some point of the early postpartum period (Asadi, M., Noroozi, M., & Alavi, M. 2020).

2.3.2.1.2 Birth experiences

Women, who have had multiple births or undesirable birth stories, are also at an amplified risk of PPD (Zhao, X. H., & Zhang, Z. H. 2020). Complications in the course of delivery, preterm births, low birth weight toddler, and plans or yearnings for additional pregnancies can heighten anxiety and stress. The heightened tension and emotional stress related to those situations contribute to the vulnerability to PPD (Karl, M., Schaber, R., Kress, et al., 2020; Liu, Y., Zhang, L., Guo, N., et al., 2021).

2.3.2.1.2.1 Multiple Births

The unique challenges associated with managing more than one newborn can increase stress and emotional strain, contributing to a higher risk of PPD (Slomian, J., Honvo, G., Emonts, P., et al., 2019; Saharoy, R., Potdukhe, A., Wanjari, M., et al, 2023).

2.3.2.1.2.2 Experiences of Parity

Several research indicate that PPD women may additionally experience wonderful or bad experiences and occasionally a combination of these (Slomian, J., Honvo, G., et al, 2019), those experiences include preterm and low or big weight babies, high parity, perinatal mortality and the desired sex of baby (Agrawal, I., et al, 2022). Some research has confirmed a correlation between poor delivery experience and postpartum mental health affecting postpartum mother-baby bonding (Eitenmüller P, oköhler S, Hirsch O, 2022). Women who have had many pregnancies can be at risk and are likely to have negative quality of life at some point of being pregnant and horrific experiences throughout birth than those who have had a few pregnancies

(Alzboon, Ghadeer, and Gülşen Vural, 2021). In the findings of one systematic overview and meta-evaluation, the analysis revealed that there may be association between advanced maternal age and maternal complications while pregnant, which includes preeclampsia and gestational diabetes (olar M, Luo M, Wang T, et al., 2023). However, there are measures put to make certain women get organized for birth with birth preparation training within the antenatal period and the midwives take the vital precautions in delivery room for the mothers to have a positive birth experience, these measures are essential in lowering postpartum depression danger (Bašková, M., Urbanová, E., Ďuríčeková, B., et al., 2023).

2.3.2.1.2.2.1 Preterm and Low birth weight infants

Mothers of preterm or low birth weight babies face specific demanding situations and heightened stress concerning the health of their toddlers (Abeasi, D., & Emelife, B, 2020). This accelerated pressure can persist throughout the first year postpartum and is connected to a higher prevalence of PPD compared to full-term pregnancies (Vigod, S. N., Villegas, L., Dennis, C. L., et al, 2010; Saharoy, R., Potdukhe, A., Wanjari, M., et al, 2023;). The prolonged problem for the infant's health and the capacity for developmental complications in addition contribute to maternal misery (Oyetunji, A., & Chandra, P, 2020).

2.3.2.1.2 High Parity

Research analyzing the affiliation between high parity (multiple pregnancies) and PPD have shown various outcomes (Cho, H., Lee, k., Choi, E., et al., 2022), whilst some studies recommend that higher parity might be related to decrease vulnerability to PPD, indicating that experienced mothers may additionally have developed higher coping mechanisms or have more social assistance networks near them (Smorti, M., Ponti, L., & Pancetti, F, 2019), other research have not observed a tremendous affiliation (Motegi, T., Watanabe, Y., Fukui, N., et al., 2020).

The transition to motherhood and specific birth situations can impact the risk of PPD, the relationship between parity and PPD is not straight. First-time mothers and people experiencing tough birth eventualities are at increased risk (Urbanová, E., Škodová, Z., & Bašková, M, 2021). Understanding those complexities is important for tailoring guide, support and intervention strategies to effectively deal with the mental health needs of diverse groups of postpartum women (Everitt, L., Stulz, V., Elmir, R., et al, 2022).

2.3.2.1.2.3 Perinatal Mortality

Depression and anxiety are common in the course of termination of a pregnancy, whether it's a mother's wish or through miscarriage (Huss, B. 2021). Furthermore, a bereaved woman typically experiences depressive symptomatology when a stillbirth or neonatal loss of life occurs (Weobong, B., Ten Asbroek, A. H., Soremekun, S., et al., 2015; Westby, C. L., Erlandsen, A. R., Nilsen, S. A., et al., 2021). Women, who grieve in stillbirth, have suffered the double mental burdens of trauma and bereavement, are at a great danger of developing PTSD and comorbid symptoms of melancholy and anxiety in the course of and after the pregnancy following stillbirth (Westby, C. L., Erlandsen, A. R, et al, 2021). Globally, ladies experiencing perinatal loss considerably have better threat of developing hopelessness and worry which may result in PPD (Herbert, D., young, ok, Pietrusińska, M., et al, 2022). In Uganda, a study performed in Lira district in Northern Uganda by (Arach AAO, Nakasujja N, Nankabirwa V, et al., 2020), stipulates that perinatal losses are momentous and they cause disparity between what is real truth and one's expectation. Therefore, women who have had a perinatal loss are most likely to experience postpartum depression compared to their counterparts (Tolossa, T., Fetensa, G., Yilma, M. T., et al., 2020).

2.3.2.1.4 Sex of the baby

In a community based cross sectional survey done among 596 postpartum women in Ankesha District, Northwest Ethiopia, 2018 stated that mothers whose babies sex has not been preferred has been two times more likely to fall into depressed mood than the ones whose infants' sex is preferred (Shitu, S., Geda, B., & Dheresa, M. 2019). Similarly, research performed in China between 2017 to 2018, indicated that women with desired sex of infants generally tend to experience PPD in case of bearing children contrary to their expectations (Kahalon, R., Yanushevsky Cnaani, G., et al., 2022; Ye, Z., Wang, L., et al., 2022).

2.3.2.2 Mode and place of Delivery

There was a huge debate and a subject of study interest in line with the relationship among caesarean delivery (C-section) and postpartum depression (PPD). Studies have shown that non-compulsory caesarean section (ELCS) is not related to PPD, while emergency caesarean section (EMCS) is more linked to PPD. This denotes that the circumstances surrounding the delivery method alone will not be a decisive element in PPD threat, but this threat can also happen in women who are prone to PPD due to other factors (Alzahrani J, Al-Ghamdi S, et al., 2022). A comparable research emphasized that the context of the woman's typical mental health capability and predisposition to PPD might affect whether C-section becomes a contributing aspect (Santos, J. B, 2019).

In other studies, it is believed that episiotomy reduced the threat of postpartum depression (Zaręba, k., Banasiewicz, J., Rozenek, H., et al., 2020). However, the pain and the health restoration process related to episiotomy wound may also make contributions to the signs and symptoms of depression (Komatsu, R., Ando, okay., et al, 2020). The women particularly those that gave birth at home or in the community, thereafter do not visit a health facility after they

face psychological misery however decide on options like traditional healers and different health care options in their surroundings, this delays them from getting proper medical care until when the symptoms increase (Atukunda, E. C., Mugyenyi, G. R., Obua, C., et al., 2020). Well as the women that delivered from health facilities can easily access care when distress occurs. (Dororthy Akongo et al., 2024).

2.3.2.3 Obstetric Complications

Several studies illustrate an extensive association between obstetric complications and PPD (Atuhaire et al. 2021; Daliri et al., 2023). For instance, a research describing the association among heavy postpartum hemorrhage and postpartum depression in Uppsala, Sweden discovered direct and high quality affects among anemia at discharge from health facility as a risk to PPD (Eckerdal, P., Kollia, N., Löfblad, J., et al., 2016; Wikman, A., Axfors, C., Iliadis, S. I., et al., 2020).

In sub-Saharan Africa approximately 15 percentage of pregnant women have childbirth complications that require emergency obstetric care (Geleto, A., Chojenta, C., Musa, A., et al, 2018). A range of factors consisting of bleeding, obstructed labor, eclampsia, and infections are the main obstetric complications experienced by women in sub-Saharan Africa (Geleto, et al., 2018; Melesse, Y., Assebe Yadeta, T., Lami, M., et al., 2023) all this put a pregnant woman at an excessive threat of PPD. Suspicion of fetal distress has additionally been identified as a risk factor for PPD, particularly when the pregnancy is overdue. Women hospitalized with excessive-risk pregnancies had multiplied threat of PPD (Floyd, G.2021; Yuarsyah, A. F., Utomo, B., & Dwi, I., 2021).

2.3.4 Medical Factors

2.3.4.1 Family history

Within the postpartum period, familial risk has similarly been identified as a risk factor for postpartum problems in family circle research studies; having a close relative with a previous postpartum mood disorder doubles the chance of growing a postpartum mood disorders more (Kjeldsen, M. M. Z., Bricca, A., Liu, X., et al., 2022). Additionally, outcomes suggest PPD is usually heritable than most major depressive diseases outside the postpartum period (Guintivano, J., Sullivan, P. F., Stuebe, A. M., et al, 2018; Batt, M. M., Duffy, k. A., Novick, A. M., et al., 2020). Some different research investigating a range of various danger elements have additionally diagnosed own family history of psychiatric problems as a risk component for PPD (Tebeka, S., Le Strat, Y., Mandelbrot, L., et al., 2021). But several studies have not associated own family history as a danger factor for PPD (Kjeldsen, M. M. Z., Bricca, A et al., 2022).

2.3.4.2 Underlying medical history

Previous studies have recommended that a few women are at a higher danger of PPD because of an additional sensitivity to fluctuating hormones before or at some point of being pregnant and after giving birth (Rasmussen, M. L. H., Poulsen, G. J., Videbech, P., et al., 2023) due to endocrine sickness. Based on the Danish national Cohort study that covered 888-989 deliveries (1995-2018), suggested that ladies with endocrine ailment history had a 40% higher danger of PPD compared with women without an endocrine sickness (Rasmussen, M. L. H., et al., 2023; Atuhaire, C., Taseera, ok., et al, 2023).

In a retrospective study conducted to analyze the relationship among Pre-eclampsia (PE) and PPD on women with and without PE who gave birth between January 1, 2017, and August 30, 2018, in the First Affiliated Hospital of Chongqing Medical University, the incidence of PPD

was 26.67% (24/90) in patients with Pre-eclampsia (PE), which was two times the prevalence of PPD amongst usual women (12.22%). (Chen, L., Wang, X., Ding, Q., et al, 2019).

In a 2018 research spearheaded by Do and associates in Vietnam shows that, women with gestational illnesses are at a higher danger of PPD compared to women who have not. The causes of an effect on illnesses (gestational diabetes, gynecological infection, hypertension or hypotension, and hepatitis) on growing PPD are not clearly recorded (Madirolas, G., Al-Asmar, A., et al, 2023), However, gestational diabetes was found to be independently associated with a modestly accelerated PPD risk in some other observation done in India (Bahl, S., Dhabhai, N., Taneja, S., et al., 2022).

2.3.4.3 History of mental illnesses

Globally, accessibility to mental healthcare is an essential problem, particularly in low-income states where resources are inadequate. This lack of access contributes considerably to the excessive incidence of mental health fitness challenges amongst women (Bedaso, A., Adams, J, et al, 2021). Without adequate support and remedy, conditions like depression while pregnant and PPD can go untreated, exacerbating their effect on maternal and child health consequences (Jannati, N., Farokhzadian, J., & Ahmadian, L, 2021). Women with a previous records of depressive episodes, tension, or different psychiatric ailments are at danger of growing into PPD.

For instance, findings from observational studies completed in Luigi Vanvitelli have indicated that women with untreated antepartum depression can be as much as seven times much more likely to suffer from PPD in comparison to the ones without antepartum depression (Luciano, M., Di Vincenzo, M., Brandi, C., et al., 2022). In East Africa, research has proven that untreated antepartum depression considerably increases the probability of PPD amongst women in Kenya (Mwangi, S. W. 2022).

2.3.5 Quality of healthcare

The delivery of primary healthcare services, is an international struggle and satisfactory healthcare services is primarily based on a number of issues, including motivated medical workers, appropriate-quality infrastructure, steady delivery of medicines and technologies, adequate funding, sound health plans, and evidence-based regulations (Hanson K, Brikci N, Erlangga D, Alebachew A, et al, 2022). Those amenities meaningfully impact the management and consequences of postpartum depression (PPD). Quality of healthcare can help prevent, detect, and manage PPD successfully, on the other side negative-quality healthcare can intensify the circumstance. Quality healthcare methods ensure that mental health care services are included into maternal health care, delivering services like counseling, therapy, and medication when its needed. (Lasater, M. E., Murray, S. M., Keita, M., et al, 2021). A patient-focused technique includes actively being attentive to patients, providing information about PPD, and indulging with the patients about their care plan (Pinho, L., Lopes, M. J., Correia, T., et al., 2021).

In a study completed in West Nile sub region, investigating the funding of primary healthcare services delivery in 3 local government districts in Uganda, deficiencies within the allocation, disbursement and timeliness of health funding have been recognized. Insufficient funds influence the quality of services, limits vital supplies and causes excessive reliance on private financing, which is not sustainable in rural economies (Kyohairwe, S. B., & Agatre, C. Y., 2023). Primary healthcare disbursements from central government authorities have to be paid on time directly to the health facilities by means of thorough processes and systems (Saharoy, R., Potdukhe, A., Wanjari, M., et al., 2023). In high-income countries, quality healthcare systems frequently include a wide range of mental health care services incorporated into maternal care.

For instance, countries like the U.S.A., Canada, and several European countries have established protocols for habitual screening and offering treatment of PPD, resulting in improved terminations for women (Hansotte, E., Payne, S. I., & Babich, S. M., 2017). In low-income countries, comprising many in Sub-Saharan Africa, the quality of healthcare for PPD may be inconsistent. Restricted admission to mental health resources, inadequate training for healthcare providers and inadequate infrastructure will result in gaps in care and higher rates of untreated PPD (Sewalem, J., & Molla, A., 2022). Nonetheless, mental health services are often limited in Uganda, due to inadequate mental health professionals and resources committed to maternal mental health care. This loss of access can avert the identity and handling of PPD (Ssebunya, R. N., Boopa, M., Nguyen, D., et al., 2022; Kisakye, A., Kasirye, P. G., Muramuzi, D., et al., 2023).

2.3.5.1 Attitude of health workers

Some researchers have asserted that most of the health workers at the postnatal and immunization clinics aren't well skilled about postpartum depression and cannot simply perceive the signs in particular the insignificant signs and symptoms at onset thinking that PPD is not a usual phenomenon until it comes to the worse (Akongo, D., Gwokyalya, V., et al., 2024). This creates difficulty for the medical workers working with postnatal women who manifest with PPD signs and symptoms.

In a study done in Jinja hospital that comprised the psychiatric nurses, counselor, nurses and clinical psychologist who offer care to the mothers on a daily basis, the findings revealed poor attitude of the medical workers to the mothers. Hence, the medical workers are unable to screen for psychological misery in some of the mothers that attend the postnatal visits (Akongo, D., Gwokyalya, et al., 2024). This influences negatively the postnatal women seeking for care.

2.3.5.2 Negligence of healthcare providers

The mental health components are entirely given little attention especially that of postpartum women in low-income countries like Uganda (Atif, M., Halaki, M., Raynes-Greenow, C., et al, 2021). Under diagnosis remains a major challenge and climax of negligence because healthcare professionals no longer implement a high suspicion index of PPD during examination. That is, because most women may not show any symptoms of depression or can also fail to initiate a discussion about their mood with their healthcare providers, and this hinders proper identification of cases, treatment and management (Falana, S. D., & Carrington, J. M., 2019).

Time is also a factor that plays a big role in the diagnosis of PPD. The limited time that the women have for interaction with the medical workers, may fail proper interaction and this makes the health workers miss identifying the abnormalities in postnatal women, since they are buy with the overwhelming numbers *(*Falana, S. D., & Carrington, J. M., 2019). Despite that, the clinical guidelines and standard operating procedures (SOPs), were established to help non-specialized healthcare providers to recognize and manage mental health problems as a part of a holistic healthcare approach that covers sufferers' physical and psychological necessities in all healthcare settings but at times, they are not followed (Ee, C., Lake, J., Firth, J., et al., 2020). Lack of screening and follow-up to women post-delivery, by health workers is a manifestation of negligence. As the end result, there's underreporting of the prevalence of PPD of which the real occurrence can be greater than the suggested records (Anokye, R., Acheampong, E., Budu-Ainooson, A., et al., 2018).

2.3.5.3 Baby Security

Baby insecurity particularly the switching of infants, is a common phenomenon that is regarded to manifest in a variety of methods (Silverio, S. A., Wilkinson, C., Fallon, V., et al, 2021).;

Riswadi, R., & Harahap, A., 2023). For desired sex of the baby in a marriage, it can be accidental separation, or due to negligence of mother or nurse gives to the wrong parent after delivery (Riswadi, R., & Harahap, A., 2023). This type of mistake, can lead to traumatic episodes which could bring about PPD.

2.3.5.4 Health facility environment

The health facility environment plays an important purpose in the effective control and maintenance of postpartum depression (PPD) (Jannati, N., Farokhzadian, J., & Ahmadian, L., 2021). Well-maintained and supportive surroundings can significantly have a positive effect on patient wellbeing, dignity, and basic care experience. Hospital environment has several limitations due to the physical environment to sanitation and hygiene and space for patients and health personnel (Lunda, P., Minnie, C. S., & Lubbe, W., 2024).

It is recommended that Health Centers should offer convenient and private accommodation for women who are giving birth and postnatal women with their babies, specifically the ones experiencing PPD (Ganann, R., Sword, W., Newbold, et al., 2020). Ensuring comfort can reduce tension and make contributions positively to mental well-being (Minckas, N., 2023). Privacy is critical for patients' dignity and comfort. (Mattar, B. M., 2023). The layout and area in the facility ought to permit for proper movement and interaction amongst medical workers and patients. Overcrowding can cause pressure and discomfort, at the same time well-deliberate spaces can facilitate better care and interaction. Reasonable area also allows in keeping private and offering a supportive surroundings for patients experiencing PPD. (Fadda, J., 2019).

Suitable sanitation reduces the danger of infections and creates an extra welcoming surroundings for patients. Hygienic and well-maintained facilities make contributions to healthier overall mental and physical health effects (Jowett, S., Shevlin, M., Hyland, P., et al., 2021). Access to

Water, Sanitation, and Hygiene (WASH) amenities, including hygienic toilets and washrooms, is essential (Sclar, G. D., Penakalapati, G., Caruso, B. A., et al., 2018; Caruso, B. A., Conrad, A., Patrick, M., et al., 2022).

Many health facilities in Sub-Saharan Africa face challenges related to physical infrastructure. Fundamental facilities and comfortable rooms for postpartum women are often restricted (Sewalem, J., & Molla, A., 2022). In Uganda, developments are needed to improve physical facilities (Kisakye, A., Kasirye, P. G., 2023). When privacy, hygiene and space of a patient is infringed on, it affects the confidentiality and comfort of patients, their health is also compromised and later sparks anxiety compromising the quality of care (Babatabar-Darzi, H., Jafari-Iraqi, I., Mahmoudi, H., et al, 2020; Ssebunya, R. N., Boopa, M., et al., 2022).

2.6 Summary of the literature

From the empirical literature, numerous studies are found to assess the prevalence and factors associated with postpartum depression among postnatal women. However, the studies vary in terms of their country of study, methodology employed, and factors explored in their models. Numerous literatures reviewed revealed a few sociodemographic factors (Biaggi, A., Conroy, et al., 2016; Kazemi, A., Ghaedrahmati, M., & Kheirabadi, G. 2021; Bradshaw, H., Riddle, J. N., et al., 2022). Obstetric factors (Zhao, X. H., & Zhang, Z. H. 2020; Alzahrani, J., et al., 2022; Saharoy, R., et al., 2023), medical factors (Bauer, A. E., Liu, X., et al., 2019; Chen, J., Cross, W. M., et al, 2019; Tebeka, S., Le Strat, et al., 2021) and Quality of healthcare factors (Falana, S. D., & Carrington, J. M., 2019; Akongo, D.,2021; Saharoy, R., Potdukhe, A., et al., 2023) associated with postpartum depression among women. This study provides findings for the prevalence and

associated factors of PPD among postnatal women seeking care in Nsinze HCIV, Namutumba District in Uganda.

Numerous studies demonstrated sampled prevalence of postpartum depression among women (Pradhananga, P., et al., 2020; Tebeka, S., et al., 2021; Atuhaire, C., Rukundo, G. et al., 2021; Daliri, D. B., et al., 2023). Different studies concluded on the relationship in the gaps, that the conducted studies addressed.

From a methodological perspective, the cross-sectional study provides the answers to the research questions. Several studies used cross sectional study but had gaps in generalization of findings and (Atuhaire, C., Rukundo et al., 2021), looked at mode of delivery as one variable that was associated with the prevalence of PPD (Meky, H. K., Shaaban, M. et al., 2020). Therefore, this study addresses those gaps.

CHAPTER THREE: RESEARCH METHODS

3.1 Study Design

Analytical cross-sectional study design was used to determine the prevalence and assess the associated factors of PPD among postnatal women seeking care. The study was done between 11 December 2023 and 28 February 2024, the design was selected because it would permit the researcher to analyze the variables under study from one given point in time. A quantitative approach was utilized for collection of numerical data which gave facts on the study variables.

3.2 Area of study

The study was conducted in the postnatal & immunization clinic at Nsinze HC1V, Namutumba District. The health facility is located in Busoga sub-region of Eastern Uganda approximately 136km from Kampala on Iganga-Tirinyi-Mbale road. The health facility is a 46-bed capacity headed by a doctor. The facility has 5 midwives, 10 nurses, 0 Psychiatrist, 0 counselors and 11 allied health professionals and the postnatal clinic is run on outpatient basis every Monday and Wednesday of the week. The population area catchment is 569,969 people according to the District Development Plan III (2020/20121 - 2024/2025).

Namutumba District has 6 Sub counties, 36 parishes, 432 villages and is the largest district in the Busoga Sub region. The district is bordered by Pallisa district to the North, Kibuku district to the Northeast, Butaleja district to the Southeast, Bugiri district to the South, Iganga district to the Southwest and Kaliro district to the Northwest. The study area was selected because it is densely populated with a higher maternal mortality ratio of 116 per 100,000 live births and fertility rate of 6.2 children per woman, which could be contributing to postpartum depression.

3.3 Study Population

All women who came for postnatal care and vaccination service within 1 year after delivery during the data collection period.

3.3.1 Target population

This study focused on the selected postpartum women who gave birth and attended postpartum care and immunization services for children during the study period.

3.3.2 Sample size determination

The required sample size was determined by using the formula below

$$N = ((Z\_1 - \alpha/2)\text{^}2\ (p)(q))/(d)\text{^}2$$

where;

N = Estimated sample size required for the study

$Z_{1-\alpha/2}$ = 1.96, standard normal value corresponding to 95% confidence level

P is the proportion of postpartum depression in a similar study done in Mbarara district in Western Uganda, 43% (Atuhairwe et al, 2021).

q is the complement of p, (1-p)

d = Margin of error set at 5%.

Given: $Z_{1-\alpha/2}$ = 1.96, P = 43% = 0.43, q = 1–0.43 = 0.57, d = 5% = 0.05.

That is; $n = ((1.96)\text{^}2\ (0.43)(0 \cdot 57)/(0.05)\text{^}2$

$n = 376.6 \approx = 377$

A samples size of 377 respondents was determined.

3.3.3 Sampling Procedure

Women within the health facility were randomly selected based on the eligibility criteria until the sample size was attained. Systematic Random sampling was suitable because participants were chosen from a big sample that came to the clinic.

3.4 Eligibility criteria

3.4.1 Inclusion

All postnatal women who gave birth and came for postnatal care and vaccination service within 1 year after delivery in Nsinze health center, IV were eligible. The women were also considered

eligible if they were between 15 to 49 years' old which is considered the reproductive age of women and should be attending post-natal/immunization clinic from hours of birth to 1 year.

3.4.2 Exclusion

Postnatal women were excluded, if they reported to the post-natal clinic for illness with complaints of high-grade fever, high blood pressure, vaginal bleeding or will be unable to respond to the questions or if they had sick babies.

3.5 Data collection procedure

Before commencing the data collection, a pretest was done using the same tool and corrections were made to make meaning until all questions made meaning, and ethical considerations observed. The data collection methods included the questionnaire survey. The questionnaire was translated in the local language ''Lusoga'' with the guide of the key informants for participants with low levels of education. A pretest was done in Namutumba health center III with the maternity stuff for both questionnaire and key informant interview guide to check for content and to incorporate comments.

3.5.1 Data collection tools

The instrument comprised of a structured questionnaire that was used and applied to all respondents. The questions were close ended and, in English language translated to local language ''Lusoga'' for the respondents who would not answer in English. The questionnaires constituted four sections, socio-demographical factors, obstetric factors, medical factors and quality of health care factors. The tools were pretested prior to check appropriateness of the questions.

3.5.2 Criteria for measuring postpartum depression

The Edinburgh postnatal depression scale (EPDS) was developed to assist health professionals in detecting mothers suffering from PPD, a distressing disorder more prolonged than the blues. The study adopted the Edinburgh postnatal depression scale (EPDS). This 10 item self-report measure is designed to screen women for symptoms of emotional distress during pregnancy and the postnatal period. The EPDS is not a diagnostic tool and must always be used in conjunction with clinical assessment, which helped to gather the detailed data and produce sufficient results that helped to determine the extent and the impact of PPD in the Nsinze HCIV.

3.6 Study variables and measurements

3.6.1 Dependent variables

The dependent variable in this study is the prevalence of postpartum depression among postnatal women in Nsinze HCVI, Namutumba District.

3.6.2 Independent variables

The independent variables are the factors associated with postpartum depression. These factors are socio-demographic, obstetric factors, medical factors and quality of health care factors.

3.7 Quality Control Measures

The quality control of this study was attained through validity and reliability checks. The principles of validity and reliability are fundamental cornerstones of the scientific method (Kent, 2001). For assessments to be sound, they must be free of bias and distortion. The following subsections explain how validity and reliability was determined in this study.

3.7.1 Validity

The validity refers to the true representativeness and accuracy of the questions of the instrument being measured to capture the intended data (Cohen et al., 2007). Experts in research reviewed the questions to see whether they could capture the intended response. A Content Validity Index (CVI) was calculated to establish the validity of the questionnaire. Content Valid Index (CVI) is a scale developed by computing the relevant items in the questionnaire by checking their clarity and meaningfulness in line with the relevant items stated divided by the total number of items. The questionnaire was considered valid for data collection since the CVI value was above the recommended 0.7 (Pollitt et al., 2007).

3.7.2 Reliability

Reliability is consistency of the results measured. This was ensured by undertaking several measures prior to fieldwork and data analysis. A pre-test was conducted on 37 respondents in Namutumba health Centre III with many similarities to Nsinze HCIV among participants who are characteristically similar to the sample respondents. Based on the feedback, observed inconsistencies of the questions were corrected to meet the intended objectives before time of data collection. The research assistants were 3 trained on protocol and data collection tools for 2 days prior to the survey to guarantee their understanding of PPD and command on administering the tools. Research assistants were well versed with English and the local language 'Lusoga' that were used in the study area.

3.8 Data management and analysis

3.8.1 Data management

The questionnaires were checked after being filled by research assistant to ensure that there is no question left unanswered and then kept under lock and key. The data was coded to increase accuracy and then captured, analyzed using Statistical Package for Social Sciences (SPSS)

version 26. Uni-variate analysis was used for the frequency. A bivariate analysis was done using Chi-square test to compare variables and the level of statistical significance set at ($p<0.05$.). Multivariate analysis was carried out to determine factors independently associated with PPD.

3.8.2 Data analysis

Univariate analysis was conducted to analyze the frequencies and percentage in the population, of each variable that was studied. This analysis was done for variables in each of the three objectives, with the final descriptive analyses run in the form of cross tabulations.

At bivariate level, a pair of variables (one independent and one dependent) was analyzed, using a Pearson Chi-square. The statistically significant variables were subject to the Multivariate regression model. Multivariate analysis was done for variable that was found to be statistically significant at bivariate analysis and the findings were reported using odds ratios. Variables that remained statistically significant after adjustment for confounders were the correlates of PPD among postnatal women seeking for care in Nsinze HC IV, Namutumba district. Statistical significance was set at 5% ($p<0.05$).

3.9 Ethical considerations

Ethical approval was granted from the Research and Ethics Committee of the Uganda Christian University. The protocol number is UG.REC.026. Permission was sought from the District Health Officer (DHO) Namutumba District, and the In-charge Nsinze HCIV. The consent was sought from the respondents after explaining the study procedures to them. At the end of the explanation, every participant was asked to sign a written study informed consent form before participating in the study as this ensured voluntarism and acceptability to participate in the study. Privacy, confidentiality and dignity of the respondents were considered during the research. Codes were used in the questionnaires. No compensation either financially or materially was

given to the respondents for their participation in the study. Participants were informed that participation was voluntary and that their withdrawal or refusal to participate would not affect their entitlement to health services.

CHAPTER FOUR: RESULTS

4.0 Introduction

This chapter presents quantitative findings of the study in relation to the objectives. These include descriptive statistics, bivariate and multivariate analysis findings of the factors to assess the prevalence and associated to PPD among postnatal women seeking care in Nsinze HCIV, Namutumba district.

4.1 Sociodemographic characteristics of postnatal women seeking postpartum care

From a sample of 377 postnatal women seeking postpartum care in Nsinze HCIV, Namutumba District, the response rate was 100% percent. The results in table 1 shows that majority of the postnatal women 160 (42.4%) were between 25 to 35 years of age, majority 353 (93.6%) are

married with most 202 (53.6%) being housewives. Also, majority of the postnatal women 175 (46.4%) had attained at least a primary level of education, most 285 (75.6%) earning less than Ugx 200,000 per month and most 247 (65.5%) residing in rural areas.

Table 1: Sociodemographic factors of postnatal women seeking postpartum care

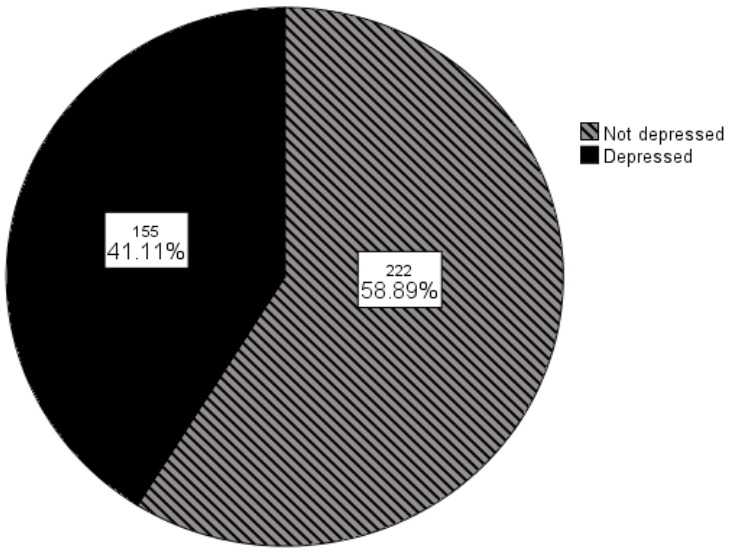
Variables (n = 377)	**Frequency**	**Percent**
Age (years)		
15 -19	46	12.2
20 - 24	138	36.6
25 - 35	160	42.4
36 - 49	33	8.8
Education level		
Unable to read and write	14	3.7
Only reading and writing	4	1.1
Primary	175	46.4
Secondary	170	45.1
Tertiary	14	3.7
Marital status		
Married	353	93.6
Single	19	5.0
Divorced	4	1.1
Widowed	1	0.3
Monthly Income (UGX)		
<100,000	285	75.6
100,000 - 200,000	58	15.4
200,001 - 300,000	12	3.2
Above 300,000	22	5.8
Relation with partner		
Very poor	6	1.6
Poor	21	5.6
Satisfactory	38	10.1
Good	263	69.8
Very good	49	13.0
Partner Support		
Very poor	11	2.9
Poor	22	5.8
Satisfactory	48	12.7
Good	251	66.6
Very good	45	11.9
Family relation		
Very poor	3	0.8
Poor	12	3.2

Satisfactory	27	7.2
Good	289	76.7
Very good	46	12.2

4.2 Prevalence of Postpartum depression among postnatal women seeking care

The results in Figure 2 show that from 377 postnatal women seeking Postpartum care sampled for this study, Close to half of the participants were found to be depressed 155 (41.11%). To the contrary, more than half of the participants were found not depressed 222 (58.89%).

Figure 2. Prevalence of Postpartum depression among postnatal women seeking care in Nsinze HCIV, Namutumba district, N-377



4.3 Obstetric factors among postnatal women seeking postpartum care

From a sample of 377 postnatal women seeking postpartum care in Nsinze HCIV, Namutumba District, the response rate was 100% percent. The results in table 2 shows that majority of the

women were multigravida 274 (72.7%), of which 219 (58.1%) had both sexes of the children. 0f the 377 postnatal women interviewed, majority of them had a vaginal delivery 342 (90.7%) at full term 363 (96.3%) and their infants were alive 248 (65.8%). Most of the women gave birth in a health facility 353 (93.6%).

Table 2. Obstetric factors among postnatal women seeking postpartum care in Nsinze HCIV, Namutumba district

Variable (n=377)	**Frequency**	**Percent**
Pregnancy Number		
Prime gravid	104	27.6
Multi gravid	273	72.4
Number of children		
Prime parity	103	27.3
Multiple parity	274	72.7
History of miscarriage/still birth		
No	283	75.1
Yes	94	24.9
Live Children		
0 - 3	248	65.8
4 - 6	98	26.0
7 - 9	29	7.7
10 - 12	2	0.5
Sex category		
Both sexes	219	58.1
One sex	158	41.9
Complications during pregnancy		
No	292	77.5
Yes	85	22.5
Place of birth		
Health facility	353	93.6
Others	24	6.4
Route of last delivery		
Vaginal delivery	342	90.7
Caesarean section	35	9.3
Episiotomy		
No	306	81.2
Yes	71	18.8

Wish for another pregnancy		
No	46	12.2
Yes	331	87.8
Plan for another pregnancy		
No	42	11.1
Yes	335	88.9

4.4 Medical factors among postnatal women seeking postpartum care

From a sample of 377 postnatal women seeking postpartum care in Nsinze HCIV, Namutumba District, the response rate was 100% percent. The results in table 3 show that most of the postnatal women in this population had no depressed relative 283 (75.1%). They neither had any other chronic illnesses 351 (93.1%) or hypertension 309 (82.0%). Majority of the postnatal women never felt depressed during pregnancy 264 (70.0%), or felt a low mood after birth 249 (66.0%).

Table 3. Medical factors among postnatal women seeking postpartum care in Nsinze HCIV, Namutumba district

Variable (n=377)	**Frequency**	**Percent**
Depressed relative after delivery		
No	283	75.1
Yes	9	24.9
Chronic illness		
No	351	93.1
Yes	26	6.9
Hypertension		
No	309	82.0
Yes	68	18.0
Feel depressed during pregnancy		
No	264	70.0
Yes	113	30.0
Low mood after giving birth		
No	249	66.0

Yes	128	34.0
Excessive and prolonged low mood before		
No	341	90.5
Yes	36	9.5

4.5 Quality of Healthcare factors among postnatal women

From a sample of 377 postnatal women seeking postpartum care in Nsinze HCIV, Namutumba District, the response rate was 100% percent. The results in table 4 show that most postnatal women reported that the attitude of the health workers was good 306 (81.2%) and that the experience at the health facility was good 307 (81.4%). There were no reported cases of baby theft or exchange at the facility 375 (99.5%) and the majority reported that adequate care was given to the babies 319 (84.6%). A conducive hospital; environment was reported at 349 (92.6%), that had enough accommodation for mothers 336 (89.1%), and enough midwives 323 (85.7%).

Table 4. Quality of Healthcare factors among postnatal women seeking postpartum care in Nsinze HCIV, Namutumba district

Variable (n=377)	**Frequency**	**Percent**
Attitude of health workers		
Poor	2	0.5
Satisfactory	26	6.9
Good	306	81.2
Very good	43	11.4
Experience at health facility		
Poor	5	1.3
Satisfactory	31	8.2
Good	307	81.4
Very good	34	9.0
Caring health workers		
No	6	1.6

Yes	371	98.4
Theft or exchange of baby		
No	375	99.5
Yes	2	0.5
Adequate care given to babies		
No	319	84.6
Yes	58	15.4
Presence of a nursery		
No	311	82.5
Yes	66	17.5
Conducive hospital environment		
No	28	7.4
Yes	349	92.6
Equipped facility		
No	156	41.4
Yes	221	58.6
Enough accommodation for mothers		
No	41	10.9
Yes	336	89.1
Enough staff to attend to mothers		
No	54	14.3
Yes	323	85.7
Enough beds to use		
No	52	13.8
Yes	325	86.2

4.6 Factors associated with postpartum depression among postnatal women seeking care

4.6.1 Bivariate analysis of Sociodemographic factors and PPD

From table 5, the results indicate that there is a statistically significant association between Age of postnatal women and postpartum depression [X^2 = 8.018, P-Value = 0.046] with majority 78 (50.3%) of postnatal women who experienced postpartum depression belong to the age group 25 to 35 years, also most 95 (61.3%) of the postnatal women who experienced postpartum depression are housewives showing a statistically significant association with postpartum depression [X^2 = 14.311, P-Value = 0.003].

Table 5: Bivariate results for the association of Sociodemographic factors and postpartum depression among postnatal women seeking care

Variable (n=377)	Postpartum Depression		Pearson Chi-square	P-Value
	Not Depressed	Depressed		
Age (Years)				
15 - 19	27 (12.2%)	19 (12.3%)	8.018	0.046*
20 - 24	93 (41.9%)	45 (29.0%)		
25 - 35	82 (36.9%)	78 (50.3%)		
36 - 49	20 (9.0%)	13 (8.4%)		
Marital status				
Married	209 (94.1%)	144 (92.9%)	3.488	0.322
Single	12 (5.4%)	7 (4.5%)		
Divorced	1 (0.5%)	3 (1.9%)		
Widowed	0 (0%)	1 (0.6%)		
Education level				
Unable to read and write	6 (2.7%)	8 (5.2%)	7.762	0.101
Only reading and writing	2 (0.9%)	2 (1.3%)		
Primary level	112 (50.5%)	63 (40.6%)		
Secondary level	91 (41.0%)	79 (51.0%)		
Tertiary level	11 (5.0%)	3 (1.9%)		
Monthly Income (UGX)				
Below 100,000	161 (72.5%)	124 (80.0%)	3.134	0.371
100,000 to 200,000	39 (17.6%)	19 (12.3%)		
200,001 to 300,000	7 (3.2%)	5 (3.2%)		
Above 300,000	15 (6.8%)	7 (4.5%)		
***Significant at p < 0.05**				

4.6.2 Bivariate analysis of the association between social support factors and PPD

From the results in table 6, Overall, the association between social support factors (relationship with partner, partner support, family relationship) with Postpartum depression were statistically significant (X^2 = 18.953, P-Value = 0.001; X^2 = 17.349, P-Value = 0.002; X^2 = 18.276, P-Value = 0.001). Overall, out of the 377 participants most of the postnatal women experienced at least

good relationship with their partners. Surprisingly, 119 (76.8%) with good relationship and 14 (9.0%) with very good relationship experienced postpartum depression.

Table 6: Bivariate results for the association of social support and postpartum depression of postnatal women seeking care

Variable (n=377)	**Postpartum Depression**		**Pearson Chi-square**	**P-Value**
	Not Depressed	*Depressed*		
Relationship with partner				
Very poor	2 (0.9%)	4 (2.6%)	18.953	0.001*
Poor	9 (4.1%)	12 (7.7%)		
Satisfactory	32 (14.4%)	6 (3.9%)		
Good	144 (64.9%)	119 (76.8%)		
Very good	35 (15.8%)	14 (9.0%)		
Partner Support				
Very poor	4 (1.8%)	7 (4.5%)	17.349	0.002*
Poor	11 (5.0%)	11 (7.1%)		
Satisfactory	38 (17.1%)	10 (6.5%)		
Good	136 (61.3%)	115 (74.2%)		
Very good	33 (14.9%)	12 (7.7%)		
Family relationship				
Very poor	2 (0.9%)	1 (0.6%)	18.276	0.001*
Poor	4 (1.8%)	8 (5.2%)		
Satisfactory	24 (10.8%)	3 (1.9%)		
Good	159 (71.6%)	130 (83.9%)		
Very good	33 (14.9%)	13 (8.4%)		
***Significant at p < 0.05**				

4.6.3 Bivariate analysis of the association between Obstetrical factors and PPD

From table 7 showing obstetrical factors, out of the 155 (41.11%) postnatal women who experienced postpartum depression, majority 108 (69.7%) didn`t have history of miscarriage/still birth and it was statistically significant [X^2 = 4.084, P-Value = 0.043]; most 90 (58.1%) had less than 4 children showing a statistically significant association [X^2 = 9.723, P-Value = 0.021];

most 103 (66.5%) didn`t experience any problems during pregnancy and it also showed a statistically significant association with postpartum depression [X^2 = 18.245, P-Value = 0.000].

Table 7: Bivariate results for the association of Obstetrical factors and postpartum depression of postnatal women seeking care

Variable (n=377)	Postpartum Depression		Pearson Chi-square	P-Value
	Not Depressed	Depressed		
Pregnancy Number				
Prime gravid	66 (29.7%)	38 (24.5%)	1.242	0.265
Multi gravid	156 (70.3%)	117 (75.5%)		
Number of children				
Prim parity	65 (29.3%)	38 (24.5%)	1.043	0.307
Multiple parity	157 (70.7%)	117 (75.5%)		
History of miscarriage/still birth				
Yes	47 (21.2%)	47 (30.3%)	4.084	0.043*
No	175 (78.8%)	108 (69.7%)		
Live Children				
0 - 3	158 (71.2%)	90 (58.1%)	9.723	0.021*
4 - 6	46 (20.7%)	52 (33.5%)		
7 - 9	16 (7.2%)	13 (8.4%)		
10 - 12	2 (0.9%)	0 (0.0%)		
Baby sex category				
Both sex	122 (55.0%)	97 (62.6%)	2.180	0.140
One sex	100 (45.0%)	58 (37.4%)		
Complications during last pregnancy				
Yes	33 (14.9%)	52 (33.5%)	18.245	0.000*
No	189 (85.1%)	103 (66.5%)		
Place of last birth				
Health facility	208 (93.7%)	145 (93.5%)	0.003	0.955
Others	14 (6.3%)	10 (6.5%)		
Mode of last delivery				
Normal delivery	204 (91.9%)	138 (89.0%)	0.886	0.346
Caesarean section	18 (8.1%)	17 (11.0%)		
Episiotomy during last				

vaginal delivery Yes No	 44 (19.8%) 178 (80.2%)	 27 (17.4%) 128 (82.6%)	0.344	0.557
Wish for another pregnancy Yes No	 198 (89.2%) 24 (10.8%)	 133 (85.8%) 22 (14.2%)	0.975	0.323
Plan for another pregnancy Yes No	 202 (91.0%) 20 (9.0%)	 133 (85.8%) 22 (14.2%)	2.478	0.115
***Significant at p < 0.05**				

4.6.4 Bivariate analysis of the association between medical factors and PPD

From Table 8, the study findings showed that out of 155 (41.11%) postnatal women who experienced postpartum depression, majority 102 (65.8%) indicated that they had a relative who got depressed after birth [it`s statistically significant [X^2 = 12.059, P-Value = 0.001]; most 116 (74.8%) had hypertensions showing a statistically significant association with postpartum depression [X^2 = 9.037, P-Value = 0.003]; also majority 95 (61.3%) reported not to have been depressed during pregnancy showing a statistically significant association with postpartum depression [X^2 = 9.571, P-Value = 0.002].

Table 8: Bivariate results for the association of medical factors and PPD among postnatal women seeking care

Variable (n=377)	**Postpartum Depression**		**Pearson Chi-square**	**P-Value**
	Not Depressed	Depressed		
Depressed relative after delivery Yes No	 41 (18.5%) 181 (81.5%)	 53 (34.2%) 102 (65.8%)	12.059	0.001*
Chronic illness Yes No	 15 (6.8%) 207 (93.2%)	 11 (7.1%) 144 (92.9%)	0.016	0.898

Hypertension Yes No	 29 (13.1%) 193 (86.9%)	 39 (25.2%) 116 (74.8%)	9.037	0.003*
Feel depressed during pregnancy Yes No	53 (23.9%) 169 (76.1%)	60 (38.7%) 95 (61.3%)	9.571	0.002*
Low mood after giving birth Yes No	 72 (32.4%) 150 (67.6%)	 56 (36.1%) 99 (63.9%)	0.556	0.456
Excessive and prolonged low mood before Yes No	 17 (7.7%) 205 (92.3%)	 19 (12.3%) 136 (87.7%)	2.236	0.135
***Significant at p < 0.05**				

4.6.5 Bivariate analysis between Quality of health care factors and PPD

The bivariate analysis presented in Table 9 clearly indicates a significant association between various quality of healthcare factors and postpartum depression (PPD) among postnatal women seeking care. The quality of healthcare factors that were statistically significant were equipped facility, buying EMS while at the facility, asking mothers to come with any EMS, presence of a nursery at the facility, adequate staff at the nursery and adequate care given to babies. The buying of EMS by mothers while at the facility has a higher level of association with PPD than any other factor (X^2 =20.179; P=0.000). This is followed by the equipped facility and the least is adequate care given to babies (X^2 =8.159; P=0.004). This implies that buying of EMS by mothers while at the facility is the main predisposing factor to PPD. Therefore, suggest that inadequate healthcare resources and support significantly contribute to higher rates of postpartum depression, underscoring quality to healthcare among postpartum women.

Table 9: Bivariate results for the association of Health system factors and Postpartum depression among postnatal women seeking care

Variable (n=377)	Postpartum Depression		Pearson Chi-square	P-Value
	Not Depressed	*Depressed*		
Care at health facility				
Poor	1 (0.5%)	4 (2.6%)	4.711	0.194
Satisfactory	20 (9.0%)	11 (7.1%)		
Good	178 (80.2%)	129 (83.2%)		
Very good	23 (10.4%)	11 (7.1%)		
Attitude of health workers				
Poor	0 (0.0%)	2 (1.3%)	7.810	0.050
Satisfactory	18 (8.1%)	8 (5.2%)		
Good	173 (77.9%)	133 (85.8%)		
Very good	31 (14.0%)	12 (7.7%)		
Relationship with health workers				
Poor	1 (0.5%)	1 (0.6%)	6.224	0.101
Satisfactory	19 (8.6%)	8 (5.2%)		
Good	168 (75.7%)	133 (85.8%)		
Very good	34 (15.3%)	13 (8.4%)		
Timely provision of care				
Fast	194 (87.4%)	141 (91.0%)	1.182	0.277
Took time	28 (12.6%)	14 (9.0%)		
Caring health workers				
Yes	219 (98.6%)	152 (98.1%)	0.199	0.656
No	3 (1.4%)	3 (1.9%)		
Presence of baby security				
Yes	2 (0.9%)	0 (0.0%)	1.404	0.236
No	220 (99.1%)	155 (100.0%)		
Equipped facility				
Yes	151 (68.0%)	70 (45.2%)	19.658	0.000*
No	71 (32.0%)	85 (54.8%)		
Buying EMS while at the Facility				
Yes	139 (62.6%)	130 (83.9%)	20.179	0.000*
No	83 (37.4%)	25 (16.1%)		
Asked to come with any EMS				
Yes	153 (68.9%)	131 (84.5%)	11.949	0.001*
No	69 (31.1%)	24 (15.5%)		
Enough accommodation for mothers				

Yes No	202 (91.0%) 20 (9.0%)	134 (86.5%) 21 (13.5%)	1.940	0.164
Conducive hospital environment Yes No	210 (94.6%) 12 (5.4%)	139 (89.7%) 16 (10.3%)	3.210	0.073
Enough staff to attend to mothers Yes No	191 (86.0%) 31 (14.0%)	132 (85.2%) 23 (14.8%)	0.057	0.811
Enough beds to use Yes No	191 (86.0%) 31 (14.0%)	134 (86.5%) 21 (13.5%)	0.013	0.908
Presence of a nursery Yes No	52 (23.4%) 170 (76.6%)	14 (9.0%) 141 (91.0%)	13.089	0.000*
Adequate staff at nursery Yes No	48 (21.6%) 174 (78.4%)	13 (8.4%) 142 (91.6%)	11.788	0.001*
Adequate care given to babies Yes No	44 (19.8%) 178 (80.2%)	14 (9.0%) 141 (91.0%)	8.159	0.004*
***Significant at p < 0.05**				

4.6.6 Multivariate Logistic regression between related factors and PPD

Table 10, details the Adjusted Odds Ratios (AOR) for factors associated with postpartum depression (PPD) among postnatal women seeking care, revealing significant relationships ($P < 0.05$). The most critical risk factor identified is complications during pregnancy, with affected postnatal women being 2.78 times more likely to experience PPD (AOR = 2.78; P = 0.001). A family history of depression also significantly increases risk; postnatal women with relatives who experienced postpartum depression are 2.37 times more likely to develop PPD (AOR = 2.37; P = 0.006). Then age with postnatal women aged 20 to 24 being 0.62 times less likely to experience

PPD compared to those aged 15 to 19 (AOR = 0.38; P = 0.021). Finally, buying EMS while at the facility was two times likely to expose mothers to PPD (AOR=2.29; P=0.036). These findings highlight key risk factors—pregnancy complications, familial depression history, age and buying EMS while at the facility and suggest the need for targeted interventions. Overall, proactive recognition and management of these risks by healthcare providers are essential for improving maternal PPD health outcomes.

Table 10. Multivariate factors associated with postpartum depression among postnatal women seeking care N=377

Postpartum Depression	**Odds Ratio**	**P- Value**	**[95% Conf. Interval]**	
			Lower	**Upper**
Age				
15 - 19	1			
20 - 24	0.38	0.021**	0.16	0.86
25 - 35	0.82	0.655	0.34	1.96
36 - 49	0.30	0.082	0.08	1.17
Relation with partner				
Very poor	1			
Poor	0.71	0.866	0.014	35.73
Satisfactory	0.06	0.115	0.002	1.98
Good	0.14	0.253	0.005	3.98
Very good	0.24	0.389	0.009	6.13
Partner Support				
Very poor	1			
Poor	0.18	0.322	0.01	5.46
Satisfactory	0.83	0.897	0.04	15.22
Good	0.96	0.976	0.06	16.34
Very good	0.51	0.634	0.03	8.23
Family relation				
Very poor	1			
Poor	7.86	0.221	0.29	214.04
Satisfactory	1.03	0.985	0.05	22.64
Good	2.80	0.474	0.17	47.01
Very good	2.05	0.621	0.11	35.54

Yes	1.16	0.610	0.66	2.05
Live Children				
0 - 3	1			
4 - 6	1.92	0.060	0.97	3.80
7 - 9	1.40	0.585	0.42	4.63
10 - 12	1			
Complications during pregnancy				
No	1			
Yes	2.78	0.001**	1.52	5.11
Depressed relative after delivery				
No	1			
Yes	2.37	0.006**	1.29	4.36
Hypertension				
No	1			
Yes	1.37	0.336	0.72	2.59
Feel depressed during pregnancy				
No	1			
Yes	1.27	0.415	0.72	2.23
Equipped facility				
No	1			
Yes	0.70	0.191	0.41	1.20
Buying EMS while at the Facility				
No	1			
Yes	2.29	0.036**	1.06	4.97
Asked to come with any usable EMS				
No	1			
Yes	0.95	0.914	0.39	2.34
Presence of a nursery				
No	1			
Yes	1.58	0.611	0.27	9.22
Enough staff at nursery				
No	1			
Yes	0.85	0.89	0.09	8.14
Adequate care given to babies				
No	1			
Yes	0.40	0.292	0.07	2.19

CHAPTER FIVE: DISCUSSION

5.0 Introduction

This chapter presents the analyzed results in relation to the specific objectives, which guided the study to determine the prevalence and assessed factors associated with postpartum depression among postnatal women seeking care in Nsinze HCIV, Namutumba District. The discussion shall also include the association between factors (socio-demographic, medical, obstetric and quality of care) and postpartum depression among postnatal women seeking care in Nsinze HCIV, Namutumba District.

5.1 Prevalence of postpartum depression among postnatal women

In general, close to half of the participants experienced postpartum depression. The findings of this study indicated prevalence for PPD was 41.11%. This finding is a whole lot higher than the worldwide figures that are approximately mentioned 17.2% (Ziyi, 2021) and 19.8% in low- and middle-income countries (Keynejad et al, 2018; Yeboa et al., 2023). This finding is in not in agreement with a preceding survey done by Negesse et al., (2022) which reported that in East Africa the prevalence of PPD in lactating women is high and growing estimated with a pooled prevalence at 24% globally.

However, within range with prevalence in sub-Saharan Africa ranging from 6.9 to 50.3 percentage. Both studies used the Edinburgh Postnatal Depression Scale (EPDS) which has been psychometrically validated for assessing depression among postpartum women. Even though the findings show that prevalence of PPD is higher than that in Uganda at 24% (Negesse et al., 2022) it varies between 6.1 to 43% (Kakyo et al., 2012; Atuhairwe et al., 2021; Akongo et al, 2024). The differences in the prevalence of PPD in Uganda may be because of research designs used, areas under study and time of observe performed. Another reason may be depending on geographical location, social economic reputation and social status of the women. Even when reforms were completed in Uganda to improve maternal and child health along with mental health policy 2016 (Nakku, 2016; Bina, 2019), there is no recognized records that indicates the actual occurrence of PPD. This finding will offer awareness to policy makers on PPD statistics at Namutumba district.

5.2 Factors associated with postpartum depression among postnatal women

In this study, complications during pregnancy became the greatest statistically considerable factor at multivariate analysis level accompanied by, history of a depressed relative after

delivery, age and buying EMS while at the facility. The primary factor related to PPD was found to be pregnant related complications. This is consistent with previous studies that indicate that some particular pregnant complications like emergency caesarean section, fetal distress before birth, gestational hypertension and/or preeclampsia, induced labor and placenta Previa, pose extra danger than others (Koutra et al., 2018; Swart et al., 2023). Comparable studies indicated pregnancy related complications to be a high-danger factor for PPD. The implicated complications were pre-eclampsia hospitalization during pregnancy, emergency caesarean section, suspicion of fetal distress, a medically indicated delivery provided by on obstetrician and hospital admission of the infant (Blom, et al., 2010). Similar findings, stated that the preeclampsia strongly affects PPD (Ye et al., 2021). It was reported that some postnatal women in the community due to lack of income, knowledge and social support stay home until when its late and some end up giving birth at home without any medical assistance which may escalate the obstetric factors and later PPD. And such women may not still come to hospital when things go wrong they will look for alternatives causing more danger.

The other associated factor to PPD was having a depressed relative after delivery. This outcome is similar to that of research carried out by. Rasmussen MH, Poulsen GJ, Wohlfahrt J, et al. 2022) which suggested that having a female first-degree relative with PPD turned out to be drastically associated with higher risk of PPD (Kjeldsen et al., 2022). However, the findings of this study are not in agreement with a study done by Rupanagunta et al. (2023) which found out that having a female 2^{nd} - or 3^{rd} degree blood relative with a similar history did not have an association with a higher chance of PPD. The indifferences in relation to the level of degree of the relationship to the index women has been contributed to psychiatric history being a confounder (Rasmussen et al., 2022). This means that to rule out susceptibility to PPD amongst

pregnant women seeking care, a comprehensive mental health screening with an extra index of PPD clinical suspicion needs to be implemented to such women and later be accompanied to help them cope up with motherhood in the postpartum period. The study found out that the health center despite serving a big catchment area in the community, it has no any skilled mental health personnel that could help in offering such services at the facility or the entire community which hinders knowledge to both the health workers and the community due to lack of sensitization on the above topic. There is lack of comprehensive knowledge about the topic

Age was another factor with women aged 20-24 years being more likely to develop PPD than younger or older women. That is consistent with findings from different research in LMICs that have identified young maternal age as a threat issue for postpartum depression (Biaggi et al., 2016). Women in this age group frequently face financial instability, lack of psychosocial support, and the stress of balancing motherhood with other duties which includes education or employment. Those elements make a contribution to pressure and might lead to emotional distress, rising the risk of developing PPD. In Namutumba most of the postnatal women in this age group were discovered to be low income earners, illiterate who are only depending on their husbands to provide for their needs especially in this period while they are pregnant, giving birth and after birth and yet their husbands are also on the other side financially constrained which makes this age group more susceptible to PPD due to continued pressures and stress during this time of their life.

While older mothers (30 years and above) are regularly considered to be at lower risk for PPD in developed states because of more economic and emotional stability (Muraca & Joseph, 2014), the situation in LMICs like Uganda is one of a kind. In Uganda, women aged 20-24 may nonetheless lack the monetary sources and social support essential to navigate the challenges of

new motherhood. Additionally, societal expectations and the pressure to provide family and relatives, can increase stress levels, making this age group more vulnerable to postpartum depression. These findings suggest that interventions focused on mental health support for women in the 20-24 age group could assist reduce the occurrence of PPD.

Another important factor that is less discussed that was identified in this study is the requirement for women to buy essential medications and supplies (EMS) at the facility. This finding emphasizes the economic burden that postpartum women face, in particular in resource-constrained settings like Uganda, where many women hassle to come up with the money for essential healthcare services. Earlier research has proven that the reliance on out-of-pocket spending for essential health services worsens mental health challenges for women, leading to pressure and economic stress (Kyohairwe & Agatre, 2023). While women are required to purchase EMS, it increases the psychological burden and can lead to feelings of helplessness or inadequacy, particularly for women with strained financial resources. Reducing this economic strain off women means there is need to improve the funding of maternal mental health services to alleviate a number of the stress associated with the postpartum period and reduce the threat of PPD. It was found that about 53.6% of the women in this study were house wives, who don't have any source of income that they depend on to provide for their medical needs and this has greatly affected their expectations of the services offered and it later brings them stress and anxiety when they come for services and are told to buy EMS yet they expect these to be provided at the facility. There is need support either the facility or the women's financial needs in that community.

The findings from this study have critical implications for maternal health strategy and practice in Uganda and similar LMICs. In this study, healthcare providers should prioritize screening for

postpartum depression in women who have gone through skilled threatening pregnancies, which includes those with preeclampsia or caesarean section. However, offering mental health support as a measure for standard maternal care is important to making sure that women receive the necessary psychological support through the postpartum period.

5.3 Limitations

This study has certain limitations. First, the study does not provide generalizability because it was conducted only in one district and more in one facility. Second, since the study was done in a health a facility, there was no influence of exploring other factors out of the study indicators that would give us another depiction of PPD and its effects among postnatal women in the community.

Third, no adjustment for non-response was done as such this could undermine the probability-based inferential mechanism and introduce the potential for nonresponse bias. However, all members of the sample were reached. And the mixed-mode and multiframe designs which increases complexity and introduces errors in the effort to address nonresponse were not used. More so, the non-response bias has no impact on the cross-sectional design used given that the design does not monitor changes over time in prevalence or measure trends observed overtime. Thus, increases the trust in survey estimates (Cheung, et al.,2017).

Finally, the confidence intervals are so wide and yet there was a random error. This could be that the sample size might have been small. However, the sample size highlighted the uncertainty in the estimates. As such, did not overly attached to results from limited data. Hence, the findings can be of great importance to similar settings.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the conclusion drawn from the study findings and gives recommendations as to the way forward on how the problem of postpartum depression among women seeking postpartum care to be managed and the areas that require further research.

6.1 Conclusion

This study reveals a high prevalence of PPD among the participants at 41.11%. The significant factors contributing to PPD were pregnancy-related complications, depressed relative after delivery, age and least buying EMS while at the facility. Healthcare providers can enhance their approach to maternal mental health. Implementing supportive measures tailored to these factors can lead to improved outcomes for mothers and their families, fostering a healthier postnatal environment and ultimately contributing to better.

6.2 Recommendations

To the National Level:

The government should ensure that all healthcare providers are trained to detect, manage, and refer women to appropriate mental health services. Also focus on subsidizing essential medical supplies for low-income mothers

To the District: This study recommends increased resource envelope to maternal mental health initiatives with more focus on enhancing quality healthcare and psychological support to PPD mothers. A comprehensive approach is highly recommended including peer mentoring programs and community support to help alleviate the unique pressures on PPD sufferers, ultimately promoting better mental health outcomes for both mothers and their families.

To the Community Level:

Strengthen community networks to offer emotional support, through local organizations facilitating peer mentoring and social gatherings, can help foster connections and reduce isolation.

6.3 Areas for Further Research

Future research should focus on longitudinal studies that track the mental health of postpartum women over time. Such studies could provide valuable insights into the long-term effects of PPD on mothers and their families, informing healthcare practices and policy decisions. Finally, regional comparisons are important to examine PPD prevalence and associated factors across various areas of Uganda. This research could highlight specific local challenges and offer strategies tailored to the unique needs of different communities.

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APPENDICES

APPENDIX 1: INFORMED CONSENT FORM

Title of Research: Prevalence and Factors Associated with Postpartum Depression among postnatal Women Seeking Care in Nsinze Health Centre IV, Namutumba District.

My name is GALIKWOLEKA S. LILLIAN, a student of Uganda Christian University pursuing a MASTERS OF PUBLIC HEALTH LEADERSHIP-SAVE THE MOTHERS. I am carrying out a study on "Prevalence and Factors Associated with Postpartum Depression among postnatal Women Seeking Care in Nsinze Health Centre IV, Namutumba District".

Purpose

The study is being carried out as a partial requirement for the award of MASTERS OF PUBLIC HEALTH LEADERSHIP-SAVE THE MOTHERS of Uganda Christian University. The study will contribute to the current efforts to address a challenge of Postpartum Depression among women among mothers in Namutumba District.

Time

I will be interviewing you using a questionnaire to provide me with pertinent data that is helpful for the study. The interview will take about 30 minutes, so I kindly request you to spare me this time for the interview.

Risks

Your participation in this study will not involve any known risks or minimal risk to you. By participating in this study and answering the questions you will not receive any direct benefit.

Confidentiality

The information you will provide us will be confidential. There will be no information that will identify you in particular. The findings of the study will be generalized for the study population and will not reflect anything particular of individual persons or housing. The questionnaire will be coded to exclude names and identity card of the participants. No reference will be made in oral or written reports that could link participants to the research.

Rights

Participation for this study is fully voluntary. You have the right to decline to participate or not in this study. If you decide to participate, you have the right to withdraw from the study at any time and this will not label you for any loss of benefits which you otherwise are entitled. You don't have to answer any question that you don't want to answer.

Contact address

If you have any questions or concerns about the research, you can contact the concerned person with the following address given below:

GALIKWOLEKA S. LILLIAN

Researcher

Tel: +256702266050

Email: akuzelillian@yahoo.com

APPENDIX 2: STATEMENT OF CONSENT

..... has described to me what is going to be done, the risks, the benefits involved and my rights regarding this study. I have been informed about the study in which I am voluntarily agreeing to take part. In the use of this information, my identity will be concealed. I am aware that I may withdraw at any time. I understand that by signing this form, I do not waive any of my legal rights but merely indicate that I have been informed about the research study in which I am voluntarily agreeing to participate. A copy of this form will be provided to me.

Name of research participant…….

Age…….

Signature/thumbprint …….

Date (DD/MM/YY) …….

(Witness for illiterate and mentally incapacitated or physically handicapped participants who signs with thumbprint should be provided below)

Name of Witness …….

Signature ……...

Date (DD/MM/YY)

……...

APPENDIX 3: QUESTIONNAIRE (English version)

My name is …….……and I am conducting a study on "*The prevalence and factors associated with postpartum depression among postnatal women seeking care in Nsinze HCIV, Namutumba District*". The study will help highlight the challenge faced by mothers with PPD and contribute towards the development of appropriate interventions. Your views will be kept confidentially and your identity will not be revealed. Your participation is voluntary and you are free to withdraw from the interview at any point.

Name: _____ Address: _____

Your Date of Birth: _____ Date of Delivery: _____

Phone: _____

Socio-demographic Information

1. What is your age (years)?.....
2. What is your marital status?

a) Married
b) Single
c) Divorced
d) Widowed

3. What is your level of Education?
    a) Unable to read and write
    b) Primary level
    c) Secondary level
    d) Tertiary level
4. How much do you earn every month?
    a) < 100,000 Ugx.
    b) 100,000 -200,000 Ugx
    c) 200,001 Ugx -300,000 Ugx
    d) ≥300,001 Ugx
5. What is the relationship with partner?
    a) Poor
    b) Satisfactory
    c) Good
    d) Very good
6. Did you get any help and support from your partner?
    a) Poor
    b) Satisfactory
    c) Good
    d) Very good
7. How is the relationship with your own family?
    a) Poor
    b) Satisfactory
    c) Good
    d) Very good
8. Do you stay near your in laws?
    a) Yes

b) No

9. How is the relationship with your in-laws?
    a) Poor
    b) Satisfactory
    c) Good
    d) Very good
10. How is the relationship with your mother in-law?
11. Physical abuse
    a) Yes
    b) No

Obstetrical Factors

12. What number is this pregnancy?
    a) Prim gravid
    b) Multi gravid
13. How many children do you have?
    a) Primi parity
    b) Multiple parity
14. Have you had a miscarriage or still birth before?
    a) Yes
    b) No
15. How many live children do you have? ……
16. Of your children how many are boys and how many are girl(specify)?
    a) ……..
    b) …….
17. Did you have any pregnancy related problems during the last pregnancy?
    a) Yes
    b) No
18. Where did you give birth from?
    a) Health facility
    b) Others (specify)…….
19. What is the route of last delivery?

a) Vaginal delivery
b) Caesarean section

20. Did you have an Episiotomy?
    a) Yes
    b) No
21. Was your pregnancy full-term?
    a) Yes
    b) No
22. Do you wish to have another pregnancy?
    a) Yes
    b) No
23. Do you plan with your partner for another pregnancy?
    a) Yes
    b) No

Medical Factors

24. How was the medical care during pregnancy?
    a) Poor
    b) Satisfactory
    c) Good
    d) Very good
25. Do you have any relative who got depressed after delivery?
    a) Yes
    b) No
26. Do you have any known chronic illness?
    a) Yes
    b) No
27. Do you have Hypertension?
    a) Yes
    b) No
28. Have you ever been admitted for any other illness during pregnancy?
    a) Yes

b) No

c) Specify ……

29. Did you feel depressed during pregnancy?

a) Yes

b) No

30. Have you ever felt a low mood after giving birth?

a) Yes

b) No

31. In your entire life have you experienced any episodes of excessive and prolonged low mood?

a) Yes

b) No

Quality of healthcare Factors

32. How do you rate your experience in the facility?

a. Poor

b. Satisfactory

c. Good

d. Very good

33. How was the attitude of the health workers during antenatal and child birth?

a) Poor

b) Satisfactory

c) Good

d) Very good

34. How was the relationship with the health workers during antenatal and child birth?

a) Poor

b) Satisfactory

c) Good

d) Very good

35. When you arrived at the facility, did the health workers attend to you so fast or they took their time?
    a) Fast
    b) Took time
36. Are the health workers caring while they are on duty?
    a) Yes
    b) No
37. Have you ever had your baby stole or exchanged?
    a) Yes
    b) No
38. Is the facility equipped to offer the services?
    a) Yes
    b) No
39. Are you requested to buy any EMS items while at the facility?
    a) Yes
    b) No
    c) Most of the time
    d) All the time
40. Are you asked to come with or buy any EMS items in the facility?
    a) Yes
    b) No
    c) Most of the time
    d) All the time
41. Is there enough space to accommodate mothers who have given birth?
    a) Yes
    b) No
42. Is the health facility environment conducive?
    a) Yes
    b) No
43. Is there enough staff to attend to mothers during and after delivery?
    a) Yes

b) No

44. Are there enough beds to use during and after giving birth?
    a) Yes
    b) No
45. Are there facilities to accommodate the newly born babies?
    a) Yes
    b) No
46. Are there enough health workers to care for the babies who need extra care?
    a) Yes
    b) No
47. Is there adequate care given to babies with special needs?
    a) Yes
    b) No

Edinburgh Postnatal Depression Scale (EPDS)

1. **I have been able to laugh and see the funny side of things:**
   As much as I always could ____ (0)
   Not quite so much now ____ (1)
   Definitely not so much now ____ (2)
   Not at all ____ (3)
2. **I have looked forward with enjoyment to things:**
   As much as I ever did ____ (0)
   Rather less than I used to ____ (1)
   Definitely less than I used to ____ (2)
   Hardly at all ____ (3)
3. **I have blamed myself unnecessarily when things went wrong:**
   Yes, most of the time ____ (3)
   Yes, some of the time ____ (2)
   Not very often ____ (1)
   No, never ____ (0)
4. **I have been anxious or worried for no good reason:**
   No, not at all ____ (0)

Hardly ever ____ (1)

Yes, sometimes ____ (2)

Yes, very often ____ (3)

5. **I have felt scared or panicky for no good reason:**

   Yes, quite a lot ____ (3)

   Yes, sometimes ____ (2)

   No, not much ____ (1)

   No, not at all ____ (0)

6. **Things have been getting to me:**

   Yes, most of the time I haven't been able to cope at all ____ (3)

   Yes, sometimes I have not been coping as well as usual ____ (2)

   No, most of the time I have coped quite well ____ (1)

   No, I have been coping as well as ever ____ (0)

7. **I have been so unhappy that I have had difficulty sleeping:**

   Yes, most of the time ____ (3)

   Yes, sometimes ____ (2)

   No, not very often ____ (1)

   No, not at all ____ (0)

8. **I have felt sad or miserable:**

   Yes, most of the time ____ (3)

   Yes, quite often ____ (2)

   Not very often ____ (1)

   No, not at all ____ (0)

9. **I have been so unhappy that I have been crying:**

   Yes, most of the time ____ (3)

   Yes, quite often ____ (2)

   Only occasionally ____ (1)

   No, never ____ (0)

10. **The thought of harming myself has occurred to me:**

    Yes, quite often ____ (3)

    Sometimes ____ (2)

Hardly ever ____ (1)

Never ____ (0)

Edinburgh Postnatal Depression Scale (EPDS). Adapted from the British Journal of Psychiatry, June 1987, vol. 150 by J.L. Cox, J.M. Holden, R. Segovsky.

APPENDIX 4: QUESTIONAIRE (Lusoga version)

Elinha lyange ninze: ……..……. ndhi kubuliiliza ku musomo ogugeema ku byo bulwaile bwo kweinamiila mu bakyala abakazaala nga ate bafuna obwidhandhabbi okuva mu ilwaliilo lya Nsinze HCIV, elyaganibwa mu Namutumba District. okubuliiliza kunogujja kuyamba kungeli eyokutolaayo ebizibu ebyaganiibwa abakyala, abalina okweinamiira ate nga bakazaala byebafuuna ate gwongeele okutolaayo ebyetagiisa okututumula obwidhandhabi bwaibwe. Ebiteeso byaimwe okusinziila ku musomo guno bhidha kukumiibwa nga bya kyama ela eziila agya kutegeela anhi adhuubye. Wewa okwetaba mumusomo guno tigwabuwazze ela oli waidhembe okulekeela awo bwowuliila ngha oyendha

Elinha: _____ Woba: _____

Wazalibwa li: _____ Wazala li: _____ Simu: _____

Ebikugema ku

1. Oli wa myaka emeeka?.....
2. Wasoma paka mu kibina ki?
   a) Oidhi okusooma no okuwandiika
   b) Ntegeka ya pulayimiri

c) Ntegeka ya sekondari
d) Ntegeka ya kusoma kwawaigulu

3. Obufumbo?
   a) Oli mufumbo
   b) Mulangasa
   c) Wanooba
   d) Namwandhu

4. Okoola mulimu ki?
   a) Omuyambi w'ewaka
   b) mulimu gwa lejaleja
   c) Bussiness yo
   d) Bakukozeesa

5. Ofuna ngha sente imeeka buki mwezi?
   a) < 100,000 Ugx
   b) 100,000 -200,000 Ugx
   c) 200,001 Ugx -300,000 Ugx
   d) ≥300,001 Ugx

6. Oba mu kitundu ki?
   a) Mu kibuga
   b) Mu kyalo

7. Enkolagana yo nomwagalwaawo eli etya ye?
   a) Mbhi
   b) Ebulaamu
   c) Nungi
   d) Nungi inho

8. Ofuuna obuyambi okuva ewo mwagalwa wo?
   a) Mbhi
   b) Ebulaamu
   c) Nungi
   d) Nungi inho

9. Enkolagana yon hi famile yo eli etya?
   a) Mbhi
   b) Ebulaamu
   c) Nungi
   d) Nungi inho

10. Oba kumpi ni famile yo mwagalawo?
    a) Yii
    b) Mbhe

11. Enkolagana yaimwe eli etya nabo?
    a) Mbhi
    b) Ebulaamu
    c) Nungi
    d) Nungi inho

12. Enkolagana yon hi inhazalawo eli etya?.....
13. Otuluguniizibwa?
    a) Yii
    b) Mbhe

bigemagana nokuzaala

14. Enho endha ya mwana wakumeeka?
    a) Asooka
    b) Bhangi

15. Wakazaala abaana bameeka?
    a) Mulala
    b) Bhangi

16. Wavaamu ku endha oba okufilwa omwana mundha?
    a) Yii
    b) Mbhe

17. Olinayo abaana abalamu bameeka? ……
18. Ku ban abo, bameka bawala oba abalenzi? a) ……. b) …….
19. Waliyo obuzibu obwakutukaku nga oli ndha?
    a) Yii
    b) Mbhe

20. Wazalilaawa?
    a) Mwidhaliro
    b) Wandhi (bifunze)

21. Wazala otya?
    a) Bulungi
    b) Bansala

22. Bakupasuula?
    a) Yii
    b) Mbhe

23. Wali otusiiza okuzaala?
    a) Yii
    b) Mbhe

24. Odhuuba okuzaala omwana owundi?
    a) Yii
    b) Mbhe

25. Iwe no mwagalwaawo mudhuuba okuzaala omwana owundi?
    a) Yii
    b) Mbhe

Eby'Obulamu Bw'Omubiri

27. Empeleeza yali etya nga oli mwidwaliiro?
    a) Mbhi
    b) Ebulaamu
    c) Nungi
    d) Nungi inho

28. Waliyo owoluganda lwo eyafuna okweinamiila nga amaze okuzaala?
    a) Yii
    b) Mbhe

29. Olina endwaile etawoona?
    a) Yii
    b) Mbhe
30. Olina Pressure?
    a) Yii
    b) Mbhe

31. Bakuwaaku ekitanda olwobulwaile bwona bwona? ……
    a) Yii
    b) Mbhe
    c) specify
32. Wawulilaamu Okweinamiila nga oli ndha?
    a) Yii
    b) Mbhe

33. Wali owulileeku ngha weinamiila mu ku ngha omazze okuzaala?
    a) Yii
    b) Mbhe
34. Mu bulamu bwo, wawuliilaku nga weinamiile okumala ekiseela ekinene?
    a) Yii
    b) Mbhe

Ebyobwidhandhabi ebilungi

35. Ebyobwidhandhabi bili bitya wano mu idwaliro?
    a) Bibi
    b) Bibulaamu

c) Bulungi
d) Bulungi inho

36. Abasawo bakwebisizaaku batya nga oidhe okuzaala?
    a) Bubi
    b) Babulaamu
    c) Bulungi
    d) Bulungi inho
37. Enkolaganayo nabasawo yali etya nga oidhe okunwa eidhagala nokuzaala?
    a) Mbhi
    b) Ebulaamu
    c) Nungi
    d) Nungi inho

36. Abasawo babakoolaku mangu ngha mwidye okuzaala?
    a) Manghu
    b) Balwawo
37. Abasawo bafaayo nga babakolaaku?
    a) Yii
    b) Mbhe
38. Waibibwaaku oba okukukyusiiza omwana?
    a) Yii
    b) Mbhe
41. Eidwaliro lilina ebyetagiisa mumpeleeza ye byokuzaala?
    a) Yii
    b) Mbhe
42. Babakooba okuguula ebyokukozeesa nga mutuuse mwidwaliro?
    a) Yii
    b) Mbhe
    c) Ebiseela ebindhi
    d) Buli kiseera
43. Babakooba okwiidha nebikozeseebwa mu kuzaala?
    a) Yii
    b) Mbhe
    c) Ebiseela ebisinga
    d) Buli kiseera
39. Ward eya bakyaala abazaala ebamaala?
    a) Yii
    b) Mbhe
40. Eidwaliro lifanana bulungi, ela lisana okulwalilaamu?
    a) Yii
    b) Mbhe
41. Waliwo abasawo abamala okwidhandhaba abakyala nga bazaala oba nga bamazze okuzaala?
    a) Yii

b) Mbhe

42. Ebitanda byo mu ward yabakyala abazaala Bimala?
    a) Yii
    b) Mbhe
43. Waliwo ward nebitanda bya baana abakazalibwa?
    a) Yii
    b) Mbhe
44. Waliwo abasawo abamaala okulabilila abaana abakazalibwa nga bafunye obuzibu?
    a) Yii
    b) Mbhe
45. Endabilila eya bana abakazalibwa nga baliku obuzibu eliwo?
    a) Yii
    b) Mbhe

APPENDIX 5: REC APPROVAL NOTICE

UGANDA CHRISTIAN UNIVERSITY
A Centre of Excellence in the Heart of Africa

UG-REC-026 Approval Version 4.0 — 29th November, 2023

29th November, 2023

Galikwoleka Susan
Uganda Christian University
+256 772672582
Email: akuzelillian@yahoo.com

UG-REC-026 APPROVAL NOTICE

To: Galikwoleka Susan, Principal Investigator

Re: UCU-REC Application titled: Prevelance and Factors Associated With Postpartum Depression Among Women Seeking Care in Nsinze Health Centre Iv, Namutumba District

Application Number: UCUREC-2023-713

Version: 4.0

UGANDA CHRISTIAN UNIVERSITY APPROVED 25 NOV 2024 RESEARCH ETHICS COMMITTEE

Type: [ ] Initial Review
[ ] Protocol Amendment
[ ] Letter of Amendment (LOA)
[ ] Continuing Review
[ ] Material Transfer Agreement
[ ] Other, Specify:

I am pleased to inform you that the UG-REC-026; UCUREC approved the above referenced application.

Approval of the research is for the period from 29th November, 2023, to 29th November, 2024

This research is considered minimal risk category.
As Principal Investigator of the research, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and additions to the protocol or the consent form must be submitted to the REC for re-review and approval prior to the activation of the changes. The REC application number assigned to the research should be cited in any correspondence.
3. Reports of unanticipated problems involving risks to participants or other must be submitted to the REC. New information that becomes available which could change the risk: benefit ratio must be submitted promptly for REC review.

APPENDIX 6: DISTRICT HEALTH OFFICER APPROVAL

UGANDA CHRISTIAN UNIVERSITY UG-REC-026 Approval Version 4.0 29th November, 2023

A Centre of Excellence in the Heart of Africa

29[th] November, 2023

Incharge Nsinze HC IV
Please accord the necessary assistance help to the student for data
11[th]-12-2023

DISTRICT HEALTH OFFICER
NAMUTUMBA DISTRICT
Date:

Galikwoleka Susan
Uganda Christian University
+256 772672582
Email: akuzelillian@yahoo.com

UG-REC-026 APPROVAL NOTICE

To: Galikwoleka Susan, Principal Investigator

Re: UCU-REC Application titled: Prevelance and Factors Associated With Postpartum Depression Among Women Seeking Care in Nsinze Health Centre iv, Namutumba District

Application Number: UCUREC-2023-713

UGANDA CHRISTIAN UNIVERSITY
APPROVED
25 NOV 2024
RESEARCH ETHICS COMMITTEE

Version: 4.0

Type: [ ] Initial Review
[ ] Protocol Amendment
[ ] Letter of Amendment (LOA)
[ ] Continuing Review
[ ] Material Transfer Agreement
[ ] Other, Specify:

I am pleased to inform you that the **UG-REC-026;** UCUREC approved the above referenced application.

Approval of the research is for the period from **29[th] November, 2023**, to **29[th] November, 2024**.

This research is considered minimal risk category.
As Principal Investigator of the research, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and additions to the protocol or the consent form must be submitted to the REC for re-review and approval prior to the activation of the changes. The REC application number assigned to the research should be cited in any correspondence.
3. Reports of unanticipated problems involving risks to participants or other must be submitted to the REC. New information that becomes available which could change the risk: benefit ratio must be submitted promptly for REC review.

APPENDIX 7: HEALTH FACILITY IN CHARGE

UGANDA CHRISTIAN UNIVERSITY
A Centre of Excellence in the Heart of Africa

UG-REC-026 Approval Version 4.0 — 29th November, 2023

29th November, 2023

Galikwoleka Susan
Uganda Christian University
+256 772672582
Email: akuzelillian@yahoo.com

IN-CHARGE NSINZE HEALTH CENTRE IV
11 DEC 2023
P.O BOX 79, BUSEMBATIA

UG-REC-026 APPROVAL NOTICE

To: Galikwoleka Susan, Principal Investigator

Re: UCU-REC Application titled: Prevelance and Factors Associated With Postpartum Depression Among Women Seeking Care in Nsinze Health Centre iv, Namutumba District

Application Number: UCUREC-2023-713

UGANDA CHRISTIAN UNIVERSITY
APPROVED
29 NOV 2024
RESEARCH ETHICS COMMITTEE

Version: 4.0

Type: [ ] Initial Review
[ ] Protocol Amendment
[ ] Letter of Amendment (LOA)
[ ] Continuing Review
[ ] Material Transfer Agreement
[ ] Other, Specify:

I am pleased to inform you that the UG-REC-026; UCUREC approved the above referenced application.

Approval of the research is for the period from 29th November, 2023, to 29th November, 2024

This research is considered minimal risk category.
As Principal Investigator of the research, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and additions to the protocol or the consent form must be submitted to the REC for re-review and approval prior to the activation of the changes. The REC application number assigned to the research should be cited in any correspondence.
3. Reports of unanticipated problems involving risks to participants or other must be submitted to the REC. New information that becomes available which could change the risk: benefit ratio must be submitted promptly for REC review.

1 of 2

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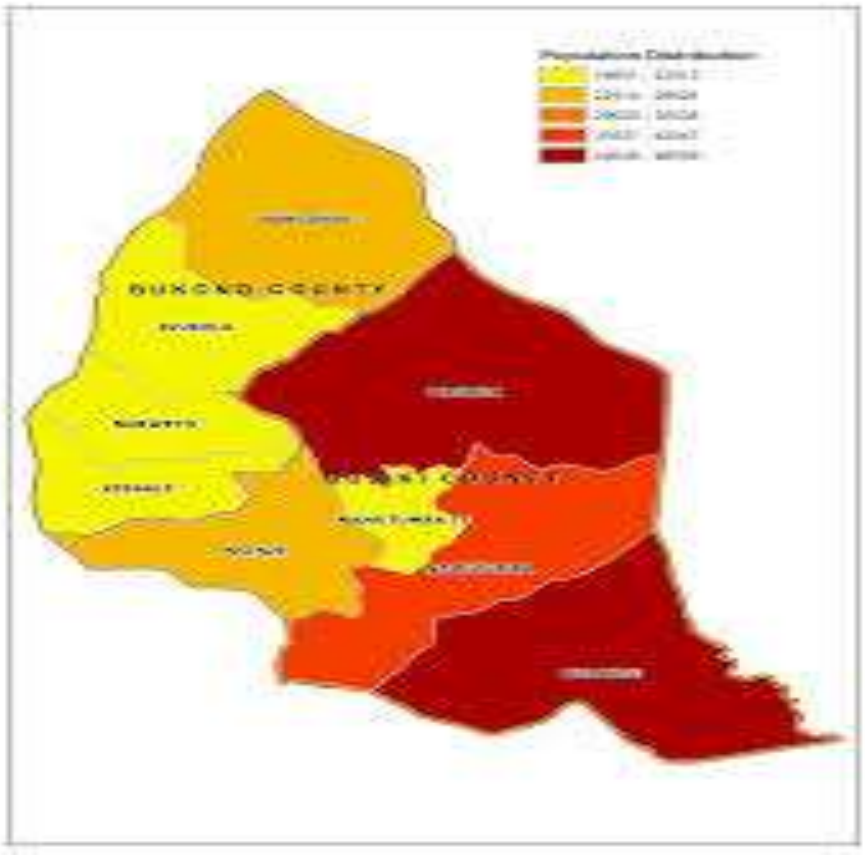
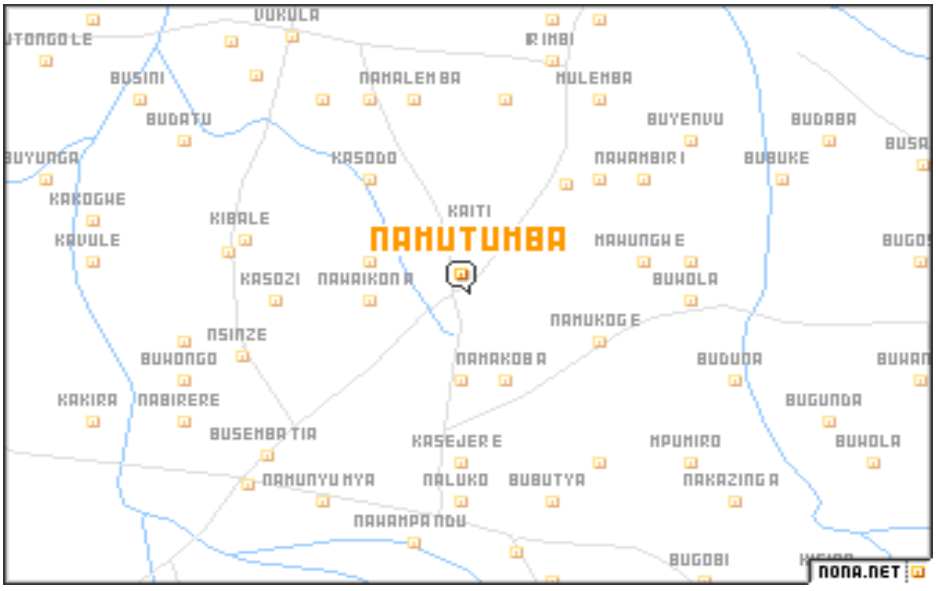
P.O. Box 4, Mukono, Uganda (East Africa). Plot 67-173, Bishop Tucker Road, Mukono Hill. Tel: +256 (0) 31 235 0800. www.ucu.ac.ug
Ugandachristianuniversity @UCUniversity. Founded by the Province of Church of Uganda. Chartered by the Government of Uganda.

APPENDIX 8: MAP OF NAMUTUMBA DISTRICT





APPENDIX 9: Supervisors Report

UGANDA CHRISTIAN UNIVERSITY
School for Research and Postgraduate Studies

"A Centre of Excellence in the Heart of Africa"

REGULAR SUPERVISION REPORT

Supervisor's Name: Emmanuel. D. Otieno

Student's Name: Galikwoleka. S. Lillian Reg No: RS19M017/033

Date of Submission of Work to Supervisor 29.03.2024

Date of Meeting that Discussed the Work 04.04.2024

SUPERVISORS COMMENTS ON STUDENT'S WORK AND RECOMMENDATION FOR ACTION

Chapter I

- Historical background good and well written.
- Conceptual and contextual backgrounds still missing
- Aim for 1½ Pages.

STUDENT'S SIGNATURE

SUPERVISOR'S SIGNATURE

Cc Head of Department
Cc Co-supervisor (if there is one)

Version: Dec 2006

UGANDA CHRISTIAN UNIVERSITY
School for Research and Postgraduate Studies

"A Centre of Excellence in the Heart of Africa"

REGULAR SUPERVISION REPORT

Supervisor's Name: Emmanuel D. Otto

Student's Name: Galikwoleka S. Lillian Reg No: RS19M017/033

Date of Submission of Work to Supervisor 09.06.2024

Date of Meeting that Discussed the Work 16.06.2024

SUPERVISORS COMMENTS ON STUDENT'S WORK AND RECOMMENDATION FOR ACTION

Chapter I
- Conceptual background good
- Improve on the context of the study & show why research is important & How it fits into existing knowledge & And its potential impact to the community in the study area.

Otto

STUDENT'S SIGNATURE

SUPERVISOR'S SIGNATURE

Cc Head of Department
Cc Co-supervisor (if there is one)

Version: Dec 2016

UGANDA CHRISTIAN UNIVERSITY
School for Research and Postgraduate Studies

"A Centre of Excellence in the Heart of Africa"

REGULAR SUPERVISION REPORT

Supervisor's Name: Emmanuel D. Otieno

Student's Name: Galikwoleka S. Lillian Reg No: BS19M017/033

Date of Submission of Work to Supervisor 24.07.2024

Date of Meeting that Discussed the Work 15.08.2024

SUPERVISORS COMMENTS ON STUDENT'S WORK AND RECOMMENDATION FOR ACTION

Chapter II

- References in literature Review are old.
- please use recent findings with 5years.
- Arrange literature sections as presented in the Conceptual framework.
- Improve on the Reference Style; towards UCU writing Style

STUDENT'S SIGNATURE

SUPERVISOR'S SIGNATURE

Cc Head of Department
Cc Co-supervisor (*if* there is one)

Version: Dec 2006

UGANDA CHRISTIAN UNIVERSITY
School for Research and Postgraduate Studies

"A Centre of Excellence in the Heart of Africa"

REGULAR SUPERVISION REPORT

Supervisor's Name: Emmanuel. D. Otieno

Student's Name: Galikwoleka-S. Lillian Reg No: RS19M017/033

Date of Submission of Work to Supervisor 02.10.2024

Date of Meeting that Discussed the Work 09.10.2024

SUPERVISORS COMMENTS ON STUDENT'S WORK AND RECOMMENDATION FOR ACTION

Chapter III

- Study area not contextualised.
- Sampling not clear, elucidate how you selected the participants
- Include validity and reliability in your study

STUDENT'S SIGNATURE

SUPERVISOR'S SIGNATURE

Cc Head of Department
Cc Co-supervisor (if there is one)

Version: Dec 2006

UGANDA CHRISTIAN UNIVERSITY
School for Research and Postgraduate Studies

"A Centre of Excellence in the Heart of Africa"

REGULAR SUPERVISION REPORT

Supervisor's Name: Emmanuel D. Otieno

Student's Name: Galikwoleka S. Lillian Reg No: RS19M017/033

Date of Submission of Work to Supervisor 11/10/2024

Date of Meeting that Discussed the Work 19/10/2024

SUPERVISORS COMMENTS ON STUDENT'S WORK AND RECOMMENDATION FOR ACTION

Reconcile results with
- Conceptual framework
- literature review
- Tool of the Study

STUDENT'S SIGNATURE

SUPERVISOR'S SIGNATURE

Cc Head of Department
Cc Co-supervisor (if there is one)

Version: Dec 2006

UGANDA CHRISTIAN UNIVERSITY
School for Research and Postgraduate Studies

"A Centre of Excellence in the Heart of Africa"

REGULAR SUPERVISION REPORT

Supervisor's Name: Emmanuel. D. Otieno

Student's Name: Galikwoleka S. Lillian Reg No: BS19M017/033

Date of Submission of Work to Supervisor 22.10.2024

Date of Meeting that Discussed the Work 24.10.2024

SUPERVISORS COMMENTS ON STUDENT'S WORK AND RECOMMENDATION FOR ACTION

- Page the entire report
- Revise table of contents and update it.
- Address comments raised in chapter 5 & 6
- proof-read
- Share final copy

STUDENT'S SIGNATURE

SUPERVISOR'S SIGNATURE

Cc Head of Department
Cc Co-supervisor (if there is one)

Version: Dec 2006

UGANDA CHRISTIAN UNIVERSITY
School for Research and Postgraduate Studies

"A Centre of Excellence in the Heart of Africa"

REGULAR SUPERVISION REPORT

Supervisor's Name: Emmanuel. D. Otiena

Student's Name: Galikwoleka S. Lillian Reg No: RS19M017/033

Date of Submission of Work to Supervisor 31.10.2024

Date of Meeting that Discussed the Work 02.11.2024

SUPERVISORS COMMENTS ON STUDENT'S WORK AND RECOMMENDATION FOR ACTION

- Align conceptual framework and Theoretical framework with objectives of the Study.
- Indicate sources of results
- Improve on overall result presentation.
- In chapter 6 aim for 20 pages only

Lillian

STUDENT'S SIGNATURE

SUPERVISOR'S SIGNATURE

Cc Head of Department
Cc Co-supervisor (if there is one)

Version: Dec 2006

UGANDA CHRISTIAN UNIVERSITY

A Centre of Excellence in the Heart of Africa

UGANDA CHRISTIAN UNIVERSITY

SCHOOL OF RESEARCH & POSTGRADUATE STUDIES

DISSERTATION CORRECTION COMPLIANCE REPORT BY THE CANDIDATE (POST VIVA FORM)

Date: 27th/6/2025.

Name of Candidate: Galikwoleka Suzan Lillian. **Reg. No:** RS19M017/033.

Title of Dissertation PREVALENCE AND FACTORS ASSOCIATED WITH POSTPARTUM DEPRESSION AMONG POSTNATAL WOMEN SEEKING CARE IN NSINZE HEALTH CENTRE IV, NAMUTUMBA DISTRICT.

SN	COMMENTS BY EXTERNAL EXAMINER	ACTION TAKEN	INDICATOR
1			
2			
3			
4			
5			

SN	COMMENTS BY EXTERNAL EXAMINER	ACTION TAKEN	INDICATOR
1	Could you please name the specific complications during pregnancy. This classification is too general because complications during pregnancy are usually many. Specificity makes the recommendations more actionable.	Addressed	Abstract section, under results, third sentence. Page xiii

2	Is it "projected" or "reported"? The two are different.	Addressed	Background section, 5th paragraph, 1st sentence. Page 3
3	The re-phrased sentence may read. "Normally, postpartum depression is always recognized when the woman's behavior changes significantly and this is when the patient is in the advanced stage of the disorder".	Addressed	Problem statement section, paragraph 1, 3rd sentence page 3-4
4	Adopted from what?	Addressed	Conceptual framework section, paragraph 1, sentence 2, page 7
5	These are 4 and not 5? Please explain	Addressed	Conceptual framework section, paragraph 1, sentence 3, page 7
6	The two way lines between the independent variables and dependent variable, as well as between the different independent variables imply that each group affects the other? Is this the case? Usually, it is only the independent variables that affect the dependent variables. Please clarify	Addressed	Conceptual framework section. Figure 1, page 8
7	Is this referring t "tip over?	Addressed	Theoretical framework section, Page 10 (does not apply anymore)
8	Please explain what the "here and now" means in this concept.	Addressed	Theoretical framework section Page 10 (does not apply anymore)
9	What does the word "degree" mean?	Addressed	Literature review section, prevalence of postpartum depression, paragraph 2, sentence 1. Page 12
10	Indicate the paper being referenced	Addressed	Literature review section, prevalence of postpartum depression, paragraph 3, sentence 1. Page 13
11	Re-phrase the sentence	Addressed	Literature review section, prevalence of postpartum depression, paragraph 3, sentence 5. Page 13
12	Replace with a more appropriate word	Addressed	Literature review section, prevalence of postpartum depression, paragraph 4, sentence 1. Page 14

13	Needs rephrasing	Addressed	Literature review section, Social demographic, education level paragraph 1, sentence 3, page 15
14	Needs to be rephrased to clearly give the intended point	Addressed	Literature review section, Social demographic, marital status paragraph 1, 4th sentence, page 16
15	Need to rephrase to make the sentence more concise and clearer	Addressed	Literature review section, relationship with partner, paragraph 1, sentence 2 page 17
16	When you say "many research helps the position of social aid in the prevention and remedy of women's intellectual health problems for the duration of the postnatal duration …", what does it mean? The point being put by the sentence is not clear. The sentence needs re-phrasing.	Addressed	Literature review section, partner support, paragraph 1, sentence 5, page 18
17	Rephrase sentence	Addressed	Literature review section, partner support, paragraph 1, sentence 5, page 18
18	When you sat that "it's far proved that there may be affiliation..", it is contradictory, far proved means conclusively proved; and may be affiliation means not affirmative.	Addressed	Literature review section, obstetric factors, experience of parity, 4th sentence, paragraph 1, page 20.
19	Incomplete sentence	Addressed	Quality of healthcare factors section, negligence of healthcare providers, paragraph 1, 3rd sentence. Page 28
20	What does "making the prognosis of PPD mean?	Addressed	Literature review section, negligence of health care workers, paragraph 2, sentence 1, page 28
21	The citation is not smart. Also, what is the meaning of "inadequate restricted"?	Addressed	Literature review section, health facility environment, paragraph 4, last citation, page 30 (rephrased)
22	Re-phrase the sentence	Addressed	Literature review section, summary of literature, paragraph 2, sentence 1 page 31
21	Is this correct, the staff establishment of HC IVs usually does not have a position for a psychiatrist.	Addressed	Chapter 3, area of study section, paragraph 1, sentence 3, page 32
22	No adjustment for non-response	Addressed	Chapter 5 under limitation. Non response has been added as part of the limitations. Page 63.

23	The sample is a non-probability sample. A better sampling procedure would have been to have a random start and proceed at some nth interval. This would have made the sample random.	Addressed	Chapter 3, sampling procedure section, page 34
24	By housewife, do you mean that she is unemployed and only the role of housewife? The proportion that is married s 93.6%	Addressed	Results section, sociodemographic characteristics of postnatal women seeking care page 39
25	Incomplete interpretation of the results in the table	Addressed	results section, above table 2. it was an error page 42
26	the expression "had a relative who got depressed after depression [it`s statistically significant" doesn't seem to make sense.	Addressed	Results section; table 5 interpretation, sentence 1, page 52
27	Please describe the exact model used detailing how the variables were considered; was it through backward selection or forward selection?	Addressed	Results section, page 56
28	The results of this table were not interpreted?	Addressed	Results section, multivariate results, page 56

SN	**COMMENTS BY VIVA VOCE PANNEL**	**ACTION TAKEN**	**INDICATOR**
1	Theoretical framework and how the theories were used, how it helped to develop the tools, needs to come out very well.	Addressed	Theoretical framework section, pages 8 to 11
2	What new things did you find out that was not knowledge from your literature review	Addressed	Discussion section Page 59, paragraph 1, last sentence In every factor the last statement. Limitations section, page 63, last sentence Conclusion section, last sentence page 64

3	What are the core beliefs and assumptions of the theories and how it applied in the study	Addressed	Theoretical frame work section, page 10
4	The theories have assumptions and this should help work with the methodology to structure methodology, the tools	Addressed	Theoretical framework page 8 to 11.
5	The EDPS tool what were the findings, the output. The scores for each participant should be captured. To know the level at which the participants is standing. Ensure that you put the cut off scores which helps you know where the person lies.	Addressed	This was catered for in the questionnaire to assess PPD as a screening tool and not diagnostic.
6	The study area, the psychiatrist being 2 at the facility is unreal please find out	Addressed	Chapter 3, area of study section, paragraph 1, sentence 2, page 32
7	Has the EPDS tool been used around Africa, east Africa or Uganda and a person who used it.	Seen	Operational definition page xii, Background of the study section, page 5, sentence 2 Criterion for measuring PPD. Page 35
8	Study design; simple size calculation is used for descriptive and not analytical. Use a formula for analytical study design	changed	Chapter 3; sample size determination, page 33
9	You should have used random instead of consecutive sampling	Addressed	Chapter 3, sampling procedure section, page 34.
10	The confidence intervals are so wide and there was a random error and if the sample size might have been small and this should have been part of the limitations	Noted	This has been added to the limitations section: The sample size might have been small. However, it highlighted the uncertainty in the estimates. As such, did not overly attached to results from limited data. Hence, the findings can be of great importance to similar settings. Page 63

11	Too many categories or levels hence spreading the sample size	addressed	questionnaire section page 93 catered for in the limitation
12	Objectives; there should be 2 and not 3	addressed	objectives section page 5
13	The objective are disconnected from the theories mentioned	changed	Theoretical framework section page 11
14	Objective 2 is talking about women seeking care, is it all women who go to the facility that are eligible for the study? Please define or specify the women you are referring to. Target population	addressed	Cover page added the word postnatal it reflects throughout the text

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Akuze Lillian

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