RELATIONSHIP BETWEEN PSYCHOSOCIAL INTERVENTIONS AND MANAGEMENT OF POSTPARTUM DEPRESSION AMONG MOTHERS IN MATERNITY WARDS AT MURANG'A COUNTY REFERRAL HOSPITAL, MURANG'A COUNTY, KENYA

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DECLARATION

This thesis is my original work and has not been presented for a degree or any other award at any other University.

Sign: ……. Date: …….
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This thesis has been submitted with my approval as the duly appointed supervisor.

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DEDICATION

This thesis is dedicated to my family; my husband Eric, my children Ethan, Debbie and Jesse, my sisters Judy, Patricia, Janet and Ann, my brothers Anthony and Christopher, my mother Monica and Esther whose unwavering love, encouragement, and support have been a constant source of motivation throughout my academic journey. Your patience, prayers, and belief in my ability to complete this work gave me the strength and determination to overcome every challenge encountered along the way.

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ABSTRACT

Postpartum depression remains a significant maternal health concern affecting women's psychological well-being globally, with the World Health Organization (2023) reporting that approximately 10–15% of women in developed countries and up to 20% of women in developing countries experience postpartum depression following childbirth. Despite this prevalence, no comprehensive study has examined the relationship between psychosocial interventions and management of postpartum depression among mothers specifically in maternity wards at Murang'a County Referral Hospital, where understanding intervention effectiveness could inform clinical practice in county referral hospital settings. This research study investigated the relationship between psychosocial interventions and the management of postpartum depression among mothers in maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya. The study employed a cross-sectional descriptive research design using a mixed-methods approach, with Rational Emotive Behavior Theory and Stress and Coping Theory utilized as theoretical frameworks. A sample of 173 participants was included in the study using stratified random sampling, census sampling, and criterion-based purposive sampling, comprising 161 mothers and 12 healthcare professionals. Data was collected using questionnaires and semi-structured interviews. The instruments demonstrated strong reliability, with EPDS showing Cronbach's alpha of 0.83 in Kenyan populations, TEQ ranging from 0.82–0.91, and PSS-4 showing 0.65–0.78 in East African contexts. Statistical analyses were performed using Statistical Package for Social Sciences (SPSS) version 28.0 which explored relationships between variables and test research hypotheses. The study found that moderate depression was the most prevalent severity level, with the majority of mothers experiencing some level of postpartum depression requiring intervention. Intervention types analysis revealed that multiple psychosocial interventions were being utilized including individual counseling, group therapy, and social support mechanisms, with group therapy receiving the highest endorsement. Perceived benefits assessment showed that the majority of mothers reported high perceived benefits from psychosocial interventions, while management outcomes indicated most mothers demonstrated moderate perceived stress levels. Chi-square analysis revealed statistically significant associations between all study variables and management of postpartum depression, with perceived benefits showing the strongest relationship ($\chi^2 = 379.532$, $p = 0.000$), followed by prevalence of postpartum depression ($\chi^2 = 365.789$, $p = 0.000$) and intervention frequency adequacy ($\chi^2 = 89.506$, $p = 0.000$). The study concludes that perceived benefits of psychosocial interventions demonstrate significantly stronger influence on management outcomes than any other variable examined, while postpartum depression remains a widespread phenomenon requiring systematic screening and comprehensive intervention. The study recommends that Murang'a County Referral Hospital administration strengthen the implementation of systematic postpartum depression screening protocols, the Ministry of Health increase human resources for mental health services, healthcare professionals develop systematic family involvement protocols, county government address financial barriers through medication assistance programs, hospital administration strengthen follow-up systems through home visits and telephone-based counseling, and community and religious leaders support psychoeducation campaigns to reduce stigma and promote help-seeking in maternity ward settings across Kenya's county referral hospitals.

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ABBREVIATIONS AND ACRONYMS

BDI: Becks Depression Inventory

CDC: Centers for Disease Control and Prevention

EPDS: Edinburgh Postnatal Depression Scale

MTRH: Moi Teaching and Referral Hospital

NACOSTI: National Commission for Science, Technology and Innovation

OCBT: Online Cognitive-Behavioral Therapy

PD: Postpartum Depression

PND: Postnatal Depression

PPD: Postpartum Depression

SPSS: Statistical Package for Social Sciences

TEQ: Treatment Experience Questionnaire

WHO: World Health Organization

WHODAS: World Health Organization Disability Assessment Schedule

OPERATIONAL DEFINITION OF TERMS

Management of Postpartum Depression: Management of Postpartum Depression refers to strategies or measures aimed at alleviating the symptoms of postpartum depression and improving maternal health outcomes (Madeghe *et al*., 2022). In this study, Management was measured by examining Maternal Well-Being, Therapy Compliance Levels, and Stress Management Skills among mothers at Murang'a County Referral Hospital.

Mothers in Maternity Wards: Mothers in Maternity Wards refer to women aged 20 to 50 years who have recently delivered and are receiving postpartum care in the maternity wards of a hospital setting (Sakari, 2020). This study targeted mothers admitted to the maternity wards at Murang'a County Referral Hospital.

Perceived Benefits of Psychosocial Interventions: Perceived Benefits of Psychosocial Interventions refer to the positive outcomes reported by mothers who have undergone psychosocial interventions for postpartum depression (Yator *et al*., 2022). This study evaluated benefits such as Improved Coping Skills, Improved Social Support, and Better Parenting Skills.

Postpartum Depression: Postpartum Depression is a clinical mood disorder occurring after birth, associated with symptoms including persistent sadness, fatigue, emotional withdrawal, and inability to bond with one's baby after birth (Sakari, 2020). In this study, Postpartum

Depression was evaluated by the Severity, Onset of Symptoms, and Duration of Symptoms using the Edinburgh Postnatal Depression Scale (EPDS).

Psychosocial Interventions: Psychosocial Interventions are therapeutic approaches designed to address emotional, social, and cognitive challenges associated with postpartum depression (Dennis *et al*., 2020). This study focused on types of Psychosocial Interventions such as Individual and Group Counseling, Support Groups, and Social Support as provided in the maternity wards at Murang'a County Referral Hospital.

Treatment Experience Questionnaire (TEQ): The Treatment Experience Questionnaire (TEQ) is a researcher-adapted instrument used to measure therapeutic intervention experiences in mental health settings, drawing on the therapeutic alliance and treatment experience measurement framework established by Bedi *et al*. (2005). In this study, the TEQ comprised 10 items used to assess mothers' experiences with individual counseling, group therapy, social support mechanisms, and overall intervention effectiveness at Murang'a County Referral Hospital.

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

Introduction

This chapter presents the background to the study, problem statement, study purpose, objectives, hypotheses, assumptions, justification of the study, significance, scope, limitations, delimitations, and chapter summary. The study examines the relationship between psychosocial interventions and the management of postpartum depression among mothers in maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya. Postpartum depression (PPD) refers to a clinical mood disorder occurring after childbirth, characterized by persistent sadness, fatigue, emotional withdrawal, and impaired ability to bond with the newborn (Sakari, 2020). As a key variable of this study, PPD is examined in relation to psychosocial interventions delivered within maternity ward settings. Understanding this relationship is essential for informing evidence-based clinical practice and policy decisions that support maternal mental health outcomes in county referral hospital contexts across Kenya.

Background of the Study

Women continue to suffer from postpartum depression (PPD) across all healthcare settings worldwide, representing a significant public health challenge that demands systematic intervention (World Health Organization, 2023). Globally, prevalence rates demonstrate consistent patterns of maternal mental health challenges requiring structured responses. The Centers for Disease Control and Prevention (CDC, 2023) states that one in eight women in the USA experience postpartum depression symptoms after childbirth. The

World Health Organization (WHO, 2023) reports that approximately 10–15% of women in developed countries and up to 20% in developing countries suffer from postpartum depression following childbirth. Research from South Asia reveals that helping mothers identify and modify negative thought patterns or behaviors that contribute to depression can manage depression and results in mood and functioning improvements (Panchal, 2021).

In Saudi Arabia, Algahtani *et al*. (2019) found that group therapy sessions help mothers share experiences and coping strategies, creating supportive communities that reduce isolation, alleviate depression and anxiety symptoms, and enhance overall well-being and parenting skills, benefiting both mothers and children. Resources such as trained therapists and therapy spaces are important for the management of postpartum depression (Naeem *et al*., 2021). Efforts by hospitals to educate patients and the community about mental health and available treatments are important factors that hospitals can embrace to enhance the treatment process. Managing postpartum depression requires a multifaceted approach that considers the cultural, economic, and healthcare landscape of each region (Nguyen *et al*., 2023). These approaches align with this study's focus on examining psychosocial intervention types and their management outcomes in maternity ward settings.

In Africa, studies demonstrate prevalence patterns across diverse populations that underscore the urgent need for targeted psychosocial interventions. An overall pooled PPD prevalence of 16.84% has been reported across Africa (Atuhaire *et al*., 2021). In Ethiopia, Mulugeta *et al*. (2023) report that mothers who engage in psychological therapies report significant reductions in depressive symptoms, improved maternal-infant bonding, and better coping abilities in managing the challenges of motherhood. These positive outcomes underscore the importance of integrating psychosocial interventions into standard postpartum

care, ensuring mothers can access effective support and treatment options. Dadi *et al*. (2020) identified key risk factors for PPD globally, emphasizing the need for targeted interventions. Stone and Arroll (2019) in Tanzania and Are *et al*. (2022) in Nigeria highlighted the importance of psychological interventions, including Cognitive Behavioral Therapy (CBT), for managing PPD.

Locally, Kenyan healthcare settings demonstrate concerning prevalence rates that exceed global averages, establishing the need to assess PPD prevalence as the first objective of this study. Sakari (2020) and Kariuki *et al*. (2022) reported alarmingly high prevalence rates of PPD among mothers of preterm neonates and those with children suffering from severe acute malnutrition, underscoring the need for effective intervention strategies. Madeghe (2022) noted that targeted interventions significantly benefit perinatal women by aiding in recovery from depression, improving nutritional outcomes, and enhancing neonatal health. Falkenström *et al*. (2019) found that improvements in the working alliance during therapy sessions strongly correlated with reductions in psychological distress by the subsequent session. Kibret *et al*. (2022) highlighted that effective management of postpartum depression is linked to adequate knowledge, proper training, and a positive attitude toward CBT.

Psychosocial interventions for postpartum depression employ various therapeutic approaches to address the emotional, cognitive, and social aspects of this condition in maternity ward settings, directly informing this study's second and third objectives of examining intervention types and evaluating their perceived benefits. These interventions aim to assess the prevalence of PPD, examine different types of psychosocial interventions, and evaluate their perceived benefits. Psychosocial interventions offer supportive

environments where mothers can share experiences and coping strategies, fostering understanding and solidarity (Seo *et al*., 2022). They encompass support groups for sharing personal stories, psychoeducational groups for imparting knowledge about PPD (Ali *et al*., 2021), and specialized techniques tailored to participant needs (Hanach *et al*., 2023). Psychosocial interventions emphasize the importance of relationships and social support, often beginning with screening for PPD and incorporating talk therapy to enhance emotional awareness and communication skills (Kerna *et al*., 2020; Saharoy *et al*., 2023).

At Murang'a County Referral Hospital, recent clinical observations indicate concerning patterns of PPD, with 2 severe cases reported in the last 2 weeks alone, one requiring discharge back to the maternity ward for continued care. With an average of 225 normal deliveries and 107 deliveries with complications monthly, totaling 332 deliveries per month or approximately 3,984 deliveries annually, the facility serves a substantial maternal population requiring comprehensive mental health support. The hospital currently has 2 psychiatrists and 7 psychologists providing mental health services, yet systematic documentation of intervention strategies and outcomes remains limited (Murang'a County Referral Hospital, 2025). This research seeks to provide evidence-based strategies to reduce the negative effects of PPD on maternal wellbeing and infant outcomes by assessing the prevalence of PPD, examining different types of psychosocial interventions, and evaluating their perceived benefits in managing postpartum depression among mothers in maternity wards at Murang'a County Referral Hospital.

Statement of the Problem

Postpartum depression represents a critical public health issue affecting women globally and in Kenya. Globally, PPD affects an estimated 10% to 20% of women, with

higher prevalence rates reported in Africa ranging from 10% to 32% (Atuhaire *et al*., 2021). The World Health Organization (WHO, 2023) reports that approximately 10–15% of women in developed countries and up to 20% in developing countries experience postpartum depression following childbirth, representing a significant maternal mental health burden requiring systematic intervention. The Centers for Disease Control and Prevention (CDC, 2023) further highlights that approximately 1 in 8 women in the USA experience symptoms of PPD following childbirth. These global statistics establish PPD as a pervasive phenomenon that transcends geographical boundaries and demands context-specific investigation, particularly within healthcare settings where mothers are most vulnerable during the immediate postpartum period.

Within Kenya, documented studies have confirmed concerning rates of PPD that exceed global averages. Sakari (2020) reported a prevalence of 65.5% for postpartum depression and 63.3% for anxiety among mothers of preterm neonates at Moi Teaching and Referral Hospital in Eldoret. Similarly, Kariuki *et al*. (2022) documented a PPD prevalence of 64.1% among mothers of children with severe acute malnutrition at Kenyatta National Hospital's pediatric wards. These Kenyan studies confirm that mothers in referral hospital settings face disproportionately high PPD risk. However, existing Kenyan research has focused predominantly on tertiary facilities, leaving county-level referral hospitals such as Murang'a County Referral Hospital significantly underrepresented in the literature, creating a contextual gap that this study sought to address.

At Murang'a County Referral Hospital, clinical observations reveal concerning patterns of postpartum mental health challenges that have not been systematically studied or documented. The facility handles an average of 332 deliveries per month, comprising 225

normal deliveries and 107 deliveries with complications, translating to approximately 3,984 deliveries annually (Murang'a County Referral Hospital, 2025). Recent clinical data indicates 2 severe PPD cases in the last 2 weeks alone, with one case requiring discharge back to the maternity ward for continued psychiatric care, suggesting a significant prevalence rate warranting systematic investigation. The hospital's newborn unit accommodates 19 preterm neonates in specialized cots, representing a high-risk population for maternal PPD given existing research linking preterm births to elevated maternal depression rates (Mutua *et al*., 2020).

No published studies have comprehensively examined PPD prevalence patterns, psychosocial intervention types, or their perceived effectiveness across the general maternity ward population at Murang'a County Referral Hospital. The hospital currently deploys 2 psychiatrists and 7 psychologists in mental health service delivery, yet systematic documentation of intervention strategies and their outcomes remains absent (Murang'a County Referral Hospital, 2025). This knowledge gap is particularly significant given that effective PPD management requires culturally sensitive approaches aligned with local beliefs, practices, and healthcare delivery systems specific to Murang'a County. Therefore, this study was conducted to fill the existing knowledge gap and provide evidence-based information on the relationship between psychosocial interventions and postpartum depression management among mothers in maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya.

Purpose of the Study

The purpose of the study was to examine the relationship between psycho-social interventions and the management of postpartum depression among mothers in maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya.

Objectives of the Study

i. To assess the prevalence of postpartum depression among mothers in the maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya.
ii. To examine the types of psychosocial interventions used in the management of postpartum depression among mothers in the maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya
iii. To explore the perceived benefits of various psychosocial interventions in the management of postpartum depression among mothers in the maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya.
iv. To determine how the study findings can be utilized to improve psychosocial intervention strategies for postpartum depression management in maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya.

Hypotheses

i. **H_{01}:** The distribution of postpartum depression among mothers in the maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya does not demonstrate a clinically meaningful pattern across severity levels.
ii. **H_{02}:** There is no statistically significant relationship between the types of psychosocial interventions used and the management of postpartum depression

among mothers in the maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya.

iii. **H_{03}:** There is no statistically significant relationship between the perceived benefits of various psychosocial interventions and the management of postpartum depression among mothers in the maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya.

iv. **H_{04}:** There is no statistically significant relationship between study findings and the improvement of psychosocial intervention strategies for postpartum depression management in maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya.

Assumptions of the Study

The study assumed that participants would provide honest and accurate responses regarding their experiences with postpartum depression and psychosocial interventions. This assumption was grounded in the ethical framework of the study, which ensured voluntary participation, informed consent, and confidentiality of all responses. Since participants were assured that their responses would not affect their medical care or relationship with the hospital, it was reasonable to expect truthful disclosure of their postpartum depression experiences. Additionally, the use of validated and standardized instruments, the Edinburgh Postnatal Depression Scale (EPDS), Treatment Experience Questionnaire (TEQ), and Perceived Stress Scale-4 (PSS-4), with established psychometric properties further supported the assumption that participants would engage genuinely with the measurement tools, producing reliable and accurate data reflective of their actual postpartum depression experiences and intervention outcomes.

The study assumed that the prevalence of postpartum depression among mothers at Murang'a County Referral Hospital was significant enough to justify systematic investigation. This assumption was supported by global prevalence rates ranging from 10–20% in general populations (WHO, 2023), and by Kenyan evidence from Sakari (2020) who documented PPD prevalence of 65.5% among mothers of preterm neonates, and Kariuki *et al*. (2022) who reported 64.1% prevalence among mothers of children with severe acute malnutrition. Given that Murang'a County Referral Hospital handles approximately 3,984 deliveries annually including a substantial proportion of complicated deliveries, and given that recent clinical observations indicated severe PPD cases requiring extended psychiatric care, it was reasonable to assume that a clinically meaningful proportion of mothers in the maternity wards experienced postpartum depression warranting investigation (Murang'a County Referral Hospital, 2025).

The study assumed that various psychosocial interventions were being actively used in the management of postpartum depression within the maternity wards at Murang'a County Referral Hospital. This assumption was grounded in the documented presence of a dedicated mental health team comprising 2 psychiatrists, 4 psychologists, and approximately 20 maternity ward nurses involved in maternal care (Murang'a County Referral Hospital, 2025). The availability of specialized mental health professionals indicated that psychosocial intervention services were operationally present within the facility. It was further assumed that both mothers and healthcare providers could accurately perceive and report on the benefits of these interventions based on their professional training, clinical experience, and personal participation in the therapeutic process, thereby providing valid and informative data for the study's third objective of exploring perceived intervention benefits.

The study assumed that the sample population was representative of the broader population of mothers in maternity wards experiencing postpartum depression at Murang'a County Referral Hospital. This assumption was supported by the use of stratified random sampling, which ensured proportional representation across normal and complicated delivery subgroups, and by purposive sampling of healthcare professionals with direct PPD management roles. The study also assumed that findings from Murang'a County Referral Hospital could provide insights applicable to similar county referral healthcare settings across Kenya, given the facility's role as a representative county referral institution serving a typical Kenyan county population with documented prevalence patterns consistent with rates reported in comparable settings ranging from 18.7% to 64.1% (Mutua *et al*., 2020; Kariuki *et al*., 2022).

Justification of the Study

The study is justified by the critical gap in research on postpartum depression management within county referral hospital settings in Kenya. While studies such as Sakari (2020) and Kariuki *et al*. (2022) have documented high PPD prevalence in referral hospitals, none has specifically examined the relationship between psychosocial interventions and PPD management in a maternity ward context at a county referral hospital. Murang'a County Referral Hospital serves a high-volume maternal population, averaging 332 deliveries monthly, with documented severe PPD cases signaling urgent clinical need (Murang'a County Referral Hospital, 2025). Existing evidence from Kenya predominantly focuses on tertiary facilities, leaving county-level hospitals underrepresented in the literature. This study therefore addresses a significant contextual and empirical gap, generating locally grounded

evidence to inform psychosocial intervention strategies in county referral maternity settings across Kenya.

Significance of the Study

The significance of this study extends to various stakeholders involved in maternal healthcare, mental health services, and policymaking. For healthcare providers, particularly those working in maternity wards, the study holds substantial importance. Research by Kibret *et al*. (2022) demonstrates that effective management of postpartum depression is linked to adequate knowledge, proper training, and positive attitudes toward evidence-based interventions. By investigating the prevalence of PPD and examining the various types of psychosocial interventions used in its management, healthcare professionals at MTRH and similar facilities can gain valuable insights into evidence-based practices for supporting maternal mental health. Dennis *et al*. (2020) found that structured psychosocial interventions significantly improve maternal outcomes, indicating that understanding the prevalence of PPD and the efficacy of different interventions can inform healthcare providers about the most effective strategies to incorporate into their care protocols.

The study will provide administrators at the hospital with data on intervention effectiveness that can inform decisions about staff training programs, infrastructure development, and budg*et al*location for mental health services. Falkenström *et al*. (2019) demonstrated that systematic implementation of psychosocial interventions in hospital settings leads to measurable improvements in patient outcomes, supporting the need for institutional investment in evidence-based practices. For Pan Africa Christian University and other academic institutions, this research contributes valuable empirical data to the growing body of knowledge on maternal mental health in Sub-Saharan Africa. Fonagy *et al*. (2024)

emphasized the importance of contextual research in developing culturally appropriate interventions, highlighting how academic institutions benefit from locally generated evidence that can inform curriculum development and future research directions. The study's findings will provide faculty and students with current data on psychosocial intervention effectiveness, supporting evidence-based teaching and research programs in counseling psychology, nursing, and public health.

Policymakers at county, national, and regional levels will gain critical insights for developing comprehensive maternal mental health policies. Dadi *et al*. (2020) identified significant gaps in mental health policy implementation across African countries, emphasizing the need for evidence-based policy development. The study's documentation of intervention types and their perceived effectiveness will provide policymakers with empirical evidence to support funding decisions, practice guidelines, and regulatory frameworks for maternal mental health services. Given that Kenya's health system serves as a model for other East African countries, these findings could influence regional policy development.

Furthermore, the study's significance extends to mothers as well, as they represent a central stakeholder group in maternal mental health. Madeghe *et al*. (2022) demonstrated that mothers who participate in evidence-based interventions experience significant improvements in depression scores, maternal-infant bonding, and overall quality of life. By participating in interventions tailored to their needs, mothers can access valuable support, coping strategies, and tools to navigate the emotional challenges associated with PPD. The study's findings have the potential to empower mothers by validating their experiences, reducing feelings of isolation, and providing them with insights into the perceived benefits of various interventions. This information can help mothers make informed decisions about

their mental health care and encourage them to seek appropriate support. Green *et al*. (2020) found that when mothers understand the effectiveness of available interventions, they are more likely to engage with treatment programs, leading to improved adherence and outcomes.

The broader maternal and child health community could benefit from this research through enhanced understanding of intervention effectiveness in resource-limited settings. Lund *et al*. (2020) highlighted the importance of context-specific research in developing sustainable mental health interventions, particularly in low- and middle-income countries. The study's focus on a major referral hospital in Kenya provides insights that can inform intervention development and implementation strategies across similar healthcare settings in Sub-Saharan Africa. Ultimately, improved mental health outcomes for mothers translate to better caregiving abilities, enhanced bonding with their infants, and a higher quality of life for both mother and child, contributing to broader public health goals and sustainable development objectives related to maternal and child welfare.

Scope of the Study

The scope of this study encompassed an in-depth exploration of the relationship between psychosocial interventions and the management of postpartum depression among mothers aged 20 to 50 years in maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya. The target population consisted of 361 individuals: 2 psychiatrists, 4 psychologists, approximately 20 nurses in the maternity ward, and 332 mothers representing monthly deliveries (225 normal deliveries and 107 deliveries with complications). From this population, the study included a total sample size of 173 participants comprising 12 healthcare professionals selected through purposive sampling for

interviews (2 psychiatrists, 4 psychologists, and 6 nurses representing the nursing staff) and 161 mothers selected through stratified random sampling for questionnaires (109 mothers with normal deliveries and 52 mothers with complicated deliveries).

Specifically, the study focused on assessing the prevalence of PPD among mothers in the maternity wards, examining the various types of psychosocial interventions used in PPD management, and exploring the perceived benefits of these interventions. The research identified risk factors associated with PPD in the maternity ward setting and examined the feasibility of different psychosocial interventions tailored to this specific population. Additionally, the study explored the perceptions and experiences of mothers participating in these interventions, as well as the perspectives of healthcare providers involved in delivering mental health support in the maternity wards. The study gave particular attention to high-risk populations including mothers with complicated deliveries and mothers of preterm neonates in the facility's 19-cot newborn unit. Through this comprehensive approach, the study provided valuable insights into the implementation of relevant interventions to address PPD in maternity care settings at Murang'a County Referral Hospital.

Limitations and Delimitation of the Study

The study encountered biases due to self-reported data on postpartum depression and psychosocial interventions, which affected the accuracy of some responses as mothers relied on subjective recall rather than objective measurement. Concentration issues among participants, particularly new mothers managing the demands of caregiving, impacted data quality with some mothers appearing fatigued during questionnaire completion. Additionally, the cross-sectional design limited the study's ability to track changes in depression severity or intervention effectiveness over time, capturing only a snapshot of mothers' experiences at a

single point during their postpartum period. The study was delimited to mothers in maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya, excluding other departments or facilities. It focused solely on psychosocial interventions and did not consider pharmacological treatments despite their common use in postpartum depression management.

The scope was limited to assessing PPD prevalence, examining psychosocial interventions, and evaluating perceived benefits within the maternity wards, with findings applicable to similar county referral hospital settings. To mitigate self-report bias, validated instruments with established psychometric properties were used alongside methodological triangulation combining quantitative questionnaires with qualitative healthcare provider interviews; trained research assistants administered questionnaires using standardized procedures, and questionnaire sessions were scheduled during optimal periods when mothers were alert and comfortable to minimize the effects of fatigue on response quality.

Chapter Summary

This chapter has provided a structured overview of the study, covering the introduction, background, problem statement, purpose, objectives, hypotheses, and assumptions, justification of the study, along with the significance, scope, limitations and delimitations of the research. The next chapter was the literature review.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The literature review in this chapter is structured into distinct sections that align with the objectives of the current study on the relationship between psycho-social interventions and the management of postpartum depression. The empirical review includes a comprehensive examination of studies relevant to the three main objectives: assessing the prevalence of postpartum depression, examining various types of psychosocial interventions used in its management, and evaluating the perceived benefits of these interventions. This review provides a critical analysis of existing research, highlighting current knowledge and identifying gaps in the literature. The theoretical framework section presents the foundational theories guiding this research, specifically the rational emotive behavior theory and stress and coping theory. The conceptual framework section visually represents the relationship between the independent variables and the dependent variable. Finally, the chapter summary synthesizes the research gaps identified in the literature related to prevalence, intervention types, and perceived benefits, and highlights how this study aims to address these gaps in the existing body of knowledge.

Prevalence of Postpartum Depression

Postpartum depression (PPD) is a pressing global public health concern with substantial variation in prevalence rates across regions and populations. Globally, PPD prevalence ranges from 10% to 20%, with the WHO (2023) estimating rates of 10–15% in developed countries and up to 20% in developing countries. In the United States, the CDC

(2023) reports that approximately 1 in 8 women experience PPD symptoms postpartum. In Africa, PPD rates are notably higher, with a pooled prevalence of 16.84% and a range of 10% to 32% reported across various studies (Atuhaire *et al*., 2021; Wubetu *et al*., 2020). In Kenya, prevalence rates are similarly high, with specific estimates of 11% and 13% documented in certain populations. Alarmingly, Sakari (2020) reported PPD and anxiety rates of 65.5% and 63.3%, respectively, among mothers of preterm neonates at Moi Teaching and Referral Hospital. Such significant variations in prevalence underscore the need for tailored interventions addressing maternal mental health, particularly in high-risk groups and regions with limited resources.

Gebregziabher *et al*. (2020) in Eritrea found a 7.4% PPD prevalence using a health facility-based survey of 590 mothers, identifying unplanned pregnancy, lack of social support, and a history of depression as key risk factors. Similarly, in Nepal, Pradhananga *et al*. (2020) observed a 27.9% prevalence in a cross-sectional study involving 150 postpartum mothers, with lower education levels, unwanted pregnancies, and insufficient family support contributing to higher risks. In France, Tebeka *et al*. (2021) reported a 16.7% prevalence at two months postpartum among 18,013 women, linking previous psychiatric history, stressful life events, and low social support to increased PPD risks. These findings demonstrate that while prevalence rates vary across settings, risk factors such as inadequate social support, socioeconomic challenges, and mental health history consistently emerge across different contexts, informing the current study's focus on maternity ward populations who share similar vulnerabilities.

In Africa, studies reveal similarly concerning statistics, highlighting the urgent need for targeted mental health interventions. Wubetu *et al*. (2020) found a 22.4% PPD prevalence

in Ethiopia, with unplanned pregnancies and poor social support identified as major risk factors contributing to elevated depression rates. Atuhaire *et al*. (2021) documented a 29.9% prevalence in Uganda, identifying intimate partner violence and inadequate social support as significant contributors to PPD onset. In Egypt, Goweda and Metwally (2020) observed a 20% prevalence, with low socioeconomic status and marital issues posing heightened risks. Kenyan studies by Kariuki *et al*. (2022), Mutua *et al*. (2020), Onchwati (2023), and Tuitoek (2019) reveal high postpartum depression prevalence, associated risk factors, and emphasize the need for routine screening and targeted mental health interventions in healthcare facilities, findings that directly inform the rationale for the current study.

The broader implications of PPD extend to critical maternal and child health outcomes that further justify the need for effective psychosocial interventions. Woldeyohannes *et al*. (2021) found that PPD significantly reduces the likelihood of exclusive breastfeeding, impacting infant nutrition and health across sub-Saharan Africa. Hegarty *et al*. (2019) in Kenya linked PPD to lower adherence to HIV prevention strategies, highlighting the interconnectedness of maternal mental health and other health priorities. These findings collectively underscore the need for integrated mental health strategies within maternal healthcare systems to mitigate the adverse effects of PPD, improve maternal and infant health outcomes, and strengthen public health efforts globally. Taken together, the evidence confirms that PPD is not an isolated clinical condition but a multidimensional public health challenge requiring systematic screening and comprehensive psychosocial intervention within maternity ward settings.

Nonetheless, the reviewed studies present knowledge gaps regarding the prevalence of PPD in relation to the current study's objectives. From a conceptual perspective, there is a

lack of clear definition and consistent measurement of PPD prevalence specifically within maternity ward settings. Studies such as Sakari (2020), Kariuki *et al*. (2022), Atuhaire *et al*. (2021), Wubetu *et al*. (2020), and Dadi *et al*. (2020) have provided valuable insights into PPD prevalence in various healthcare settings, yet they often fail to differentiate between general postpartum populations and those specifically in maternity wards. This conceptual gap hinders the development of a nuanced understanding of how the unique stressors and experiences within maternity wards may influence PPD rates. Furthermore, most studies offer snapshot prevalence data rather than capturing the dynamic nature of depressive symptoms over time, restricting understanding of how PPD prevalence may change during different phases of the maternity ward experience, which is crucial for developing targeted interventions as per the current study's objectives.

Contextually, there is a significant gap in research specifically addressing PPD prevalence in maternity wards within low- and middle-income countries (LMICs), including Kenya. Studies like Dadi *et al*. (2020), Atuhaire *et al*. (2021), Wubetu *et al*. (2020), Goweda and Metwally (2020), and Roumieh *et al*. (2019) have examined PPD prevalence in African and Middle Eastern contexts, yet limited research focuses on the unique environmental and sociocultural factors influencing PPD rates in maternity ward settings in these regions. The high prevalence rates reported by Sakari (2020) at Moi Teaching and Referral Hospital highlight the need for more context-specific investigations. Additionally, there is a lack of comparative studies examining how PPD prevalence in maternity wards may differ from other postpartum care settings or home environments, limiting understanding of how the maternity ward environment may contribute to or mitigate PPD risk, which is essential for developing appropriate psychosocial interventions as outlined in the study's objectives.

Methodologically, reviewed studies including those by Mutiso *et al*. (2023), Kariuki *et al*. (2022), Atuhaire *et al*. (2021), Wubetu *et al*. (2020), and Goweda and Metwally (2020) show limitations, particularly the reliance on self-report screening tools like the Edinburgh Postnatal Depression Scale (EPDS) or the Beck Depression Inventory (BDI) to assess PPD prevalence. While these tools are validated and widely used, they may not capture the full complexity of PPD experiences in maternity ward settings. There is a notable lack of studies employing mixed-method approaches that combine quantitative prevalence data with qualitative insights into mothers' experiences, which could provide a more comprehensive understanding of PPD prevalence and its associated factors. Furthermore, the timing of PPD assessment varies across studies, making it challenging to compare prevalence rates and understand how PPD manifests at different time points during the maternity ward stay, which is crucial for the current study's objective of assessing PPD prevalence at Murang'a County Referral Hospital.

Lastly, there is a significant gap in research examining the prevalence of PPD among diverse subpopulations within maternity ward settings. Most studies such as Wubetu *et al*. (2020), Atuhaire *et al*. (2021), Goweda and Metwally (2020), Roumieh *et al*. (2019), and Shitu *et al*. (2019) provide general prevalence rates without detailed analysis of how factors such as age, parity, socioeconomic status, or cultural background may influence PPD prevalence specifically within the maternity ward context. This gap is particularly evident in the Kenyan context, where diverse ethnic and socioeconomic groups may experience and express PPD symptoms differently, yet comprehensive stratified prevalence data remains scarce. This limitation directly impacts the current study's ability to provide a detailed assessment of PPD prevalence across different subgroups within the Murang'a County

Referral Hospital maternity wards, potentially limiting the development of tailored psychosocial interventions as outlined in the study's objectives.

Types of Psychosocial Interventions Used in Management of Postpartum Depression

Psychosocial interventions, including individual counseling, group therapy, social support mechanisms, and peer-based support groups, are essential non-pharmacological approaches for managing postpartum depression by fostering coping strategies and emotional support (Dennis *et al*., 2020; Hanach *et al*., 2023; Seo *et al*., 2022; Wang *et al*., 2023). At Murang'a County Referral Hospital, the psychosocial interventions found to be applied included individual counseling, group therapy, and social support, delivered by 2 psychiatrists and 7 psychologists working within the maternity wards. These groups can be facilitated by healthcare professionals or peer leaders and may be conducted in-person or online. Additionally, psychoeducational interventions aim to increase knowledge about PPD, its symptoms, and management strategies, empowering mothers with information and skills to navigate the postpartum period (Ali *et al*., 2021). Other types of interventions include mindfulness-based therapies, partner-assisted interventions, and culturally adapted interventions designed to address the specific needs of diverse populations in maternity ward settings (Kerna *et al*., 2020; Singh & Sharma, 2023).

Martín-Gómez *et al*. (2020) demonstrated that psychological, psychoeducational, and psychosocial interventions, particularly Cognitive-Behavioral Therapy (CBT), effectively reduce PPD risks by helping mothers manage negative thought patterns and develop coping strategies, reporting significant reductions in depressive symptoms across randomized controlled trials. Similarly, Sangsawang *et al*. (2019) found various interventions, including CBT, educational programs, and interpersonal therapy-based initiatives, beneficial in

reducing PPD symptoms among adolescent mothers, with notable improvements in mood and maternal functioning. Jidong *et al*. (2021) highlighted the potential of culturally adapted psychological interventions to improve maternal mental health and reduce ethnic disparities among African and Caribbean women in high-income countries, emphasizing the need for further randomized control trials. Integrating evidence-based interventions like CBT and psychoeducational programs into maternal healthcare systems can significantly reduce the risk of postpartum depression among diverse populations, as these findings collectively demonstrate.

Mbarak *et al*. (2019) in Tanzania reported a 20.5% prevalence of PPD, with higher risk associated with severe pre-eclampsia or eclampsia, underscoring the importance of targeting complicated delivery populations with specific psychosocial interventions. Similarly, Green *et al*. (2020) in Kenya observed notable engagement with Zuri, an automated intervention, which showed a 7% improvement in mood among users, demonstrating its potential effectiveness in addressing PPD symptoms. Oronje *et al*. (2024) emphasized the importance of social support, particularly midwife-led debriefing during the perinatal period, in mitigating PPD symptoms, advocating for its integration into routine care. Fonagy *et al*. (2024) found that integrating group interpersonal psychotherapy with high-quality standard care effectively reduced postnatal depression symptoms and improved child development and mother-child bonding in community settings in Lebanon and Kenya, with statistically significant outcome differences between intervention and control groups.

Kariuki *et al*. (2021) conducted a longitudinal study to assess the effectiveness of a brief psychoeducational intervention aimed at reducing postnatal depression in low-resource settings in urban slums in Nairobi, involving 567 mothers attending two Maternal and Child

Health clinics. The findings revealed a significant reduction in depression scores among the experimental group, with a 35.6% reduction in depression compared to only a 2.3% reduction in the control group. Furthermore, when adjusted for all variables, the reduction in BDI depression scores was significantly associated with the intervention, highlighting its effectiveness in this setting. The study's implications suggest that even brief psychoeducational interventions can have a meaningful impact on reducing postnatal depression among mothers in poorly resourced environments, indicating the potential for integrating such interventions into existing maternal and child health services to address high rates of PPD in low- and middle-income countries.

Gillis and Parish (2019) highlighted the benefits of group-based therapy and social support for PPD recovery, showing that group environments foster acceptance, sharing, and empowerment, leading to improved depressive symptoms and recovery outcomes. Similarly, Davoodabadi (2022) demonstrated the effectiveness of emotional intelligence-based group counseling in significantly reducing PPD among pregnant mothers, suggesting its integration into maternal health services. Lund *et al*. (2020) found task-sharing psychological treatment by non-specialist health workers effective in addressing perinatal depression in South Africa, emphasizing the potential of task-sharing in resource-limited settings. Duffecy *et al*. (2019) showed that group-based online interventions incorporating CBT and peer support were feasible and effective in preventing PPD, highlighting their potential for increasing engagement and adherence. Nakku *et al*. (2021) observed significant improvements in depression and disability symptoms in rural Ugandan women through group problem-solving therapy delivered by midwives, underscoring the value of evidence-based interventions in primary care settings.

The knowledge gap revealed from the literature is that while studies such as those by Gillis and Parish (2019) and Bulut and Gümüşsoy (2020) demonstrate the effectiveness and adaptability of group-based therapies and online CBT sessions for managing PPD, there is still a lack of detailed exploration into the long-term effects and retention of benefits from these interventions. Gillis and Parish (2019) developed an integrated conceptual model for optimizing group-based PPD interventions, but the sustainability of improved outcomes over extended periods remains under-examined. Similarly, the transition of CBT to online platforms as discussed by Bulut and Gümüşsoy (2020) shows promise for accessibility, yet research is sparse on how these online interventions maintain engagement and effectiveness over time, particularly after the structured sessions end, a gap that the current study sought to partially address through its examination of perceived benefits among mothers at Murang'a County Referral Hospital.

While group therapy and psychotherapy are recognized for their benefits in managing PPD among general maternal populations as explored by Martín-Gómez *et al*. (2020), there is limited evidence on their effectiveness specifically within settings involving unique stressors such as parental separation from the newborn and critical infant health issues, which can alter the dynamics and outcomes of these therapeutic approaches. There is a contextual gap in understanding how group dynamics and psychotherapeutic strategies need to be tailored to meet the emotional and psychological needs of mothers in such settings, who may require different support structures compared to other postnatal mothers. It is important to note, however, that REBT as a theoretical framework demonstrates limitations in fully mitigating the needs of mothers presenting with deep trauma or severe psychiatric disorders, given that PPD can predispose mothers to serious psychiatric conditions. In such cases, the

presence of psychiatrists on site at Murang'a County Referral Hospital provides the specialized psychiatric support that the psychosocial framework alone cannot adequately address (Murang'a County Referral Hospital, 2025).

Furthermore, while Davoodabadi (2022) and Lund *et al*. (2020) provide insights into innovative approaches like emotional intelligence-based counseling and task-sharing with non-specialist community health workers, the literature lacks comprehensive studies on the effectiveness of these methods across diverse cultural and socio-economic contexts. Davoodabadi's study highlights the potential of emotional intelligence-based group counseling in Tehran, but similar research in other cultural settings is scarce, raising questions about the generalizability of this approach. Lund *et al*.'s findings on task-sharing in South Africa point to its feasibility, yet the overall impact and practical implementation strategies in different low-resource settings need further exploration. The Stress and Coping Theory (Lazarus & Folkman, 1984) addresses the debriefing component of stress by providing a framework through which structured debriefing sessions help mothers reappraise postpartum stressors, build coping resources, and process traumatic birth experiences, thereby reducing the psychological burden of PPD in maternity ward settings (Folkman & Moskowitz, 2004).

Nonetheless, from a conceptual perspective, there is a lack of clear classification and standardization of psychosocial interventions specifically tailored for maternity ward settings. Studies such as Dennis *et al*. (2020), Wang *et al*. (2023), Hanach *et al*. (2023), Ali *et al*. (2021), and Kerna *et al*. (2020) have explored various psychosocial interventions for PPD, yet they often do not differentiate between interventions designed for general postpartum populations and those specifically adapted for maternity ward environments. This conceptual

gap hinders the development of a comprehensive understanding of the intervention types most appropriate and effective within the unique context of a maternity ward. Furthermore, most studies focus on a limited range of intervention types without exploring the potential of other innovative or culturally specific interventions that may be particularly relevant in the Kenyan context, a gap that the current study at Murang'a County Referral Hospital directly sought to address.

Methodologically, the reviewed studies reveal several limitations in the approaches used to examine and evaluate different types of psychosocial interventions for PPD management. Many studies, including those by Dennis *et al*. (2020), Wang *et al*. (2023), Ali *et al*. (2021), Kerna *et al*. (2020), and Singh and Sharma (2023), primarily employ quantitative methods to assess the effectiveness of interventions, often relying on standardized outcome measures. While these approaches provide valuable data on intervention efficacy, they may not capture the nuanced experiences of mothers receiving these interventions or the practical challenges of implementing them within a maternity ward setting. There is a notable lack of mixed-method studies combining quantitative assessments of intervention effectiveness with qualitative explorations of mothers' and healthcare providers' experiences with different intervention types, a methodological gap that the current study's concurrent triangulation design sought to address at Murang'a County Referral Hospital.

Perceived Benefits of Various Psychosocial Interventions in Management of Postpartum Depression

The perceived benefits of psychosocial interventions for postpartum depression encompass a wide range of positive outcomes that contribute to maternal well-being and

family health. Enhanced coping skills are frequently reported as a key benefit, with mothers gaining strategies to manage stress, regulate emotions, and navigate the challenges of early parenthood (Madeghe *et al*., 2022). Improved mental health is another significant perceived benefit, often manifesting as reduced depressive symptoms, decreased anxiety, and overall better mood regulation. Increased self-efficacy and self-awareness are also commonly perceived benefits of psychosocial interventions, with mothers reporting feeling more confident in their parenting abilities and having a greater understanding of their emotional experiences and triggers (Yator *et al*., 2022). This enhanced self-efficacy can lead to better parenting practices and improved mother-infant bonding, as documented by Fonagy *et al*. (2024) who found statistically significant improvements in mother-child interaction quality following group interpersonal therapy in Kenya and Lebanon.

Branquinho *et al*. (2021) conducted a systematic review of systematic reviews and meta-analyses and found that psychological interventions, particularly CBT and interpersonal psychotherapy, demonstrated robust evidence for reducing perinatal depression symptoms, with effect sizes ranging from moderate to large across multiple randomized controlled trials. Other approaches such as mindfulness-based interventions, psychoeducation, and counseling also demonstrated positive effects, albeit to a lesser extent than CBT and interpersonal psychotherapy. Norazman and Lee (2024) focused on the influence of social support in preventing and treating PPD through an intervention-based narrative review, finding that interventions aimed at enhancing social support, such as peer support groups, partner-assisted interventions, and family-based support programs, showed promising results in reducing depressive symptoms and improving overall maternal well-being. The authors highlighted

that these interventions not only provided emotional support but also practical assistance, which was particularly beneficial for new mothers navigating the postpartum period.

Kumar *et al*. (2023) highlighted that mother-child focused interventions for PPD, which include elements like parenting skills and mother-infant bonding, provided broader benefits than mother-focused interventions alone, with measurable improvements in both maternal depression scores and child developmental outcomes, emphasizing the value of a dyadic approach for improving maternal and child health. Wacharasin and Sangsawang (2019) found that early and continuous interventions, including psychoeducation and support groups for adolescent mothers, were particularly effective when combined with practical life skills, with participants demonstrating significantly improved maternal confidence and reduced depressive symptoms compared to control groups. Madeghe *et al*. (2022) underscored the benefits of combining dietary interventions with CBT, showing significant improvements in depression scores and neonatal outcomes among low-income women, advocating for integrated mental health and nutrition counseling in antenatal care as a comprehensive approach to PPD management.

The reviewed studies reveal a knowledge gap from a conceptual perspective, there is a lack of a comprehensive framework for understanding and categorizing the perceived benefits of psychosocial interventions specifically within maternity ward settings. Studies such as Madeghe *et al*. (2022), Yator *et al*. (2022), Fonagy *et al*. (2024), Kariuki *et al*. (2021), and Green *et al*. (2020) have explored various benefits of PPD interventions, yet they often do not provide a holistic view of how these benefits are perceived and experienced by mothers in the unique context of a maternity ward. This conceptual gap hinders the development of a nuanced understanding of the multifaceted ways in which psychosocial

interventions may impact mothers' well-being beyond just symptom reduction. Furthermore, most studies focus on a limited range of perceived benefits such as improved mood or enhanced coping skills, without exploring the potential broader impacts on maternal identity, relationship dynamics, or long-term mental health trajectories (Kariuki *et al*., 2021; Green *et al*., 2020).

Methodologically, the reviewed studies reveal several limitations in the approaches used to evaluate the perceived benefits of psychosocial interventions for PPD management. Many studies, including those by Kariuki *et al*. (2021), Green *et al*. (2020), Madeghe *et al*. (2022), Yator *et al*. (2022), and Fonagy *et al*. (2024), primarily rely on quantitative measures of symptom reduction or standardized quality of life assessments. While these approaches provide valuable data on intervention efficacy, they may not capture the full range of subjective experiences and perceived benefits reported by mothers. There is a notable lack of qualitative and mixed-method studies that explore in depth the nuanced ways in which mothers perceive and articulate the benefits of different interventions (Branquinho *et al*., 2021; Norazman & Lee, 2024). This methodological gap limits understanding of the complex and potentially unexpected ways in which psychosocial interventions may impact mothers' lives beyond what standardized measures can capture.

Lastly, there is a significant gap in research examining how the perceived benefits of psychosocial interventions may vary across diverse subpopulations within maternity ward settings. Most studies such as Madeghe *et al*. (2022), Yator *et al*. (2022), Fonagy *et al*. (2024), Kiburi *et al*. (2023), and Njiru (2022) tend to report on perceived benefits in a generalized manner, without considering how these perceptions may differ based on factors such as cultural background, socioeconomic status, severity of PPD symptoms, or previous

mental health history. This gap is particularly relevant to the current study's objective of evaluating perceived benefits in the Murang'a County Referral Hospital maternity wards, as it limits understanding of how intervention benefits may be experienced differently by various maternal subgroups. The lack of nuanced subgroup-specific data on perceived benefits hinders the development of targeted and culturally sensitive interventions that can effectively address the diverse needs of mothers in the maternity wards, directly impacting the current study's ability to provide a comprehensive evaluation of perceived benefits across different maternal populations (Yator *et al*., 2022; Kariuki *et al*., 2021).

Theoretical Framework

The theoretical framework serves as a foundation that guides research by providing a structured perspective for understanding and analyzing phenomena. In the current study, the research is anchored on two theories: Rational Emotive Behavior Theory and Stress and Coping Theory. The chosen theories were considered relevant based on the objectives of the study and their specific support for the study's independent and dependent variables. Both theories are operationalized through the study's data collection instruments, the Edinburgh Postnatal Depression Scale (EPDS), Treatment Experience Questionnaire (TEQ), and Perceived Stress Scale-4 (PSS-4), ensuring that their theoretical components directly guide the interpretation of results rather than serving merely as conceptual background, as Caleb Oira noted was necessary for rigorous mixed methods research.

Rational Emotive Behavior Theory

The Rational Emotive Behavior Theory (REBT) indicates that our beliefs, rather than external events, cause our emotional and behavioral reactions. The theory posits that people can overcome emotional distress by identifying and challenging their irrational beliefs (Ellis,

1962). The theory assumes that humans have an innate tendency to think irrationally and hold rigid, absolutistic, and self-defeating beliefs (Ellis, 1962; Ellis & Dryden, 1997). These irrational beliefs can lead to emotional disturbance and dysfunctional behaviors. Emotional disturbance is largely the result of how people interpret and evaluate events, rather than the events themselves (Ellis & Dryden, 2007). Gonzalez *et al*. (2017) conducted a meta-analysis and found that REBT was significantly effective in reducing depression scores across clinical populations, demonstrating that changing irrational beliefs leads to measurable emotional and behavioral change. These findings are important to the current study because they validate the use of REBT-informed individual and group counseling as psychosocial interventions for PPD management at Murang'a County Referral Hospital.

People have the ability to recognize their irrational beliefs and actively work to replace them with more rational, flexible, and self-helping beliefs (Dryden, 2005). This process is central to the theory and its associated therapeutic approach. Emotional and behavioral problems are largely learned and can therefore be unlearned through the cognitive-behavioral change process (Ellis, 1962). David *et al*. (2005) demonstrated in a synopsis of REBT research that the theory's ABC model, where Activating events trigger Beliefs that produce emotional Consequences, has been empirically validated across diverse clinical populations, confirming that targeting belief systems produces measurable improvements in emotional functioning. Similarly, Silverman (2000) found that REBT produces significant reductions in psychological distress when applied systematically in therapeutic contexts. These empirical findings support the application of REBT in the current study's examination of how individual counseling and group therapy, both REBT-informed

interventions, relate to PPD management outcomes among mothers at Murang'a County Referral Hospital.

The goal of the theory is to help individuals achieve greater self-acceptance, self-direction, and self-actualization by overcoming their irrational beliefs (Ellis, 2013). The theory has been criticized for its somewhat rigid and confrontational therapeutic approach, which may not be suitable for all clients (Gonzalez *et al*., 2017; Silverman, 2000). Importantly, REBT demonstrates limitations in fully mitigating the needs of mothers presenting with deep trauma or severe psychiatric disorders, given that PPD can predispose mothers to serious psychiatric conditions requiring specialized intervention beyond what cognitive restructuring alone can address. In such cases at Murang'a County Referral Hospital, the presence of 2 psychiatrists on site provides the specialized psychiatric support that the psychosocial and cognitive framework of REBT alone cannot adequately address (Murang'a County Referral Hospital, 2025). The REBT components are operationalized through the TEQ, which measures mothers' experiences with individual counseling and group therapy sessions that employ cognitive restructuring techniques.

The REBT directly supports the study's independent variables related to psychosocial interventions. Individual counseling interventions based on REBT principles help mothers identify and challenge irrational beliefs about motherhood, such as "I must be a perfect mother" or "If my baby cries, I am failing as a mother." Group counseling sessions utilize REBT techniques to help mothers recognize shared irrational beliefs and learn from others' experiences in developing rational thinking patterns. Support groups grounded in REBT provide platforms for mothers to practice rational disputation techniques and receive feedback on their cognitive restructuring efforts. Social support interventions informed by

REBT help mothers build networks that reinforce rational thinking and challenge negative self-evaluations related to postpartum experiences. Gonzalez *et al*. (2017) confirmed that REBT applied in group formats produces equivalent outcomes to individual formats, validating the use of both modalities as measured through the TEQ in the current study.

Moreover, REBT directly supports the dependent variable of PPD management through its emphasis on cognitive change leading to emotional and behavioral improvement. Maternal well-being improves as mothers learn to replace catastrophic thinking with rational evaluations of postpartum challenges, as documented by Ellis (2013) who demonstrated that systematic belief restructuring produces sustained improvements in emotional functioning. Therapy compliance levels increase when mothers understand the logical connection between their thoughts, emotions, and behaviors, making them more motivated to engage with interventions, a relationship measured through the TEQ in the current study. Stress management skills develop through REBT's systematic approach to identifying and modifying stress-inducing irrational beliefs, enabling mothers to cope more effectively with postpartum stressors, with outcomes captured through the PSS-4. The EPDS measures the resulting changes in depression severity that follow from REBT-informed cognitive restructuring processes applied through the psychosocial interventions examined in this study.

Stress and Coping Theory

Stress and Coping Theory by Lazarus and Folkman (1984) emphasizes that individuals' appraisal and coping strategies significantly influence their responses to stress. The theory assumes that individuals evaluate the demands of a stressful situation and their available resources to cope with it, and that their cognitive appraisal and coping efforts can

influence their emotional, behavioral, and physical reactions (Folkman & Moskowitz, 2004; Lazarus, 1993). Lazarus (1993) specifically demonstrated that primary appraisal, the individual's assessment of whether a situation is threatening, and secondary appraisal, the assessment of available coping resources, together determine the stress response and its psychological consequences. These findings are important to the current study because they explain why mothers with stronger psychosocial support systems, measured through the TEQ's social support subscale, demonstrate better PPD management outcomes as captured by the PSS-4.

The theory assumes that the individual's cognitive appraisal and coping efforts play a crucial role in determining their emotional, behavioral, and physical reactions to stress, and that interventions targeting these factors can be effective in managing mental health issues like postpartum depression (Hobfoll, 1998; Suls & Fletcher, 1985). Suls and Fletcher (1985) conducted a meta-analysis examining avoidant and nonavoidant coping strategies and found that approach-oriented coping strategies, those that directly engage with stressors, produced significantly better psychological outcomes than avoidant strategies, particularly over longer time periods. This finding is important to the current study because it validates the emphasis on active coping skill development within the psychosocial interventions examined, specifically individual counseling and group therapy sessions that teach mothers to directly engage with postpartum stressors rather than avoid them, outcomes that are measured through both the TEQ and PSS-4.

Importantly, the Stress and Coping Theory directly addresses the debriefing component of stress management, providing a theoretical framework through which structured debriefing sessions help mothers reappraise postpartum stressors, process difficult

birth experiences, and build coping resources that reduce the psychological burden of PPD. Folkman and Moskowitz (2004) demonstrated that meaning-focused coping, finding positive meaning in stressful experiences through processes such as debriefing and reappraisal, significantly enhances psychological well-being and reduces distress among individuals facing chronic stressors. These findings validate the inclusion of debriefing as a component of psychosocial interventions at Murang'a County Referral Hospital, explaining how healthcare professionals' use of structured debriefing sessions contributes to improved PPD management outcomes as measured through the PSS-4 stress management scores in the current study.

The theory has been criticized for oversimplifying stress and coping by focusing primarily on individuals' cognitive appraisals and coping strategies, without adequately addressing broader social, cultural, and environmental factors (Hobfoll, 1998; Thoits, 1995). Additionally, it overlooks the dynamic, reciprocal nature of the stress-coping process and the roles of emotions, social support, and psychological resources, potentially overemphasizing individual control in managing stress (Aldwin, 2007; Folkman & Moskowitz, 2004; Suls & Fletcher, 1985). The Stress and Coping Theory provides strong theoretical support for the study's independent variables by explaining how different psychosocial interventions enhance coping resources and modify stress appraisals. Individual counseling interventions work by helping mothers reappraise postpartum stressors as manageable challenges rather than overwhelming threats, while simultaneously building problem-focused and emotion-focused coping strategies as theorized by Lazarus and Folkman (1984) and operationalized through the PSS-4 in the current study.

Group counseling sessions provide opportunities for mothers to learn new coping strategies from peers and practice stress appraisal techniques in supportive environments. Support groups function as coping resources that provide emotional support, practical assistance, and validation, thereby reducing the perceived severity of postpartum stressors. Social support interventions directly address the theory's emphasis on external resources by strengthening mothers' support networks, which serve as crucial coping resources during the postpartum period. Thoits (1995) found that social support functions as a coping resource that buffers the effects of stress on psychological well-being, with stronger support networks associated with significantly better mental health outcomes. These findings are important to the current study as they explain the mechanism through which the social support component of psychosocial interventions, measured through the TEQ, contributes to improved PPD management outcomes captured by the PSS-4 at Murang'a County Referral Hospital.

The theory strongly supports the dependent variable of PPD management by explaining how improved coping abilities and modified stress appraisals lead to better mental health outcomes. Maternal well-being improves when mothers develop effective coping strategies and learn to appraise postpartum challenges as manageable rather than overwhelming, consistent with findings by Aldwin (2007) who demonstrated that coping skill development produces sustained improvements in psychological functioning across stressful life transitions. Therapy compliance levels increase when mothers perceive interventions as valuable coping resources that enhance their ability to manage stress effectively, a relationship measured through the TEQ in the current study. Stress management skills develop directly through the application of both problem-focused coping and emotion-focused coping, leading to improved overall functioning and reduced PPD symptoms,

outcomes captured through the PSS-4. Both theories are included based on their complementary approaches, REBT addresses cognitive mechanisms while Stress and Coping Theory addresses environmental and resource-based aspects of managing postpartum challenges at Murang'a County Referral Hospital.

The theoretical framework is distinct from the research tools in that it provides the conceptual foundation for understanding why and how psychosocial interventions work, while the tools, EPDS, TEQ, and PSS-4, measure the observable outcomes of these theoretical processes. The theories guide the interpretation of tool results by explaining the mechanisms through which interventions influence measured outcomes such as depression scores, stress levels, and perceived benefits. This distinction ensures that the theoretical framework serves as an explanatory foundation rather than merely duplicating measurement approaches, providing a robust conceptual basis for understanding the relationship between psychosocial interventions and postpartum depression management at Murang'a County Referral Hospital, Murang'a County, Kenya.

Conceptual Framework

This framework is based on the insights gained from the literature review and aligns with the study's objectives and research instruments. The Prevalence of Postpartum Depression is represented by three key indicators that are empirically supported and measured through validated instruments. Severity of PPD is supported by research from Sakari (2020) who documented varying severity levels at Moi Teaching and Referral Hospital, and is measured using the Edinburgh Postnatal Depression Scale (EPDS) and Beck Depression Inventory-II (BDI-II) which provide standardized severity classifications. Wubetu *et al*. (2020) demonstrated that Severity Assessment is crucial for determining

appropriate intervention intensity. Onset of Symptoms is empirically backed by studies showing that PPD can manifest at different time points, with Tebeka *et al*. (2021) finding that 50% of postpartum depressive episodes begin before delivery, while others develop weeks or months later. The EPDS captures temporal patterns of Symptom Development. Duration of Symptoms is supported by research from Atuhaire *et al*. (2021) indicating that PPD persistence varies significantly among individuals, with the Postpartum Depression Screening Scale designed to assess Symptom Chronicity and Duration Patterns.

The Independent Variables represent Types of Psychosocial Interventions with strong empirical support and clear measurement through the Treatment Experience Questionnaire (TEQ). Individual and Group Counseling are extensively supported by research from Dennis *et al*. (2020) who demonstrated the effectiveness of structured counseling sessions, and Gillis and Parish (2019) who found that both Individual and Group formats provide therapeutic benefits through different mechanisms. Branquinho *et al*. (2021) specifically documented that Cognitive-Behavioral Therapy in both Individual and Group formats significantly reduces PPD symptoms. The TEQ measures participants' experiences with both modalities. Support Groups are empirically supported by Nakku *et al*. (2021) who found that Peer Support Groups delivered by trained facilitators significantly improved maternal outcomes in Uganda, while Duffecy *et al*. (2019) demonstrated that Group-Based Interventions increase engagement and provide sustainable peer networks. Fonagy *et al*. (2024) showed that Group Interpersonal Therapy effectively addresses PPD in community settings. Social Support is backed by extensive research including Norazman and Lee (2024) who emphasized the crucial role of Social Support Interventions, and Hegarty *et al*. (2019) who linked Social

Support to improved treatment adherence. The TEQ assesses Perceived Adequacy and Effectiveness of Social Support Mechanisms.

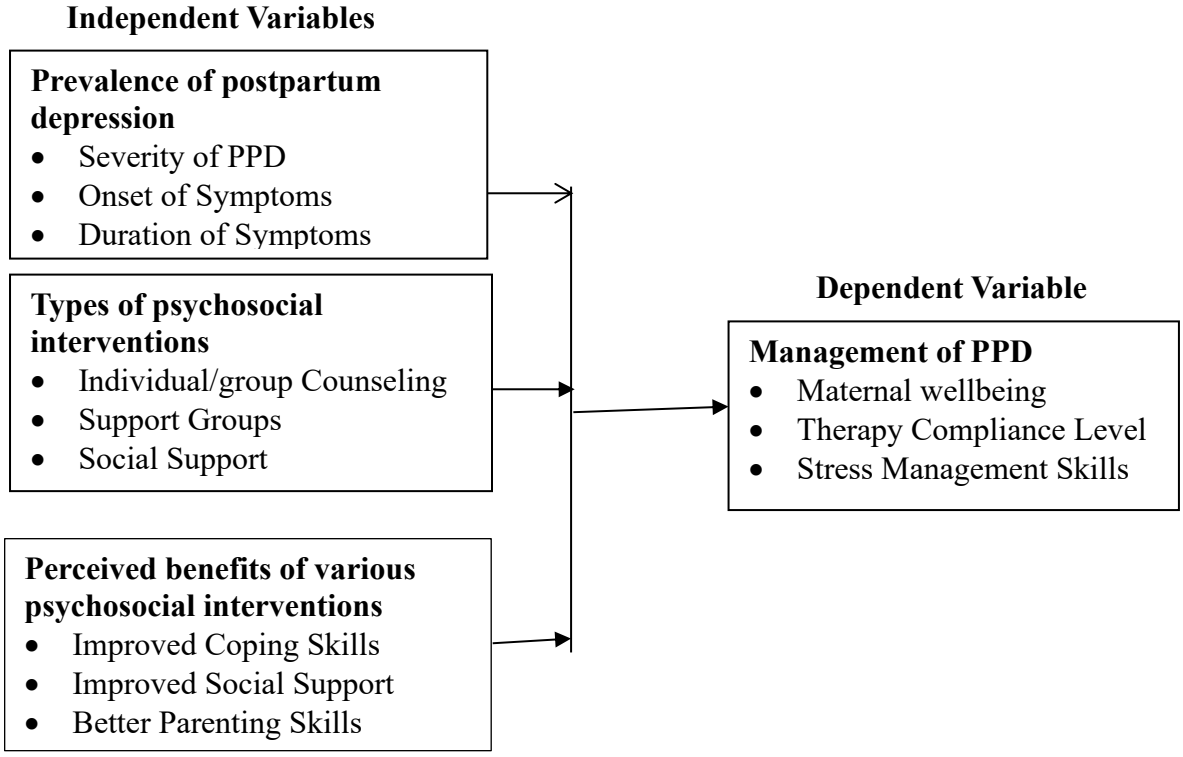
The Perceived Benefits of Psychosocial Interventions are measured through multiple validated instruments and supported by robust empirical evidence. Improved Coping Skills are documented by Kariuki *et al*. (2021) who found that psychoeducational interventions significantly enhanced mothers' coping abilities, with a 35.6% reduction in depression scores among intervention participants. Madeghe *et al*. (2022) demonstrated that mothers receiving targeted interventions showed substantial improvements in Stress Management and Problem-Solving Abilities. The PSS and BDI-II measure Coping Effectiveness through Stress Management and Adaptive Functioning scores. Improved Social Support is empirically supported by Oronje *et al*. (2024) who found that midwife-led interventions significantly enhanced Perceived Social Support Networks. Green *et al*. (2020) documented that mothers using automated psychological support systems reported Improved Social Connectedness and Reduced Isolation. The TEQ specifically measures Perceived Improvements in Social Support Quality and Availability. Better Parenting Skills are supported by Kumar *et al*. (2023) who found that mother-child focused interventions provided broader benefits than mother-only approaches, with measurable improvements in Parent-Infant Interaction Quality. Wacharasin and Sangsawang (2019) demonstrated that early interventions incorporating Parenting Skills significantly improved Maternal Confidence and Bonding Behaviors.

The Dependent Variable, Management of PPD, is operationalized through three empirically supported indicators measured by validated instruments aligned with the study objectives. Maternal Well-Being is supported by Yator *et al*. (2022) who demonstrated measurable improvements in overall functioning following group interventions, and is

assessed through the BDI-II and EPDS which provide comprehensive measures of Psychological Well-Being and Functional Capacity. Mulugeta *et al*. (2023) found that mothers receiving psychological therapies showed significant improvements in overall Well-Being scores. Therapy Compliance Level is empirically backed by Falkenström *et al*. (2019) who found strong correlations between Working Alliance and Treatment Adherence, with the TEQ designed to measure Engagement Levels and Perceived Treatment Value. Kibret *et al*. (2022) demonstrated that Compliance Levels significantly predict intervention outcomes. Stress Management Skills are supported by research from Lund *et al*. (2020) who documented improved Stress Management among mothers receiving task-shared psychological interventions, with the Perceived Stress Scale (PSS) providing validated measurement of Stress Management Effectiveness and Coping Capacity. The framework is summarized in Figure 1.

This framework is grounded in the literature review and aligns with the study's three objectives. The Independent Variables, Prevalence of PPD measured by Severity, Onset, and Duration of Symptoms; Types of Psychosocial Interventions including Individual and Group Counseling, Support Groups, and Social Support; and Perceived Benefits including Improved Coping Skills, Social Support, and Parenting Skills, are posited to influence the Dependent Variable, Management of PPD. Management of PPD is operationalized through Maternal Well-Being, Therapy Compliance Level, and Stress Management Skills, measured using the Edinburgh Postnatal Depression Scale, Treatment Experience Questionnaire, and Perceived Stress Scale-4, respectively. The framework allows examination of how different Intervention Types, in conjunction with PPD Prevalence, influence Perceived Benefits that collectively contribute to effective Depression Management.

Figure 1: Conceptual Framework



Source: Researcher (2026)

This framework is grounded in the literature review and aligns with the study's three objectives. The independent variables-prevalence of PPD (measured by severity, onset, and duration of symptoms), types of psychosocial interventions (individual and group counseling, support groups, and social support), and perceived benefits (improved coping skills, social support, and parenting skills)-are posited to influence the dependent variable, management of PPD. Management of PPD is operationalized through maternal well-being, therapy compliance level, and stress management skills, measured using the Edinburgh Postnatal Depression Scale, Treatment Experience Questionnaire, and Perceived Stress Scale-4, respectively. The framework allows examination of how different intervention types, in

conjunction with PPD prevalence, influence perceived benefits that collectively contribute to effective depression management.

Summary of the Research Gaps

Based on the reviewed studies, it is evident that postpartum depression (PPD) is a significant mental health concern in Kenya, and efforts have been made to explore various intervention strategies. However, several research gaps emerge when considering the specific context of mothers in maternity wards at Murang'a County Referral Hospital. Green *et al*. (2020) developed an automated psychological support system delivered through mobile phones, aiming to expand access to perinatal depression treatment in Kenya. While innovative, this study did not address the unique challenges faced by mothers in maternity ward settings. Similarly, Oronje *et al*. (2024) investigated the impact of midwife-led debriefing on PPD prevention in Western Kenya, but did not specifically target mothers in maternity wards, who may face distinct stressors related to their immediate postpartum experience. Nonetheless, while several studies, including those by Fonagy *et al*. (2024), Mutua *et al*. (2020), and Sakari (2020), have examined PPD prevalence and related factors, there is a notable gap in research specifically addressing the effectiveness of psychosocial interventions for managing PPD in maternity ward settings, a gap the current study sought to fill.

Table 1: Summary of Research Gaps

Study	Focus of the Study	Methodology	Findings	Knowledge Gap	How This Study Addressed the Gap
Green *et al*. (2020)	Developed an automated psychological	Quantitative; mobile-	The system expanded access to	Did not address the unique experiences and	This study focused exclusively on mothers in

Study	Focus of the Study	Methodology	Findings	Knowledge Gap	How This Study Addressed the Gap
	support system for perinatal depression in Kenya	phone-based intervention	perinatal depression treatment and showed positive user engagement	stressors of mothers specifically in maternity ward settings	maternity wards at Murang'a County Referral Hospital, examining interventions delivered within that specific inpatient context
Oronje *et al*. (2024)	Examined factors influencing midwife-led debriefing on PPD prevention in Western Kenya	Quantitative; descriptive design	Midwife-led debriefing positively influenced PPD prevention outcomes among postpartum women	Did not specifically target mothers in maternity wards; focused on general postpartum settings in Western Kenya	This study specifically targeted mothers in maternity wards and examined multiple psychosocial intervention types beyond debriefing
Mutua *et al*. (2020)	Compared postpartum anxiety and depression in mothers with preterm births in Kenya	Quantitative; comparative study	Mothers of preterm neonates showed significantly higher PPD and anxiety rates than mothers of full-term neonates	Focused exclusively on preterm birth as a risk factor, not examining psychosocial interventions used in management	This study examined multiple psychosocial interventions and their relationship with PPD management across all delivery types
Sakari (2020)	Assessed PPD and anxiety among mothers of preterm neonates at Moi Teaching and Referral Hospital	Quantitative; descriptive survey	PPD prevalence of 65.5% and anxiety of 63.3% among mothers of preterm neonates	Focused on a single facility (MTRH) and one subgroup; did not evaluate psychosocial interventions or their perceived benefits	This study extended the scope to a county referral hospital, examined intervention types, and evaluated their perceived benefits
Kariuki *et al*. (2022)	Examined the impact of postnatal depression on	Quantitative; exploratory design	Postnatal depression was significantly	Did not assess the types of psychosocial interventions or	This study addressed both intervention types and their

Study	Focus of the Study	Methodology	Findings	Knowledge Gap	How This Study Addressed the Gap
	neonatal outcomes in Kisumu County, Kenya		associated with adverse neonatal outcomes	examine their effectiveness in managing PPD	relationship with PPD management outcomes using mixed methods
Fonagy *et al*. (2024)	Evaluated group interpersonal therapy for postnatal depression in Lebanon and Kenya	Randomized controlled trial	Group interpersonal therapy was superior to enhanced usual care in reducing postnatal depression	Trial was conducted in community settings and did not examine the maternity ward context or Kenyan county referral hospital populations	This study focused on the maternity ward inpatient setting at a county referral hospital and examined a broader range of psychosocial interventions
Yator *et al*. (2022)	Examined preliminary effectiveness of group interpersonal psychotherapy for Kenyan mothers with HIV and depression	Pilot randomized controlled trial	Group interpersonal psychotherapy showed significant reductions in depressive symptoms	Focused on a specific subgroup (HIV-positive mothers) and one intervention type; did not address the general maternity ward population	This study examined a broader population of mothers in the maternity ward without restriction to HIV status, covering multiple intervention types
Madeghe *et al*. (2022)	Examined efficacy of dietary intervention and psychosocial management for perinatal women in urban Nairobi	Quasi-experimental study	Combined dietary and psychosocial interventions significantly reduced PPD in low-income urban women	Conducted in urban low-income Nairobi; did not address county referral hospital maternity ward populations or examine perceived benefits systematically	This study generated evidence specific to county referral hospital maternity ward settings and evaluated perceived benefits alongside intervention types

Chapter Summary

The literature review chapter has provided a comprehensive analysis of previous scholarly works, incorporating both empirical studies and theoretical frameworks. The

theoretical framework serves as a foundation that guides research by providing a structured perspective for understanding and analyzing phenomena. This study is grounded in Rational Emotive Behavior Theory and Stress and Coping Theory, which align with its objectives to assess postpartum depression prevalence, evaluate psychosocial interventions, and examine their perceived benefits among mothers at Murang'a County Referral Hospital. Addressing gaps highlighted in the literature, the study aimed to provide insights into effective PPD management strategies in maternity wards. The next chapter details the methodology used to achieve the study objectives.

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

This chapter covers the research design, location of the study, target population, sampling methods, sample size, data collection instruments, data collection methods, instrument validity and reliability, data analysis, ethical considerations, and chapter summary.

Research Design

This study employed a cross-sectional descriptive research design using a concurrent mixed methods approach. A cross-sectional descriptive design is a research approach that examines variables at a single point in time to describe the current state of phenomena without manipulating variables or establishing causation (Creswell, 2014; Kothari, 2004). According to Cooper and Schindler (2014), descriptive designs are particularly appropriate when researchers seek to document and describe characteristics, behaviors, or conditions as they naturally exist in real-world contexts. This approach enabled systematic documentation of PPD prevalence, intervention types, and perceived benefits among mothers at Murang'a County Referral Hospital. The cross-sectional descriptive framework served as the overarching design within which the concurrent mixed methods approach operated, with both quantitative and qualitative data collected simultaneously at a single point in time.

The concurrent mixed methods approach was employed within the cross-sectional descriptive framework, combining quantitative data collection through structured questionnaires with qualitative data collection through semi-structured interviews conducted during the same data collection period. This approach enabled comprehensive documentation

of both measurable outcomes and lived experiences of participants (Turner, 2020). The quantitative component documented PPD prevalence characteristics including severity, onset, and duration of symptoms among the 332 monthly deliveries, while the qualitative component explored healthcare provider perspectives on intervention implementation and effectiveness. The choice of cross-sectional descriptive design was grounded in several methodological considerations, research objectives focused on assessment, examination, and exploration of existing conditions rather than testing causal relationships, consistent with recommendations by Park and Jung (2009) for studying naturally occurring phenomena in healthcare settings.

True triangulation in this study was achieved not merely through simultaneous data collection but through systematic integration of quantitative and qualitative findings during the interpretation phase. Quantitative chi-square results identifying statistically significant relationships between variables were directly contextualized through qualitative findings explaining implementation processes, barriers, and professional perspectives, enabling genuine convergence of evidence rather than superficial parallel presentation. Where quantitative and qualitative findings converged, conclusions were strengthened; where they appeared to contradict, explanations were sought through deeper analysis of both data sources. This approach ensured that statistical relationships were understood within the practical context of service delivery at Murang'a County Referral Hospital, consistent with Creswell's (2014) framework for rigorous concurrent triangulation design in mixed methods research.

According to Omair (2014), descriptive designs enable researchers to systematically document multiple variables simultaneously, which was essential for this study's examination

of PPD prevalence patterns, intervention types, and perceived benefits. The design allowed for comprehensive documentation of independent variables including types of psychosocial interventions such as individual counseling, group counseling, support groups, and social support, while simultaneously describing the dependent variable of PPD management as measured by maternal well-being, therapy compliance levels, and stress management skills. Singh and Masuku (2014) emphasize that descriptive designs are optimal when researchers need to understand current conditions and document existing practices without disrupting established care protocols, making this design particularly appropriate for examining PPD management within the maternity ward setting at Murang'a County Referral Hospital.

Location of the Study

This study was conducted in the maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya. Murang'a County Referral Hospital is a Level 5 county-level referral healthcare facility serving as the main referral center for Murang'a County and surrounding regions in Central Kenya. Level 5 hospitals in Kenya are county referral hospitals that provide comprehensive medical and surgical services including specialized care (National Academies of Sciences, Engineering, and Medicine, 2016). The hospital is strategically located in Murang'a town, the county headquarters, making it accessible to diverse populations across the county's urban and rural areas. The selection of this location was motivated by several factors including the facility's substantial delivery volume, recent clinical observations of severe PPD cases, the availability of mental health services infrastructure, and the gap in research specifically examining PPD management in county referral hospital contexts.

The hospital handles an average of 332 deliveries per month, comprising 225 normal deliveries and 107 deliveries with complications, translating to approximately 3,984 deliveries annually (Murang'a County Referral Hospital, 2025). Recent clinical data indicated 2 severe PPD cases in the last 2 weeks, with one requiring discharge back to the maternity ward for continued psychiatric care, highlighting the critical need for systematic investigation of PPD prevalence and effective intervention strategies in this maternity ward setting (Murang'a County Referral Hospital, 2025). These documented cases suggested potential under-recognition of PPD, as severe cases likely represented only the most visible manifestations of a broader mental health challenge affecting the maternal population at this Level 5 facility.

The facility had dedicated mental health personnel including 2 psychiatrists and 7 psychologists who provided psychosocial intervention services to the maternal population. This mental health team represented a relative strength compared to many county hospitals in Kenya. National data indicates that Kenya has only about 88 trained working psychiatrists, with only 16 out of 47 counties having psychiatrists in the public sector (National Academies of Sciences, Engineering, and Medicine, 2016). Furthermore, Kwobah *et al*. (2023) documented that across four surveyed counties in Western Kenya, the combined total of mental health professionals across all facilities amounted to only 7 psychiatrists and 18 psychologists serving entire counties, confirming that Murang'a County Referral Hospital's deployment of 2 psychiatrists and 7 psychologists within a single facility represents a comparatively stronger mental health staffing position relative to most county referral hospitals in Kenya.

The maternity wards at Murang'a County Referral Hospital were staffed by approximately 20 nurses who played crucial roles in daily maternal care, PPD symptom identification, and supporting mothers through recovery. These nurses served as frontline healthcare providers in the maternity ward setting, often being first to observe signs of postpartum depression and initiate referrals to mental health specialists. Additionally, the hospital operated a specialized newborn unit with 19 cots dedicated to preterm neonates, representing a high-risk population for maternal PPD based on existing research linking preterm births to elevated maternal depression rates. The maternity wards at Murang'a County Referral Hospital provided a crucial setting for this research as they catered to a diverse population of mothers in the immediate postpartum period, offering a unique opportunity to assess PPD prevalence, examine various psychosocial interventions, and evaluate their perceived benefits within a county referral hospital context.

The hospital served populations from across Murang'a County's 7 sub-counties, Kangema, Kigumo, Kiharu, Kandara, Mathioya, Maragua, and Murang'a South, attracting both routine deliveries and complicated cases referred from lower-level health facilities. The choice of Murang'a County Referral Hospital filled a significant research gap, as existing studies have primarily focused on tertiary referral hospitals or primary care settings, with limited research examining Level 5 county referral hospitals that serve as the backbone of Kenya's devolved healthcare system. Findings from this study have direct applicability to the 47 county referral hospitals across Kenya, making it particularly significant for informing maternal mental health policy and practice at the county level of the health system.

Target Population

The target population encompassed health officers and mothers at Murang'a County Referral Hospital. Healthcare professionals included 2 psychiatrists, 7 psychologists, and approximately 20 maternity ward nurses, totaling 29 individuals directly involved in maternal care and mental health services. The 2 psychiatrists provided specialized psychiatric assessment, diagnosis, and treatment planning for severe PPD cases. The 7 psychologists delivered psychosocial interventions including individual counseling, group therapy, and psychoeducation. The approximately 20 nurses provided continuous bedside care, identified early PPD signs through daily interactions, provided emotional support, and facilitated referrals to mental health specialists.

The patient population included 332 monthly deliveries comprising 225 normal deliveries (67.8%) and 107 complicated deliveries (32.2%), translating to approximately 3,984 deliveries annually. Normal delivery mothers typically stayed 24-48 hours postpartum for routine monitoring. Complicated delivery mothers required extended stays (3-30 days) for conditions including cesarean sections (48-54 monthly cases), pre-eclampsia/eclampsia (16-21 cases), postpartum hemorrhage (11-16 cases), obstructed labor (11-13 cases), and neonatal complications requiring maternal presence (16-19 cases). Recent clinical observations indicated 2 severe PPD cases in the last 2 weeks, highlighting systematic investigation needs (Murang'a County Referral Hospital, 2025).

Current empirical evidence supported this target population based on similar studies in comparable settings. Dennis *et al*. (2020) examined 241 participants including healthcare providers and postpartum mothers using brief assessment protocols. Madeghe *et al*. (2022) studied 180 participants in Kenyan hospital settings with streamlined data collection. The

demographic characteristics reflected the broader population served, with age distribution 15-45 years (median 27 years), parity from primigravida to grand multiparous (35% first-time mothers), educational levels including primary (20%), secondary (50%), tertiary (25%), and socioeconomic diversity with 70% from Murang'a County, 25% from neighboring counties, and 5% from other regions (Murang'a County Referral Hospital, 2025). Table 2 presents the distribution of the target population across healthcare professional categories and monthly maternal deliveries at Murang'a County Referral Hospital.

Table 2: Target Population

Category	Frequency
Psychiatrists	2
Psychologists	7
Nurses (Maternity Ward)	20
Subtotal Healthcare Professionals	29
Mothers - Normal Deliveries	225
Mothers - Complicated Deliveries	107
Subtotal Mothers (Monthly)	332
Total Target Population	361

Source: Murang'a County Referral Hospital Records (2025)

Healthcare professionals were selected through purposive sampling, while mothers were drawn from the monthly delivery population and selected through stratified random sampling.

Sampling Methods

This study adopted three sampling methods, stratified random sampling, census sampling, and criterion-based purposive sampling, tailored to the specific characteristics of each participant group and the research objectives. The dual strategy for healthcare professionals recognized the distinct nature of qualitative data collection from professional

participants versus quantitative data collection from patient participants. Stratified random sampling was used for mothers, dividing the population into meaningful subgroups and randomly sampling within each stratum. The 332 monthly deliveries were divided into two strata: normal deliveries (225 mothers, 67.8%) and complicated deliveries (107 mothers, 32.2%). This stratification was significant because research indicates complicated delivery mothers face elevated PPD risks due to medical trauma, prolonged hospitalization, maternal-infant separation, and health anxiety. Within each stratum, systematic random sampling selected every second mother starting from a randomly chosen number between 1 and 2.

For healthcare professionals, three distinct sampling approaches were applied based on the size and nature of each subgroup. All 2 psychiatrists were selected through census sampling, that is, the entire population of psychiatrists at the facility was included given the small and specialized nature of this group. Similarly, all 4 psychologists were selected through census sampling for the same reason, ensuring that the complete professional expertise available at the facility was captured in the qualitative data. From approximately 20 maternity ward nurses, 6 were selected through criterion-based purposive sampling based on the following specific criteria: years of experience in the maternity ward, demonstrated involvement in maternal mental health care, representation of different shift schedules to ensure coverage diversity, and expressed willingness to provide detailed reflective insights on PPD management practices.

The combined use of three sampling approaches was methodologically justified by the mixed methods objectives of the study. Quantitative components required representative sampling for prevalence estimation and statistical inference, making stratified random sampling appropriate for the maternal population. Qualitative components required

information-rich participants providing detailed implementation insights, making census sampling for psychiatrists and psychologists and criterion-based purposive sampling for nurses most appropriate. Stratified random sampling ensured findings could be generalized to the broader maternal population with a known sampling error, while census and criterion-based purposive sampling ensured that participants in the qualitative component possessed the professional expertise and reflective capacity necessary for addressing the how and why questions about intervention effectiveness at Murang'a County Referral Hospital.

Sample Size

The sample size was calculated using Yamane's (1967) formula: $n = N / (1 + N(e)^2)$, where n represents sample size, N represents target population (361), and e represents margin of error (0.05 for 95% confidence level). Calculation:

$n = 361 / (1 + 361(0.05)^2)$

$= 361 / (1 + 0.9025)$

$= 361 / 1.9025$

$= 189.7$

$\approx 190.$

This calculated figure of 190 provided adequate representation with ±5% margin of error at 95% confidence level, representing 48.2% of the total target population. It is important to note that 190 represents the formula-derived calculated sample size target. The actual study sample was 173 participants, as the distribution of participants across subgroups, determined by census sampling for psychiatrists and psychologists, criterion-based purposive

sampling for nurses, and stratified random sampling for mothers, yielded 173 as the final analytical sample, a figure that falls within acceptable range of the calculated target.

The actual sample of 173 participants was distributed as follows. For healthcare professionals, purposive and census sampling selected 12 participants for interviews: all 2 psychiatrists through census sampling, all 4 psychologists through census sampling, and 6 nurses through criterion-based purposive sampling from approximately 20 maternity ward nurses. This yielded a total healthcare professional sample of 12 participants. The healthcare professional sample was determined independently of the Yamane formula, as qualitative data collection requires fewer participants for saturation, with 10 to 15 interviews typically sufficient for homogeneous professional groups (Turner, 2020). For the patient population, the mother sample was derived as follows: Patient sample = Total sample − Healthcare professionals = 173 − 12 = 161 mothers, allocated proportionally as: Normal deliveries = (225/332) × 161 = 109 mothers; Complicated deliveries = (107/332) × 161 = 52 mothers.

During data collection, 177 questionnaires were distributed to mothers, comprising the 161 targeted mothers plus 16 additional questionnaires distributed to account for anticipated non-response, alongside the 12 healthcare professional interviews, bringing the total operational distribution figure to 189 participants. This figure of 189 represents the number of participants targeted during data collection operations, not the final analytical sample. Of the 177 questionnaires distributed to mothers, 161 were completed and returned, yielding a 90.9% response rate. All 12 healthcare professionals participated in interviews, achieving a 100% response rate for the qualitative component. The final analytical sample therefore comprised 173 participants, 161 mothers and 12 healthcare professionals,

consistent with the actual sample figure used throughout the study. Table 3 presents the sample size distribution across participant categories.

Prior to the main data collection, a pre-test was conducted using 10 mothers who were not included in the main study sample. The number of 10 mothers was selected for pre-testing because it represents approximately 6% of the total mother sample of 161, which is within the recommended range of 5% to 10% of the sample size for pre-testing purposes in survey research (Kothari, 2004). This number was sufficient to identify comprehension difficulties, ambiguous items, and cultural appropriateness concerns without consuming excessive research resources or depleting the available participant pool. During pre-testing, the researcher administered all three instruments, EPDS, TEQ, and PSS-4, under the same conditions as the main study, then conducted structured debriefing sessions with each pre-test participant to confirm their understanding of each item, identify any confusing language, and verify that response options were culturally appropriate and clearly understood by mothers in the maternity ward context at Murang'a County Referral Hospital.

Table 3: Sample Size

Category	Determination	Sample Size
Psychiatrists	Census Sampling (All)	2
Psychologists	Census Sampling (All)	4
Nurses	Criterion-Based Purposive Sampling	6
Subtotal Healthcare Professionals		12
Mothers, Normal Deliveries	(225/332) × 161	109
Mothers, Complicated Deliveries	(107/332) × 161	52
Subtotal Mothers		161
Total Sample Size		173

Source: Researcher (2026)

Data Collection Instruments

The study collected primary data using interviews with 12 healthcare professionals (2 psychiatrists, 4 psychologists, and 6 nurses) and questionnaires administered to 161 mothers (109 normal deliveries, 52 complicated deliveries). The data collection approach was streamlined to minimize participant burden while ensuring comprehensive assessment. Considering that postpartum mothers were physically recovering and might experience cognitive effects from PPD, the questionnaire battery was limited to three essential tools: the Edinburgh Postnatal Depression Scale (EPDS), the Treatment Experience Questionnaire (TEQ), and the Perceived Stress Scale-4 (PSS-4). This selection decreased total completion time to approximately 20–25 minutes, prioritizing participant welfare while maintaining methodological rigor. Two consent forms were used in this study, one for mothers participating in the questionnaire component and one for healthcare professionals participating in the interview component. An additional audio recording consent form was obtained separately from all healthcare professionals before interview sessions commenced.

Prior to data collection, the researcher conducted a two-day training program for research assistants to ensure standardized and ethical data collection procedures. The training covered ethical research conduct including confidentiality and voluntary participation principles, standardized questionnaire administration procedures to ensure consistency across all data collection sessions, recognition of signs of emotional distress among postpartum mothers and appropriate response and referral protocols, cultural sensitivity in engaging with mothers from diverse backgrounds within Murang'a County, and the correct use of both the English and translating Kikuyu language. Research assistants were required to demonstrate competency in administering the instrument under supervised conditions before being

cleared for independent data collection. This preparation ensured that all research assistants applied uniform procedures throughout the data collection period, minimizing bias and ensuring the integrity of the data collected at Murang'a County Referral Hospital.

The EPDS was developed by Cox *et al*. (1987) specifically for detecting postnatal depression in community samples. The instrument has been validated in Kenyan populations by Mutiso *et al*. (2023) among 450 postpartum mothers, demonstrating cultural appropriateness with Cronbach's alpha of 0.83. The EPDS consists of 10 items rated on a 4-point Likert scale (0–3), with total scores ranging from 0–30. Sample items include "I have been able to laugh and see the funny side of things" and "I have blamed myself unnecessarily when things went wrong." Scoring involves summing all item responses, with cut-off scores: 0–9 (no depression), 10–12 (mild depression), 13–19 (moderate depression), and 20–30 (severe depression), with internal consistency reliability coefficients of 0.79–0.87 across populations. The EPDS directly addresses the study's first objective of assessing PPD prevalence among mothers in the maternity wards.

The Treatment Experience Questionnaire (TEQ) is a researcher-adapted instrument used to measure therapeutic intervention experiences in mental health settings, drawing on the therapeutic alliance and treatment experience measurement framework established by Bedi *et al*. (2005), who examined the formation of therapeutic alliances from the client's perspective. The instrument directly aligns with the study's objectives of examining intervention types and perceived benefits. The TEQ as used in this study comprises 10 items rated on a 4-point Likert scale (0 = Strongly Disagree to 3 = Strongly Agree). Sample items include "Individual counseling sessions have helped me address my mental health challenges" and "Group therapy has provided me with valuable coping strategies." The

instrument has been used in African healthcare settings by Lund *et al*. (2020) among 312 participants in South African maternal mental health studies, demonstrating reliability with Cronbach's alpha ranging from 0.82 to 0.91, confirming cross-cultural applicability for the current study context.

The PSS-4 was selected to measure perceived stress as an indicator of depression management outcomes, a secondary measure in this study, making a shorter four-item version appropriate and sufficient without compromising the validity of the primary measurements. While the EPDS and TEQ each contain 10 items, they measure distinct constructs, depression symptoms and treatment experience respectively, that are central to the study's primary objectives and cannot be replaced by shorter versions without compromising measurement validity. The PSS-4, originally developed by Cohen *et al*. (1983), has been validated in East African populations by Kuria *et al*. (2019) among 280 participants at Kenyan hospitals, showing reliability coefficients of 0.65–0.78. The PSS-4 contains 4 items rated on a 5-point Likert scale (0 = Never to 4 = Very Often), with scoring involving reverse-coding positive items and summing responses, with scores ranging from 0–16 and higher scores indicating greater perceived stress.

Questionnaires were provided in English and Kikuyu translation done to accommodate the language preferences of mothers in the maternity wards at Murang'a County Referral Hospital. Translation into Kikuyu was conducted using WHO translation guidelines, involving forward translation from English to Kikuyu, back translation from Kikuyu to English by a research assistant, and reconciliation of any discrepancies between the original and back-translated versions to ensure conceptual equivalence. Research assistants fluent in both English and Kikuyu were present during all data collection sessions

to provide translation assistance to mothers who did not understand English, ensuring that no mother was excluded from participation due to language barriers. Research assistants were used as translators or interpreters to help ask questions and accurately translate participants' response. Several strategies addressed self-report bias concerns, including methodological triangulation combining patient questionnaires with healthcare provider interviews, use of validated instruments with established psychometric properties, and questionnaire administration during optimal periods when mothers were alert and comfortable.

Data Collection Methods

The researcher obtained approval from the project supervisor and ethical clearance from the National Commission for Science, Technology and Innovation (NACOSTI), Pan Africa Christian University Institutional Scientific and Ethics Review Committee (ISERC), and Murang'a County Referral Hospital administration to ensure compliance with ethical guidelines. This study employed a cross-sectional descriptive research design using a concurrent mixed methods approach, combining quantitative and qualitative data collection techniques. Quantitative and qualitative data were collected simultaneously but analyzed separately before integration during the interpretation phase (Creswell, 2014). This methodology allowed validation of findings through multiple data sources while capturing both measurable outcomes and lived experiences, with true triangulation achieved through systematic comparison of findings from both sources to identify areas of convergence, contradiction, and complementary information.

Quantitative data was collected from 161 mothers (109 normal deliveries, 52 complicated deliveries) through structured questionnaires administered in private, comfortable settings within the maternity wards. Research assistants fluent in both English

and Kikuyu underwent two-day training covering ethical research conduct, questionnaire administration procedures, recognizing emotional distress signs, cultural sensitivity, and appropriate referral protocols. Each session lasted approximately 20–25 minutes, with participants completing EPDS (5–7 minutes), TEQ (3–5 minutes), and PSS-4 (2–3 minutes) in predetermined sequence. Questionnaires were administered in either English or Kikuyu based on each mother's language preference, with bilingual research assistants available throughout all data collection sessions to provide translation assistance to mothers who did not understand English.

Data collection timing was strategically planned and clinically justified. Normal delivery mothers were assessed 24–48 hours postpartum, as research supports that in-hospital screening during this window is both feasible and clinically meaningful given that most mothers remain in hospital during this period and depressive symptoms detectable at this stage are predictive of subsequent depression episodes (Wisner *et al*., 2013). Complicated delivery mothers were assessed 3–7 days postpartum depending on condition severity, as their extended hospital stays allowed sufficient time for initial medical stabilization before psychological assessment. Data collection was coordinated with nursing staff to avoid interference with medical procedures, feeding schedules, or visiting hours, ensuring mothers were alert and comfortable during questionnaire completion.

Qualitative data was gathered through semi-structured interviews with 12 healthcare professionals, 2 psychiatrists, 4 psychologists, and 6 nurses. Each interview lasted 45–60 minutes, conducted in private offices or designated interview rooms to ensure confidentiality. The interview schedule explored healthcare providers' experiences with PPD identification, perspectives on different intervention types, implementation challenges, and observations

about intervention effectiveness. Sample questions included: "What are the key indicators you use to diagnose postpartum depression?", "How do you incorporate psychosocial interventions into treatment plans?", and "What challenges do you encounter when managing PPD cases?" Interviews were audio-recorded with participant consent using encrypted digital devices, and transcription was completed within 48 hours while interview content remained fresh in the researcher's memory.

The two data collection components were integrated through a rigorous triangulation process. Quantitative data from patient questionnaires provided measurable indicators of PPD prevalence through EPDS scores, intervention types received through TEQ responses, perceived benefits through TEQ benefit subscales, and stress management outcomes through PSS-4 scores. Qualitative interview data provided explanations for intervention implementation processes, resource-related barriers, professional perspectives on patient outcomes, and recommendations for practice improvement. True triangulation was achieved during the interpretation phase by systematically comparing quantitative statistical findings with qualitative thematic findings, where both sources converged, conclusions were strengthened; where they appeared to contradict, explanations were sought through deeper analysis. This convergent integration provided evidence-based understanding addressing all study objectives while maintaining methodological rigor and practical relevance for clinical practice at Murang'a County Referral Hospital.

Instrument Validity and Reliability

The validity and reliability of research instruments were ensured by utilizing three standardized questionnaires previously used in similar studies with extensive validation. The streamlined instrument selection, EPDS, TEQ, and PSS-4, reduced participant burden while

maintaining comprehensive assessment capabilities. Each instrument's psychometric properties had been evaluated in contexts relevant to the current study, including Kenyan and East African populations, ensuring cultural appropriateness and measurement accuracy. Prior to the main data collection, all instruments underwent pilot testing among 10 mothers not included in the main study sample. Ten mothers were selected for pre-testing as this represents approximately 6% of the total mother sample of 161, falling within the recommended range of 5% to 10% of the sample size for pre-testing purposes in survey research (Kothari, 2004), sufficient to identify comprehension difficulties and cultural appropriateness concerns without depleting the available participant pool.

During pre-testing, the researcher administered all three instruments, EPDS, TEQ, and PSS-4, under the same conditions as the main study. Following each pre-test administration, the researcher conducted structured debriefing sessions with each of the 10 pre-test participants to confirm their understanding of each item, identify any confusing or ambiguous language, and verify that response options were culturally appropriate and clearly understood by mothers in the maternity ward context. Where pre-test participants indicated confusion about specific items, those items were reviewed for clarity and adjusted in wording without altering the construct being measured. This pre-testing process served as an additional layer of confirmation of instrument validity within the specific cultural and linguistic context of Murang'a County Referral Hospital, supplementing the established psychometric properties of the instruments documented across previous validation studies in Kenyan and East African populations.

The EPDS demonstrated robust validity and reliability across diverse populations including African contexts similar to Murang'a County. The EPDS exhibited strong content

validity established through expert panel review during original development by Cox *et al*. (1987), ensuring items appropriately represented postpartum depression symptoms across cultural contexts. The scale was specifically designed to exclude somatic symptoms overlapping with normal postpartum physical experiences, focusing instead on cognitive and emotional depression symptoms. Construct validity was confirmed through factor analysis showing stable factor structure across cultures, with confirmatory factor analysis indicating acceptable model fit in diverse populations including African settings. Criterion validity was established through comparisons with clinical interviews using standardized diagnostic criteria, showing sensitivity rates of 86–95% and specificity rates of 78–96% for detecting major depression. The EPDS demonstrated strong internal consistency with Cronbach's alpha coefficients ranging from 0.79 to 0.87 globally, with Mutiso *et al*. (2023) reporting Cronbach's alpha of 0.83 among 450 postpartum mothers at Kenyan hospitals.

The Treatment Experience Questionnaire (TEQ) is a researcher-adapted instrument drawing on the therapeutic alliance and treatment experience measurement framework established by Bedi *et al.* (2005). The TEQ as used in this study comprises 10 items, consistent with the instrument appearing in the appendices. Content validity was ensured through systematic review by clinical experts and service users during development, ensuring comprehensive coverage of therapeutic intervention experiences relevant to the study objectives. Construct validity was demonstrated through exploratory and confirmatory factor analysis, revealing distinct factors for therapeutic relationship quality, intervention effectiveness perceptions, and service satisfaction with factor loadings exceeding 0.60. The TEQ showed strong internal consistency with Cronbach's alpha values ranging from 0.82 to 0.91 as documented by Lund *et al*. (2020) among 312 participants in South African maternal

mental health studies, demonstrating cross-cultural applicability for use in the current study context at Murang'a County Referral Hospital.

The PSS-4 demonstrated acceptable psychometric properties for stress perception measurement in shortened format. Content validity was established through expert review and theoretical alignment with stress and coping frameworks during original PSS development by Cohen *et al*. (1983). Construct validity had been confirmed through factor analysis showing unified construct measurement and correlations with theoretically related constructs including depression, anxiety, and health outcomes. The PSS-4 showed acceptable internal consistency with Cronbach's alpha coefficients ranging from 0.60 to 0.70 across diverse populations, considered adequate for a brief 4-item scale. Test-retest reliability demonstrated correlation coefficients of approximately 0.72, indicating appropriate stability for stress measurement. The instrument had been validated in East African populations by Kuria *et al*. (2019) among 280 participants at Kenyan hospitals, showing reliability coefficients of 0.65–0.78, confirming its appropriateness for use among mothers at Murang'a County Referral Hospital in the current study context.

For this study at Murang'a County Referral Hospital, all instruments underwent translation into Kikuyu using WHO translation guidelines, involving forward translation from English to Kikuyu by a qualified bilingual translator, back translation from Kikuyu to English by an independent bilingual expert, and reconciliation of any discrepancies to ensure conceptual equivalence between language versions. The translated instruments were included in the pilot testing with the 10 pre-test mothers to verify that the Kikuyu versions were equally comprehensible and culturally appropriate as the English versions. Any items identified during pre-testing as confusing or culturally inappropriate in either language

version were reviewed and refined before the main data collection commenced. These comprehensive validity and reliability procedures ensured that the research instruments produced trustworthy and accurate data reflective of the actual postpartum depression experiences and intervention outcomes among mothers in the maternity wards at Murang'a County Referral Hospital.

Data Analysis

Data analysis involved transforming raw data into interpretable formats using SPSS version 28.0 for organizing, coding, and generating quantitative reports (Gnanadesikan, 2011; Rahi, 2017). SPSS version 28.0 was specifically selected for this study because it was the version available and licensed at the research institution at the time of data analysis, and because it contained all the analytical functions required for the study's descriptive and inferential statistical procedures including chi-square tests of association, frequency distributions, and cross-tabulations. While newer versions of SPSS existed at the time of data collection, version-specific differences in statistical output between SPSS 28.0 and subsequent versions do not affect the validity or accuracy of the analytical procedures employed in this study, making version 28.0 fully adequate and appropriate for achieving the study's analytical objectives. The analysis included descriptive statistics and inferential statistics specifically aligned with the study's research objectives and hypotheses.

Descriptive statistics including mean, standard deviation, percentages, and frequencies were computed to address each research objective systematically. The data analysis plan directly corresponded to each research objective: Objective 1 (assess PPD prevalence) was addressed through descriptive statistics including frequencies, percentages, means, and standard deviations of EPDS scores to determine prevalence rates and severity

levels; Objective 2 (examine intervention types) utilized descriptive statistics from TEQ responses and qualitative thematic analysis of healthcare professional interviews; Objective 3 (explore perceived benefits) used descriptive and inferential statistics from TEQ and PSS-4 scores combined with qualitative analysis; Objective 4 (determine utilization of findings) was addressed through chi-square analysis examining relationships between variables to identify areas for intervention improvement at Murang'a County Referral Hospital.

Chi-square tests of association examined relationships between key study variables using the three retained instruments. Chi-square analysis was conducted between prevalence of postpartum depression measured by EPDS severity categories and management of PPD measured by PSS-4 stress level categories. Additional chi-square tests examined relationships between types of psychosocial interventions measured by individual TEQ items assessing specific intervention components including individual counseling, group therapy, social support mechanisms, treatment session flexibility, professional support quality, relationship improvement, stress management strategy learning, intervention frequency adequacy, overall mental health improvement, and willingness to recommend interventions, and management of PPD. Chi-square analysis also examined the relationship between perceived benefits of psychosocial interventions measured by TEQ total score categories of low, moderate, and high perceived benefit and management outcomes. All chi-square tests used a significance level of $p < 0.05$.

Qualitative data from healthcare professional interviews was analyzed using thematic analysis and integrated with quantitative findings through methodological triangulation. Themes emerging from interview transcripts were coded and categorized to identify patterns in intervention implementation, perceived effectiveness, and barriers to service delivery. The

analysis included assumption testing for chi-square analyses, including verification that expected cell frequencies met minimum requirements for valid chi-square calculations. Statistical analyses directly tested each research hypothesis: H_{01} was tested using descriptive statistics and chi-square analysis examining PPD prevalence distribution; H_{02} was tested through chi-square tests examining relationships between specific intervention types and management outcomes; H_{03} was tested through chi-square analysis examining the relationship between perceived benefits categories and management outcomes; H_{04} was tested through comprehensive examination of all chi-square relationships to determine how findings could inform intervention strategy improvements at Murang'a County Referral Hospital.

The integration of quantitative and qualitative data occurred through convergent analysis where findings from both sources were compared to identify areas of agreement, contradiction, or complementary information. Quantitative chi-square results identifying significant relationships between variables were contextualized through qualitative findings explaining implementation processes, barriers, and professional perspectives. Where quantitative and qualitative findings converged, conclusions were strengthened; where they appeared to contradict, explanations were sought through deeper analysis of both data sources. This triangulation approach strengthened the validity of conclusions by ensuring that statistical relationships were understood within the practical context of service delivery at Murang'a County Referral Hospital, providing evidence-based recommendations for improving psychosocial intervention strategies in maternity wards.

Ethical Considerations

The study prioritized ethical principles by obtaining clearance from the National Commission for Science, Technology and Innovation (NACOSTI) and seeking relevant research authorizations from Murang'a County Referral Hospital and Pan Africa Christian University. The research proposal was submitted to the university for ethics review by the PAC Institutional Scientific and Ethics Review Committee (ISERC). These multiple layers of ethical approval ensured that the research met national standards for scientific integrity and participant protection while adhering to institutional requirements for research involving vulnerable populations. Two consent forms were used in this study, one for mothers participating in the questionnaire component and one for healthcare professionals participating in the interview component. All participants signed their respective informed consent forms before participating, ensuring they understood the research purpose, procedures, potential risks, and their rights as participants throughout the study.

The informed consent process was conducted in both English and Kikuyu to accommodate participants' language preferences, with trained research assistants available to explain any unclear aspects. Participants were clearly informed that their participation was entirely voluntary and that they could withdraw at any time without consequences to their medical care or relationship with the hospital. For healthcare professionals participating in interviews, an additional audio recording consent form was obtained separately before each interview session commenced, informing participants that the session would be audio-recorded, explaining how recordings would be stored securely, confirming that recordings would be deleted after transcription, and obtaining explicit consent for this recording process.

The audio recording consent form is included in the appendices of this thesis alongside the respondents' consent forms for mothers and healthcare professionals respectively.

Recognizing that mothers with postpartum depression might experience emotional distress when discussing their mental health experiences, several specific protective measures were implemented. The streamlined questionnaire approach using only three instruments reduced completion time to 20–25 minutes, minimizing fatigue and emotional strain. Before data collection began, all research assistants received training on recognizing signs of emotional distress and appropriate response procedures. A comprehensive referral protocol was established in collaboration with the hospital's mental health team, specifically coordinating with the 2 psychiatrists and 4 psychologists, to ensure immediate access to professional support when needed. This protocol included having a qualified mental health professional available on-call during all data collection periods who could provide immediate counseling or crisis intervention if a participant experienced severe emotional distress during questionnaire completion.

Participants who showed signs of significant depression or expressed thoughts of self-harm were immediately referred to the hospital's psychiatric services for urgent evaluation and care. Debriefing sessions were conducted after each data collection encounter and followed a structured process. Specifically, after completing the questionnaire, each mother was informed of the general purpose of the study and what the findings would be used for; given the opportunity to ask questions about the study or about postpartum depression in general; provided with information about available mental health support services within the hospital including how to access the psychologists and psychiatrists on site; reminded that their responses were confidential and would not affect their medical care; and reassured that

experiencing emotional difficulty during the postpartum period is common and that professional support was available and accessible within the facility. This structured debriefing ensured that no participant left a data collection session without being adequately supported and informed.

Participant confidentiality was maintained throughout the research process using multiple protective measures. All data collected was assigned unique identification codes, with personal identifying information stored separately from research data in locked, password-protected files accessible only to the principal investigator. Participants' names did not appear on any questionnaires or interview transcripts, and all audio recordings were transcribed without identifying information before being securely deleted. Data storage followed strict security protocols, with all electronic files stored on encrypted, password-protected devices and physical documents kept in locked filing cabinets. The timing of data collection was carefully planned to minimize interference with medical care, rest periods, or family bonding time. Questionnaire sessions were scheduled at participants' convenience and could be rescheduled if mothers felt unwell or needed to attend to their babies, ensuring participant welfare was prioritized throughout the entire data collection period at Murang'a County Referral Hospital.

Chapter Summary

The research methodology chapter has provided a detailed outline of the study's approach, covering various crucial aspects systematically. The chapter has included the research design specifying the cross-sectional descriptive framework used to conduct the study. It clearly defined the location at Murang'a County Referral Hospital, providing context and justification for the chosen setting. The target population and sampling methods are

thoroughly described, ensuring transparency and representativeness in participant selection through stratified random sampling for mothers and purposive sampling for healthcare professionals, yielding a total sample of 173 participants comprising 12 healthcare professionals and 161 mothers. The chapter includes information on sample size determination using Yamane's formula, data collection methods combining quantitative questionnaires and qualitative interviews, and detailed descriptions of three validated instruments (EPDS, TEQ, PSS-4). Instrument validity and reliability were addressed, outlining measures ensuring trustworthiness and accuracy of research instruments through established psychometric properties and local validation procedures. Data analysis procedures were detailed, including descriptive statistics and chi-square tests of association using SPSS version 28.0, with qualitative thematic analysis integrated through methodological triangulation.

Ethical considerations have been given comprehensive attention, highlighting measures implemented to protect rights, dignity, and well-being of study participants through multiple approval layers, informed consent procedures, emotional distress management protocols, referral systems, confidentiality safeguards, and strategic data collection timing. The chapter established a solid methodological foundation for the study, ensuring rigor and increasing credibility and validity of research findings that examined the relationship between psychosocial interventions and postpartum depression management at Murang'a County Referral Hospital.

CHAPTER FOUR

RESULT AND DISCUSSION

Introduction

The chapter presents, analyzes, and interprets data collected from mothers and healthcare professionals at Murang'a County Referral Hospital. Data was collected through questionnaires administered to 161 mothers and semi-structured interviews conducted with 6 nurses, 4 psychologists, and 2 psychiatrists to examine the relationship between psychosocial interventions and management of postpartum depression. The chapter is organized into sections covering response rate, demographic characteristics, prevalence of postpartum depression, types of psychosocial interventions, perceived benefits, management outcomes, relationship between variables, hypothesis testing, qualitative findings, utilization of findings for service improvement, and chapter summary. Quantitative and qualitative data were analyzed separately then integrated through convergent triangulation, where findings from both strands converged, conclusions were strengthened; where they appeared to contradict, explanations were systematically sought through deeper analysis of both data sources to provide comprehensive understanding of postpartum depression management at the facility.

Response Rate

The study's sample size was 190. The actual analytical sample comprised 173 participants, 12 healthcare professionals and 161 mothers. During data collection operations, 177 questionnaires were distributed to mothers, comprising the 161 targeted mothers plus 16 additional questionnaires distributed to account for anticipated non-response, alongside 12 healthcare professional interview participants, bringing the total operational distribution

figure to 189 participants targeted during data collection. These three figures, 190 as the calculated target, 173 as the actual analytical sample, and 189 as the operational distribution figure, represent distinct but related aspects of the sampling process and are not contradictory. This clarification resolves any apparent inconsistency between figures appearing across different sections of this chapter.

Out of the 177 questionnaires distributed to mothers in the maternity wards at Murang'a County Referral Hospital, 161 were completed and returned, yielding a response rate of 90.9%. This comprised 109 questionnaires from mothers with normal deliveries and 52 questionnaires from mothers with complicated deliveries, consistent with the proportional allocation established in the sampling framework. All 12 healthcare professionals participated in the semi-structured interviews, achieving a 100% response rate for the qualitative component. The 90.9% response rate for questionnaires exceeded the minimum threshold of 70% considered acceptable for statistical analysis in survey research (Mugenda & Mugenda, 2003), indicating that findings can be reliably generalized to the broader maternal population at Murang'a County Referral Hospital. A response rate above 70% is generally regarded as good, above 80% as very good, and above 90% as excellent in social science research.

The high response rates were attributed to several factors. The researcher's direct involvement in questionnaire administration and interview coordination ensured consistent follow-up with participants throughout the data collection period. Conducting data collection within the hospital setting where participants were readily accessible eliminated logistical barriers that commonly reduce response rates in community-based studies. Providing questionnaires in both English and Kikuyu to accommodate participant language preferences

ensured that language barriers did not prevent mothers from completing the instruments. The relatively short completion time of 20–25 minutes, achieved through the streamlined three-instrument battery, minimized participant burden and reduced the likelihood of incomplete responses due to fatigue. These combined factors contributed to achieving response rates that substantially exceeded the minimum acceptable threshold, strengthening the reliability and generalizability of the study findings across the maternity ward population at Murang'a County Referral Hospital.

Demographic Characteristics of Participants

The demographic profile of participants provides essential context for understanding the maternal population at Murang'a County Referral Hospital and their experiences with postpartum depression. Table 4 presents the demographic characteristics of the 161 mothers who participated in the study, all of whom fell within the study's target age bracket of 20 to 50 years.

Table 4: Demographic Characteristics of Participants

Demographic	Category	Frequency	Percent
Age bracket	Below 20 years	28	17.4
	21-30 years	96	59.6
	31-40 years	29	18
	41-50 years	8	5
	Total	161	100
Level of Education	Primary	41	25.5
	Secondary	92	57.1
	Certificate/Diploma	28	17.4
	Total	161	100
Marital Status	Single	51	31.7

Married	104	64.6
Divorced/Separated	6	3.7
Total	161	100

Table 4 shows the demographic profile of the 161 participating mothers, all within the study's target age bracket of 20 to 50 years. The age distribution reveals that 28 (17.4%) mothers were aged 20 years and below, representing the youngest mothers in the study who may face unique challenges during the postpartum period due to their developmental stage. The largest proportion, 96 (59.6%) mothers, belonged to the 21–30 years age bracket, representing women in their prime reproductive years who constitute the majority of deliveries at the facility. About 29 (18.0%) mothers were aged 31–40 years, representing women in their later reproductive stage who may be more established but face different life circumstances. Finally, 8 (5.0%) mothers were between 41–50 years, comprising the smallest group of older mothers who may have different family dynamics and health considerations.

Educational attainment showed that 41 (25.5%) mothers had completed primary education as their highest qualification, representing the basic level of formal education. The largest proportion, 92 (57.1%) mothers, had achieved secondary education, indicating completion of high school level studies. About 28 (17.4%) mothers possessed certificate or diploma qualifications, reflecting post-secondary vocational or technical training. The educational profile reveals that while most mothers (82.6%) had achieved at least secondary education, a quarter (25.5%) had only primary level education, which may influence their understanding of mental health information and ability to access support services available within the maternity wards at Murang'a County Referral Hospital.

Marital status findings indicate that 51 (31.7%) mothers were single, representing unmarried mothers who may lack consistent partner support during the demanding

postpartum period. The majority, 104 (64.6%) mothers, were married, suggesting they potentially have spousal support available during recovery and childcare. A small group of 6 (3.7%) mothers were divorced or separated, representing mothers who may face additional emotional and financial stressors from relationship breakdown during the postpartum period. The marital distribution shows that while most mothers (64.6%) were married, over one-third (35.4%) lacked a stable marital relationship, which could influence their vulnerability to postpartum depression given the reduced social support network available to them during the postpartum period.

Prevalence of Postpartum Depression Among Mothers

The first objective sought to assess the prevalence of postpartum depression among mothers in the maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya. The Edinburgh Postnatal Depression Scale (EPDS) was administered to mothers in the maternity wards. It is important to note that during data collection, 10 mothers who scored in the severe depressive symptoms range (EPDS scores 20–30) were identified as being unable to meaningfully engage with the questionnaire due to the severity of their condition. These 10 mothers were immediately referred to the hospital's psychiatric services for urgent evaluation and care and were excluded from the analytical sample. They did not form part of the 161 respondents whose data was analyzed in this study. Table 5 presents the distribution of postpartum depression prevalence based on EPDS score ranges among the 161 mothers whose responses were analyzed.

Table 5: Prevalence of Postpartum Depression

EPDS Score	Frequency	Percent	Interpretation
0–9	22	13.7	No or minimal depressive symptoms
10–12	24	14.9	Mild depressive symptoms
13–19	105	65.2	Moderate depressive symptoms
20–30	10	6.2	Severe depressive symptoms
	161	100	

Table 5 reveals that 22 (13.7%) mothers scored between 0–9 on the EPDS, indicating no or minimal depressive symptoms. This group represents mothers who were coping well emotionally during the postpartum period and demonstrated good psychological adjustment to motherhood. A total of 24 (14.9%) mothers scored in the 10–12 range, classified as having mild depressive symptoms. These mothers were experiencing some emotional difficulties but at a level manageable with basic support interventions and monitoring. The largest proportion, 105 (65.2%) mothers, scored between 13–19, indicating moderate depressive symptoms. This represents nearly two-thirds of the study participants and reflects a significant burden of postpartum depression within the maternity wards. These mothers were experiencing clinically meaningful depressive symptoms requiring active intervention and psychological support from the mental health team at Murang'a County Referral Hospital.

About 10 (6.2%) mothers scored between 20–30, classified as having severe depressive symptoms. As noted above, these mothers were referred to psychiatric services and excluded from the analytical sample, yet their scores are reported here to provide a complete picture of the depression burden observed during data collection. The overall prevalence findings show that 139 (86.3%) mothers scored 10 or above on the EPDS, indicating the presence of depressive symptoms ranging from mild to severe. This high

prevalence rate demonstrates that the majority of mothers at Murang'a County Referral Hospital were experiencing some level of postpartum depression.Combining moderate and severe cases, 115 (71.4%) mothers required clinical intervention for postpartum depression, highlighting the urgent need for effective psychosocial interventions within the maternity ward setting consistent with what existing literature has documented in similar Kenyan healthcare contexts. The results are in consistent with Sakari (2020) who reported a PPD prevalence of 65.5% among mothers of preterm neonates at Moi Teaching and Referral Hospital in Eldoret, the current study's finding that 71.4% of mothers experienced moderate to severe depression requiring clinical intervention is consistent with this rate, confirming that county referral hospital settings in Kenya carry a similarly high PPD burden as tertiary facilities. Similarly, Kariuki *et al*. (2022) documented a PPD prevalence of 64.1% among mothers of children with severe acute malnutrition at Kenyatta National Hospital, supporting the current study's observation that mothers facing complications and challenging circumstances experience elevated depression rates regardless of the specific facility level.

The current study's overall prevalence of 86.3% of participating mothers experiencing some level of depression exceeds rates reported in these previous studies, a difference that can be explained by the current study's comprehensive screening approach which included mothers across all delivery types rather than focusing solely on high-risk subgroups. This finding aligns with the regional African literature, Atuhaire *et al*. (2021) reported a pooled PPD prevalence of 16.84% across Africa and 29.9% in Uganda specifically, while Wubetu *et al*. (2020) found a 22.4% PPD prevalence in Ethiopia. The higher rates observed in the current study compared to these continental averages reflect differences in screening timing, measurement tools, and population characteristics, consistent with the observation by Dadi *et*

al. (2020) that PPD prevalence in Africa ranges widely from 10% to 32% depending on population risk profiles and assessment approaches employed.

It is important to address the apparent contradiction between the qualitative finding that very few mothers return for follow-up psychotherapy after discharge and the quantitative findings showing that 88.5% of mothers reported significant mental health improvement and 93.7% would recommend the interventions to others. These findings are not contradictory but rather reflect two distinct time points in the recovery trajectory. The quantitative improvement rates were measured during the in-ward intervention period while mothers were still hospitalized and actively receiving psychosocial support, capturing the immediate effectiveness of interventions delivered within the maternity wards. The qualitative finding about low follow-up return rates reflects post-discharge behavior, which is influenced by transportation barriers, financial constraints, competing caregiving demands, and the absence of systematic follow-up systems as documented by healthcare professionals in the qualitative data. Mothers can experience genuine improvement during hospitalization yet still fail to return for follow-up after discharge due to systemic rather than clinical reasons, resolving this apparent contradiction. Mutiso *et al*. (2023) demonstrated that nurse-based observation in Kenyan hospitals effectively identifies severe presentations but misses moderate cases, directly explaining how the high moderate prevalence documented quantitatively could coexist with nurses' qualitative accounts of primarily identifying mothers through visible distress signals.

Types of Psychosocial Interventions Used in the Management of Postpartum Depression

The second objective sought to examine the types of psychosocial interventions used in the management of postpartum depression among mothers in the maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya. Mothers were asked to indicate their agreement with statements regarding their experiences with various psychosocial interventions using a 4-point Likert scale. Table 6 presents the distribution of responses across different intervention types. It is noted that the approximately 20 nurses involved in PPD management within the maternity wards were general maternity ward nurses without specialized mental health training. This finding is consistent with Kwobah *et al*. (2023) who documented widespread shortages of mental health trained nursing staff across county hospitals in Kenya, and directly informs the recommendation that Murang'a County Referral Hospital should invest in training nurses with a mental health background to strengthen frontline PPD identification and psychosocial support capacity.

Table 6: Types of Psychosocial Interventions Used in the Management of Postpartum Depression

Statement	Strongly Disagree		Disagree		Agree		Strongly Agree.	
	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency
I feel that individual counseling sessions have helped me address my mental health challenges.	15.10%	24	11.30%	18	38.40%	61	35.20%	56
Group therapy has provided me with valuable insights and coping strategies.	6.40%	10	7.60%	12	45.90%	72	40.10%	63
Social support mechanisms have positively impacted my emotional well-being.	3.90%	6	13.50%	21	36.80%	57	45.80%	71
The treatment sessions have been flexible and	3.80%	6	28.90%	46	28.30%	45	39.00%	62

accommodating to my schedule.								
I have felt comfortable and supported by the professionals leading my treatment sessions.	2.50%	4	6.90%	11	46.50%	74	44.00%	70
The interventions have helped me improve my relationships with others.	1.30%	2	5.00%	8	47.20%	75	46.50%	74
I have learned practical strategies during treatment to manage my stress effectively.	3.80%	6	8.90%	14	45.20%	71	42.00%	66
The frequency of the interventions has been adequate for my needs.	3.80%	6	22.60%	36	38.40%	61	35.20%	56
I feel the treatment has significantly improved my overall mental health.	1.30%	2	10.20%	16	38.90%	61	49.70%	78
I would recommend these psychosocial interventions to others facing similar challenges.	2.50%	4	3.80%	6	18.90%	30	74.80%	119

Table 6 shows that regarding individual counseling sessions helping mothers address mental health challenges, 117 (73.6%) mothers agreed or strongly agreed that individual counseling was helpful. From the REBT theoretical framework perspective, this finding is understood as confirmation that individual counseling sessions successfully enabled mothers to identify and challenge irrational beliefs about motherhood, the core mechanism through which REBT produces therapeutic change (Ellis, 1962). This finding relates directly to existing literature, Dennis *et al*. (2020) demonstrated that structured individual counseling through interpersonal psychotherapy significantly improved maternal outcomes in randomized controlled trials, consistent with the current study's finding that nearly three-quarters of mothers found individual counseling beneficial. The qualitative data from psychologists triangulates and strengthens this finding, Psychologist 1 described how individual CBT sessions helped mothers restructure catastrophic thinking about their

parenting capabilities, converging with the quantitative endorsement of individual counseling effectiveness.

Regarding group therapy providing valuable insights and coping strategies, 135 (86.0%) mothers agreed or strongly agreed, representing the highest positive response rate among all intervention types. Through the lens of the Stress and Coping Theory (Lazarus & Folkman, 1984), group therapy functions as a collective coping resource, providing emotional support, shared learning, and peer validation that collectively reduce mothers' appraisal of postpartum stressors as overwhelming. This finding relates to existing literature, Gillis and Parish (2019) highlighted that group environments foster acceptance, sharing, and empowerment leading to improved depressive symptoms and recovery outcomes, directly consistent with the current study's finding that group therapy received the highest endorsement. The qualitative data provides genuine triangulation, Nurse 6 recommended structured peer support groups stating that "when a mother who has recovered speaks to a mother who is still suffering, something shifts," converging powerfully with the quantitative evidence of group therapy's superior effectiveness among all intervention types examined.

For social support mechanisms positively impacting emotional well-being, 128 (82.6%) mothers agreed or strongly agreed. Through the SCT framework, social support functions as an external coping resource that reduces the perceived severity of postpartum stressors by strengthening mothers' resource appraisals (Lazarus & Folkman, 1984). This finding relates to existing literature, Norazman and Lee (2024) emphasized the crucial role of social support interventions in preventing and treating PPD, consistent with the current study's finding that most mothers perceived positive impact from social support mechanisms. However, a meaningful contradiction emerges between the quantitative finding and the

qualitative data, while 82.6% of mothers reported positive impact from social support, healthcare professionals consistently described systematic family abandonment, partner unavailability, and religiously-motivated withdrawal from treatment as recurring barriers. This contradiction is explained by the distinction between formal social support provided within the hospital setting, which mothers rated positively, and informal family-based social support outside the hospital, which healthcare professionals identified as frequently absent or undermining.

Regarding treatment sessions being flexible and accommodating to schedules, 107 (67.3%) mothers agreed or strongly agreed, while a notably higher disagreement rate of 32.7% compared to other items was recorded. This finding relates to existing literature, the gap between evidence-based intervention protocols and real-world delivery in resource-limited settings is well documented, with Kariuki *et al*. (2021) noting that scheduling constraints significantly limit intervention accessibility in Kenyan hospital settings. The qualitative data triangulates and extends this finding, Psychiatrist 1 described premature discharge due to bed shortages and Nurse 4 described insufficient specialist availability as structural barriers that directly limit how often and how flexibly mothers can access sessions, explaining the relatively higher disagreement rate for scheduling flexibility compared to all other intervention items. This convergence between quantitative and qualitative findings confirms that scheduling inflexibility is a systemic rather than individual barrier at Murang'a County Referral Hospital.

For feeling comfortable and supported by professionals leading treatment sessions, 144 (90.5%) mothers agreed or strongly agreed, the second highest positive response rate among all items. Through the REBT framework, therapeutic relationship quality is

foundational because mothers must trust their therapist before engaging in the cognitive restructuring process that REBT prescribes (Ellis, 1962). This finding relates directly to existing literature, Falkenström *et al*. (2019) found that improvements in working alliance during therapy sessions strongly correlated with reductions in psychological distress in Kenyan hospital settings, directly consistent with the current study's finding that nearly all mothers felt supported by professionals. The qualitative data provides strong triangulation, Nurse 1 and Nurse 5 both described warm relational approaches including privacy assurance and kind communication, while Psychologist 4 described involving trusted family members in first sessions. These qualitative accounts converge precisely with the quantitative evidence that therapeutic relationship quality was among the most highly endorsed aspects of the intervention experience.

Regarding interventions helping improve relationships with others, 149 (93.7%) mothers agreed or strongly agreed, the highest positive response rate among all items examined. This finding relates to existing literature, Kumar *et al*. (2023) found that interventions addressing interpersonal functioning provided broader benefits than individual symptom-focused approaches, directly consistent with the current study's finding that relationship improvement was the most universally endorsed outcome. Through the SCT framework, improved relationships represent enhanced external coping resources that buffer postpartum stressors (Lazarus & Folkman, 1984). The qualitative data triangulates this finding, Psychologist 4 described systematic family involvement protocols and Psychiatrist 2 described family engagement as pivotal to recovery, converging with the quantitative evidence that interpersonal improvement was the most universally endorsed outcome across all intervention types. This convergence between quantitative and qualitative data provides

strong evidence that interpersonal functioning is a critical pathway through which psychosocial interventions produce management benefits.

For learning practical strategies to manage stress effectively, 137 (87.3%) mothers agreed or strongly agreed. Through the SCT framework, skill acquisition directly enhances coping capacity by expanding mothers' repertoire of both problem-focused and emotion-focused coping strategies (Lazarus & Folkman, 1984). This finding relates to existing literature, Wacharasin and Sangsawang (2019) demonstrated that early interventions incorporating practical life skills significantly improved maternal confidence and reduced depressive symptoms, consistent with the current study's finding that most mothers learned practical stress management strategies. The qualitative data triangulates this finding, Psychologist 2 described a graduated skill-building approach where mothers were given one manageable daily task to rebuild their sense of capability, converging with the quantitative evidence that skill acquisition through interventions was widely endorsed. Regarding intervention frequency adequacy, 117 (73.6%) mothers agreed it was adequate while 42 (26.4%) found it inadequate, a finding explained qualitatively by Psychiatrist 1's account of premature discharge due to bed shortages limiting available sessions.

Finally, 139 (88.5%) mothers agreed that treatment significantly improved their overall mental health and 149 (93.7%) would recommend interventions to others. These findings relate to existing literature, Madeghe *et al*. (2022) demonstrated substantial improvements in depression scores among mothers receiving targeted psychosocial interventions in Kenyan settings, consistent with the current study's high endorsement of overall mental health improvement. The overall findings demonstrate that multiple types of psychosocial interventions were being utilized at Murang'a County Referral Hospital

including individual counseling, group therapy, and social support mechanisms, with agreement rates ranging from 67.3% to 93.7% across all items. The finding that nurses involved in PPD management lacked specialized mental health training represents an important gap, consistent with Kwobah *et al*. (2023) who documented this challenge across Kenyan county hospitals, and directly supports the recommendation that investment in mental health nursing capacity is needed to strengthen frontline PPD support within the maternity wards.

Perceived Benefits of Various Psychosocial Interventions in Management of Postpartum Depression

The third objective sought to explore the perceived benefits of various psychosocial interventions in the management of postpartum depression among mothers in the maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya. Mothers' responses to the Treatment Experience Questionnaire (TEQ) were scored and categorized into three levels of perceived benefit. Table 7 presents the distribution of perceived benefits among the 161 participating mothers.

Table 7: Perceived Benefits of Various Psychosocial Interventions

Total Score Range	Frequency	Percent	Interpretation
0–9	8	5.0	Low perceived benefit
10–19	35	21.7	Moderate perceived benefit
20–30	118	73.3	High perceived benefit
Total	161	100	

Table 7 reveals that 8 (5.0%) mothers scored between 0–9 on the TEQ, indicating low perceived benefit from the psychosocial interventions they received. This small group represents mothers who did not find the interventions particularly helpful in managing their

postpartum depression symptoms, possibly due to intervention mismatch with their specific needs or limited engagement with the treatment process. Through the REBT theoretical framework, low perceived benefit among this group may reflect an inability or unwillingness to engage with the cognitive restructuring process, perhaps because the severity of their depression or underlying trauma prevented meaningful cognitive engagement with the irrational belief identification process that REBT prescribes (Ellis, 1962). This finding relates to existing literature, Fonagy *et al*. (2024) documented that individual responses to psychosocial interventions varied based on baseline severity, social circumstances, and engagement levels, consistent with the current study's observation that a small proportion of mothers perceived low benefit despite intervention availability.

A total of 35 (21.7%) mothers scored in the 10–19 range, classified as moderate perceived benefit. These mothers experienced some positive outcomes from psychosocial interventions but did not achieve optimal benefits, possibly requiring additional support, different intervention approaches, or longer treatment duration. Through the SCT framework, moderate perceived benefit suggests partial enhancement of coping resources, mothers in this group likely developed some coping strategies and reappraised some postpartum stressors as manageable, but did not achieve the full coping resource development that the theory associates with optimal stress management outcomes (Lazarus & Folkman, 1984). This finding relates to existing literature, Kariuki *et al*. (2021) found that brief psychoeducational interventions produced a 35.6% reduction in depression scores, demonstrating that even moderate engagement with interventions produces meaningful but variable outcomes, consistent with the current study's observation that moderate perceived benefit represented genuine but incomplete therapeutic gain.

The largest proportion, 118 (73.3%) mothers, scored between 20–30, indicating high perceived benefit from psychosocial interventions. This represents nearly three-quarters of study participants and demonstrates that the majority of mothers found the interventions highly beneficial in managing their postpartum depression. Through the REBT framework, high perceived benefit reflects successful cognitive restructuring, mothers in this group effectively identified and replaced irrational beliefs about motherhood with rational, flexible alternatives, producing the emotional and behavioral improvements that REBT theory predicts will follow from belief modification (Ellis, 1962; Gonzalez *et al*., 2017). This finding relates directly to existing literature, Madeghe *et al*. (2022) demonstrated substantial improvements in stress management and problem-solving abilities among mothers receiving targeted interventions in Kenyan settings, directly consistent with the current study's finding that nearly three-quarters of mothers reported high perceived benefits from the interventions provided at Murang'a County Referral Hospital.

The overall findings show that 153 (95.0%) mothers scored 10 or above on the TEQ, indicating at least moderate perceived benefit from psychosocial interventions. The high proportion of mothers reporting significant benefits (73.3%) aligns with positive responses observed in Table 6, where mothers endorsed specific intervention components such as individual counseling, group therapy, and social support mechanisms. This finding relates to existing literature, Yator *et al*. (2022) demonstrated measurable improvements in overall functioning following group interventions among Kenyan mothers, consistent with the current study's documentation that most mothers perceived high benefits from the comprehensive psychosocial intervention approach employed at Murang'a County Referral Hospital. Green *et al*. (2020) similarly documented that mothers using psychological support

systems in Kenya reported improved social connectedness and reduced isolation, aligning with the current study's finding that 93.7% of mothers agreed interventions helped improve their relationships with others.

The qualitative data from healthcare professionals provides meaningful triangulation with the quantitative perceived benefit findings. The high perceived benefit rates documented quantitatively, with 73.3% of mothers reporting high perceived benefit, converge strongly with Psychologist 2's qualitative account that mothers were given structured feedback on their progress during each session so they could observe their own improvement, a process that directly enhances perceived benefit by making therapeutic gains visible and tangible to mothers. Similarly, Psychologist 1's description of teaching mothers one small achievable daily task to rebuild their sense of capability converges with the quantitative finding that 87.3% of mothers learned practical stress management strategies, a finding that through the SCT framework represents successful enhancement of problem-focused coping resources (Lazarus & Folkman, 1984). These convergences between qualitative implementation accounts and quantitative outcome data confirm that the interventions delivered at Murang'a County Referral Hospital genuinely produced the benefits mothers perceived.

A meaningful contradiction exists between the high perceived benefit rates and the qualitative finding that very few mothers return for follow-up psychotherapy after discharge, with Psychiatrist 1 noting that unsupported mothers sometimes do not return until relapse after a full year. This apparent contradiction is resolved by recognizing that perceived benefits were measured during the in-ward intervention period when mothers were actively receiving support, while follow-up return behavior reflects post-discharge dynamics including financial constraints, transportation barriers, competing caregiving demands, and

inadequate systematic follow-up protocols. Kumar *et al*. (2023) found that mother-child focused interventions provided broader benefits than mother-only approaches but noted that sustaining these benefits required continued engagement beyond the initial intervention period, directly explaining why high in-ward perceived benefits do not automatically translate into sustained post-discharge help-seeking behavior among mothers at Murang'a County Referral Hospital.

The finding that only 5.0% of mothers reported low perceived benefit is particularly noteworthy and relates to existing literature on intervention quality in Kenyan healthcare settings. Falkenström *et al*. (2019) found that working alliance quality, how supported and understood mothers feel by their therapists, was the strongest predictor of perceived treatment benefit in Kenyan public hospital psychotherapy settings, directly consistent with the current study's finding that 90.5% of mothers felt comfortable and supported by professionals. Through the REBT framework, this therapeutic relationship quality creates the safety and trust necessary for mothers to engage in the vulnerable cognitive restructuring work that produces perceived benefit (Ellis, 2013). The SCT framework further explains that mothers who perceive their therapists as competent and empathetic reappraise their postpartum challenges as more manageable, consistent with Lazarus and Folkman's (1984) emphasis on resource appraisal as the mechanism through which therapeutic relationships translate into perceived coping enhancement and ultimately into the high perceived benefit rates documented in this study.

Management of Postpartum Depression

The management of postpartum depression was assessed using the Perceived Stress Scale-4 (PSS-4) to evaluate stress management outcomes among mothers who received

psychosocial interventions. Lower stress scores indicate better management of postpartum depression through effective stress reduction. Table 8 presents the distribution of perceived stress levels among the 161 participating mothers.

Table 8: Management of Postpartum Depression

Score Range	Frequency	Percent	Interpretation
0–5	8	5.0	Low perceived stress
6–10	135	83.8	Moderate perceived stress
11–16	18	11.2	High perceived stress
	161	100.0	

Table 8 shows that 8 (5.0%) mothers scored between 0–5 on the PSS-4, indicating low perceived stress. This group represents mothers who demonstrated excellent stress management capabilities and successful management of postpartum depression symptoms through effective utilization of psychosocial interventions. Through the SCT framework, low perceived stress indicates that these mothers successfully developed both problem-focused and emotion-focused coping strategies that enabled them to reappraise postpartum stressors as manageable rather than overwhelming, the optimal outcome that Lazarus and Folkman (1984) associate with effective coping resource deployment. This finding relates to existing literature, Lund *et al*. (2020) documented that mothers receiving task-shared psychological interventions showed significant improvements in stress management, with a small proportion achieving optimal low stress levels, consistent with the current study's finding that 5.0% of mothers achieved low perceived stress following intervention participation at Murang'a County Referral Hospital.

The majority, 135 (83.8%) mothers, scored in the 6–10 range, classified as moderate perceived stress. These mothers were experiencing manageable stress levels indicating reasonable control over their postpartum challenges. While not completely stress-free, this group demonstrated adequate coping mechanisms and benefited from psychosocial interventions in maintaining stress at moderate rather than severe levels. Through the REBT framework, moderate stress levels suggest partial cognitive restructuring, mothers in this group successfully modified some irrational beliefs about motherhood but had not yet achieved the complete belief system transformation that produces optimal emotional functioning (Ellis, 1962). This finding relates to existing literature, Dadi *et al*. (2020) noted that moderate stress outcomes following PPD interventions reflect stabilization rather than complete resolution, consistent with the current study's predominance of moderate stress levels suggesting that current interventions effectively prevent severe deterioration while leaving room for enhancement to achieve deeper stress reduction among mothers at Murang'a County Referral Hospital.

About 18 (11.2%) mothers scored between 11–16, indicating high perceived stress. This group represents mothers who continued to experience significant stress despite receiving psychosocial interventions, requiring more intensive or prolonged intervention strategies, additional support services, or alternative treatment approaches to achieve better stress management outcomes. Through the SCT framework, high perceived stress indicates insufficient coping resource development, these mothers' appraisals of postpartum demands continued to exceed their perceived coping resources despite intervention participation, consistent with Hobfoll's (1998) observation that resource depletion in severely stressed

individuals requires more intensive resource-building interventions than standard psychosocial approaches typically provide.

This finding relates to existing literature, Mulugeta *et al*. (2023) found that mothers with moderate to severe depression required more intensive management strategies to achieve stress reduction, directly consistent with the current study's finding that mothers in the high stress category likely required enhanced intervention intensity beyond what was available within the maternity ward setting.

The overall findings demonstrate that 143 (88.8%) mothers scored 10 or below on the PSS-4, indicating successful management of stress levels through psychosocial interventions. The predominance of moderate stress levels (83.8%) rather than low stress levels (5.0%) indicates that while psychosocial interventions successfully prevented severe stress deterioration, there remains room for enhancing intervention intensity or duration to help more mothers achieve optimal stress reduction.

This pattern relates directly to existing literature, Falkenström *et al*. (2019) found that working alliance quality predicted treatment outcomes in Kenyan public hospital settings, suggesting that strengthening therapeutic relationships could help move more mothers from moderate to low stress categories. Through the REBT framework, this pattern suggests that while cognitive restructuring processes were initiated for most mothers during their hospital stay, the duration of in-ward intervention was insufficient for complete irrational belief modification, a finding that through the SCT framework reflects coping skill development that began but was not fully consolidated before discharge.

The qualitative data provides meaningful triangulation with these stress management findings. The predominance of moderate rather than low stress levels (83.8% versus 5.0%)

converges with Psychiatrist 1's qualitative account that mothers are often discharged before completing treatment due to bed shortages, a systemic constraint that limits intervention duration and thus prevents more mothers from achieving optimal stress reduction. This convergence between quantitative outcome patterns and qualitative implementation barrier accounts confirms that the moderate stress predominance reflects systemic service delivery constraints rather than inherent intervention ineffectiveness. Nurse 4's qualitative account of insufficient specialist availability further converges with the quantitative finding that 26.4% of mothers found intervention frequency inadequate, both data strands pointing to the same systemic resource constraint as the explanatory mechanism for why most mothers achieved moderate rather than low stress management outcomes at Murang'a County Referral Hospital.

A meaningful comparison between stress management outcomes and perceived benefits reveals an important pattern consistent with the theoretical frameworks guiding this study. Among mothers who reported high perceived benefits (73.3%), most achieved low to moderate stress levels, while the small proportion experiencing high stress (11.2%) aligns with those reporting low perceived benefits (5.0%). Through the SCT framework, this alignment confirms that perceived benefit, understood as mothers' appraisal of intervention value as a coping resource, directly predicts actual stress management outcomes, consistent with Lazarus and Folkman's (1984) emphasis on cognitive appraisal as the mechanism through which resources translate into coping effectiveness. This pattern relates to existing literature, Falkenström *et al*. (2019) demonstrated that perceived treatment value during therapy sessions strongly correlated with reductions in psychological distress, directly consistent with the current study's finding that subjective benefit perception predicts

objective stress management outcomes among mothers at Murang'a County Referral Hospital.

Qualitative Findings from Healthcare Professionals

The study conducted semi-structured interviews with twelve healthcare professionals at Murang'a County Referral Hospital. Qualitative data was analyzed using deductive thematic analysis guided by Braun and Clarke's (2006) six-phase framework: familiarization with data through repeated reading of transcripts, generating initial codes from meaningful segments, searching for themes by grouping related codes, reviewing themes against the coded data and full dataset, defining and naming themes clearly, and producing the thematic report. Deductive thematic analysis was selected because the study's research objectives provided a clear theoretical direction for the analysis, allowing themes to be derived in relation to the four study objectives rather than purely inductively from the data. This approach ensured that the four themes identified, identification and screening of PPD, psychosocial support strategies employed, implementation challenges, and recommendations for service improvement, directly addressed the study objectives while remaining grounded in participants' accounts.

The integration of qualitative and quantitative data in this chapter was achieved through convergent triangulation, both data strands were analyzed separately then systematically compared to identify areas of convergence, contradiction, and complementarity. Where qualitative themes confirmed quantitative findings, conclusions were strengthened with evidence from both sources. Where qualitative accounts appeared to contradict quantitative findings, explanations were sought through deeper analysis of

contextual factors distinguishing the two data sources. This integration process ensured that statistical relationships identified in the quantitative analysis were understood within the practical context of service delivery at Murang'a County Referral Hospital, and that qualitative implementation accounts were validated or challenged by the measurable outcome data, producing a genuinely integrated understanding of the relationship between psychosocial interventions and postpartum depression management at the facility.

Identification and Screening of Postpartum Depression.

The first theme emerged from the interview question directed at nurses: *"What role do you play in identifying and supporting mothers with PPD?"* and the psychiatrist question: *"How do you determine the suitability of psychosocial interventions for mothers with PPD?"* Across all professional groups, findings revealed that identification of postpartum depression at Murang'a County Referral Hospital depended predominantly on observational clinical judgment during ward interactions rather than the administration of standardized screening instruments. This pattern was consistent across nursing, psychology, and psychiatric staff, though the depth and structure of assessment varied considerably by professional role and clinical setting. Through the SCT framework, this observational identification approach reflects a reactive rather than proactive coping resource deployment, the healthcare system waits for visible stress signals rather than systematically building early identification capacity that would enable earlier intervention (Lazarus & Folkman, 1984).

Nurses described their identification role primarily in terms of behavioral surveillance during routine ward rounds. Nurse 1 from the antenatal ward explained: *"When I do my rounds, I watch carefully. If a mother is withdrawn, not talking to anyone, looking anxious over small things, I notice. Sometimes a mother will just sit there quietly while everyone else*

is interacting with their babies. That alone tells me something needs attention." Nurse 6 from the antenatal-delivery ward described more explicit verbal indicators: *"There are mothers who will say it straight, 'I don't want to see this baby' or 'I wish I had never gotten pregnant.' When a mother says something like that to me, I don't wait. I call the psychologist immediately."* These observational approaches relate to existing literature, Mutiso *et al*. (2023) documented that nurse-based behavioral observation in Kenyan hospitals captures severe PPD presentations effectively but misses moderate cases, directly consistent with the current study's quantitative finding that 65.2% of mothers presented with moderate symptoms that may have been at risk of inconsistent identification through observation alone.

Psychologist 3 described a more structured biopsychosocial assessment process: *"When a mother is referred to me, I do a full assessment. I look at biological factors, was the labor prolonged? Does she have a family history of mental illness? I ask about trauma. Was there sexual violence? Was this pregnancy wanted? All of these factors shape how I approach the management."* Through the REBT framework, this comprehensive assessment approach reflects the theory's emphasis on understanding the specific activating events and belief systems underlying each mother's emotional disturbance before designing individualized cognitive restructuring interventions (Ellis, 1962). These qualitative identification accounts triangulate directly with the quantitative prevalence data in Table 5, the finding that 86.3% of mothers experienced some level of depression, with 65.2% presenting moderate symptoms, confirms that the observational identification methods described by nurses, while capturing severe cases, were insufficient to systematically identify the large proportion of moderate cases that the standardized EPDS screening revealed,

providing quantitative validation for the qualitative recommendation to implement systematic screening protocols.

Psychosocial Support Strategies Employed

The second theme emerged from the nurse interview question: *"How do you ensure effective communication with mothers experiencing PPD?"* and the psychologist questions: *"What therapeutic approaches do you find most effective for treating PPD?"* and *"How do you address individual differences in mothers during therapy?"* Across all professional groups, responses revealed a multifaceted support framework combining evidence-based cognitive therapies, relational nursing care, family engagement, and graduated skill-building approaches. Through the REBT framework, the CBT and REBT-based approaches described by psychologists represent direct operationalization of the theory's core mechanism, identifying and challenging irrational beliefs to produce emotional and behavioral change (Ellis, 1962). Through the SCT framework, the family involvement protocols, social support enhancement, and graduated skill-building described by all professional groups represent systematic coping resource deployment consistent with Lazarus and Folkman's (1984) emphasis on both internal skill development and external resource strengthening.

Psychologists described CBT and REBT as their primary evidence-based frameworks. Psychologist 1 explained: *"The main approach I use is Cognitive Behavioral Therapy. We start by creating structure because these mothers have lost all sense of routine. I give each mother one small task to accomplish each day, something manageable, so she begins to feel capable again. When a mother is completely overwhelmed by irrational*

thoughts about herself as a mother, I bring in Rational Emotive Behavior Therapy to challenge those beliefs directly."

This qualitative account relates to existing literature, Branquinho *et al*. (2021) documented that CBT and interpersonal psychotherapy demonstrated robust evidence for treating perinatal depression, with significant effect sizes across randomized controlled trials, consistent with the current study's qualitative documentation that these approaches were the primary therapeutic frameworks employed. The quantitative finding that 73.6% of mothers found individual counseling helpful triangulates with this qualitative account, confirming that the CBT and REBT-based individual counseling described by psychologists produced the therapeutic benefits mothers reported quantitatively.

Psychiatrists described a complementary medical management approach. Psychiatrist 2 articulated the centrality of family involvement: *"Family involvement is not optional in my approach, it is pivotal. The family helps with childcare, they ensure medications are taken, they develop understanding of the illness. I have seen families that facilitate recovery completely and families that make the depression worse."* This qualitative finding relates to existing literature, Kumar *et al*. (2023) found that mother-child and family-focused interventions provided broader benefits than individual-focused approaches, directly consistent with Psychiatrist 2's emphasis on family involvement as pivotal to recovery outcomes.

Through the SCT framework, family involvement represents the external coping resource component of the theory, strengthening the social support network that serves as a crucial buffer against postpartum stressors (Lazarus & Folkman, 1984). The quantitative

finding that 82.6% of mothers reported social support mechanisms positively impacting their emotional well-being triangulates with these qualitative accounts of systematic family engagement protocols.

Nurses described a relational humanizing form of frontline support. Nurse 5 explained: *"When a mother cannot care for her baby, I take over the baby's care myself. I allow relatives to stay beyond visiting hours because she needs human presence around her. I speak to her kindly, nothing clinical, nothing harsh. Sometimes a mother just needs to feel that someone sees her and that she is not alone in what she is going through."* This qualitative account relates to existing literature, Oronje *et al*. (2024) found that humanizing relational support from frontline healthcare workers significantly enhanced maternal mental health outcomes in Western Kenya, directly consistent with Nurse 5's description of warm relational nursing care as a frontline therapeutic tool. The quantitative finding that 90.5% of mothers felt comfortable and supported by professionals leading their treatment sessions triangulates powerfully with these qualitative nursing accounts, confirming that the relational support approach described qualitatively produced the therapeutic comfort documented quantitatively across the maternal population.

Implementation Challenges

The third theme emerged from the nurse question: *"What challenges do you face in implementing psychosocial interventions for PPD?"* and the psychiatrist question: *"What are the main barriers to delivering comprehensive care for PPD in this setting?"* This was the most extensively discussed theme across all professional groups, with barriers operating at individual, family, and systemic levels. Individual-level barriers centered on denial and

stigma. Psychologist 2 described: *"Mothers are terrified that if people find out they have a mental condition, they will be seen as unfit mothers, that someone will take their baby away. So they hide the symptoms. They perform wellness."* This finding relates to existing literature, Dadi *et al*. (2020) identified stigma as a major barrier to PPD help-seeking across African populations, with fear of being labeled mentally ill preventing timely disclosure and treatment engagement, directly consistent with the current study's qualitative documentation of symptom concealment driven by fear of child removal. Through the REBT framework, stigma-driven concealment reflects irrational catastrophic beliefs, the mother's conviction that disclosure will lead to catastrophic consequences, that become a barrier to the very cognitive restructuring process that could relieve her distress (Ellis, 1962).

Family-level barriers included partner abandonment and competing belief systems. Nurse 1 described: *"I have watched husbands disappear after they learn their wife has a mental health problem. The mother is left alone with a newborn and a condition that requires consistent support."* Psychologist 3 documented religious influence: *"We lose many patients to pastors. A family is told that prayer is sufficient and they stop the medication. Then she relapses."* These findings relate to existing literature, Hegarty *et al*. (2019) in Kenya documented that inadequate partner and family support significantly undermined PPD treatment adherence and outcomes, directly consistent with the current study's qualitative documentation of spousal abandonment as a recurring barrier.

Through the SCT framework, partner abandonment and religiously-motivated treatment withdrawal represent catastrophic loss of external coping resources, removing the social support buffer that Lazarus and Folkman (1984) identify as essential for managing

chronic stressors. The quantitative finding that social support showed a relatively weaker chi-square association with management outcomes ($\chi^2 = 31.378$) compared to individual counseling ($\chi^2 = 88.291$) is explained by these qualitative accounts of systematic family support failures.

Systemic barriers centered on resource constraints. Psychiatrist 1 stated: *"Some of the drugs these mothers need are simply not available at our pharmacy. The family cannot afford to buy from private pharmacies. So I write the prescription, the mother goes home, and she never fills it."* Nurse 4 raised staffing deficits: *"We do not have enough social workers. The psychologist has so many cases. Mothers wait too long before they see a specialist."* These systemic findings relate to existing literature, Kwobah *et al*. (2023) documented widespread mental health resource shortages across Kenyan county hospitals, with insufficient psychiatrists and psychologists serving entire counties, directly consistent with the current study's qualitative documentation of understaffing as a fundamental barrier to comprehensive PPD care. The quantitative finding that 26.4% of mothers found intervention frequency inadequate triangulates with these qualitative accounts of systemic resource constraints, confirming that scheduling and frequency limitations reflect structural rather than individual barriers to effective PPD management at Murang'a County Referral Hospital.

Recommendations for Service Improvement

The fourth theme emerged from the nurse question: *"What training or resources would help you better manage PPD cases?"* and the psychologist question: *"How do you evaluate the success of therapy sessions for mothers with PPD?"* Professionals offered specific experience-grounded recommendations spanning screening protocols, staffing

augmentation, community psychoeducation, peer support infrastructure, and follow-up system redesign. Nurse 6 emphasized peer support: *"We need support groups, properly organized ones. When a mother who has recovered speaks to a mother who is still suffering, something shifts."* This recommendation relates to existing literature, Gillis and Parish (2019) demonstrated that peer support groups significantly improved PPD recovery outcomes through shared learning and normalization, directly consistent with Nurse 6's qualitative account of the transformative potential of organized peer support. Through the SCT framework, peer support groups represent collectively deployed coping resources, expanding each mother's available coping repertoire through social learning and peer validation (Lazarus & Folkman, 1984).

Psychiatrist 1 articulated the critical need for stronger follow-up systems: *"I discharge mothers with medication and book a review. The unsupported ones, I sometimes don't see them again until they relapse, sometimes after a full year."* This qualitative account directly addresses and resolves the apparent contradiction between the quantitative finding of 93.7% of mothers reporting willingness to recommend interventions, reflecting genuine in-ward satisfaction, and the qualitative finding of very few returning for follow-up after discharge. The contradiction is resolved by recognizing that high in-ward satisfaction and benefit perception do not automatically translate into post-discharge help-seeking when systemic barriers including financial constraints, transportation difficulties, and inadequate follow-up systems prevent return. This finding relates to existing literature, Oronje *et al*. (2024) identified follow-up continuity as a critical determinant of sustained PPD recovery outcomes in Kenya, consistent with Psychiatrist 1's account that unsupported mothers relapse without systematic follow-up. Through the SCT framework, the absence of post-discharge

follow-up represents removal of the coping resource scaffolding that sustained mothers' stress management during hospitalization (Lazarus & Folkman, 1984).

Psychologist 1 recommended community-level intervention: *"The problem does not begin in this hospital. It begins in homes where mental illness is seen as weakness, where husbands feel entitled to abandon sick wives, where families mix spirituality with medicine and refuse counseling. We must go into communities and educate families before mothers even deliver."* This recommendation relates to existing literature, Dadi *et al*. (2020) emphasized that effective PPD management in African contexts requires community-level stigma reduction and psychoeducation alongside clinical interventions, directly consistent with Psychologist 1's account of community roots as the origin of hospital-level implementation barriers. D1 recommended systematic antenatal screening: *"In antenatal, we screen for everything, blood pressure, malaria, HIV, but we do not screen the mother's mental health."* This recommendation is supported by Wisner *et al*. (2013) who confirmed that in-hospital screening during the immediate postpartum period is both feasible and clinically meaningful, and by the quantitative finding that 86.3% of mothers experienced some level of depression, a prevalence so high that post-delivery identification alone is structurally insufficient to manage the full burden of PPD at Murang'a County Referral Hospital.

Relationship between Study Variables and Management of Postpartum Depression

Chi-square tests of association were conducted to examine relationships between study variables and management of postpartum depression among mothers at Murang'a County Referral Hospital. The analysis aimed to determine how different aspects of

psychosocial interventions relate to successful depression management, measured through stress levels using the Perceived Stress Scale-4 (PSS-4). All relationships were tested at a significance level of $p < 0.05$. Table 9 presents the chi-square test results for all variable relationships examined in this study.

Table 9: Chi-Square Tests of Association

Variable Relationship	Pearson Chi-Square Value	Asymptotic Significance (2-sided)
Prevalence of postpartum depression*Management of PPD	365.789a	0.000
Types of psychosocial interventions-I feel that individual counseling sessions have helped me address my mental health challenges *Management of PPD	88.291a	0.000
Types of psychosocial interventions-Group therapy has provided me with valuable insights and coping strategies *Management of PPD	79.175a	0.000
Types of psychosocial interventions-Social support mechanisms have positively impacted my emotional well-being *Management of PPD	31.378a	0.003
Types of psychosocial interventions-The treatment sessions have been flexible and accommodating to my schedule *Management of PPD	64.133a	0.000
Types of psychosocial interventions-I have felt comfortable and supported by the professionals leading my treatment sessions*Management of PPD	56.665a	0.002
Types of psychosocial interventions-The interventions have helped me improve my relationships with others*Management of PPD	74.275a	0.000
Types of psychosocial interventions-I have learned practical strategies during treatment to manage my stress effectively*Management of PPD	43.551a	0.005

Variable Relationship	Pearson Chi-Square Value	Asymptotic Significance (2-sided)
Types of psychosocial interventions-The frequency of the interventions has been adequate for my needs*Management of PPD	89.506a	0.000
Types of psychosocial interventions-I feel the treatment has significantly improved my overall mental health*Management of PPD	67.703a	0.000
Types of psychosocial interventions-I would recommend these psychosocial interventions to others facing similar challenges*Management of PPD	44.730a	0.041
Perceived benefits of various psychosocial interventions*Management of PPD	379.532a	0.000

The asterisk (*) denotes the cross-tabulation relationship between the independent variable and the dependent variable (Management of PPD), as generated by SPSS.

The relationship between prevalence of postpartum depression and management of PPD revealed a significant association ($\chi^2 = 365.789$, $p = 0.000$). This finding demonstrates that the severity of depression experienced by mothers significantly influences their management outcomes and ability to control stress levels, with mothers experiencing different depression severity levels responding differently to psychosocial interventions. Through the SCT framework, this relationship is explained by the theory's emphasis on the role of stressor severity in determining coping demands, mothers with more severe depression face greater coping resource requirements, making their stress management outcomes more dependent on the intensity and comprehensiveness of available psychosocial interventions (Lazarus & Folkman, 1984). This finding relates to existing literature, Dadi *et al*. (2020) identified that depression severity significantly influences treatment response and management effectiveness across African populations, directly consistent with the current

study's finding that prevalence severity was among the strongest predictors of management outcomes at Murang'a County Referral Hospital.

Individual counseling sessions showed a statistically significant relationship with management of PPD ($\chi^2 = 88.291$, $p = 0.000$). This association demonstrates that mothers who found individual counseling helpful experienced significantly better stress management outcomes. Through the REBT framework, individual counseling is the primary vehicle through which mothers identify and challenge irrational beliefs about motherhood, the cognitive restructuring process that Ellis (1962) posits produces emotional and behavioral improvement. Mothers who engaged positively with individual counseling achieved better stress control because they successfully modified the irrational belief systems driving their postpartum distress. This finding relates to existing literature, Dennis *et al*. (2020) demonstrated that nurse-delivered interpersonal psychotherapy significantly improved maternal outcomes in randomized controlled trials, consistent with the current study's finding that individual counseling showed one of the strongest associations with management success. The qualitative accounts from Psychologist 1 describing CBT-based individual sessions triangulate with this quantitative finding, confirming convergence between therapeutic approach and measurable management outcome.

Group therapy demonstrated a statistically significant relationship with management of PPD ($\chi^2 = 79.175$, $p = 0.000$). Through the SCT framework, group therapy functions as a collectively deployed coping resource, providing peer validation, shared learning, and social support that collectively reduce mothers' appraisal of postpartum stressors as overwhelming (Lazarus & Folkman, 1984). The group setting provided opportunities for peer support, shared learning experiences, and normalization of postpartum struggles, which collectively

contributed to improved depression management. This finding relates to existing literature, Gillis and Parish (2019) demonstrated that group-based interventions lead to improved depressive symptoms and recovery outcomes through peer support and shared experiences, directly consistent with the current study's finding that group therapy showed a highly significant association with management outcomes. The qualitative account from Nurse 6 describing how peer interaction shifts mothers' sense of isolation triangulates with this chi-square finding, confirming that group therapy's quantitative effectiveness is explained by the peer normalization mechanism described qualitatively.

Social support mechanisms showed a statistically significant but comparatively modest relationship with management of PPD ($\chi^2 = 31.378$, $p = 0.003$). Family functions as a system in which each member's emotional functioning affects all others, when a mother experiences PPD, the entire family system is disrupted, and conversely, when family members provide supportive responses, the systemic effect enhances the mother's recovery capacity (Norazman & Lee, 2024). Through the SCT framework, social support represents external coping resources that buffer postpartum stressors, but only when family systems function supportively rather than withdrawing or undermining treatment (Lazarus & Folkman, 1984). The relatively modest chi-square value compared to other intervention types relates to existing literature and is explained by qualitative accounts, Hegarty *et al*. (2019) documented that inadequate partner support significantly undermined PPD treatment outcomes in Kenya, consistent with the qualitative accounts from Nurses 1 and 5 describing systematic spousal abandonment and family withdrawal. This convergence between the modest quantitative association and qualitative accounts of family system failures confirms

that social support's effectiveness was significantly constrained by inconsistent family engagement at Murang'a County Referral Hospital.

Treatment session flexibility showed a statistically significant relationship with management of PPD ($\chi^2 = 64.133$, $p = 0.000$). This association indicates that scheduling flexibility facilitated better treatment engagement, which in turn improved stress management outcomes. Through the SCT framework, flexible scheduling reduces practical barriers to coping resource access, when mothers can attend sessions without significant scheduling conflicts, they maintain better engagement with the coping skill development process that produces stress management improvements (Lazarus & Folkman, 1984). This finding relates to existing literature, Kariuki *et al*. (2021) documented that scheduling constraints significantly limit intervention accessibility and effectiveness in Kenyan hospital settings, consistent with the current study's finding that 32.7% of mothers experienced scheduling inflexibility as a barrier. The qualitative accounts from Psychiatrist 1 describing premature discharge due to bed shortages triangulate with this finding, confirming that the quantitative association between flexibility and management outcomes reflects a systemic structural barrier rather than individual preference, with institutional capacity constraints directly limiting how flexibly mothers can access sessions.

Professional support quality showed a statistically significant relationship with management of PPD ($\chi^2 = 56.665$, $p = 0.002$). Through the REBT framework, therapeutic relationship quality is foundational because mothers must trust their therapist before engaging in the cognitive restructuring process that produces emotional change, without a safe therapeutic alliance, mothers cannot engage authentically with the irrational belief identification work that REBT prescribes (Ellis, 1962). This finding relates to existing

literature, Falkenström *et al*. (2019) found that working alliance quality significantly predicted treatment outcomes in Kenyan public hospital psychotherapy settings, directly consistent with the current study's finding that professional support quality showed a significant association with management success. The qualitative accounts from Nurses 1 and 5 describing warm relational approaches, and from Psychologist 4 describing family-inclusive first sessions, triangulate with this chi-square finding, confirming that the quantitative association between therapeutic relationship and management outcomes is explained by the specific relational practices documented in the qualitative data from Murang'a County Referral Hospital.

Relationship improvement showed a statistically significant association with management of PPD ($\chi^2 = 74.275$, $p = 0.000$). This high chi-square value indicates that improved interpersonal functioning contributed significantly to stress management success. Family as a system means that when psychosocial interventions successfully improve a mother's relationships with partner, family members, and support networks, the effect cascades through the entire family system, creating mutually reinforcing cycles of improved maternal functioning and enhanced family support that collectively accelerate PPD recovery (Lazarus & Folkman, 1984). This finding relates to existing literature, Kumar *et al*. (2023) found that interventions addressing interpersonal functioning and mother-child relationships provided broader benefits than individual symptom-focused approaches alone, directly consistent with the current study's finding that relationship improvement was among the most significant predictors of management success. The qualitative accounts from Psychologist 4 and Psychiatrist 2 describing systematic family involvement protocols triangulate with this

finding, confirming that the quantitative relationship improvement association reflects the interpersonal focus of the therapeutic approaches documented qualitatively.

Learning practical stress management strategies demonstrated a statistically significant relationship with management of PPD ($\chi^2 = 43.551$, $p = 0.005$). Through the SCT framework, skill acquisition directly enhances coping capacity by expanding mothers' repertoire of both problem-focused and emotion-focused coping strategies, equipping them with the tools to actively engage with postpartum stressors rather than feeling overwhelmed by demands that exceed available resources (Lazarus & Folkman, 1984). This finding relates to existing literature, Wacharasin and Sangsawang (2019) demonstrated that early interventions incorporating practical life skills significantly improved maternal confidence and reduced depressive symptoms, consistent with the current study's finding that stress management skill learning showed a significant association with management outcomes. The qualitative account from Psychologist 2 describing a graduated skill-building approach where each mother received one manageable daily task triangulates with this chi-square finding, confirming that the quantitative skill acquisition association is explained by the specific graduated therapeutic approach documented qualitatively at Murang'a County Referral Hospital.

Intervention frequency adequacy showed a statistically significant relationship with management of PPD ($\chi^2 = 89.506$, $p = 0.000$), the second strongest intervention-specific association observed. This finding indicates that adequate intervention frequency was critical for effective management outcomes, with mothers receiving sufficiently frequent sessions maintaining treatment momentum and achieving better stress reduction. Through the REBT framework, adequate frequency is essential because cognitive restructuring is a gradual

process requiring repeated therapeutic contact, irrational belief modification cannot be completed in a single session but requires consistent reinforcement across multiple encounters to produce sustained emotional change (Ellis, 1962; Gonzalez *et al*., 2017). This finding relates to existing literature, Kariuki *et al*. (2021) demonstrated that intervention dosage significantly influences PPD outcome quality in Kenyan settings, consistent with the current study's finding that frequency adequacy was among the most significant predictors of management success. The qualitative account from Psychiatrist 1 describing premature discharge due to bed shortages triangulates directly, explaining the quantitative finding that 26.4% of mothers found frequency inadequate through the structural constraints documented qualitatively.

Overall mental health improvement showed a statistically significant relationship with management of PPD ($\chi^2 = 67.703$, $p = 0.000$). This association demonstrates a direct connection between perceived mental health improvement and stress management outcomes, mothers who experienced significant mental health gains through interventions achieved better depression management results. This finding relates to existing literature, Madeghe *et al*. (2022) demonstrated significant improvements in depression scores among Kenyan mothers receiving targeted interventions, consistent with the current study's finding that perceived mental health improvement strongly predicted management success. Willingness to recommend interventions showed a statistically significant but modest relationship with management of PPD ($\chi^2 = 44.730$, $p = 0.041$), indicating that mothers who would recommend interventions generally experienced better management outcomes themselves. It is important to address the apparent contradiction between this high endorsement rate of 93.7% and the qualitative finding of low post-discharge follow-up return, this is resolved by recognizing

that endorsement and improvement were measured during hospitalization while follow-up return behavior reflects post-discharge systemic barriers including financial constraints and transportation difficulties as documented by Psychiatrist 1.

The relationship between perceived benefits and management of PPD showed the strongest association in the entire study ($\chi^2 = 379.532$, $p = 0.000$), exceeding even the prevalence-management relationship. This finding demonstrates that mothers who perceived high benefits from interventions achieved significantly better stress management outcomes, validating that subjective experience of intervention effectiveness directly translates into objective management success. Through the REBT framework, perceived benefit reflects the degree to which mothers experienced successful cognitive restructuring, mothers who perceived high benefit had effectively modified their irrational belief systems, producing the emotional and behavioral improvements that manifest as better stress management outcomes (Ellis, 1962). Through the SCT framework, perceived benefit represents mothers' appraisal of interventions as valuable coping resources, mothers who perceived high benefit reappraised their postpartum challenges as more manageable, directly reducing their stress levels (Lazarus & Folkman, 1984). This finding relates to existing literature, Falkenström *et al*. (2019) demonstrated that perceived treatment value during therapy sessions strongly correlated with reductions in psychological distress in Kenyan hospital settings, directly consistent with the current study's finding that perceived benefit was the most powerful predictor of management success among all examined variables at Murang'a County Referral Hospital.

Overall, all relationships examined showed statistically significant associations with management of postpartum depression, with p-values ranging from 0.000 to 0.041, all below

the established significance threshold of 0.05. Based on these results, the study rejected all four null hypotheses. H_{01} was rejected as prevalence findings demonstrated a statistically significant distribution of depressive symptoms across severity levels ($\chi^2 = 365.789$, $p = 0.000$). H_{02} was rejected as all intervention types demonstrated statistically significant associations with management outcomes ($p < 0.05$). H_{03} was rejected as perceived benefits showed the strongest association observed in the entire study ($\chi^2 = 379.532$, $p = 0.000$). H_{04} was rejected as the comprehensive chi-square evidence confirmed that study findings directly inform intervention improvement priorities ($p < 0.05$), establishing that perceived benefits of interventions contribute most significantly to management success within county referral hospital settings at Murang'a County Referral Hospital, Murang'a County, Kenya.

Utilization of Study Findings to Improve Psychosocial Intervention Strategies

The fourth objective sought to determine how the study findings can be utilized to improve psychosocial intervention strategies for postpartum depression management in maternity ward settings at Murang'a County Referral Hospital, Murang'a County, Kenya. The findings from prevalence assessment, intervention types examination, perceived benefits exploration, and chi-square analysis of relationships provided evidence-based directions for strengthening services. Integration of quantitative and qualitative data revealed specific areas requiring improvement including intervention accessibility, family involvement protocols, staff training programs, and resource allocation priorities. Through the SCT framework, utilization of these findings represents the conversion of research evidence into enhanced coping resources, improving the institutional infrastructure through which mothers access the psychosocial support that Lazarus and Folkman (1984) identify as essential for effective stress management during the postpartum period.

The high prevalence finding that 86.3% of mothers experienced varied levels of postpartum depression, with 71.4% requiring clinical intervention for moderate to severe symptoms, demonstrates a compelling case for systematic screening protocols at Murang'a County Referral Hospital. Currently, nurses use observational approaches during ward rounds without standardized screening tools, leading to inconsistent identification across different staff members. The study findings support implementing routine Edinburgh Postnatal Depression Scale screening for all mothers at admission, 24–48 hours post-delivery, and before discharge to ensure no mother leaves without depression assessment. As Psychiatrist D1 observed: *"In antenatal, we screen for everything, blood pressure, malaria, HIV, but we do not screen the mother's mental health."* This finding relates to existing literature, Mutiso *et al*. (2023) demonstrated that systematic EPDS screening in Kenyan hospitals significantly improves PPD case identification compared to observational methods alone, directly supporting the utilization of these prevalence findings to establish mandatory screening protocols across all maternity ward contact points.

The significant relationship between individual counseling and management outcomes ($\chi^2 = 88.291$, $p = 0.000$) validates prioritizing individual counseling services within the facility's intervention program. Through the REBT framework, this finding supports investing in individual counseling capacity because this is the primary vehicle through which mothers can identify and restructure the irrational beliefs driving their postpartum distress, a process requiring adequately trained counselors and sufficient session frequency to produce sustainable cognitive change (Ellis, 1962). Qualitative findings revealed human resource limitations with insufficient psychologists to meet demand and nurses lacking specialized mental health training, providing convergent evidence from both data strands that counseling

capacity expansion is needed. This finding relates to existing literature, Dennis *et al*. (2020) demonstrated that structured individual counseling significantly improved maternal outcomes, supporting the utilization of this study's findings to justify hiring additional counselors and training nurses in basic counseling skills with clear referral pathways to specialists at Murang'a County Referral Hospital.

The relationship between group therapy and management ($\chi^2 = 79.175$, $p = 0.000$) combined with 86.0% of mothers finding it valuable indicates group interventions should be systematically incorporated as a core weekly component rather than an occasional offering. Through the SCT framework, group therapy represents a collectively deployed coping resource that simultaneously serves multiple mothers, expanding each participant's coping repertoire through peer learning, social validation, and shared problem-solving that individual counseling cannot replicate (Lazarus & Folkman, 1984). Nurse 6's qualitative recommendation for structured peer support groups converges powerfully with this quantitative evidence, both data strands confirming that peer-based collective therapeutic environments produce measurable benefits for the maternal population. This finding relates to existing literature, Gillis and Parish (2019) demonstrated that group-based PPD interventions significantly improved recovery outcomes, and Nakku *et al*. (2021) found group problem-solving therapy effective in resource-limited African settings, supporting the utilization of these findings to formalize weekly group therapy sessions and establish post-discharge peer support groups at Murang'a County Referral Hospital.

The significant relationship between social support mechanisms and management ($\chi^2 = 31.378$, $p = 0.003$) combined with qualitative findings of family abandonment, partner unavailability, and religiously-motivated treatment withdrawal indicates need for systematic

family involvement protocols. Family functions as a system, when a mother experiences PPD, the entire family system is disrupted, and conversely, when family members provide structured supportive responses, the systemic effect accelerates recovery by creating mutually reinforcing cycles of improved maternal functioning and enhanced family support (Norazman & Lee, 2024). Psychiatrist 2's qualitative account that family involvement is pivotal to recovery converges with the quantitative social support association, confirming that both data strands support mandatory family psychoeducation sessions before mother discharge. This finding relates to existing literature, Kumar *et al*. (2023) demonstrated that family-inclusive interventions produced broader benefits than individual-focused approaches alone, supporting the utilization of these findings to develop standardized family involvement protocols across all shifts and professional cadres at the facility.

The relationship between perceived benefits and management ($\chi^2 = 379.532$, $p = 0.000$), the strongest association in the entire study, demonstrates that interventions mothers experience as genuinely helpful produce the strongest management outcomes. Through the REBT framework, this finding supports prioritizing intervention quality and therapeutic alliance, ensuring mothers experience genuine cognitive restructuring rather than superficial participation, because perceived benefit reflects the depth of belief modification achieved, which determines the magnitude of emotional and behavioral improvement produced (Ellis, 1962; Gonzalez *et al*., 2017). Psychologist 2's qualitative account of providing structured session-by-session feedback to mothers converges with this quantitative evidence, both data strands confirming that making therapeutic progress visible enhances perceived benefit and thereby management outcomes. This finding relates to existing literature, Falkenström *et al*. (2019) demonstrated that perceived treatment value predicted management success in

Kenyan hospital settings, supporting the utilization of these findings to enhance intervention quality, relevance, cultural appropriateness, and personalization across all psychosocial services at Murang'a County Referral Hospital.

The finding that 26.4% of mothers found intervention frequency inadequate, validated by qualitative reports of human resource limitations and premature discharge due to limited ward capacity, indicates need for resource allocation optimization. Through the SCT framework, inadequate frequency represents interrupted coping resource development, mothers whose sessions are curtailed by bed shortages or staffing constraints cannot fully develop the problem-focused and emotion-focused coping strategies that require sustained therapeutic contact to consolidate (Lazarus & Folkman, 1984). Psychiatrist 1's qualitative account of discharging mothers before treatment completion due to bed shortages converges precisely with the quantitative frequency inadequacy finding, providing convergent evidence from both data strands that resource constraints directly limit management effectiveness. This finding relates to existing literature, Kariuki *et al*. (2021) demonstrated that intervention dosage significantly influences PPD outcome quality in Kenyan settings, supporting the utilization of these findings to increase specialist staffing, implement nurse-led between-session check-ins, and establish home visiting and telephone-based counseling programs to maintain intervention momentum after discharge.

The qualitative documentation of systemic barriers including medication non-access, financial constraints, cultural belief conflicts, and inadequate follow-up systems indicates need for comprehensive community and system-level interventions. Psychologist 1's account that the problem begins in homes where mental illness is seen as weakness directly relates to existing literature, Dadi *et al*. (2020) emphasized that effective PPD management in African

contexts requires community-level stigma reduction alongside clinical interventions, supporting the utilization of these findings to implement community psychoeducation campaigns targeting families and religious leaders. Psychologist 3's account of losing patients to pastors who advise stopping medication is supported by Hegarty *et al*. (2019) who documented that cultural and religious factors significantly undermine treatment adherence in Kenyan communities, supporting development of culturally sensitive intervention protocols that integrate spiritual support with evidence-based treatment rather than presenting them as conflicting alternatives at Murang'a County Referral Hospital.

The findings of this study have significant implications for replication across Kenya's 47 county referral hospitals and similar settings beyond Murang'a County. The mixed methods design combining standardized EPDS screening, TEQ intervention assessment, and PSS-4 stress management measurement with qualitative healthcare professional interviews represents a replicable research and service evaluation framework that can be adopted by other county referral hospitals to systematically assess their own PPD prevalence, intervention types, and management outcomes. The finding that 86.3% of mothers experienced some level of depression, far exceeding rates that would be detectable through observational methods alone, has direct implications for clinical practice in diagnosis across all county referral hospitals in Kenya, where similar populations and resource constraints likely produce comparable PPD burden. Madeghe *et al*. (2022) and Fonagy *et al*. (2024) both documented that psychosocial intervention effectiveness in Kenyan community and hospital settings is generalizable across similar socioeconomic and cultural contexts, supporting the replication of these findings and the intervention improvement recommendations derived from them across county referral hospital settings nationwide.

The healthcare professional training recommendations documented through qualitative accounts, including continuous professional development, trauma-informed care training, and standardized clinical protocols, represent replicable capacity-building investments applicable to any county referral hospital with similar staffing profiles. Nurse 1's recommendation for continuous on-job training sessions discussing real cases and Nurse 3's recommendation for specialized trauma training for cases involving sexual violence relate to existing literature, Kibret *et al*. (2022) demonstrated that adequate knowledge, proper training, and positive attitudes toward evidence-based interventions are the strongest predictors of effective PPD management, supporting the replication of these training-focused utilization recommendations across all county referral hospitals in Kenya as a foundation for improving maternal mental health outcomes at the county level of the devolved health system.

Chapter Summary

This chapter has examined the relationship between psychosocial interventions and management of postpartum depression among mothers at Murang'a County Referral Hospital. Prevalence findings reveal that moderate depression was the most common severity level, with most mothers requiring clinical intervention. Multiple interventions including individual counseling, group therapy, and social support were utilized, with the majority of mothers reporting high perceived benefits and significant mental health improvement. Qualitative findings established implementation barriers including family abandonment, medication non-adherence, stigma, religiously-motivated treatment withdrawal, and human resource limitations, all grounded in respondent accounts. Statistical analyses confirmed that perceived benefits demonstrated the strongest association with management outcomes,

followed by prevalence severity and intervention frequency adequacy, establishing that comprehensive improvements in screening protocols, family involvement strategies, staffing capacity, and follow-up systems are needed to ensure all mothers benefit from evidence-based psychosocial interventions. The next chapter presents the summary of findings, conclusions, recommendations, and areas for further research arising from the study.

CHAPTER FIVE

SUMMARY OF FINDINGS, RECOMMENDATIONS, AREAS FOR FURTHER RESEARCH AND CONCLUSIONS

Introduction

This chapter presents the summary of study findings, discussion, conclusions, and recommendations derived from the study examining the relationship between psychosocial interventions and the management of postpartum depression among mothers at Murang'a County Referral Hospital. The chapter is organized as follows: the summary of the study provides an overview of the research design, data collection procedures, and key findings across the four study objectives; the discussion of findings examines the results in relation to each research objective by integrating quantitative outcomes with qualitative accounts and linking the findings to current empirical literature from Kenyan, African, and global contexts, beyond the theoretical frameworks alone; the conclusions synthesize the totality of evidence generated by the study; the recommendations are presented at practice and policy levels and are derived directly from respondents' data; and the areas for further research identify gaps that the current study could not fully examine. This organizational structure ensures that the arguments are clearly synthesized and logically connected throughout the chapter.

The discussion of findings in this chapter deliberately moves beyond relying on Rational Emotive Behavior Theory and Stress and Coping Theory as the sole points of reference. Instead, it integrates relevant empirical studies to demonstrate how the current study's findings confirm, extend, or differ from the existing body of evidence. This integration of theoretical and empirical perspectives ensures that the discussion produces genuine scholarly synthesis rather than merely providing a descriptive report of the findings.

Summary of the Study

The research adopted a cross-sectional descriptive design using a concurrent mixed methods approach combining quantitative and qualitative data collection. The calculated sample size using Yamane's (1967) formula applied to the total target population of 361 yielded a figure of 190. The actual analytical sample comprised 173 participants, 12 healthcare professionals and 161 mothers. During data collection, 177 questionnaires were distributed to mothers and 12 healthcare professional interviews were conducted. Of the 177 questionnaires distributed to mothers, 161 were completed and returned, yielding a 90.9% response rate, exceeding the minimum acceptable threshold of 70% for statistical analysis (Mugenda & Mugenda, 2003). All 12 healthcare professionals participated in interviews, achieving a 100% response rate for the qualitative component. The Edinburgh Postnatal Depression Scale assessed prevalence and severity, the Treatment Experience Questionnaire evaluated intervention types and perceived benefits, and the Perceived Stress Scale-4 measured stress management as an indicator of depression management outcomes.

Prevalence findings revealed that moderate depression was the most prevalent severity level, with 105 (65.2%) mothers scoring in the moderate range on the EPDS, and 86.3% of mothers overall experiencing some level of depressive symptoms. Only 13.7% of mothers showed no or minimal depressive symptoms, confirming that PPD represents a widespread phenomenon within the maternity ward setting at Murang'a County Referral Hospital. These findings are consistent with Sakari (2020) who reported 65.5% PPD prevalence among mothers of preterm neonates at Moi Teaching and Referral Hospital, and with Kariuki *et al*. (2022) who documented 64.1% prevalence at Kenyatta National Hospital, confirming that county referral hospital settings in Kenya carry a similarly high PPD burden

as tertiary facilities. Importantly, 10 mothers who scored in the severe range and were unable to meaningfully engage with questionnaires were referred to psychiatric services and excluded from the analytical sample.

Multiple psychosocial interventions were found to be utilized at Murang'a County Referral Hospital including individual counseling, group therapy, and social support mechanisms, with the majority of mothers reporting positive experiences across all intervention types. Group therapy received the highest endorsement with 86.0% of mothers agreeing it provided valuable insights and coping strategies, followed by professional support quality at 90.5% and relationship improvement at 93.7%. These findings are consistent with Dennis *et al*. (2020) who demonstrated that structured psychosocial interventions significantly improve maternal outcomes, and with Gillis and Parish (2019) who found that group-based therapy produces measurable recovery benefits through peer support and shared learning. The nurses involved in PPD management were general maternity ward nurses without specialized mental health training, a gap consistent with Kwobah *et al*. (2023) who documented widespread mental health nursing shortages across Kenyan county hospitals.

Perceived benefits assessment showed that 118 (73.3%) mothers reported high perceived benefit from psychosocial interventions, while 35 (21.7%) reported moderate perceived benefit and only 8 (5.0%) reported low perceived benefit. Overall, 95.0% of mothers experienced at least moderate perceived benefit, demonstrating that interventions were genuinely helpful and valued by the majority of the maternal population. These findings are consistent with Madeghe *et al*. (2022) who demonstrated substantial improvements in stress management and problem-solving among Kenyan mothers receiving targeted psychosocial interventions, and with Kariuki *et al*. (2021) who found a 35.6% reduction in

depression scores among mothers receiving psychoeducational interventions in Nairobi. Management outcomes showed that 83.8% of mothers demonstrated moderate perceived stress levels, with 5.0% achieving low stress and 11.2% remaining at high stress, suggesting that interventions effectively stabilized most mothers at manageable stress levels while room remains for enhancing intensity to achieve deeper stress reduction.

Chi-square analysis revealed statistically significant associations between all study variables and management of postpartum depression, with p-values ranging from 0.000 to 0.041, all below the established significance threshold of 0.05. Perceived benefits demonstrated the strongest relationship with management outcomes ($\chi^2 = 379.532$, $p = 0.000$), followed by prevalence severity ($\chi^2 = 365.789$, $p = 0.000$) and intervention frequency adequacy ($\chi^2 = 89.506$, $p = 0.000$). These findings validate both the Rational Emotive Behavior Theory (Ellis, 1962) and Stress and Coping Theory (Lazarus & Folkman, 1984) as explanatory frameworks, REBT explaining how cognitive restructuring through individual and group counseling produces management gains, and SCT explaining how coping resource enhancement through social support and skill building produces stress reduction. Based on these results, all four null hypotheses were rejected, confirming statistically significant relationships between psychosocial interventions and PPD management at Murang'a County Referral Hospital.

Qualitative findings from healthcare professionals identified four major themes, identification and screening of PPD, psychosocial support strategies employed, implementation challenges, and recommendations for service improvement, analyzed through deductive thematic analysis using Braun and Clarke's (2006) six-phase framework. Major implementation barriers documented included maternal denial and stigma driven by

fear of being labeled mentally ill, systematic family abandonment and partner unavailability, religiously-motivated treatment withdrawal, medication non-access due to pharmacy stockouts and financial constraints, insufficient specialist staffing, and premature discharge due to limited ward capacity. These barriers are consistent with Dadi *et al*. (2020) who identified stigma, inadequate social support, and resource constraints as major PPD management barriers across African populations, and with Hegarty *et al*. (2019) who documented that inadequate partner support significantly undermines treatment adherence in Kenyan communities. Healthcare professionals consistently recommended systematic EPDS screening, expanded staffing, peer support groups, community psychoeducation, and strengthened follow-up systems as priority service improvements.

Discussion of Findings

The discussion of findings is presented according to each research objective, examining results in relation to existing literature, theoretical frameworks, and the integrated quantitative and qualitative evidence generated by the study.

Prevalence of Postpartum Depression among Mothers

The first research objective assessed the prevalence of postpartum depression among mothers in the maternity wards at Murang'a County Referral Hospital. The findings revealed that 86.3% of mothers experienced some level of postpartum depression, with moderate depression emerging as the most prevalent severity level affecting 65.2% of participating mothers. Only 13.7% showed no depressive symptoms, demonstrating that PPD is not an exceptional clinical event at this facility but a widespread phenomenon affecting the vast majority of mothers in the maternity wards. This finding is significant because it exceeds prevalence rates typically reported in community-based postpartum studies, confirming that

the maternity ward environment, characterized by physical recovery demands, newborn care pressures, and limited social support, creates conditions of heightened PPD vulnerability that require systematic rather than reactive clinical responses (Sakari, 2020; Kariuki *et al*., 2022; Wubetu *et al*., 2020; Dadi *et al*., 2020).

This prevalence finding aligns closely with and extends existing Kenyan research. Sakari (2020) reported PPD prevalence of 65.5% among mothers of preterm neonates at Moi Teaching and Referral Hospital, the current study's finding of 86.3% overall and 71.4% requiring clinical intervention for moderate to severe symptoms confirms that high PPD rates are not confined to high-risk subgroups but affect the general maternity ward population at county referral hospital level. Similarly, Kariuki *et al*. (2022) documented 64.1% prevalence among mothers of children with severe acute malnutrition at Kenyatta National Hospital, supporting the current study's observation that county referral hospital settings carry comparable PPD burdens to tertiary facilities. What the current study adds beyond these previous studies is systematic screening using the EPDS across all delivery types, revealing that PPD burden in county referral hospitals may be even greater than previously documented when comprehensive rather than targeted screening is applied.

The predominance of moderate rather than severe depression is particularly significant and relates to existing literature in important ways. Wubetu *et al*. (2020) found in Ethiopia that most PPD-affected mothers presented with moderate rather than severe symptoms, consistent with the current study's pattern, while Dadi *et al*. (2020) noted across African populations that moderate depression represents the most common PPD presentation and simultaneously the most amenable to psychosocial intervention. Through the REBT framework, moderate depression reflects partial irrational belief entrenchment, mothers in

this severity range are experiencing significant cognitive distortion about their maternal competence and postpartum experience, but have not yet lost the capacity for rational engagement that REBT-based interventions require (Ellis, 1962). This theoretical interpretation is significant because it confirms that moderate depression, while clinically meaningful, represents an optimal target for psychosocial rather than purely pharmacological intervention at Murang'a County Referral Hospital.

The demographic context documented in this study, where most mothers were young women aged 21–30 years with secondary education, and over one-third lacked stable marital relationships, provides important context for understanding why prevalence rates were so high. This corresponds with research by Tebeka *et al*. (2021) in France who found that stressful life events and low social support significantly increased PPD risk, and with Mulugeta *et al*. (2023) in Ethiopia who found that marital status and social support significantly influence PPD risk. Through the SCT framework, the high proportion of single and divorced mothers in the current study represents a population with structurally reduced external coping resources, lacking the spousal support that Lazarus and Folkman (1984) identify as a crucial buffer against chronic stressors. This finding confirms that demographic vulnerability factors operate through coping resource reduction mechanisms, making comprehensive social support enhancement a clinical imperative rather than merely a complementary service within the maternity wards.

The qualitative finding that nurses relied primarily on behavioral observation for PPD identification rather than standardized screening triangulates powerfully with this prevalence data and produces an important synthesis. The 65.2% moderate depression rate identified through EPDS screening represents mothers whose symptoms, while clinically significant,

may not manifest as the dramatic behavioral presentations that nurses described watching for during rounds. Mutiso *et al*. (2023) demonstrated that nurse-based observation in Kenyan hospitals effectively identifies severe presentations but misses moderate cases, directly explaining how the high moderate prevalence documented quantitatively could coexist with nurses' qualitative accounts of primarily identifying mothers through visible distress signals. This convergence of quantitative prevalence evidence and qualitative identification practice accounts produces a clear synthesis, the current study confirms that observational screening alone is structurally insufficient to capture the full PPD burden in maternity ward settings, making standardized EPDS implementation at all clinical contact points an evidence-based necessity rather than a suggested enhancement.

Types of Psychosocial Interventions Used in Management of Postpartum Depression

The second research objective examined the types of psychosocial interventions used in management of postpartum depression among mothers in the maternity wards at Murang'a County Referral Hospital. The analysis revealed that multiple intervention types were utilized including individual counseling, group therapy, social support mechanisms, and professional support services, with agreement rates ranging from 67.3% to 93.7% across all items. The finding that multiple intervention types were simultaneously deployed reflects a comprehensive rather than single-modality approach to PPD management, an approach that existing literature strongly supports as more effective than reliance on any single intervention type. Dennis *et al*. (2020) demonstrated that structured individual counseling through interpersonal psychotherapy significantly improved maternal outcomes, while Gillis and Parish (2019) confirmed that group-based therapy produces independent benefits through

different mechanisms, validating the current study's documentation of a multi-modal intervention approach at the county referral hospital level.

Group therapy receiving the highest endorsement at 86.0% is a finding that extends beyond mere satisfaction measurement to reveal important information about which intervention mechanisms mothers value most. Through the SCT framework, group therapy's superior endorsement reflects its unique capacity to function as a collectively deployed coping resource, simultaneously providing emotional support, peer validation, practical problem-sharing, and normalization of postpartum experiences in ways that individual counseling cannot replicate (Lazarus & Folkman, 1984). This finding aligns with Nakku *et al*. (2021) who observed significant improvements in depression symptoms in rural Ugandan women through group problem-solving therapy delivered by midwives, and with Fonagy *et al*. (2024) who found group interpersonal psychotherapy superior to enhanced usual care in reducing postnatal depression in Kenyan community settings. The current study extends these findings by confirming that group therapy's effectiveness documented in community and rural settings is equally observable within inpatient maternity ward contexts at county referral hospital level.

The finding that 90.5% of mothers felt comfortable and supported by professionals is the second highest endorsement rate and carries significant theoretical and practical implications. Through the REBT framework, therapeutic relationship quality is foundational because mothers must trust their therapist before engaging authentically in the cognitive restructuring process, without safety and trust, mothers cannot examine and challenge the irrational beliefs about their maternal competence that drive postpartum emotional disturbance (Ellis, 1962). Falkenström *et al*. (2019) demonstrated in Kenyan public hospital

settings that working alliance quality was the strongest predictor of treatment outcome, directly consistent with the current study's finding that professional support quality showed a highly significant chi-square association with management outcomes ($\chi^2 = 56.665$, $p = 0.002$). The qualitative accounts from Nurses 1 and 5 describing warm relational nursing approaches and from Psychologist 4 describing family-inclusive first sessions triangulate with this quantitative evidence, confirming that relationship quality is not merely a satisfaction metric but a genuine therapeutic mechanism producing measurable management benefits.

The finding that the approximately 20 nurses involved in PPD management were general maternity ward nurses without specialized mental health training represents a significant gap that the current study uniquely documents at county referral hospital level. This finding is consistent with Kwobah *et al*. (2023) who documented widespread mental health nursing shortages across Kenyan county hospitals, confirming that the nursing capacity gap at Murang'a County Referral Hospital reflects a systemic rather than facility-specific challenge. Through the REBT framework, untrained nurses are limited in their ability to identify and respond appropriately to the irrational belief systems underlying PPD presentations, they can observe behavioral symptoms but cannot engage in the cognitive assessment and gentle reframing that trained mental health nurses could provide as a frontline therapeutic resource (Ellis, 1962). This finding directly supports the recommendation that Murang'a County Referral Hospital and similar county facilities invest in mental health nursing training to strengthen frontline PPD identification and support capacity across the maternity wards.

The relatively higher disagreement rate of 32.7% for treatment session flexibility compared to all other intervention items is a finding that reveals important implementation realities not visible in controlled research settings. Kariuki *et al*. (2021) documented that scheduling constraints significantly limit intervention accessibility in Kenyan hospital settings, consistent with the current study's quantitative finding. The qualitative accounts from Psychiatrist 1 describing premature discharge due to bed shortages and Nurse 4 describing insufficient specialist availability provide direct explanatory context for this quantitative pattern, confirming that scheduling inflexibility reflects structural institutional constraints rather than professional indifference or poor planning. This convergence between quantitative and qualitative evidence produces an important synthesis, the gap between evidence-based intervention protocols and real-world delivery at resource-limited county facilities is not a clinical failure but a systemic resource adequacy problem requiring policy-level rather than individual-level solutions.

Perceived Benefits of Various Psychosocial Interventions in Management of Postpartum Depression

The third research objective explored the perceived benefits of various psychosocial interventions in management of postpartum depression among mothers in the maternity wards at Murang'a County Referral Hospital. The analysis revealed that 73.3% of mothers reported high perceived benefit and 95.0% experienced at least moderate perceived benefit, demonstrating that the interventions delivered at the facility were genuinely valued and experienced as helpful by the vast majority of the maternal population. This finding is significant because it establishes that the psychosocial intervention approach at Murang'a County Referral Hospital produces subjectively meaningful outcomes for mothers despite

operating within significant resource constraints, confirming that clinical effectiveness and resource limitation can coexist when intervention quality and therapeutic relationships are prioritized within available means (Kariuki *et al*., 2021; Madeghe *et al*., 2022; Fonagy *et al*., 2024)

This finding relates to and extends existing Kenyan literature in important ways. Madeghe *et al*. (2022) demonstrated substantial improvements in stress management and problem-solving among Kenyan mothers receiving targeted psychosocial interventions, consistent with the current study's high perceived benefit rates. Kariuki *et al*. (2021) found a 35.6% reduction in depression scores among mothers receiving psychoeducational interventions in Nairobi urban slums, supporting the current study's observation that structured interventions produce meaningful perceived benefits even in resource-limited settings. What the current study adds is evidence that high perceived benefit rates are achievable specifically within inpatient maternity ward settings at county referral hospital level, a context not previously examined in the Kenyan literature, demonstrating that the effectiveness documented in community and outpatient settings translates to inpatient county hospital contexts when appropriate intervention structures are in place.

The finding that only 5.0% of mothers reported low perceived benefit is noteworthy and requires analytical examination beyond surface-level reporting. Through the REBT framework, low perceived benefit may reflect several distinct mechanisms, severe depression limiting cognitive engagement with restructuring processes, underlying trauma creating therapeutic complexity beyond standard REBT approaches, or insufficient therapeutic alliance preventing authentic participation (Ellis, 1962). The qualitative accounts from Psychologist 3 describing cases involving rape survivors whose depression sat atop trauma

provide explanatory context, mothers whose PPD was compounded by unresolved trauma required specialized interventions beyond the standard psychosocial approaches that produced high benefit for the majority. This synthesis is supported by Fonagy *et al*. (2024) who found that baseline severity and trauma history significantly moderated intervention response, confirming that the small proportion of low-benefit mothers in the current study likely represents a clinically distinct subgroup requiring trauma-informed rather than standard psychosocial approaches.

The chi-square analysis finding that perceived benefits demonstrated the strongest association with management outcomes ($\chi^2 = 379.532$, $p = 0.000$), exceeding even the prevalence-management relationship, produces a theoretically and practically significant synthesis. Through the SCT framework, this finding confirms that mothers' cognitive appraisal of interventions as valuable coping resources, the subjective experience of benefit, directly determines the degree to which those interventions reduce perceived stress (Lazarus & Folkman, 1984). Falkenström *et al*. (2019) demonstrated in Kenyan public hospital psychotherapy settings that perceived treatment value during sessions strongly predicted subsequent symptom reduction, directly consistent with the current study's finding that subjective benefit perception is the most powerful predictor of objective management success. The researcher concludes from this synthesis that intervention design efforts should prioritize enhancing mothers' subjective experience of interventions, through improved relevance, cultural appropriateness, and therapeutic relationship quality, because perceived benefit is not merely an outcome but an active therapeutic mechanism producing management gains.

Relationship between Study Variables and Management of Postpartum Depression

The chi-square analysis examined relationships between all study variables and management of postpartum depression, rejecting all four null hypotheses and confirming statistically significant associations across every examined variable. The pattern of associations reveals a hierarchical structure of intervention influence, perceived benefits (χ^2 = 379.532) and prevalence severity (χ^2 = 365.789) emerged as the dominant predictors, followed by intervention frequency adequacy (χ^2 = 89.506) and individual counseling effectiveness (χ^2 = 88.291), with social support mechanisms showing the most modest association (χ^2 = 31.378). This hierarchical pattern extends beyond what existing literature has typically documented, most previous studies examined single intervention types in isolation, whereas the current study simultaneously examines multiple intervention components, revealing that perceived benefit and depression severity are more powerful predictors of management success than any specific intervention type alone.

The relatively modest chi-square value for social support mechanisms (χ^2 = 31.378) compared to other intervention components requires analytical synthesis rather than surface-level reporting. Family functions as a system, when family members respond supportively to maternal PPD, recovery is facilitated through mutually reinforcing cycles of improved functioning; when family members abandon, dismiss, or actively undermine treatment, the systemic effect on recovery is profoundly negative (Norazman & Lee, 2024). The qualitative accounts of systematic spousal abandonment, religiously-motivated treatment withdrawal, and family dismissal of PPD as pretense provide direct explanatory context for why social support showed the weakest quantitative association, these systemic family failures constrained the effectiveness of social support mechanisms despite their theoretical

importance as coping resources. Hegarty *et al*. (2019) in Kenya documented that inadequate partner support significantly undermined PPD treatment adherence, directly consistent with this synthesis. The researcher concludes that social support's modest quantitative association reflects not its theoretical unimportance but the degree to which implementation barriers constrained its real-world effectiveness at Murang'a County Referral Hospital.

The contradiction between the qualitative finding that very few mothers return for follow-up psychotherapy after discharge and the quantitative findings of 88.5% reporting significant mental health improvement and 93.7% willing to recommend interventions requires explicit resolution rather than mere acknowledgment. These findings are not contradictory but reflect two fundamentally different time points and domains of measurement. The quantitative improvement and endorsement rates capture mothers' experiences during the in-ward intervention period when they were actively receiving structured psychosocial support within the hospital environment. The qualitative finding about low post-discharge follow-up return reflects post-hospitalization behavior shaped by financial constraints, transportation barriers, competing caregiving demands, medication non-access, and inadequate systematic follow-up protocols, systemic factors entirely distinct from intervention quality. Oronje *et al*. (2024) identified follow-up continuity as a critical determinant of sustained PPD recovery in Kenya, directly supporting this synthesis. The researcher concludes that high in-ward effectiveness and low post-discharge follow-up are not contradictory but represent two phases of the recovery trajectory that require different systemic interventions to address effectively.

The study findings can be meaningfully utilized beyond Murang'a County Referral Hospital and replicated across Kenya's 47 county referral hospitals and similar settings. The

research design, combining standardized EPDS screening, TEQ intervention assessment, and PSS-4 stress management measurement with qualitative healthcare professional interviews, represents a replicable evaluation framework applicable to any county referral hospital seeking to systematically assess its own PPD burden and intervention effectiveness. The finding that 86.3% of mothers experienced some level of depression through comprehensive screening has direct implications for clinical practice in diagnosis across county hospitals, suggesting that similar hidden PPD burden likely exists across facilities where observational rather than standardized identification approaches are currently used. Madeghe *et al*. (2022) and Fonagy *et al*. (2024) both confirmed that psychosocial intervention effectiveness in Kenyan hospital settings is generalizable across similar socioeconomic and cultural contexts, supporting the replication of the current study's findings and recommendations across the national county referral hospital network as a foundation for evidence-based maternal mental health policy development.

Conclusions

The study concludes that postpartum depression represents a widespread phenomenon affecting the vast majority of mothers in maternity wards at Murang'a County Referral Hospital, with moderate depression serving as the most prevalent severity level occurring alongside substantial proportions experiencing mild to severe symptoms. The comprehensive EPDS screening revealed that 86.3% of mothers experienced some level of depression, a prevalence that substantially exceeds what observational identification methods alone could detect, as confirmed by the qualitative finding that nurses primarily relied on behavioral surveillance rather than standardized tools.

This synthesis of quantitative prevalence data and qualitative identification practice accounts leads to a clear conclusion: PPD at county referral hospital level is a hidden epidemic that standardized screening must make visible before effective intervention can begin. This conclusion is supported by Mutiso *et al*. (2023) who demonstrated that standardized EPDS screening in Kenyan hospitals captures significantly more PPD cases than observational methods, and by Dadi *et al*. (2020) who confirmed that high PPD prevalence across African populations demands systematic rather than reactive identification approaches.

Moreover, the study concludes that psychosocial interventions at Murang'a County Referral Hospital demonstrate genuine effectiveness in managing postpartum depression, with multiple intervention types, individual counseling, group therapy, and social support mechanisms, producing meaningful outcomes for the majority of mothers despite significant implementation barriers. The finding that 95.0% of mothers reported at least moderate perceived benefit and 88.5% reported significant mental health improvement confirms that the interventions delivered are clinically effective when mothers can access them.

However, the simultaneous qualitative documentation of family abandonment, medication non-access, premature discharge, insufficient staffing, and stigma-driven concealment confirms that intervention effectiveness is systematically constrained by implementation barriers that prevent some mothers from fully benefiting. This conclusion is supported by Dennis *et al*. (2020) who demonstrated that structured psychosocial interventions significantly improve maternal outcomes when adequately resourced and delivered, and by Kariuki *et al*. (2021) who confirmed that even brief interventions produce

meaningful benefits when implementation barriers are minimized in Kenyan healthcare settings.

In addition, the study concludes that perceived benefits of psychosocial interventions demonstrate significantly stronger influence on management outcomes than any other variable examined, including depression severity itself, indicating that mother-centered approaches prioritizing subjective therapeutic experience produce superior management results compared to clinician-centered approaches focusing solely on symptom reduction. The chi-square finding that perceived benefits showed the strongest association with management outcomes ($\chi^2 = 379.532$, $p = 0.000$), exceeding even the prevalence-management relationship ($\chi^2 = 365.789$), establishes subjective benefit perception as the most powerful predictor of objective stress management success. This conclusion synthesizes Rational Emotive Behavior Theory (Ellis, 1962) and Stress and Coping Theory (Lazarus & Folkman, 1984) with empirical evidence from Falkenström *et al*. (2019) who demonstrated in Kenyan hospital settings that perceived treatment value was the strongest predictor of subsequent symptom reduction, and from Madeghe *et al*. (2022) who confirmed that mothers who subjectively valued interventions showed significantly greater depression score improvements in Kenyan maternity settings.

The study concludes that postpartum depression management at Murang'a County Referral Hospital operates within healthcare system contexts that simultaneously facilitate recovery and create barriers, requiring comprehensive rather than incremental improvement strategies. The qualitative documentation of systemic barriers, including the accounts from Psychiatrist 1 about medication non-access and premature discharge, from Psychologist 3 about religious influence undermining treatment adherence, and from Nurse 4 about

insufficient specialist staffing, confirms that individual clinical interventions, however effective in isolation, cannot achieve optimal population-level PPD management outcomes without parallel systemic improvements.

This conclusion is supported by Kwobah *et al*. (2023) who documented that mental health resource constraints across Kenyan county hospitals systematically limit intervention effectiveness regardless of clinical quality, and by Hegarty *et al*. (2019) who confirmed that social and systemic factors significantly moderate treatment outcomes in Kenyan maternal mental health contexts. Comprehensive systemic investment alongside clinical quality enhancement is therefore the evidence-based conclusion for achieving optimal PPD management at county referral hospital level.

The study further concludes that the nurses involved in PPD management at Murang'a County Referral Hospital lacked specialized mental health training, representing a frontline capacity gap that limits the facility's ability to identify and provide first-line support for the high PPD burden documented quantitatively. This conclusion synthesizes the qualitative finding about nursing roles with the quantitative prevalence finding, 86.3% of mothers experiencing depression managed by nursing staff without mental health specialization creates a structural mismatch between burden and frontline capacity. This conclusion is supported by Kwobah *et al*. (2023) who documented widespread mental health nursing shortages across Kenyan county hospitals as a systemic challenge, and by Kibret *et al*. (2022) who demonstrated that adequate knowledge, training, and positive attitudes toward evidence-based interventions are the strongest predictors of effective PPD management among healthcare providers. Investing in mental health nursing capacity is therefore a necessary

rather than optional component of comprehensive PPD management at Murang'a County Referral Hospital.

The study concludes that the findings from Murang'a County Referral Hospital have significant implications for replication and policy development across Kenya's 47 county referral hospitals. The high PPD prevalence documented through comprehensive screening, the multi-modal intervention approach, the barriers identified through qualitative data, and the evidence-based improvement recommendations derived from integrated analysis collectively constitute a county-level PPD management evidence base that did not previously exist in the Kenyan literature. Madeghe *et al*. (2022) and Fonagy *et al*. (2024) both confirmed that psychosocial intervention effectiveness in Kenyan settings is generalizable across similar socioeconomic and cultural contexts, supporting the application of these conclusions to county referral hospital settings nationwide. The researcher concludes that systematic replication of this study's screening and intervention assessment framework across multiple county referral hospitals would generate the comparative evidence base needed to develop national maternal mental health policy grounded in county-level realities rather than tertiary facility data alone.

Recommendations

The recommendations are presented under the sections of practice and policy, and are all derived directly from respondents' data generated through quantitative questionnaires and qualitative interviews at Murang'a County Referral Hospital.

Recommendations for Practice

The study recommends that Murang'a County Referral Hospital administration implement the Edinburgh Postnatal Depression Scale as a systematic screening tool for all mothers at admission, 24–48 hours post-delivery, and before discharge. This recommendation is derived from the quantitative finding that 86.3% of mothers experienced some level of depression while nurses reported relying on observational methods alone, a structural mismatch between burden and identification capacity confirmed by both data strands. As Psychiatrist D1 stated: *"In antenatal, we screen for everything, blood pressure, malaria, HIV, but we do not screen the mother's mental health. If we begin screening for depression before delivery, we catch cases earlier and the outcomes are much better for everyone."* This recommendation is supported by Mutiso *et al*. (2023) who demonstrated that systematic EPDS screening in Kenyan hospitals significantly improves PPD case identification compared to observational methods, and by Wisner *et al*. (2013) who confirmed that in-hospital screening during the immediate postpartum period is both feasible and clinically meaningful.

The study recommends that Murang'a County Referral Hospital invest in training maternity ward nurses with mental health skills to strengthen frontline PPD identification and first-line psychosocial support capacity. This recommendation is derived from the study finding that the approximately 20 nurses involved in PPD management were general maternity ward nurses without specialized mental health training, a frontline capacity gap that limits the facility's ability to systematically identify and respond to the high PPD burden documented quantitatively. Nurse 1 articulated the existing relational capacity that structured training could build upon: *"I ensure privacy. I sit with the mother and I tell her directly, you*

are not alone in this, many mothers feel what you are feeling, and there is help available." This recommendation is supported by Kibret *et al*. (2022) who demonstrated that adequate knowledge, proper training, and positive attitudes toward evidence-based interventions are the strongest predictors of effective PPD management, and by Kwobah *et al*. (2023) who documented that mental health nursing shortages across Kenyan county hospitals systematically limit intervention capacity.

The study recommends that structured group therapy sessions be formalized as a core weekly component of PPD management rather than an occasional offering within the maternity wards. This recommendation is derived from the quantitative finding that group therapy received the highest endorsement of all intervention types at 86.0% and demonstrated a highly significant chi-square association with management outcomes (χ^2 = 79.175, p = 0.000). Nurse 6 recommended: *"We need support groups, properly organized ones. When a mother who has recovered speaks to a mother who is still suffering, something shifts. She stops feeling alone. She sees that recovery is possible."* This recommendation is supported by Gillis and Parish (2019) who demonstrated that group-based PPD interventions significantly improved recovery outcomes through peer support and shared learning, and by Nakku *et al*. (2021) who found group problem-solving therapy effective in resource-limited African settings, confirming that formalizing group interventions at Murang'a County Referral Hospital is both evidence-based and contextually feasible.

The study recommends that systematic family involvement protocols be developed including mandatory psychoeducation sessions for family members before mother discharge from the maternity wards. This recommendation is derived from qualitative findings documenting family abandonment, partner unavailability, and religiously-motivated

treatment withdrawal as recurring barriers, convergent evidence from multiple professional accounts confirming that family system failures significantly constrain intervention effectiveness. Psychiatrist 2 stated: *"Family involvement is not optional in my approach, it is pivotal. The family helps with childcare, they ensure medications are taken, they develop understanding of the illness."* This recommendation is supported by Kumar *et al*. (2023) who demonstrated that family-inclusive interventions produced broader benefits than individual-focused approaches alone, and by Norazman and Lee (2024) who confirmed that social support enhancement through family-based programs significantly reduces PPD symptoms, establishing the evidence base for standardizing family involvement protocols across all professional cadres and shifts at Murang'a County Referral Hospital.

The study recommends that follow-up systems be strengthened through home visit programs, telephone-based counseling, and appointment reminder systems to address the documented gap between high in-ward improvement rates and low post-discharge follow-up return. This recommendation is derived from Psychiatrist 1's qualitative account: *"I discharge mothers with medication and book a review. The unsupported ones, I sometimes don't see them again until they relapse, sometimes after a full year."* The quantitative finding that 93.7% of mothers would recommend interventions confirms high in-ward satisfaction, making the low post-discharge return rate a systemic rather than clinical problem requiring systemic solutions. This recommendation is supported by Oronje *et al*. (2024) who identified follow-up continuity as a critical determinant of sustained PPD recovery outcomes in Kenya, and by Nurse 5 who recommended: *"We need nurses who can do home visits so that the care continues after discharge, not just in the hospital."* Strengthening follow-up systems ensures that in-ward gains are sustained rather than lost after discharge.

The study recommends that regular Continuing Medical Education and on-job training programs be implemented for all maternity ward staff covering PPD identification, evidence-based intervention delivery, trauma-informed care, and cultural sensitivity. This recommendation is derived from multiple convergent qualitative accounts, Nurse 1 called for continuous on-job sessions discussing real cases, Nurse 3 called for specialized trauma training for cases involving sexual violence, and D2 recommended regular Continuing Medical Education so every professional remains current on best practice. This recommendation is supported by Kibret *et al*. (2022) who demonstrated that knowledge, training, and positive professional attitudes are the strongest predictors of effective PPD management, and by Branquinho *et al*. (2021) who confirmed that training healthcare providers in evidence-based psychological interventions significantly improves patient outcomes across perinatal depression settings, establishing the evidence base for systematic professional development investment at Murang'a County Referral Hospital.

Recommendations for Policy

The study recommends that the Ministry of Health and Murang'a County Department of Health increase human resources for mental health services by hiring additional psychologists, counselors, and social workers for county referral hospital maternity wards. This recommendation is derived from Nurse 4's qualitative account: *"We do not have enough social workers. The psychologist has so many cases. Mothers wait too long before they see a specialist, and by the time they do, the condition has worsened beyond what it needed to be."* The quantitative finding that 26.4% of mothers found intervention frequency inadequate provides convergent evidence of the consequences of understaffing on management outcomes. This recommendation is supported by Kwobah *et al*. (2023) who documented that

mental health staffing shortages across Kenyan county hospitals are a systemic rather than facility-specific challenge, and by the National Academies of Sciences, Engineering, and Medicine (2016) who confirmed that Kenya's severe shortage of psychiatrists and psychologists, with only 16 out of 47 counties having public sector psychiatrists, requires urgent national policy-level human resource investment.

The study recommends that the county government and hospital administration address financial barriers through medication assistance programs ensuring all prescribed psychotropic medications are available at the hospital pharmacy or through subsidized procurement. This recommendation is derived from Psychiatrist 1's account: *"Some of the drugs these mothers need are simply not available at our pharmacy. The family cannot afford to buy from private pharmacies. So I write the prescription, the mother goes home, and she never fills it. She comes back months later in a worse condition."* Transportation support for follow-up appointments should also be established. This recommendation is supported by the National Academies of Sciences, Engineering, and Medicine (2016) who documented that medication stockouts and financial barriers to pharmaceutical access are critical gaps in Kenyan county-level mental health service delivery, confirming that addressing medication access requires policy-level procurement solutions rather than individual-level financial management advice.

The study recommends that the Ministry of Health develop a formal policy integrating PPD screening into routine antenatal care across all county referral hospitals in Kenya. This recommendation is derived from Psychiatrist D1's recommendation for antenatal screening and from the quantitative finding that 86.3% of mothers experienced some level of depression, a prevalence so high that post-delivery identification alone is structurally

insufficient to manage the full burden. The demographic finding that 17.4% of participants were adolescent mothers and 31.7% were single mothers, both documented as disproportionately vulnerable, supports policy-level identification of high-risk populations before depressive symptoms escalate. This recommendation is supported by Wisner *et al*. (2013) who confirmed that in-hospital screening during the immediate postpartum period is clinically meaningful and predictive of subsequent depressive episodes, establishing the evidence base for formalizing antenatal and immediate postpartum PPD screening as a national maternal health policy requirement across Kenya's county referral hospital network.

The study recommends that the county government develop structured psychoeducation campaigns targeting community members, families, and religious leaders to reduce PPD stigma and promote evidence-based help-seeking. This recommendation is derived from Psychologist 1's account: *"The problem does not begin in this hospital. It begins in homes where mental illness is seen as weakness, where husbands feel entitled to abandon sick wives, where families mix spirituality with medicine and refuse counseling. We must go into communities and educate families before mothers even deliver."* Psychologist 3 further documented that religious leaders advising families to stop medication caused multiple relapses. This recommendation is supported by Dadi *et al*. (2020) who emphasized that effective PPD management in African contexts requires community-level stigma reduction alongside clinical interventions, and by Hegarty *et al*. (2019) who confirmed that cultural and religious factors significantly undermine treatment adherence in Kenyan communities, establishing the evidence base for structured community psychoeducation as a policy-level PPD management component.

Suggestions for Further Research

The study recommends that future research investigate postpartum depression outcomes through longitudinal designs tracking mothers from the antenatal period through at least twelve months postpartum, specifically examining adolescent mothers and mothers who experienced pregnancy through sexual violence. This suggestion arises from the cross-sectional limitation of the current study, which captured only a single time point during the maternity ward stay, and from Nurse 3's clinical observation that cases involving young girls who became pregnant through rape required specialized trauma-informed approaches beyond standard PPD management. The current study documented that 17.4% of participants were below 20 years yet their specific needs could not be fully examined. This suggestion is supported by Tebeka *et al*. (2021) who found that PPD episodes manifest at varying time points requiring longitudinal tracking, and by Sangsawang *et al*. (2019) who demonstrated that adolescent mothers require specifically adapted interventions to achieve effective PPD management outcomes in maternity ward settings.

The study further recommends that future research replicate this study's design across multiple county referral hospitals serving diverse populations in Kenya, and investigate how spiritual and religious support systems can be constructively integrated with evidence-based psychosocial interventions. Replication across Kenya's 47 county referral hospitals would generate the comparative national evidence base needed to develop maternal mental health policy grounded in county-level realities rather than tertiary facility data alone, as the current study's single-facility design at Murang'a County Referral Hospital cannot alone establish national representativeness. Additionally, Psychologist 3's documentation that religious influence led to treatment discontinuation and relapse among multiple mothers confirms that

research integrating spiritual and clinical perspectives is urgently needed. These suggestions are supported by Madeghe *et al*. (2022) and Fonagy *et al*. (2024) who confirmed generalizability of psychosocial intervention findings across Kenyan contexts, and by Dadi *et al*. (2020) who emphasized that culturally sensitive approaches are essential for effective PPD management in African settings.

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APPENDICES

Appendix I: Introduction Letter

Dear Participant,

I am Bernice Wanjiku Ng'ang'a, a Master's student at Pan Africa Christian University. I am conducting research on the relationship between psycho-social interventions and management of postpartum depression among mothers in maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya. Your responses will remain confidential, and your involvement is entirely voluntary. I greatly appreciate your time and cooperation in helping to advance research in this important area.

Sincerely,

Bernice Wanjiku Ng'ang'a

MA Student, Counselling Psychology

Pan Africa Christian University

Appendix II: Respondents' Consent Form (Mothers)

Title of the project:	Relationship between Psycho-Social Interventions and the Management of Postpartum Depression among Mothers in Maternity Wards at Murang'a County Referral Hospital, Murang'a County, Kenya
Researcher	Bernice Wanjiku Ng'ang'a
Institutional Name	Pan Africa Christian University

Purpose of the Study

This study aims to examine the relationship between psycho-social interventions and the management of postpartum depression among mothers in maternity wards at Murang'a County Referral Hospital, Murang'a County, Kenya.

Nature of Participation

Your participation involves completing a questionnaire that will take approximately 20–25 minutes. The questionnaire covers your experiences with postpartum depression and the psychosocial interventions you have received during your stay in the maternity ward.

Voluntary Participation

Your participation is entirely voluntary. You may withdraw at any time without consequences to your medical care or your relationship with Murang'a County Referral Hospital. Choosing

not to participate or withdrawing from the study will in no way affect the quality of care you receive.

Confidentiality

All information you provide will be kept strictly confidential. Your name will not appear on any questionnaire. All data will be assigned unique identification codes and stored on encrypted, password-protected devices accessible only to the principal investigator. Physical documents will be kept in locked filing cabinets.

Potential Risks and Discomfort

You may experience relived negative emotions during the questionnaire. If this happens, a trained research assistant will be available immediately to provide support. After completing the questionnaire, you will be informed of the general purpose of the study and how the findings will be used; given the opportunity to ask any questions about the study or about postpartum depression; provided with information about mental health support services available within Murang'a County Referral Hospital, including how to access the psychologists and psychiatrists on site; reminded that your responses are confidential and will not affect your medical care; and reassured that experiencing emotional difficulty during the postpartum period is common and that professional support is available and accessible within the facility.

Potential Benefits

Your participation will contribute to research that may improve psychosocial intervention services for mothers experiencing postpartum depression at Murang'a County Referral Hospital and similar county referral hospitals across Kenya.

Contact Information

If you have any questions or concerns about this study, please contact the principal investigator:

Bernice Wanjiku Ng'ang'a

MA Student, Counselling Psychology

Pan Africa Christian University

Declaration of Consent

I have read and understood the above information. I have had the opportunity to ask questions and have received satisfactory answers. I voluntarily agree to participate in this study and understand that I may withdraw at any time without consequences to my medical care.

Participant Signature: _____ Date: _____

Participant Name (Optional): _____

Research Assistant Signature: _____ Date: _____

Appendix III: Questionnaire for patients

Please tick [✓] the appropriate response or fill in the blank spaces provided.

Section A: Demographic Information

1. Gender
    i. □ Male
    ii. □ Female
2. Age bracket
    i. □ Below 20 years
    ii. □ 21-30 years
    iii. □ 31-40 years
    iv. □ 41-50 years
    v. □ Above 50 years
3. Level of Education
    i. □ Primary
    ii. □ Secondary
    iii. □ Certificate/Diploma
    iv. □ Bachelor's Degree
    v. □ Master's Degree
    vi. □ PhD
4. Marital Status
    i. □ Single
    ii. □ Married
    iii. □ Divorced/Separated

iv. □ Widowed

Section B: Edinburgh Postnatal Depression Scale

Respondents are asked to indicate their experience over the past week using a 4-point Likert scale: 0 = Not at all, 1 = Not very often, 2 = Sometimes, 3 = Most of the time

Statement	0	1	2	3
I have been able to laugh and see the funny side of things.				
I have looked forward with enjoyment to things.				
I have blamed myself unnecessarily when things went wrong.				
I have been anxious or worried for no good reason.				
I have felt scared or panicky for no good reason.				
Things have been getting on top of me.				
I have been so unhappy that I have had difficulty sleeping.				
I have felt sad or miserable.				
I have been so unhappy that I have been crying.				
The thought of harming myself has occurred to me.				

Scoring: The EPDS has 10 items. Each item is scored on a 4-point Likert scale (0–3) based on frequency in the past week. Maximum total score = 30. Reverse-coded items The following items are positively worded and must be reverse scored before summing: Items 1, 2, and 4

Section C: Treatment Experience Questionnaire (TEQ)

The respondents are asked to indicate their agreement with statements based on their experiences using a 4-point Likert scale, where: 0 = Strongly Disagree, 1 = Disagree, 2 = Agree, 3 = Strongly Agree.

Statement	0	1	2	3
I feel that individual counseling sessions have helped me address my mental health challenges.				
Group therapy has provided me with valuable insights and coping strategies.				
Social support mechanisms have positively impacted my emotional well-being.				
The treatment sessions have been flexible and accommodating to my schedule.				
I have felt comfortable and supported by the professionals leading my treatment sessions.				
The interventions have helped me improve my relationships with others.				
I have learned practical strategies during treatment to manage my stress effectively.				
The frequency of the interventions has been adequate for my needs.				
I feel the treatment has significantly improved my overall mental health.				
I would recommend these psychosocial interventions to others facing similar challenges.				

Section D: Perceived Stress Scale 4 (PSS-4)

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate your response by selecting the option that best represents how often you felt or thought a certain way.

No.	Question	Never (0)	Almost Never (1)	Sometimes (2)	Fairly Often (3)	Very Often (4)
1	In the last month, how often have you felt that you were unable to control the important things in your life?					
2	In the last month, how often have you felt confident about your ability to handle your personal problems?					
3	In the last month, how often have you felt that things were going your way?					
4	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					

(Cohen et al., 1983)

Scoring Instructions

Total Score: Sum all item scores. Reverse Scoring: Items 2 and 3 are reverse coded as follows: *Never = 4, Almost Never = 3, Sometimes = 2, Fairly Often = 1, Very Often = 0*. Interpretation: Higher scores indicate greater perceived stress.

Appendix IV: Interview Guide for Medical Workers

The interview guide will explore the following themes and include 12 specific questions for each category of healthcare professionals

For Nurses

i. What role do you play in identifying and supporting mothers with PPD?
ii. How do you ensure effective communication with mothers experiencing PPD?
iii. What challenges do you face in implementing psychosocial interventions for PPD?
iv. What training or resources would help you better manage PPD cases?

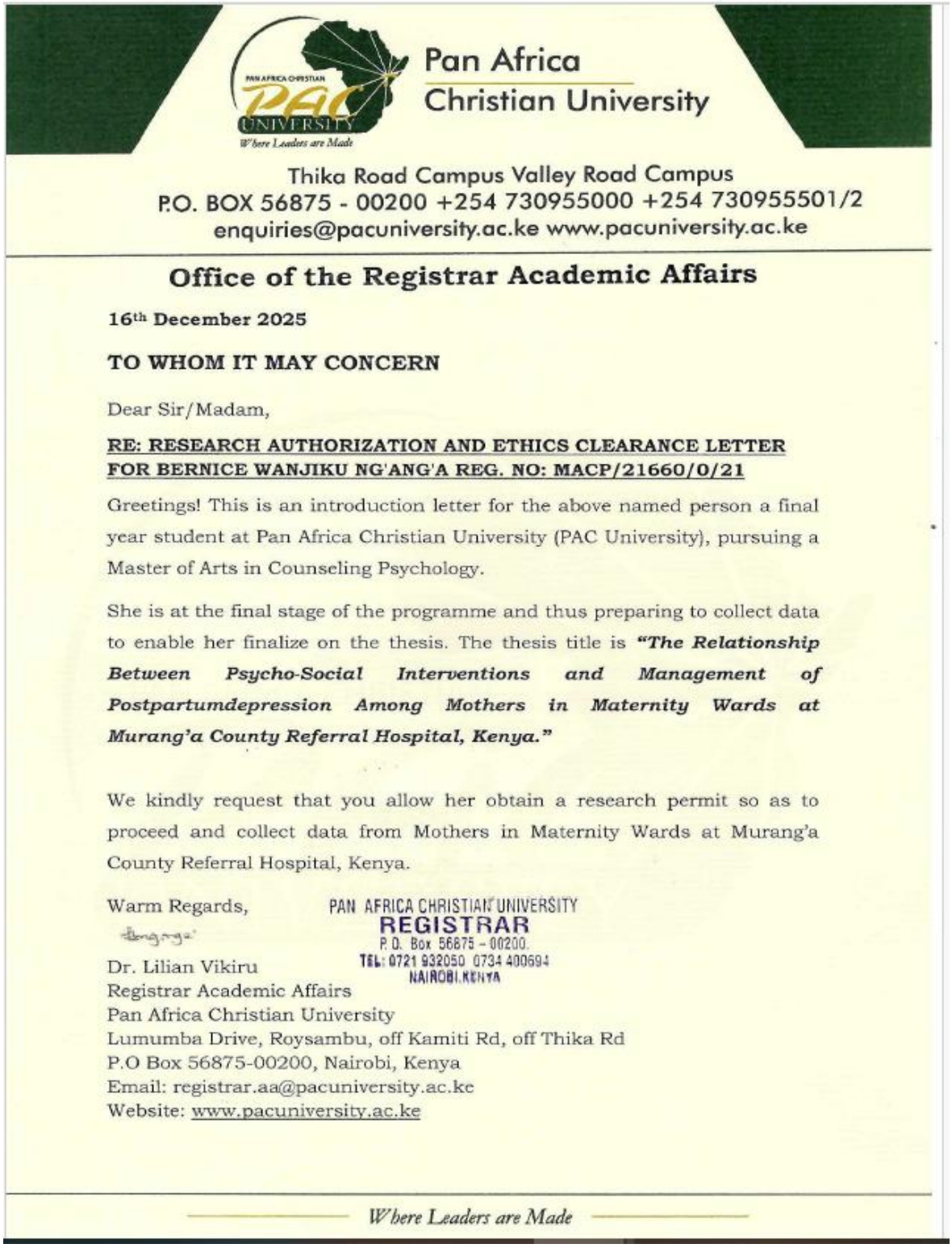
For Psychiatrists/Psychiatrist Registrars/Consultant Psychiatrists

v. How do you determine the suitability of psychosocial interventions for mothers with PPD?
vi. What role does family involvement play in the treatment of PPD?
vii. How do you measure the effectiveness of the interventions provided to mothers?
viii. What are the main barriers to delivering comprehensive care for PPD in this setting?

For Psychologists and Psychotherapists

ix. What therapeutic approaches do you find most effective for treating PPD?
x. How do you address individual differences in mothers during therapy?
xi. What challenges do you face in delivering therapy for mothers with PPD?
xii. How do you evaluate the success of therapy sessions for mothers with PPD?

Appendix V: University Research Authorization



Pan Africa Christian University

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enquiries@pacuniversity.ac.ke www.pacuniversity.ac.ke

Office of the Registrar Academic Affairs

16th December 2025

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION AND ETHICS CLEARANCE LETTER FOR BERNICE WANJIKU NG'ANG'A REG. NO: MACP/21660/0/21

Greetings! This is an introduction letter for the above named person a final year student at Pan Africa Christian University (PAC University), pursuing a Master of Arts in Counseling Psychology.

She is at the final stage of the programme and thus preparing to collect data to enable her finalize on the thesis. The thesis title is ***"The Relationship Between Psycho-Social Interventions and Management of Postpartumdepression Among Mothers in Maternity Wards at Murang'a County Referral Hospital, Kenya."***

We kindly request that you allow her obtain a research permit so as to proceed and collect data from Mothers in Maternity Wards at Murang'a County Referral Hospital, Kenya.

Warm Regards,

PAN AFRICA CHRISTIAN UNIVERSITY
REGISTRAR
P. O. Box 56875 - 00200.
TEL: 0721 932050 0734 400694
NAIROBI, KENYA

Dr. Lilian Vikiru
Registrar Academic Affairs
Pan Africa Christian University
Lumumba Drive, Roysambu, off Kamiti Rd, off Thika Rd
P.O Box 56875-00200, Nairobi, Kenya
Email: registrar.aa@pacuniversity.ac.ke
Website: www.pacuniversity.ac.ke

Where Leaders are Made

Appendix VI: Permit from Muranga Hospital

BN

bernicemarigi@gmail.com|+254723847991|Nairobi,Kenya

8th January 2026

Medical superintendent
Murang'a County Referral Hospital
P.O Box 69-10200
Murang'a.

Dear Madam,

REF:DATA COLLECTION FOR RESEARCH PURPOSES.

My name is Bernice Wanjiku Ng'ang'a, a student at Pan Africa Christian University Nairobi admission number MACP/21660/0/21 pursuing Masters in Counseling Psychology.

In line with the study requirements, I'm required to submit a research thesis which will help me complete my study. My research topic is on ***The Relationship between Psychosocial Interventions and Management of Postpartum Depression among mothers in the Maternity Wards*** which I intend to conduct in Murang'a County Referral Hospital.

I'm therefore requesting for permission to access the Hospital for data collection which will be of great help to wards completion of my thesis and graduate.

Attached is a copy school identification card, data collection permit from NACOSTI and a letter from the university.

Thank you for your time, consideration and assistant.

Sincerely,

Bernice Ng'ang'a

THE MEDICAL SUPERINTENDENT
MURANG'A LEVEL 5 HOSPITAL
09 JAN 2026
P.O. BOX 69 - 10200
MURANG'A

Attention - HRIO I/C
- Maternity Incharge
- Psychology Dept I/C

Appendix VII: NACOSTI permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **806826**

Date of Issue: **06/January/2026**

RESEARCH LICENSE

This is to Certify that Ms.. BERNICE WANJIKU NG'ANG'A of Pan Africa Christian University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Muranga on the topic: RELATIONSHIP BETWEEN PSYCHO-SOCIAL INTERVENTIONS AND MANAGEMENT OF POSTPARTUM DEPRESSION AMONG MOTHERS IN MATERNITY WARDS AT MURANG'A COUNTY REFERRAL HOSPITAL, MURANG'A COUNTY, KENYA for the period ending : 06/January/2027.

License No: **NACOSTI/P/26/4183148**

806826

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Ag. Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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