

**DETERMINANTS OF RELAPSE IN PSYCHIATRIC PATIENTS DISCHARGED
FROM MATHARI NATIONAL TEACHING AND REFERRAL HOSPITAL, KENYA**

By

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MASTER OF ARTS IN COUNSELING PSYCHOLOGY

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ADM NO 24/00943

**A RESEARCH DISSERTATION SUBMITTED TO THE SCHOOL OF EDUCATION,
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IN COUNSELING PSYCHOLOGY IN KCA UNIVERSITY**

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DECLARATION

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and author duly acknowledged.

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DETERMINANTS OF RELAPSE IN PSYCHIATRIC PATIENTS DISCHARGED FROM MATHARI NATIONAL TEACHING AND REFERRAL HOSPITAL, KENYA

ABSTRACT

This study addressed the critical issue of psychiatric relapse following hospitalization at Mathari National Teaching and Referral Hospital (MNTRH) in Kenya. Despite receiving inpatient treatment and clinical stabilization, a significant proportion of psychiatric patients experienced symptom recurrence after discharge, perpetuating a revolving door phenomenon that disrupted recovery trajectories and strained limited healthcare resources. Regional studies demonstrated concerning relapse patterns, with Ethiopia reporting a 37.78% relapse rate among patients with severe mental illnesses and Botswana documenting a 75.0% relapse prevalence at their main psychiatric unit, while Kenya-specific empirical research on psychiatric relapse determinants remained critically limited. The purpose of this study was to investigate the determinants of relapse among psychiatric patients discharged from Mathari National Teaching and Referral Hospital, Kenya. Specifically, the study aimed to identify patient-related determinants of relapse, determine healthcare-related determinants of relapse, explore socio-economic determinants of relapse, and develop an evidence-based intervention framework to prevent relapse among psychiatric patients at MNTRH. The study was informed by the Stress-Vulnerability Model and the Health Belief Model, which provided analytical lenses for examining the multifaceted nature of psychiatric relapse. An ex post facto research design with a mixed methods approach was employed, involving 301 family caregivers (92.0% response rate) and 12 healthcare providers (75.0% response rate). Data were collected using structured questionnaires and semi-structured interviews, then analysed using SPSS version 28.0 and NVivo 14. Results revealed that 61.1% of patients required readmission after discharge, with patient-related determinants (medication non-adherence, poor illness insight) showing the strongest negative correlation with relapse ($r = -.612$, $p < .001$). Healthcare-related factors (inadequate follow-up, limited staffing) and socio-economic determinants (unemployment, unaffordable medications, stigma) also significantly predicted relapse. Regression analysis showed that the four predictor variables collectively explained 55.9% of variance in psychiatric relapse ($R^2 = .559$, $p < .001$). The study concluded that psychiatric relapse at MNTRH results from complex interactions between patient vulnerabilities, healthcare system limitations, and socio-economic pressures. The study recommends establishing dedicated relapse prevention units, implementing mandatory family therapy, creating structured telephone follow-up systems, decentralizing psychiatric services to counties, prioritizing depot medications, and expanding insurance coverage for psychiatric care. Future studies explore determinants of treatment adherence among psychiatric patients as well as determine the effectiveness of different intervention models in preventing relapse.

Keywords: Psychiatric Relapse, Mental Illness, Medication Non-Adherence, Illness Insight, Symptom Recurrence, Treatment Adherence, Patient Vulnerabilities

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TABLE OF CONTENTS

DECLARATION	ii
ABSTRACT	iii
ACKNOWLEDGMENT	iv
TABLE OF CONTENTS	v
DEDICATION	viii
LIST OF FIGURES AND TABLES	ix
ACRONYMS AND ABBREVIATIONS.....	xi
TERMS AND DEFINITIONS.....	xii
CHAPTER ONE.....	1
INTRODUCTION	1
1.0 Introduction	1
1.1 Background of the Study.....	1
1.2 Statement of the Problem	6
1.3 Purpose of the Study	7
1.3.1 Specific Objectives.....	8
1.4 Research Questions	8
1.5 Significance of the Study	8
1.6 Scope and Delimitations of the Study.....	10
CHAPTER TWO.....	11
LITERATURE REVIEW.....	11
2.1 Introduction	11
2.2 Empirical Literature Review	11
2.2.1 Patient-Related Determinants of Relapse	11
2.2.2 Healthcare-Related Determinants of Relapse	13
2.2.3 Socio-Economic Determinants of Relapse	15
2.2.4 Evidence-Based Intervention Frameworks for Relapse Prevention	17
2.3 Research Gaps Identified	19
2.4 Theoretical Framework	20
2.4.1 Stress-Vulnerability Model.....	20
2.4.2 Health Belief Model.....	22
2.5 Conceptual Framework	24
CHAPTER THREE.....	27

RESEARCH METHODOLOGY	27
3.1 Introduction	27
3.2 Research Design	27
3.3 Location of the Study	28
3.4 Target Population.....	29
3.5 Sample and Sampling Procedure	30
3.5.1 Sample Size	30
3.5.2 Sampling Techniques	31
3.6 Research Instruments	31
3.7 Pilot Testing.....	34
3.8 Validity and Reliability of Instruments.....	34
3.8.1 Reliability of Research Instruments	34
3.8.2 Validity of Research Instruments.....	34
3.9 Data Collection Procedure.....	35
3.10 Data Analysis Techniques	35
3.11 Ethical Considerations	36
CHAPTER FOUR	38
DATA ANALYSIS, PRESENTATION AND DISCUSSION.....	38
4.1 Introduction	38
4.2 Response Rate.....	38
4.3 Reliability Results.....	39
4.4 Demographic Information	39
4.4.1 Age Group of Respondents.....	39
4.4.2 Gender of Respondents	40
4.4.3 Relationship to Patient.....	41
4.4.4 Highest Level of Education	42
4.4.5 Duration of Caregiving.....	42
4.5 Patient-Related Determinants of Relapse.....	43
4.6 Healthcare-Related Determinants of Relapse.....	47
4.7 Socio-Economic Determinants of Relapse.....	50
4.8 Psychiatric Relapse Patterns.....	53
4.9 Evidence-Based Intervention Framework Components	55
4.10 Inferential Statistics.....	60
4.10.1 Correlation Analysis.....	60

4.10.2 Multiple Regression Analysis	62
4.11 Discussion of Study Findings	66
4.11.1 Patient-Related Determinants of Relapse	66
4.11.2 Healthcare-Related Determinants of Relapse	67
4.11.3 Socio-Economic Determinants of Relapse	68
4.11.4 Evidence-Based Intervention Frameworks for Relapse Prevention.....	69
CHAPTER FIVE	72
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	72
5.1 Introduction	72
5.2 Summary of Findings.....	72
5.3 Conclusions of the Study.....	74
5.4 Recommendations of the Study.....	76
5.5 Recommendations for Further Studies.....	77
REFERENCES	78
APPENDICES	83
APPENDIX I: Informed Consent	83
APPENDIX II: Family Caregiver Questionnaire	85
APPENDIX III: Healthcare Provider Interview Guide	89
APPENDIX IV: Letter from Board of Postgraduate Studies.....	91
APPENDIX V: NACOSTI Permit	92
APPENDIX VI: Clearance Letter in Mathari Hospital	93
APPENDIX VII: ISERC Letter.....	94

DEDICATION

This dissertation is dedicated to my dear husband Humphrey Mwenda, my children; Goodness, Precious and Giftmine, and my dear parents Paul Manyara and Magdaline Kimiritu. Your dedication, unwavering support and encouragement enabled me to achieve this dream.

LIST OF FIGURES AND TABLES

TABLE 1.....	20
Summary of Literature Gaps and Study Focus	20
FIGURE 1	26
Conceptual Framework.....	26
TABLE 2.....	30
Target Population	30
TABLE 3.....	31
Sample Size and Sampling Procedure	31
TABLE 4.....	38
Response Rate	38
TABLE 5.....	39
Reliability Results	39
FIGURE 2	40
Respondents Age Group	40
FIGURE 3	41
Gender of Respondents.....	41
TABLE 6.....	41
Relationship to Patient.....	41
FIGURE 4	42
Highest Level of Education Completed.....	42
FIGURE 5	43
Duration of Caregiving	43
TABLE 7.....	43
Patient-Related Determinants of Relapse	43
TABLE 8.....	47
Healthcare-Related Determinants of Relapse	47
TABLE 9.....	50
Socio-Economic Determinants of Relapse	50
TABLE 10.....	53
Psychiatric Relapse Patterns	53
TABLE 11.....	56
Evidence-Based Intervention Framework Components	56

TABLE 12.....	61
Correlation Matrix Between Study Variables	61
TABLE 13.....	62
Model Summary	62
Table 14	63
ANOVA	63
TABLE 15.....	63
Coefficients	63

ACRONYMS AND ABBREVIATIONS

CBT	Cognitive-Behavioral Therapy
COCI	Continuity of Care Index
GAF	Global Assessment of Functioning
HBM	Health Belief Model
IDDT	Integrated Dual Disorders Treatment
LMIC	Low- and Middle-Income Countries
MBRP	Mindfulness-Based Relapse Prevention
MMAS-8	Morisky Medication Adherence Scale
MNTRH	Mathari National Teaching and Referral Hospital
PIS	Poverty Index Score
PTSD	Post-Traumatic Stress Disorder
RNR	Risk-Need-Responsivity
RRAT	Relapse Risk Assessment Tool
SES	Service Engagement Scale
SUMD	Scale to Assess Unawareness of Mental Disorder
WHO	World Health Organization

TERMS AND DEFINITIONS

Evidence-based intervention framework: A structured approach to prevent relapse based on scientific research and best practices, incorporating proven strategies for treatment adherence, psychoeducation, family involvement, and integrated care coordination.

Healthcare-related determinants: Factors within the health system that impact relapse, including quality and accessibility of follow-up care, therapeutic alliance between patients and providers, continuity of treatment, medication availability, and coordination of care services.

Patient-related determinants: Individual characteristics and behaviours that influence relapse risk, including medication adherence, insight into illness, comorbid medical or substance use disorders, coping mechanisms, and personal health-seeking behaviours.

Psychiatric patients: Individuals formally diagnosed with one or more mental health disorders as per the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) or International Classification of Diseases (ICD-10) criteria, who have required inpatient psychiatric hospitalization for symptom stabilization and treatment initiation.

Relapse: The re-emergence or significant worsening of psychiatric symptoms that necessitates change in treatment intensity, including readmission to hospital, emergency department visits, or significant increase in outpatient service utilization, following a period of clinical stability or improvement.

Socio-economic determinants: Environmental and social factors affecting relapse rates, including family and community support networks, employment status, income level, housing stability, stigma, transportation access, and socioeconomic status.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter introduces the research study on the determinants of relapse among psychiatric patients discharged from Mathari National Teaching and Referral Hospital, Kenya. It encompasses the background of the study, which provides context for understanding the problem of psychiatric relapse in the Kenyan healthcare system; the statement of the problem highlighting gaps in the current management of relapse; research objectives that guide the investigation; research questions that define the scope of inquiry; and the significance of the study in advancing mental health care practices in Kenya.

1.1 Background of the Study

Relapse can be understood as a breakdown in an individual's attempt to change target behaviors, representing a return to pre-treatment symptom levels after a period of improvement (American Psychiatric Association, 2022). In the context of substance use disorders, relapse involves a recurrence of drinking or drug use following a period of abstinence, while in psychiatric conditions, it entails the re-emergence of symptoms after clinical stabilization (National Institute on Drug Abuse, 2020).

Epidemiological evidence demonstrates alarming relapse rates across different mental health conditions. For schizophrenia, relapse rates can reach 80% within five years of the first psychotic episode (Robinson et al., 1999). Similarly, investigations have documented that relapse rates following treatment typically range from 40-75% within 3 weeks to 6 months after discharge (McKenna et al., 2014). This pattern persists globally, with country-specific examinations reporting relapse rates of 33% in Nepal, 55.8% in China, and 60% in Switzerland (Subramaniam et al., 2014; Wang et al., 2019; Moller et al., 2018).

The economic implications of psychiatric relapse extend beyond individual health outcomes to healthcare system sustainability. In the United States, readmissions due to psychiatric relapse cost approximately \$15 billion annually, with schizophrenia-related readmissions accounting for nearly \$2.3 billion (Olfson et al., 2016). The economic burden of relapse in the United Kingdom similarly demonstrates approximately £28,000 in additional costs per patient experiencing a schizophrenia relapse, primarily due to extended inpatient stays (Knapp et al., 2014). These financial burdens represent critical resource allocation challenges, particularly in healthcare systems already strained by competing priorities (Chaudhary et al., 2024).

The global burden of mental health disorders is substantial, with the World Health Organization (WHO, 2022) reporting that approximately one in eight people worldwide live with a mental health condition. These conditions, ranging from common disorders like depression and anxiety to severe illnesses such as schizophrenia and bipolar disorder, significantly impact individuals, families, and healthcare systems globally (Vos et al., 2020). The challenge of relapse among psychiatric patients remains particularly acute, often resulting in repeated hospitalizations, deteriorating quality of life, and escalating healthcare costs (Thornicroft et al., 2021).

Across high-income countries, several consistent predictors of psychiatric relapse have emerged. In Germany, longitudinal tracking of 2,284 outpatients with schizophrenia identified that 74% of medication discontinuation cases resulted in symptomatic relapse within 18 months (Gaebel et al., 2016). Japanese psychiatric units reported that early warning signs preceding relapse appeared in 70% of cases, with sleep disturbances and increased anxiety emerging as the most reliable predictors 7-14 days before full symptomatic return (Yamada et al., 2020). Australian community mental health services documented that integrated psychosocial

interventions reduced relapse rates by 32% compared to medication management alone, highlighting the importance of holistic approaches to patient stabilization (Morgan et al., 2018).

In the African region, similarly high relapse rates and comparable risk factors to those observed globally persist. In Botswana, research at Jubilee Psychiatric Unit found a relapse prevalence of 75.0%, with male gender, unemployment, multiple previous admissions, medication problems, poor insight, lack of family support, and medication non-adherence significantly associated with relapse (Kelapile, 2022). Uganda's experience at Kampala International University Teaching Hospital demonstrated that 59.7% of relapsing patients had poor treatment adherence, with alcohol abuse affecting 38.8% of cases, while social determinants included poverty, marital status, and lack of social support networks (Muhindo, 2017). Ethiopian investigations at Debre Markos Comprehensive Specialized Hospital identified a relapse rate of 37.78% among patients with severe mental illnesses, highlighting young age (18-36 years), single or widowed status, delayed treatment access, depression diagnosis, and low medication adherence as significant predictors (Amha et al., 2024). Research from Nigeria's Neuropsychiatric Hospitals revealed that despite adequate knowledge of relapse factors (82.5% of patients had adequate to moderate knowledge), personal and social factors continued to significantly influence treatment relapse among psychotic patients (Ayanleke & Aina, n.d.).

The socio-cultural context shapes relapse patterns significantly across the African continent. Ghanaian examinations of relapse determinants identified that traditional healing practices sometimes led to premature discontinuation of conventional psychiatric treatments, with 48.7% of relapsing patients reporting use of traditional healers prior to symptom recurrence (Appiah-Poku et al., 2020). In South Africa, longitudinal assessment of community reintegration identified stigma as a leading contributor to relapse, with 64% of patients reporting discriminatory experiences in their communities following discharge (Eneh & Eneh,

2024). These findings underscore the complex interplay between cultural beliefs, community attitudes, and treatment adherence across diverse African settings.

In Kenya, as in many low- and middle-income countries (LMICs), psychiatric services are concentrated in a limited number of institutions, with Mathari National Teaching and Referral Hospital serving as the national referral facility (Kiima & Jenkins, 2010). Despite receiving treatment and achieving clinical stabilization, many patients experience relapse after discharge, suggesting potential gaps in continuity of care and post-discharge support systems (Jenkins et al., 2012). The Kenya Mental Health Policy 2015-2030 acknowledges these challenges, emphasizing the need for strengthened community-based mental health services to address high readmission rates (Ministry of Health, 2015).

The Kenyan mental healthcare landscape presents particular challenges for relapse prevention, with local research revealing concerning patterns. A nationwide assessment of mental health service utilization patterns documented that only 23.6% of discharged psychiatric patients attended follow-up appointments as scheduled, with transportation costs cited as the primary barrier by 47.3% of patients (Ndeti et al., 2018). Research examining family support systems in Kenyan households with a member diagnosed with severe mental illness revealed that 68.4% of caregivers reported significant financial strain, contributing to medication non-adherence and subsequent relapse (Bitta et al., 2022). At Kenyatta National Hospital's psychiatric unit, analysis of readmission patterns demonstrated that patients living more than 50 kilometers from follow-up facilities experienced relapse rates three times higher than those with proximal access to care (Mutiso et al., 2023). Additionally, a study by Ndeti et al. (2016) found that 45% of patients with schizophrenia in Nairobi experienced relapse within one year of discharge, with poor medication adherence (78%) and lack of family support (62%) being the most significant predictors. Research conducted at Moi Teaching and Referral Hospital revealed that cultural beliefs about mental illness influenced treatment decisions for 56% of

families, with traditional healing consultations preceding 38% of psychiatric readmissions (Kigamwa et al., 2019). A community-based study in Machakos County documented that stigma affected 73% of discharged psychiatric patients, with 41% reporting employment discrimination and 52% experiencing social isolation, factors that significantly increased relapse risk (Othieno et al., 2020).

Research has identified multiple determinants contributing to psychiatric relapse, which can be broadly categorized into individual, healthcare-related, and socio-environmental factors (Byrne et al., 2010). Poor medication adherence emerges as a critical factor, particularly among patients with psychotic disorders (Velligan et al., 2009). Social support systems, whether familial or community-based, serve as crucial protective factors against relapse (Addington et al., 2003). Other significant contributors include co-occurring substance use disorders, stigma, socioeconomic difficulties, and inadequate post-discharge care coordination (Olfson et al., 2016).

The interaction between biological vulnerability and environmental stressors creates complex relapse trajectories. Neurobiological investigations have identified that repeated relapses in schizophrenia correlate with progressive neuroanatomical changes, particularly in prefrontal cortical regions, suggesting that each relapse episode potentially increases vulnerability to future recurrences (Pitanupong et al., 2023). The mechanism of kindling, whereby each episode lowers the threshold for subsequent episodes, has similarly been documented in mood disorders, with interpersonal conflicts serving as the most common triggering events in bipolar disorder relapse (Bhatt et al., 2023). These findings emphasize the critical importance of early intervention and sustained treatment adherence in preventing the neurobiological cascade that facilitates repeated relapse cycles.

The Kenyan context presents unique challenges that may exacerbate relapse risks. These include limited mental health resources, shortage of mental health professionals,

persistent stigma surrounding mental disorders, and barriers to accessing follow-up care (Ndeti et al., 2010). Understanding these determinants within the specific socio-economic, cultural, and institutional context of Mathari Hospital becomes essential for developing effective interventions to improve long-term patient outcomes and reduce readmission rates. Further, examining relapse patterns within Kenya's largest psychiatric facility provides valuable insights into the effectiveness of current treatment approaches and highlights opportunities for systemic improvements in the national mental healthcare framework.

1.2 Statement of the Problem

Despite extensive global research on psychiatric relapse determinants, there is a critical absence of empirical evidence examining the specific factors contributing to relapse among patients discharged from Kenya's largest psychiatric referral facility (Ndeti et al., 2010; Kiima & Jenkins, 2010). While international studies have identified various relapse predictors with rates ranging from 40-75% within 3-6 months post-discharge (McKenna et al., 2014; Robinson et al., 1999), no comprehensive investigation has examined how patient-related, healthcare-related, and socio-economic determinants interact within the unique context of Mathari National Teaching and Referral Hospital. This knowledge gap prevents the development of evidence-based, contextually appropriate relapse prevention strategies for Kenya's most vulnerable psychiatric population (Jenkins et al., 2012). The lack of systematic documentation of relapse patterns and their determinants at MNTRH represents a significant barrier to improving mental healthcare outcomes in Kenya (Ministry of Health, 2015).

Preliminary data from Mathari National Teaching and Referral Hospital indicates concerning readmission rates within six months of discharge, yet comprehensive systematic documentation of relapse patterns and their underlying causes remains absent. This situation is particularly problematic given that MNTRH serves as Kenya's national psychiatric referral center, treating the most complex cases from all 47 counties (Kiima & Jenkins, 2010). The

absence of empirical evidence about relapse determinants at this critical facility means that discharge planning, follow-up protocols, and community reintegration strategies are based on generalized assumptions rather than demonstrated local needs.

The consequences of this knowledge deficit are multifaceted. Clinically, healthcare providers lack evidence-based tools to identify high-risk patients and implement targeted interventions during the vulnerable post-discharge period (Thornicroft et al., 2021). From a policy perspective, resource allocation decisions for mental health services cannot be optimally informed without understanding the primary drivers of treatment failure. Economically, the continued cycle of readmissions places unsustainable strain on Kenya's limited mental health resources, with many discharged patients returning within weeks or months in more deteriorated conditions, similar to patterns observed in other LMICs where psychiatric readmissions cost healthcare systems substantially (Olfson et al., 2016).

Current interventions at MNTRH remain generalized rather than targeted, addressing presumed rather than demonstrated needs. Without contextual understanding of how individual patient characteristics, healthcare system factors, and socio-economic challenges specifically influence relapse outcomes in the Kenyan setting, prevention strategies cannot be optimally designed or implemented (Ndetei et al., 2018). This research gap has profound implications for the approximately 1,800 families annually affected by psychiatric discharge from MNTRH, who lack access to evidence-based support systems tailored to their specific circumstances and risk profiles.

The urgent need to address this knowledge deficit motivates this study's focused examination of relapse determinants among psychiatric patients discharged from Mathari National Teaching and Referral Hospital, with the goal of developing an evidence-based intervention framework appropriate for the Kenyan context.

1.3 Purpose of the Study

The purpose of this study was to investigate the determinants of relapse among psychiatric patients discharged from Mathari National Teaching and Referral Hospital, Kenya.

1.3.1 Specific Objectives

- i. To identify the patient-related determinants of relapse among psychiatric patients in MNTRH, Kenya
- ii. To determine the healthcare-related determinants of relapse among psychiatric patients in MNTRH, Kenya
- iii. To explore the socio-economic determinants of relapse among psychiatric patients in MNTRH, Kenya
- iv. To develop an evidence-based intervention framework to prevent relapse among psychiatric patients in MNTRH, Kenya

1.4 Research Questions

- i. What is the patient-related determinants of relapse among psychiatric patients discharged from MNTRH, Kenya?
- ii. What healthcare-related factors contribute to relapse among psychiatric patients discharged from MNTRH, Kenya?
- iii. How do socio-economic factors influence relapse rates among psychiatric patients discharged from MNTRH, Kenya?
- iv. What intervention frameworks can effectively prevent relapse among psychiatric patients discharged from MNTRH, Kenya?

1.5 Significance of the Study

This study provides critical insights for multiple stakeholders in Kenya's mental health system. For mental health professionals, the findings will enhance understanding of specific relapse triggers within the local context, enabling clinicians to develop more targeted therapeutic interventions and improve patient assessment protocols at MNTRH. The study will equip

practitioners with evidence-based knowledge to better identify high-risk patients and implement appropriate preventive measures during the acute phase of treatment and the transition to community care. For policymakers, this research offers empirical evidence to inform national mental health policy reforms, particularly regarding community mental health services, medication accessibility, and post-discharge support systems. The findings can guide resource allocation decisions, supporting the expansion of outpatient services and community-based interventions that address identified relapse determinants. Additionally, the study's evidence can strengthen advocacy for increased mental health funding and the integration of mental health services into the broader healthcare system.

For patients themselves, this study will contribute to improved treatment outcomes through the development of personalized relapse prevention strategies and enhanced discharge planning protocols. The evidence-based intervention framework will help patients receive more targeted support based on their specific risk profiles, potentially reducing their likelihood of experiencing preventable relapses and improving their overall quality of life. For caregivers, including families and community support networks, the study provides essential knowledge about modifiable risk factors for relapse, enabling them to better support their loved ones during the critical post-discharge period. The findings will inform caregiver education programs, helping families recognize early warning signs of relapse and understand their role in medication adherence and treatment engagement.

For healthcare administrators and hospital management, the study will provide valuable data for improving service delivery systems, optimizing resource utilization, and developing cost-effective discharge planning protocols. The findings can inform staffing decisions, training programs, and infrastructure development priorities at MNTRH and other psychiatric facilities. For academic institutions and researchers, this study establishes a methodological framework for conducting similar research in other LMIC settings and provides baseline data

for longitudinal studies on psychiatric relapse in Kenya. The evidence-based intervention framework can serve as a model for replication and adaptation in other East African countries. For international development organizations and funding agencies, the study offers evidence of effective interventions in resource-limited settings, supporting informed decision-making about mental health program funding and technical assistance priorities in sub-Saharan Africa.

For community health workers and peer support specialists, the findings will enhance their capacity to provide effective support to individuals with mental illness in community settings, improving the continuum of care between hospital and community-based services. Further, this research contributes valuable knowledge to the limited body of literature on psychiatric relapse in East Africa, establishing a foundation for future comparative research and potentially informing mental health practice across the region.

1.6 Scope and Delimitations of the Study

The study focused on patients discharged from Mathari National Teaching and Referral Hospital within the past 12 months. It examined specific determinants of relapse, including patient-related factors (medication adherence, illness insight, and comorbid conditions), healthcare-related factors (follow-up care quality, therapeutic alliance, and treatment accessibility), and socio-economic determinants (family support, employment status, and stigma). The study did not explore genetic or biological predispositions to relapse, focusing instead on modifiable factors amenable to intervention. While the findings may have had limited generalizability to other psychiatric institutions in Kenya due to the specific characteristics of MNTRH as a national referral facility, they provided valuable insights into relapse patterns at the highest level of psychiatric care in the country. The research methodology was restricted to caregivers who could provide informed consent.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a comprehensive review of the literature surrounding relapse among psychiatric patients, focusing on the following key components: theoretical frameworks that underpin the understanding of psychiatric relapse; empirical evidence on various determinants of relapse; related research conducted in similar contexts; identified gaps in the existing knowledge base; and the conceptual framework guiding this study. The review draws from both global and regional literature to contextualize the determinants of relapse at Mathari National Teaching and Referral Hospital.

2.2 Empirical Literature Review

This section examines empirical research on the key determinants of psychiatric relapse, focusing on patient-related, healthcare-related, and socio-economic factors. Before reviewing the literature, it is important to define the key concepts that guide this investigation. Patient-related determinants encompass individual characteristics and behaviors that influence relapse risk, including medication adherence, illness insight, psychological coping mechanisms, and comorbid conditions. Healthcare-related determinants refer to factors within the health system that impact treatment outcomes, such as quality of follow-up care, treatment continuity, medication availability, and therapeutic relationships. Socio-economic determinants include environmental and social factors affecting recovery, such as family support, employment status, financial stability, housing conditions, and community stigma.

2.2.1 Patient-Related Determinants of Relapse

Psychological factors play a crucial role in relapse prevention among individuals with psychiatric disorders. Research investigating psychological determinants of relapse prevention among drug addicts in Islamabad and Rawalpindi rehabilitation centers examined four key

psychological factors: self-reflection, self-importance of moral identity, self-forgiveness, and personal growth initiative (Namood-e-Sahar & Naqvi, 2020). The findings revealed that these psychological variables collectively explained 14% variance in relapse warning signs, with personal growth initiative emerging as the most significant predictor. This study highlights the importance of examining psychological factors beyond medication adherence, suggesting that internal psychological processes may significantly influence relapse outcomes among psychiatric patients.

Comorbid substance use represents a significant risk factor for psychiatric relapse. A retrospective analysis of medical records from 1,430 psychiatric patients revealed that dual-diagnosis patients had a 2.5 times higher risk of relapse compared to those with single diagnoses, with alcohol use disorder emerging as the strongest predictor (Bahorik et al., 2014). This research emphasizes the critical importance of assessing comorbid substance use among psychiatric patients, suggesting that substance use screening and integrated treatment approaches should be key components of relapse prevention strategies.

Demographic factors and their interaction effects significantly influence treatment outcomes and relapse risk. A multicenter analysis examining patient-related determinants demonstrated that patient characteristics such as age, gender, performance status, and comorbidity indices significantly influenced treatment outcomes (Chaudhary et al., 2024). This research highlights the importance of considering demographic factors and their interaction effects when assessing relapse risk.

Quality of life emerges as both a predictor and outcome measure for treatment stability. Research on treatment impacts demonstrated that patients with better quality of life scores experienced longer time to deterioration, establishing a bidirectional relationship between patient well-being and treatment outcomes (Hathaway et al., 2018). This suggests that quality

of life assessments should be incorporated into relapse risk evaluation, as subjective well-being may serve as both a predictor and outcome measure for psychiatric stability.

Individual patient characteristics interact with treatment modalities to create unique relapse patterns. A comprehensive review of treatment approaches highlighted how biological heterogeneity interacts with patient-specific factors to create unique relapse patterns, emphasizing individualized approaches based on risk stratification profiles and previous treatment responses (Bhatt et al., 2023). This suggests that psychiatric relapse should be examined through a personalized lens, considering how individual patient characteristics interact with treatment modalities to determine relapse vulnerability.

Regional research provides particularly relevant context for understanding patient-related determinants in similar healthcare settings. A prospective follow-up study at Debre Markos Comprehensive Specialized Hospital in Ethiopia identified a relapse rate of 37.78%, with significant predictors including young age (18-36 years), single or widowed status, delayed treatment access, depression diagnosis, and low medication adherence (Amha et al., 2024). This research provides methodological approaches and empirically-identified risk factors that may be highly applicable to the Kenyan context.

2.2.2 Healthcare-Related Determinants of Relapse

Healthcare access disparities significantly impact treatment outcomes and relapse rates. A comprehensive review on disparities in healthcare identified significant disparities in healthcare access and quality across racial, socioeconomic, and geographic lines (Banerjee et al., 2024). The review highlighted how access to specialized expertise significantly impacts treatment outcomes, emphasizing the importance of healthcare system coordination in preventing relapse. This research highlights the importance of examining healthcare access disparities, suggesting that geographical barriers, referral systems, and continuity of care between primary and specialized services should be key areas of investigation.

Medication management practices directly influence relapse outcomes in psychiatric care. A university hospital-based study in Southern Thailand examining factors associated with low relapse rates in schizophrenia documented a cumulative five-year relapse rate of 53.8%, with prescription changes emerging as a significant factor associated with relapse risk (Pitanupong et al., 2023). This finding underscores the importance of medication continuity and treatment stability in relapse prevention.

Healthcare technology and documentation practices play increasingly important roles in identifying and preventing relapse. Investigation into AI-powered extraction of social determinants of health from patient records demonstrated that healthcare systems can better identify patients at risk for relapse through improved documentation analysis (Shah-Mohammadi & Finkelstein, 2024). This highlights the potential value of examining documentation practices, suggesting that the quality, completeness, and accessibility of patient records may significantly influence relapse prevention through accurate risk identification.

Treatment selection and medication regimens substantially impact relapse outcomes and healthcare costs. Economic analysis of discontinuation and relapse rates among schizophrenia patients revealed stark differences in relapse outcomes based on treatment selection, with certain medication combinations showing 50% reduction in relapse risk compared to standard treatments (Ching et al., 2023). This highlights the importance of examining medication regimen selection practices and considering economic implications of different treatment approaches when developing relapse prevention strategies.

Concurrent medical complications and hospital care quality influence psychiatric treatment adherence and outcomes. Research on hospital-acquired complications demonstrated how extended length of stay and high antibiotic usage contributed to complications that can indirectly affect treatment adherence and relapse risk (Franco Garcia et al., 2020). This highlights the importance of examining hospital-acquired complications and comorbidity

management, suggesting that inpatient care quality and coordination between physical and mental healthcare may significantly influence psychiatric relapse outcomes.

Treatment adequacy remains a critical challenge in psychiatric care, particularly in resource-limited settings. A multinational study on undertreatment of major depressive disorder revealed that only 41% of patients with severe depression received minimally adequate treatment, with particularly low rates in low- and middle-income countries (16.5%) (Thornicroft et al., 2021). This research provides a methodological framework for evaluating treatment adequacy, suggesting that provider training, therapeutic dose and duration, and follow-up protocols should be carefully examined as potential determinants of relapse.

Alternative service delivery models may significantly influence treatment continuity and relapse patterns. Investigation of telehealth implementation for psychiatric care revealed that facilities successfully implementing telehealth services maintained higher patient engagement rates (68% vs. 42%) and lower appointment cancellation rates (24% vs. 37%) compared to those with less robust implementation (Fortuna et al., 2022). This highlights the importance of examining alternative care delivery models, suggesting that the availability and quality of remote support services may significantly influence treatment continuity and subsequent relapse risk.

2.2.3 Socio-Economic Determinants of Relapse

Employment status and educational attainment serve as significant protective factors against psychiatric relapse. A comprehensive analysis of demographic, socio-economic, and clinical variables for mental illness relapse in South-East Nigeria documented a relapse rate of 52.1%, with unemployed individuals constituting 61.62% of relapse cases compared to 56.84% in the general sample (Eneh & Eneh, 2024). The research revealed that employment status significantly predicted relapse risk, with employed individuals having lower likelihood of relapse compared to the unemployed. This research provides an African contextual

understanding of socioeconomic determinants, suggesting that employment status and educational attainment should be carefully examined as potential protective factors against relapse.

Community attitudes and social support networks significantly influence treatment adherence and recovery outcomes. Research on socio-economic and psychological problems of relapsed individuals revealed that patients faced significant socioeconomic obstacles, including limited access to healthcare and negative attitudes from family members, friends, and neighbors (Bashir et al., 2021). The research emphasized that lack of awareness about mental health conditions contributed to increased risk of relapse in society, underscoring the importance of socioeconomic education and community support systems.

Financial barriers represent major obstacles to treatment continuation and recovery maintenance. A descriptive study exploring socio-economic challenges among relapsed individuals revealed that 87% faced significant financial difficulties, while 64% experienced strained family relationships (Ahmed & Shah, 2024). The analysis emphasized that socioeconomic challenges, including financial strain and family stress, were significant predictors of relapse. This highlights the need to assess financial barriers to treatment continuation, suggesting that investigations of medication affordability, transportation costs, and household economic strain should be central to understanding relapse determinants.

Socioeconomic status directly impacts access to advanced treatments and influences long-term outcomes. Research investigating how socio-economic status influences access to second-line treatments found that patients with lower socio-economic status had a 3.14 times higher risk of requiring advanced treatments compared to those in higher socioeconomic brackets (Calocer et al., 2018). This disparity highlights how socioeconomic factors directly impact access to advanced treatments, potentially influencing relapse outcomes.

External socioeconomic shocks disproportionately affect vulnerable populations and treatment adherence. Research on COVID-19 lockdown impacts revealed that among individuals in socio-economic difficulties, follow-up adherence dropped from approximately 30% to 17.53% during the lockdown (Aragona et al., 2020). The research demonstrated that vulnerable populations faced greater difficulties accessing health services and maintaining treatment adherence, potentially increasing relapse risk.

Health literacy and occupational factors correlate with treatment awareness and access to resources. A qualitative study on attitudes among different socio-economic groups found that individuals in lower socio-economic status exhibited higher dependency rates and had inadequate knowledge of health policies (Chellappa et al., 2021). This demonstrates how occupational status directly correlates with health awareness and treatment access, highlighting the importance of examining health literacy and occupational factors in relapse prevention.

2.2.4 Evidence-Based Intervention Frameworks for Relapse Prevention

Risk-stratified psychological interventions demonstrate significant effectiveness in preventing relapse among high-risk populations. A comprehensive review of psychological interventions in preventing relapse and recurrence in major depressive disorder demonstrated that cognitive-behavioral therapy delivered during acute phase treatment creates an enduring protective effect against relapse (Bockting et al., 2015). The research established that continuation CBT and mindfulness-based cognitive therapy showed the largest differential effects for individuals at highest risk. This evidence supports the development of tiered intervention frameworks based on risk stratification.

Multidisciplinary intervention frameworks addressing biopsychosocial determinants show promise for comprehensive relapse prevention. A scoping review of factors contributing to relapse emphasizes the need for multidisciplinary intervention frameworks, identifying biopsychosocial determinants, trauma, and environmental cues as key relapse factors (Husiny,

2024). The framework emphasizes comprehensive education programs and modified prevention programs tailored to individual risk profiles, supporting a personalized intervention approach.

Mindfulness-based approaches provide sustained benefits for relapse prevention when integrated into comprehensive treatment frameworks. A randomized clinical trial comparing mindfulness-based relapse prevention with standard approaches demonstrated that mindfulness interventions significantly reduced relapse risk and substance use frequency at 6-month follow-up (Bowen et al., 2014). This provides evidence for integrating mindfulness practices into relapse prevention, suggesting that intervention frameworks should incorporate stress reduction and emotional regulation components.

Quality of life measures and symptom management approaches complement traditional relapse prevention strategies. A systematic review and meta-analysis of mindfulness-based relapse prevention identified significant effects on withdrawal symptoms and negative consequences, supporting incorporation of these approaches as part of comprehensive intervention frameworks focusing on symptom management and quality of life improvement (Grant et al., 2017). This highlights the importance of including symptomatic and functional outcomes beyond relapse rates in intervention frameworks.

Integrated care frameworks addressing co-occurring conditions demonstrate effectiveness across diverse populations. A review of evidence-based practices for co-occurring mental and substance use disorders identified three evidence-based approaches: Integrated Dual Disorders Treatment, Risk-Need-Responsivity model, and Cognitive-Behavioral Therapy (Peters et al., 2017). The review emphasizes integrated assessment addressing multiple disorders simultaneously, supporting the development of multi-domain intervention frameworks.

Systematic implementation frameworks provide structural templates for effective relapse prevention programs. A review of the Zero Suicide Model demonstrates the effectiveness of systematic implementation frameworks for high-risk populations, providing structured steps for clinical management and emphasizing ongoing risk assessment, direct intervention, and monitoring during transitions (Brodsky et al., 2017). This provides a structural template for relapse prevention, suggesting that intervention frameworks should incorporate systematic assessment, intervention, and monitoring protocols with particular attention to transition periods.

2.3 Research Gaps Identified

The empirical review reveals significant gaps in psychiatric relapse research, particularly within the context of low- and middle-income countries like Kenya. While research provides valuable insights into psychological determinants and comorbidity factors, most studies remain concentrated in high-resource settings with different healthcare infrastructure. Healthcare-related determinants identified in the literature focus on specialized care access disparities and medication continuity challenges that may not directly translate to resource constraints typical in Kenyan settings. Socio-economic studies address contextual challenges relevant to LMIC settings, but miss the specific cultural, linguistic, and healthcare delivery nuances present in Kenya's mental health system. The significant gap identified is the absence of integrated research examining how patient-related psychological factors, healthcare delivery issues, and socio-economic vulnerabilities interact within Kenya's largest psychiatric referral facility. Furthermore, while evidence-based intervention frameworks exist, few studies demonstrate how these frameworks can be adapted to resource-limited settings with consideration for local cultural values, language barriers, and economic constraints.

TABLE 1
Summary of Literature Gaps and Study Focus

Author(s) & Year	Research Focus	Gap Addressed by Current Study
Namood-e-Sahar & Naqvi (2020)	Psychological determinants in rehabilitation centers	Study examines these factors within MNTRH's specific context
Bahorik et al. (2014)	Comorbidity impact on relapse	Investigates dual-diagnosis prevalence and outcomes at MNTRH
Banerjee et al. (2024)	Healthcare disparities in cancer care	Explores mental health care disparities unique to Kenya's system
Pitanupong et al. (2023)	Prescription patterns in Thailand	Examines medication continuity challenges at MNTRH
Eneh & Eneh (2024)	Socioeconomic factors in South-East Nigeria	Analyzes Kenyan-specific socioeconomic influences
Aragona et al. (2020)	COVID-19 impact on vulnerable populations	Studies baseline vulnerabilities in MNTRH's urban population
Peters et al. (2017)	Criminal justice system interventions	Adapts integrated care models for civilian psychiatric setting
Bowen et al. (2014)	Mindfulness-based interventions in US	Evaluates cultural appropriateness for Kenyan mental health context

2.4 Theoretical Framework

This study is anchored in two major theories that provide a comprehensive understanding of psychiatric relapse: The Stress-Vulnerability Model and the Health Belief Model. These theoretical frameworks directly inform the investigation of relapse determinants among psychiatric patients discharged from Mathari National Teaching and Referral Hospital by providing analytical lenses for examining patient-related, healthcare-related, and socio-economic factors that contribute to symptom recurrence.

2.4.1 Stress-Vulnerability Model

The Stress-Vulnerability Model, developed by Zubin and Spring (1977), establishes the conceptual foundation for this study's examination of how individual vulnerabilities interact with environmental pressures to precipitate relapse among MNTRH patients. This model directly guides the investigation by proposing that psychiatric relapse occurs when the interaction between biological vulnerability and environmental stressors exceeds an individual's threshold for maintaining psychological equilibrium (Nuechterlein & Dawson, 1984). The model's four fundamental tenets provide the theoretical framework for analyzing

how patient-related, healthcare-related, and socio-economic determinants identified in this study contribute to relapse outcomes at MNTRH.

The first tenet, biological vulnerability, directly informs this study's first research objective concerning patient-related determinants of relapse at MNTRH. Through this theoretical lens, the study analyzed how factors such as medication adherence, illness insight, and comorbid conditions represent manifestations of individual vulnerability levels. The questionnaire items measuring patient medication compliance and symptom awareness are theoretically grounded in this tenet's premise that individuals with higher biological vulnerability require stronger protective mechanisms to maintain stability. The model predicts that MNTRH patients with greater biological vulnerability (evidenced by multiple hospitalizations, severe symptoms, or treatment resistance) demonstrated higher relapse rates when protective factors are insufficient.

The second tenet, environmental stressors, provides the theoretical foundation for investigating this study's third research objective regarding socio-economic determinants of relapse. The model directly predicts that MNTRH patients experiencing higher levels of environmental stress—measured in this study through family support, employment status, and financial stability indicators demonstrated increased relapse risk. The caregiver questionnaire items assessing housing stability, family dynamics, and community stigma are theoretically justified by this tenet's emphasis on external triggers. This theoretical framework guides the study's hypothesis that socio-economic challenges function as environmental stressors that, when combined with individual vulnerability, precipitate symptom recurrence among discharged patients.

The third tenet, individual threshold, directly informs this study's analysis of how personal and environmental factors interact to determine relapse outcomes at MNTRH. This theoretical concept guides the study's examination of why patients with similar diagnoses and

treatment histories may have different relapse trajectories based on their unique stress tolerance levels. The interview guide for healthcare providers includes questions about individual differences in stress responses, theoretically grounded in this tenet's premise that threshold levels vary among patients and can be modified through intervention.

The fourth tenet, protective factors and resilience, provides the theoretical basis for this study's second research objective concerning healthcare-related determinants and fourth objective of developing an evidence-based intervention framework for MNTRH. The model predicts that patients receiving higher quality healthcare services, better treatment continuity, and stronger therapeutic relationships demonstrated lower relapse rates due to enhanced protective factors. The questionnaire items measuring follow-up care quality and provider consistency are theoretically justified by this tenet's emphasis on resilience-building interventions.

2.4.2 Health Belief Model

The Health Belief Model (HBM) provides the theoretical framework for understanding how patients' cognitive perceptions and beliefs influence their post-discharge behaviors that contribute to relapse at MNTRH (Rosenstock, 1974). This model directly guides the study's investigation by proposing that treatment adherence and help-seeking behaviors critical factors in relapse prevention are determined by patients' perceptions of their vulnerability, treatment benefits, and barriers to care. The model's five core tenets provide the theoretical foundation for developing questionnaire items and interview questions that examine how health beliefs influence relapse outcomes among MNTRH patients.

The first tenet, perceived susceptibility and severity, directly informs this study's measurement of patient insight and illness awareness as determinants of relapse. The caregiver questionnaire items assessing whether patients understand their mental health condition and recognize early warning signs are theoretically grounded in this tenet's premise that perceived

vulnerability influences health behaviors. The HBM predicts that MNTRH patients with higher perceived susceptibility to relapse demonstrated better treatment adherence and lower actual relapse rates.

The second tenet, perceived benefits and barriers, provides the theoretical foundation for investigating healthcare-related determinants in this study. The questionnaire items measuring treatment accessibility, medication affordability, and healthcare service quality are theoretically justified by this tenet's emphasis on cost-benefit analysis in health decision-making. The model guides the study's hypothesis that MNTRH patients who perceive greater barriers to treatment (transportation costs, clinic accessibility, medication side effects) relative to perceived benefits demonstrated higher relapse rates.

The third tenet, cues to action, directly informs this study's examination of follow-up systems and family support as factors influencing relapse at MNTRH. The interview questions for healthcare providers about discharge planning and community support systems are theoretically grounded in this tenet's emphasis on environmental triggers for health behaviors. The model predicts that effective cues to action (appointment reminders, family encouragement, symptom monitoring systems) correlated with lower relapse rates among MNTRH patients.

The fourth tenet, self-efficacy, provides the theoretical basis for examining patient confidence in managing their mental health as a determinant of relapse. This theoretical concept directly guides the development of intervention framework components that enhance patients' confidence in medication management and symptom recognition. The model predicts that MNTRH patients with higher self-efficacy demonstrated better treatment adherence and lower relapse rates.

The fifth tenet, modifying factors, guides this study's analysis of how demographic and socio-economic variables influence the relationship between health beliefs and relapse

outcomes at MNTRH. The questionnaire items collecting caregiver and patient demographic information are theoretically justified by this tenet's recognition that age, education, and socio-economic status modify health belief formation and behavioral responses.

Together, these theoretical frameworks provide the conceptual foundation for this study's investigation of relapse determinants at MNTRH. The Stress-Vulnerability Model guides the examination of how individual vulnerabilities interact with environmental pressures to precipitate relapse, while the Health Belief Model informs the analysis of cognitive and motivational factors that influence health behaviors critical to relapse prevention. This theoretical integration directly supports the study's development of an evidence-based intervention framework that addresses both vulnerability-stress interactions and health belief modification within the specific context of MNTRH's patient population.

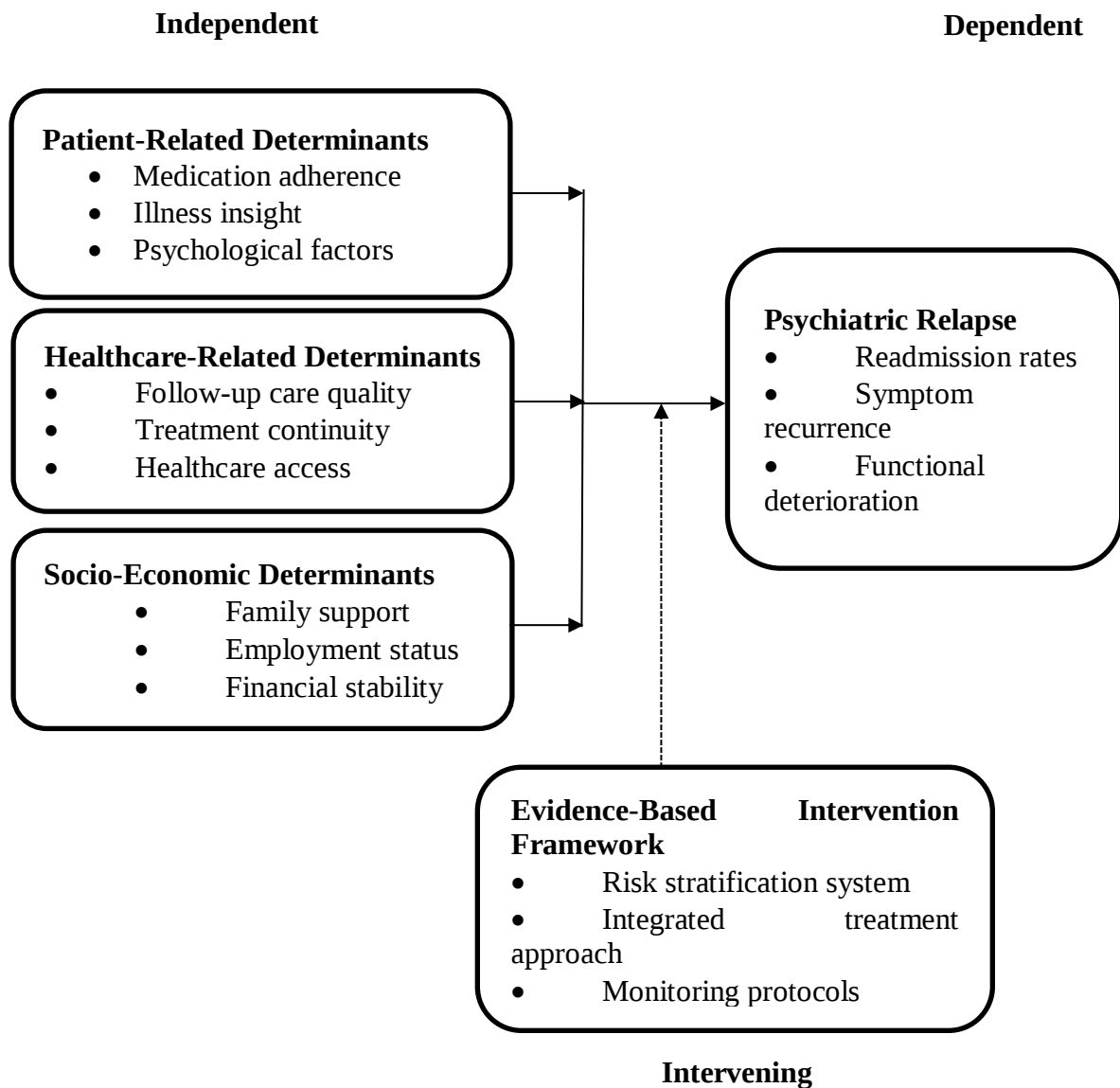
2.5 Conceptual Framework

The conceptual framework for this study illustrates the theoretical relationships between variables that influence psychiatric relapse among patients discharged from Mathari National Teaching and Referral Hospital, grounded in the Stress-Vulnerability Model and Health Belief Model. The framework identifies psychiatric relapse as the dependent variable, while three categories of independent variables serve as primary determinants: patient-related determinants (medication adherence, illness insight, comorbid conditions, and psychological coping mechanisms), healthcare-related determinants (follow-up care quality, treatment continuity, medication availability, and therapeutic alliance), and socio-economic determinants (family support, employment status, financial stability, and community stigma).

An evidence-based intervention framework functions as a moderating variable incorporating risk stratification, integrated treatment approaches, and systematic monitoring protocols that can potentially modify the relationship between these determinants and relapse outcomes. The relationships demonstrate that psychiatric relapse results from complex

interactions among individual, healthcare, and socio-economic factors, with patient-related determinants influencing relapse through their direct impact on treatment adherence, healthcare-related determinants affecting relapse by determining quality and accessibility of professional support, and socio-economic determinants influencing relapse through environmental stressors and available recovery resources, while the evidence-based intervention framework can strengthen protective factors and address modifiable risk factors across all domains as illustrated in Figure 2.1.

FIGURE 1
Conceptual Framework



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presented a description of research methodology which was used in the study. It mainly covered the research design, study location, target population, sample size, sampling procedures, research instruments, validity and reliability of instruments, data collection procedures, data analysis techniques and presentation and operationalization of variables.

3.2 Research Design

This study utilized an ex post facto research design with a mixed methods approach to investigate the determinants of relapse among psychiatric patients discharged from Mathari National Teaching and Referral Hospital. Ex post facto research design was appropriate for examining events that had already occurred and investigating relationships between variables without manipulating them (Kerlinger & Lee, 2000). This design was particularly suitable for studying relapse determinants as it allowed researchers to examine factors that contributed to relapse episodes that had already taken place among discharged patients.

The mixed methods approach combined quantitative and qualitative data collection and analysis techniques to provide a comprehensive understanding of relapse determinants. According to Creswell and Plano Clark (2018), mixed methods research involves collecting, analyzing, and integrating both quantitative and qualitative data within a single study to provide a more complete understanding of complex phenomena. The quantitative component employed survey methodology to gather numerical data from family caregivers about their experiences and observations regarding factors contributing to patient relapse. The qualitative component used in-depth interviews with healthcare providers who served as key informants with specialized knowledge of psychiatric relapse patterns and determinants.

The ex post facto design was particularly suitable for this study because relapse episodes had already occurred among the target population, allowing for retrospective examination of contributing factors. This approach enabled the researcher to investigate relationships between patient-related, healthcare-related, and socio-economic determinants and relapse outcomes without manipulating variables or exposing participants to potential harm. The design allowed for gathering representative data from a larger sample of family caregivers while also capturing the professional insights and clinical expertise of healthcare providers. The integration of both perspectives provided a more holistic understanding of the complex factors influencing psychiatric relapse at MNTRH, facilitating the development of evidence-based intervention frameworks based on observed patterns and relationships.

3.3 Location of the Study

This study was conducted at Mathari National Teaching and Referral Hospital (MNTRH), located in Nairobi County, Kenya. Situated in Mathare North Sub-County within Ruaraka Constituency, the facility is approximately 6 kilometers from Nairobi's central business district. As Kenya's largest and oldest psychiatric hospital, MNTRH serves as the national referral center for mental health services, receiving patients from all 47 counties in Kenya. Established in 1910, the hospital has evolved from an isolation center for smallpox patients to Kenya's premier psychiatric institution with a bed capacity of 700. The facility provides both inpatient and outpatient psychiatric services, including specialized units for forensic psychiatry, substance use disorders, child and adolescent psychiatry, and psychogeriatrics. The hospital also functions as a teaching and research institution, affiliated with the University of Nairobi and other medical training institutions.

The choice of MNTRH as the study location was deliberate and strategic for several compelling reasons. As Kenya's primary psychiatric referral facility receiving patients from all 47 counties, MNTRH ensured national representativeness and significance of study findings

rather than regional limitations. The hospital manages the most complex and severe psychiatric cases in the country, making it optimal for studying relapse determinants among high-risk patients with challenging recovery trajectories. MNTRH houses Kenya's largest concentration of mental health professionals, providing access to highly knowledgeable key informants with extensive experience across diverse relapse patterns. As a teaching hospital with established research infrastructure and strong policy influence potential, research conducted at MNTRH carries significant weight in national mental health policy development and is more likely to influence psychiatric care standards, resource allocation decisions, and clinical practice improvements across Kenya's mental health system.

3.4 Target Population

The target population for this study comprised two key stakeholder groups: family caregivers of psychiatric patients discharged from MNTRH and healthcare providers working in the hospital's psychiatric departments. Family caregivers included adults (18+ years) who were identified as primary support persons for patients discharged from MNTRH within the 12 months preceding data collection. These caregivers had been actively involved in the patient's care both during hospitalization and after discharge, providing essential daily support, medication management, symptom monitoring, and facilitating follow-up care. Hospital social work department records indicated approximately 1,800 family caregivers met these criteria.

Healthcare providers included professionals directly involved in psychiatric care at MNTRH, comprising psychiatrists, psychiatric residents, mental health nurses, clinical psychologists, counselors, psychiatric social workers, and occupational therapists. To be included, providers had to have worked at MNTRH for at least one year and have direct clinical involvement with discharged patients.

These two stakeholder groups were selected as they represented complementary perspectives on psychiatric relapse determinants. Family caregivers provided firsthand accounts of the daily challenges and experiences that may contribute to relapse in the home environment, while healthcare providers offered clinical expertise and professional insights into relapse patterns observed across multiple patients.

TABLE 2
Target Population

Population Category	Population
Healthcare Providers	16
Family Caregivers	1,800
Total	1816

3.5 Sample and Sampling Procedure

3.5.1 Sample Size

For family caregivers, the sample size was determined using Yamane's formula (1967):

$$n = N / (1 + N(e)^2)$$

Where:

n = required sample size

N = population size of family caregivers (1,800)

e = margin of error at 5% (0.05)

$$n = 1,800 / (1 + 1,800(0.05)^2)$$

$$n = 1,800 / (1 + 1,800(0.0025))$$

$$n = 1,800 / (1 + 4.5)$$

$$n = 1,800 / 5.5$$

$$n = 327$$

The sample size for family caregivers was 327.

For healthcare providers, a purposive sample of 16 key informants was selected based on their expertise and experience in managing psychiatric relapse cases at MNTRH.

TABLE 3
Sample Size and Sampling Procedure

Participant Category	Sample Size	Sampling Technique
Healthcare Providers	16	Purposive sampling
Family Caregivers	327	Simple random sampling
Total	343	Mixed techniques

3.5.2 Sampling Techniques

The study employed different sampling techniques for each population group: For Family Caregivers: Simple random sampling was used to select 327 caregivers from the hospital's records of identified primary caregivers of patients discharged within the 12 months preceding data collection. This approach ensured that each caregiver had an equal chance of selection, facilitating generalizability of findings to the broader caregiver population at MNTRH. A numbered list of all eligible caregivers was created, and participants were selected using a computer-generated random number sequence.

For Healthcare Providers: Purposive sampling was employed to select 16 key informants with extensive experience managing relapse cases. Selection criteria ensured representation across different professional categories (psychiatrists, psychiatric nurses, clinical psychologists, and social workers) and clinical specialties (acute care, rehabilitation, outpatient services). These key informants were purposively selected based on their expertise, years of experience, and depth of knowledge regarding psychiatric relapse patterns and determinants at MNTRH. The selection specifically targeted providers who had been directly involved in discharge planning, follow-up care, and readmission assessments.

3.6 Research Instruments

The researcher used questionnaires and interview guides as the primary research instruments for this study. The questionnaire was administered to family caregivers and contained background information of the respondent such as age, gender, relationship to patient, education level, and questions relating to the theme of the study. It consisted of both closed and Likert scale items to facilitate quantitative analysis. The questionnaire was organized into

sections addressing the research objectives including patient-related factors, healthcare-related factors, and socio-economic factors contributing to relapse. The Likert scale items ranged from 1 (strongly disagree) to 5 (strongly agree) to measure caregivers' perceptions of various relapse determinants.

Section A: Demographic Information captured caregiver characteristics including age, gender, education level, occupation, relationship to patient (spouse, parent, sibling, child, or other), duration of caregiving experience, and household composition. This section also gathered basic patient information such as age, gender, primary psychiatric diagnosis, duration of illness, number of previous hospitalizations, and time since last discharge from MNTRH.

Section B: Patient-Related Determinants assessed factors inherent to the patient that may contribute to relapse. This section included items measuring medication adherence patterns using adapted items from the Morisky Medication Adherence Scale (MMAS-8), illness insight and awareness using modified items from the Scale to Assess Unawareness of Mental Disorder (SUMD), substance use behaviors, comorbid medical conditions, and psychological coping mechanisms using selected items from the Brief COPE Scale. Caregivers rated the frequency and severity of these factors on 5-point Likert scales.

Section C: Healthcare-Related Determinants examined factors within the healthcare system that influence relapse outcomes. This section assessed follow-up care quality and accessibility using items adapted from the Service Engagement Scale (SES), treatment continuity and provider consistency using modified Continuity of Care Index (COCI) items, medication availability and affordability, therapeutic relationship quality, discharge planning adequacy, and care coordination between hospital and community services. Items measured caregivers' perceptions of healthcare service quality and accessibility barriers.

Section D: Socio-Economic Determinants evaluated environmental and social factors affecting relapse risk. This section included items measuring family support systems using

adapted items from the Multidimensional Scale of Perceived Social Support, employment status and financial stability using modified Poverty Index Score (PIS) components, housing stability and living conditions, community stigma and discrimination experiences, transportation access to healthcare services, and social network availability. Caregivers rated the impact of these factors on patient recovery and treatment adherence.

Section E: Relapse Episodes and Patterns documented specific relapse experiences including frequency of relapse episodes since discharge, duration between discharge and first relapse, warning signs observed before relapse, triggers identified by caregivers, severity of relapse episodes using adapted Clinical Global Impression Scale items, and impact on family functioning. This section provided outcome measures for correlation with determinant factors.

Section F: Intervention Preferences and Recommendations explored caregivers' perspectives on effective relapse prevention strategies, preferred intervention approaches, barriers to implementing prevention strategies, support needs for families, and recommendations for improving current services. This section informed the development of the evidence-based intervention framework by incorporating caregiver insights and preferences.

A semi-structured interview guide was developed for healthcare providers who served as key informants. The guide included open-ended questions that encouraged detailed responses while maintaining focus on the research objectives. The interview guide explored healthcare providers' professional perspectives on determinants of relapse, current prevention strategies, institutional challenges, and recommendations for an evidence-based intervention framework. The interview guide was structured to address the four research objectives while allowing flexibility to pursue emerging themes, including probing questions about patient risk factors, healthcare system barriers, socio-economic influences, and effective intervention components based on their clinical experience.

3.7 Pilot Testing

According to Wiersma and Jurs (2005), it is necessary that research instruments be piloted as a way of determining validity and reliability. The research instruments were piloted at Kenyatta National Hospital's psychiatric unit, involving 33 family caregivers (10% of the sample size) and 2 healthcare providers. This location was selected because it provided a similar psychiatric service context to MNTRH but avoided contaminating the main study population. The purpose for piloting was to assess the research instruments' clarity and the suitability of the language used in reference to the different respondents.

3.8 Validity and Reliability of Instruments

3.8.1 Reliability of Research Instruments

Reliability is the proportion of variance attributable to the true measurement of a variable and estimates the consistency of such measurement over time. The procedure for extracting an estimate of reliability was obtained from the administration of test-retest method which involved administering the same instrument twice to the same group of subjects with a 2 weeks' time lapse between the first and second administration. According to Mugenda and Mugenda (2003), a coefficient of 0.70 or more shows that there is high reliability of data. Additional measures of reliability included calculating Cronbach's alpha coefficients for all Likert scale items in the questionnaire, with a minimum acceptable threshold of 0.70. This ensured the internal consistency of the measurement items.

3.8.2 Validity of Research Instruments

To establish the validity of the instrument, this study used content validity which measures the degree to which the sample of test items represents the content that the tests are designed to measure. Research instruments were developed based on comprehensive literature review and theoretical frameworks relevant to psychiatric relapse. Draft instruments were reviewed by a

panel of five experts including two psychiatrists, one clinical psychologist, one psychiatric nurse, and one social worker with expertise in mental health. The Content Validity Index (CVI) was calculated, and items scoring below 0.80 were revised or eliminated. Validity was also established by use of expert judgment, where the supervisors assessed the validity of the instrument (Best & Khan, 2006). For Likert scale items, factor analysis was conducted using pilot data to confirm the expected factor structure in the Kenyan context.

3.9 Data Collection Procedure

First, the researcher obtained a clearance letter from the university and proceeded to collect a letter of introduction and permission to conduct the research from NACOSTI. The researcher also obtained a research license from NACOSTI. The researcher then sought ethical approval from the KCA University Scientific and Ethical Review Committee and the Mathari National Teaching and Referral Hospital Research Ethics Committee. Upon receiving all necessary approvals, the researcher approached potential participants through the hospital's outpatient department and family support services. For family caregivers, the researcher explained the purpose of the study and obtained informed consent before administering the questionnaire. Questionnaires were administered through face-to-face interviews to accommodate varying literacy levels and ensure question comprehension. The researcher was available to clarify any items as needed. For healthcare providers, the researcher conducted key informant interviews with the 12 purposively selected professionals who participated. A convenient time and private location were arranged for each interview. All interviews were audio-recorded with participants' permission and conducted in their preferred language (English or Kiswahili) to facilitate comfortable expression. Each interview lasted approximately 45-60 minutes.

3.10 Data Analysis Techniques

Upon successful data collection, the researcher sorted and coded the data in preparation for data analysis. This was made possible by use of data analysis software such as Statistical

Package for Social Sciences (SPSS) version 28.0 for quantitative data and NVivo 14 for qualitative data. Quantitative data from family caregiver questionnaires were analyzed using both descriptive and inferential statistics. Descriptive statistics included frequencies, percentages, means, standard deviations, medians, and interquartile ranges as appropriate. These were used to summarize demographic information and caregivers' perceptions of different relapse determinants. Inferential statistics included chi-square tests to examine associations between categorical variables and perceived relapse factors, independent t-tests to compare means between different groups of caregivers, Pearson or Spearman correlations to assess relationships between continuous variables, and multiple regression analysis to identify significant predictors of relapse as perceived by caregivers. Results were presented using appropriate tables, charts, and graphs to facilitate clear interpretation.

Qualitative data from key informant interviews were analyzed using thematic analysis approach. This involved transcribing audio recordings verbatim, familiarizing with the data through repeated reading, generating initial codes based on key concepts relevant to the research objectives, developing themes by collating codes, reviewing and refining themes, defining and naming themes, and selecting compelling extract examples to illustrate themes. The qualitative analysis identified patterns, similarities, and differences in healthcare providers' perspectives on relapse determinants. The final analytical phase integrated quantitative and qualitative findings to provide a comprehensive understanding of relapse determinants at MNTRH.

3.11 Ethical Considerations

This study recognized that each human being has value in himself or herself, and that value must be maintained in all interactions between people as much as possible. Christensen (2006) warns that access alone is not all that the researcher needs for successfully interacting with

subjects and collecting data. A good working atmosphere with respect and trust should be established before the researcher settles for data collection.

This study observed ethical standards of practice that researchers are expected to follow. The researcher sought ethical approval from the KCA University Scientific and Ethical Review Committee, the Mathari National Teaching and Referral Hospital Research Ethics Committee, and the National Commission for Science, Technology and Innovation (NACOSTI). Following ethical clearance, the researcher sought permission from the Board of Post Graduate Studies from the university to proceed with data collection.

The consent of respondents to participate in the study was sought by informing them of the purpose of the study. Participants were provided with detailed information about the research objectives, procedures, potential risks and benefits, and their right to withdraw at any time without penalty. Written informed consent was obtained from all participants before data collection began.

Assurance of maintaining confidentiality and anonymity was given to all participants. This was done by having the identity part on the questionnaires optional and using participant codes instead of names. For key informant interviews, participants were assured that their responses would be reported without attribution to specific individuals, and any identifying information would be removed from transcripts.

Additional ethical safeguards included ensuring the protection of vulnerable participants, conducting interviews in private settings, and securing all data through password-protected storage systems. Participants were provided with contact information for additional support if needed, including mental health resources and counselling services. Copyright was respected through proper referencing and acknowledgment of all sources used in the study.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

This chapter presents the analysis and interpretation of data collected from family caregivers and healthcare providers at Mathari National Teaching and Referral Hospital. The chapter covers demographic information of respondents, reliability results, descriptive analysis of patient-related determinants, healthcare-related determinants, socio-economic determinants, psychiatric relapse patterns, and evidence-based intervention framework components. The study targeted 327 family caregivers and 16 healthcare providers. Data was analysed using SPSS version 28.0 for quantitative data and NVivo 14 for qualitative data.

4.2 Response Rate

The study targeted 327 family caregivers who were issued with questionnaires and 16 healthcare providers for interviews. Table 4.1 presents the response rate.

TABLE 4
Response Rate

Respondent Category	Target Sample	Returned/Completed	Percentage (%)
Family Caregivers	327	301	92.0
Healthcare Providers	16	12	75.0
Total	343	313	91.3

The results indicate that 301 out of 327 family caregivers returned their questionnaires, representing a 92.0% response rate. Additionally, Qualitative data was collected through semi-structured interviews with healthcare providers at Mathari National Teaching and Referral Hospital. The study initially targeted 16 healthcare providers for key informant interviews, but the researcher successfully conducted interviews with 12 respondents, representing a 75.0% response rate. The interviews explored healthcare providers' perspectives on relapse determinants, current prevention practices, systemic barriers, and recommendations for improvement. The overall response rate was 91.3%, which according to Mugenda and

Mugenda (2003) is excellent and adequate for data analysis and generalization of findings. Audio recordings from the qualitative data were transcribed verbatim and analyzed using thematic analysis approach in NVivo 14. Initial codes were generated based the research objectives, followed by collating codes into themes, reviewing and refining themes, and selecting compelling extract examples to illustrate identified patterns.

4.3 Reliability Results

The reliability of the questionnaire was tested using Cronbach's Coefficient Alpha (α) to measure internal consistency. The SPSS version 28.0 was used to compute the Cronbach alpha values. According to Kombo and Tromp (2006), an alpha value of 0.7 or above indicates acceptable reliability. Table 4.2 presents the reliability results.

TABLE 5
Reliability Results

Variable	Cronbach Alpha	Verdict
Patient-Related Determinants	0.823	Reliable
Healthcare-Related Determinants	0.791	Reliable
Socio-Economic Determinants	0.805	Reliable
Psychiatric Relapse	0.847	Reliable
Evidence-Based Intervention Framework	0.812	Reliable

The results indicate that patient-related determinants had an alpha of 0.823, healthcare-related determinants had 0.791, socio-economic determinants had 0.805, psychiatric relapse had 0.847, and evidence-based intervention framework had 0.812. All variables exceeded the threshold of 0.7, confirming that the research instrument was reliable and suitable for data analysis.

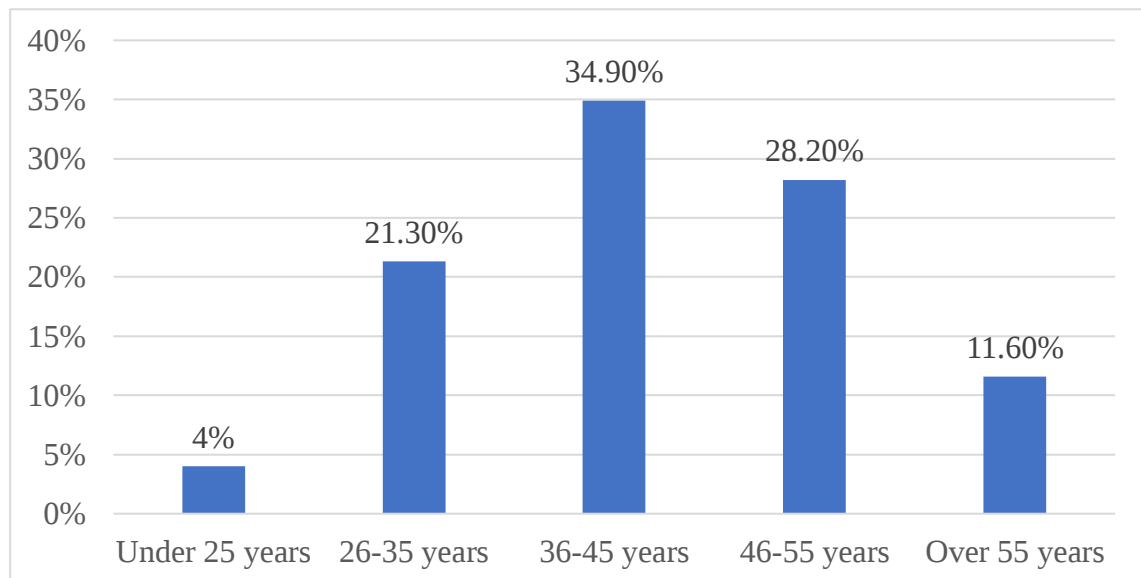
4.4 Demographic Information

The study sought to establish the demographic characteristics of family caregivers who participated in the study. This information was essential in understanding the background of respondents and how it relates to their experiences with psychiatric relapse determinants.

4.4.1 Age Group of Respondents

The study sought to determine the age group of the respondents. The results were as shown in Figure 4.1.

FIGURE 2
Respondents Age Group

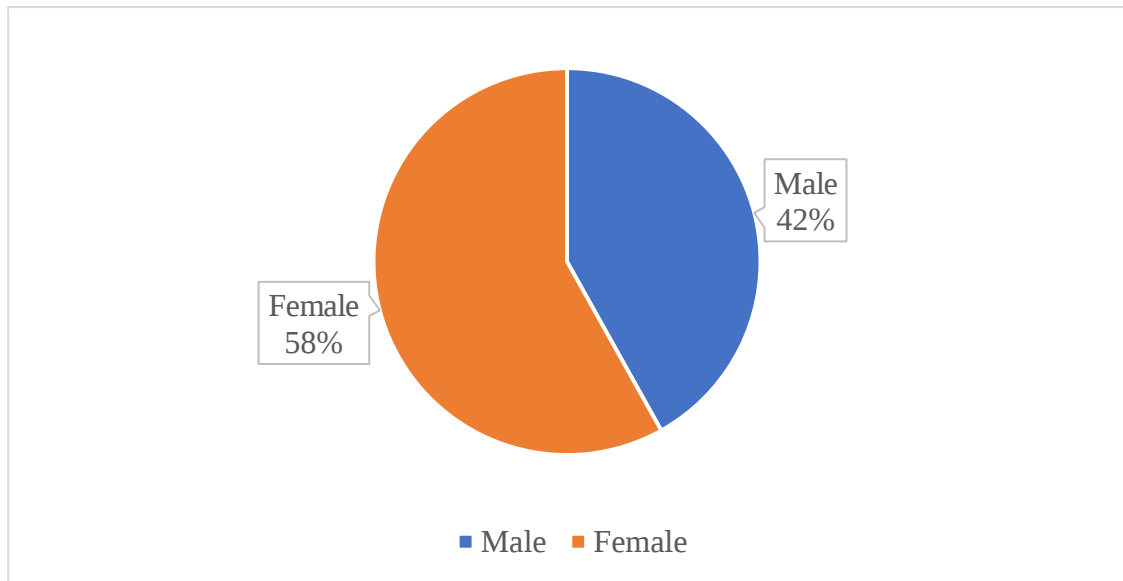


The results showed that 34.9% of the respondents were aged between 36-45 years, 28.2% were aged between 46-55 years, 21.3% were aged between 26-35 years, 11.6% were over 55 years, while 4.0% were under 25 years. This implies that majority of the caregivers were middle-aged adults between 36-45 years, reflecting the typical age range of parents and siblings caring for psychiatric patients.

4.4.2 Gender of Respondents

The respondents were required to indicate their gender. The results were as shown in Figure 4.2.

FIGURE 3
Gender of Respondents



The findings showed that 58.1% of the respondents were female while 41.9% were male. This implies that majority of family caregivers who participated in the study were female. This gender distribution reflects the typical pattern where women predominantly assume caregiving roles for family members with mental illness in Kenyan households. Both male and female caregivers provided valuable information needed for this study.

4.4.3 Relationship to Patient

The respondents were required to indicate their relationship to the patient. The results were shown in Table 4.3.

TABLE 6
Relationship to Patient

Category	Frequency	Percent
Spouse/Partner	43	14.3
Parent	142	47.2
Sibling	78	25.9
Child	26	8.6
Other relative	12	4.0
Total	301	100.0

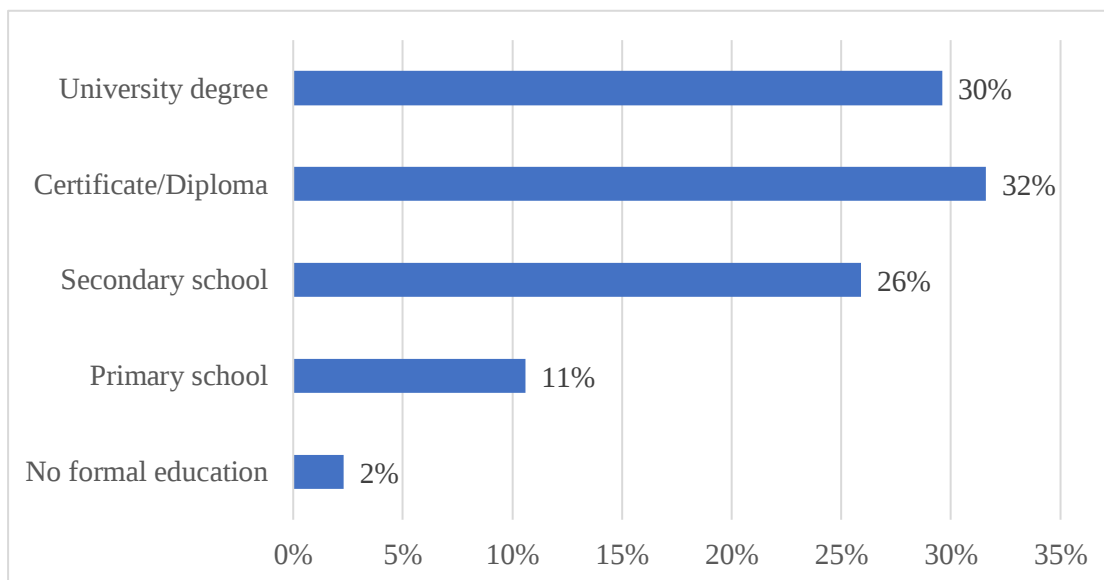
The results depicted that majority (47.2%) of the respondents were parents of the patients, 25.9% were siblings, 14.3% were spouses or partners, 8.6% were children of the

patients, while 4.0% were other relatives including aunts, uncles, and cousins. This shows that parents constitute the primary caregiving group for psychiatric patients discharged from MNTRH, followed by siblings who provide substantial family support.

4.4.4 Highest Level of Education

The study sought to determine the educational level of the respondents. The results were as shown in Figure 4.3.

FIGURE 4
Highest Level of Education Completed

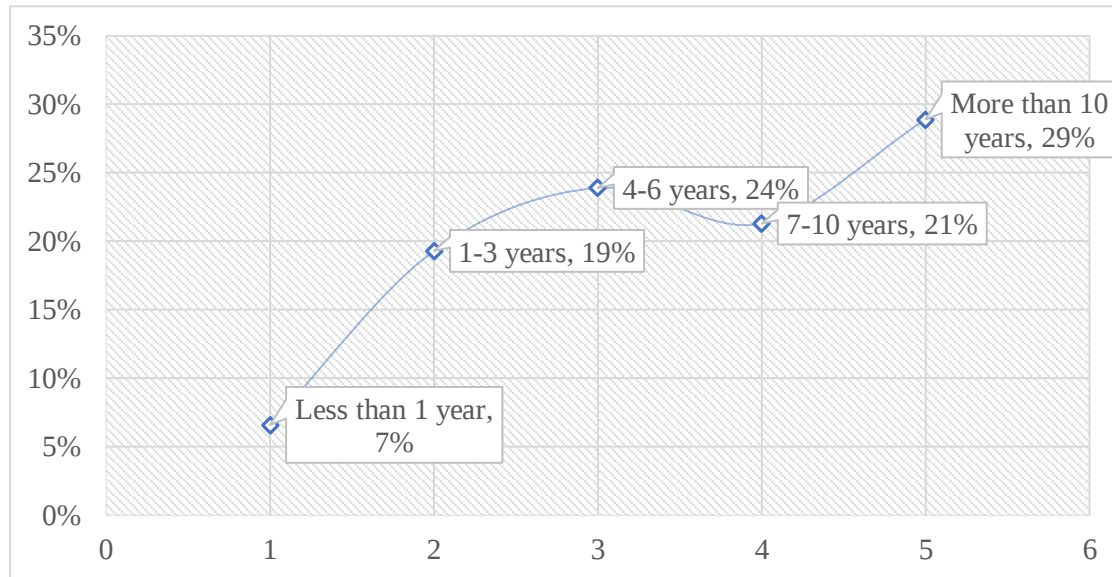


The results showed that 31.6% of the respondents had certificate or diploma level education, 29.6% had university degrees, 25.9% completed secondary school, 10.6% completed primary school, while 2.3% had no formal education. This implies that majority of the caregivers had at least secondary level education, which may influence their understanding of mental health conditions and treatment adherence support.

4.4.5 Duration of Caregiving

The respondents were required to indicate the duration they have been providing care to the patient. The results were as shown in Figure 4.4.

FIGURE 5
Duration of Caregiving



The results show that 28.9% of the respondents had been caregivers for more than 10 years, 23.9% for 4-6 years, 21.3% for 7-10 years, 19.3% for 1-3 years, while 6.6% had been caregivers for less than 1 year. This implies that majority of the caregivers had extensive long-term experience providing care for psychiatric patients, suggesting chronic patterns of mental illness requiring sustained family support.

4.5 Patient-Related Determinants of Relapse

The study sought to identify patient-related determinants of relapse among psychiatric patients discharged from MNTRH. Respondents were required to indicate their level of agreement with statements on a 5-point Likert scale where 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly Agree. The results were analysed using descriptive statistics including frequencies, percentages, means, and standard deviations as shown in Table 4.4.

TABLE 7
Patient-Related Determinants of Relapse

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev
The patient takes their psychiatric medication exactly as prescribed by the doctor	18.3	34.2	12.6	26.6	8.3	2.72	1.28
The patient sometimes forgets to take their psychiatric medication	6.0	15.9	11.3	42.5	24.3	3.63	1.19
The patient clearly understands that they have a mental health condition	22.6	31.9	15.6	21.6	8.3	2.61	1.31
The patient recognizes early warning signs of symptom worsening	25.9	35.5	16.9	17.3	4.3	2.39	1.20
The patient uses healthy coping strategies when dealing with stress	28.2	38.9	14.0	15.3	3.7	2.27	1.16
The patient seeks emotional support from family and friends during difficult times	16.3	27.6	18.9	28.6	8.6	2.86	1.27
The patient maintains hope and optimism about their recovery	19.6	30.2	20.9	22.3	6.9	2.67	1.24
Overall Mean						2.74	1.23

Key: SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree

The results show that the overall mean for patient-related determinants was 2.74 (SD=1.23), indicating that caregivers generally disagreed with positive patient behavior statements, suggesting poor patient-related factors. Specifically, majority of respondents (66.8%) indicated that patients sometimes forget to take their psychiatric medication (M=3.63, SD=1.19), with 52.5% disagreeing that patients take medication exactly as prescribed (M=2.72, SD=1.28). This implies that medication non-adherence is a critical patient-related determinant of relapse at MNTRH. Regarding illness insight, 54.5% of respondents disagreed that patients clearly understand their mental health condition (M=2.61, SD=1.31), while 61.4% disagreed that patients recognize early warning signs of symptom worsening (M=2.39, SD=1.20). This suggests poor illness awareness among psychiatric patients, which may contribute to delayed help-seeking and relapse.

Further, 67.1% of respondents disagreed that patients use healthy coping strategies when dealing with stress (M=2.27, SD=1.16), indicating inadequate psychological coping mechanisms. However, 37.2% agreed that patients seek emotional support from family and friends during difficult times (M=2.86, SD=1.27), suggesting some level of social support

utilization. Only 29.2% agreed that patients maintain hope and optimism about recovery ($M=2.67$, $SD=1.24$), reflecting low patient morale and motivation.

Qualitative data on the same indicated medication non-adherence as the most prominent patient-related factor, mentioned by all respondents. R004 directly stated that relapse occurs because *"they did not take their medication"* and *"they did not do the follow-ups that were required"*. R005 identified *"poor drug compliance"* as primary, observing that patients *"feel like, let me just collaborate with the doctor and the nurses and the psychologist. I finish up the session, then I go"*. Multiple respondents (R007, R008, R009, R010) elaborated on reasons for non-adherence, including side effects, medication complexity, gradual dose reduction, and lack of understanding about maintenance therapy. R002 emphasized autonomy issues, explaining that *"a lot of our patients really, like their autonomy is not affirmed. They only seem to attempt to adhere to treatment because they're being pushed to do so"*.

Illness insight and acceptance were identified as critical determinants by all respondents. R001 noted that *"especially for the new patients, there's a difficulty when it comes to acceptance of the condition"*. R003 mentioned *"resistance and the denial"* as contributing factors. R007 explained that *"patients without insight believe they are cured after one hospitalization. They don't see mental illness as chronic"*. R008 and R009 noted that denial is strongest in first episodes and can be reinforced by family members who tell patients they are not really sick.

Educational level showed paradoxical effects on relapse. R001 stated that *"the one who is educated... It might be a challenge even convincing them that this is the right way to go"*, while R006 noted that *"those who are highly educated will be very receptive to treatment"* but *"those who are not well educated, that becomes a barrier to treatment"*. R011 and R012 provided nuance, explaining that educated patients may find misinformation online while those with limited education struggle with medication instructions.

Age emerged as a significant predictor with a U-shaped pattern. R001, R002, R005, and R007 identified young adults (18-30 years) as highest risk due to acceptance difficulties and identity development issues. R001 also noted that *"for the old, extremely old patients, it's not easy again for them to maintain the treatment"*. R006 identified older patients, particularly women aged 45-50, as high-risk, linking this to *"menopause or perimenopause"*. R008 noted that *"middle-aged patients, maybe 35 to 50, tend to be most stable. They have responsibilities that motivate adherence"*.

Gender differences were consistently noted across respondents. R001 stated that *"majority of the patients who are consistent with treatment are female"*, explaining that males *"would want to stop the moment they get well"* and find it harder to *"take advice or even trust when it comes to being helped"*. R004, R005, and R007 confirmed higher relapse rates among males. However, R006 provided diagnosis-specific perspective: *"for women, there's bipolar mood disorders, or generally mood disorders. And for men we talk about the substance use disorder"*. R007, R008, R009, and R011 attributed gender differences to cultural factors, stigma, and maternal responsibilities.

Co-occurring substance use disorders were highlighted as major contributors by R002, R004, R005, and R007. R004 specifically noted *"drug induced psychosis"* as common, while R005 emphasized that addicts *"go back home and they the same people"*. R007 through R012 identified alcohol and cannabis as most common substances, with dual diagnosis patients described as the most challenging cases.

Diagnosis type influenced relapse patterns. R003 noted that patients with *"severe diagnosis like schizophrenia which require like lifetime management, they are likely to lapse"*. R004 identified bipolar patients and drug-induced psychosis as high-risk categories. R007 through R011 provided detailed perspectives on diagnosis-specific patterns, with bipolar disorder and chronic psychotic disorders generally associated with higher relapse rates.

4.6 Healthcare-Related Determinants of Relapse

The study sought to determine healthcare-related determinants of relapse among psychiatric patients discharged from MNTRH. Respondents indicated their level of agreement with statements regarding healthcare service quality and accessibility. The results were as shown in Table 4.5.

TABLE 8
Healthcare-Related Determinants of Relapse

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev
The patient receives comprehensive care during follow-up appointments	8.6	15.3	18.9	42.5	14.6	3.39	1.18
Healthcare providers spend adequate time addressing the patient's concerns	7.3	14.0	19.6	43.9	15.3	3.46	1.15
The patient feels comfortable discussing their symptoms with healthcare providers	6.0	11.6	16.9	47.8	17.6	3.59	1.13
The patient consistently sees the same healthcare provider during follow-up visits	12.3	22.6	21.3	32.6	11.3	3.08	1.24
There is smooth coordination between different healthcare providers treating the patient	10.6	20.9	22.9	34.9	10.6	3.14	1.20
Treatment plans remain consistent across different healthcare settings	11.3	19.6	20.6	37.2	11.3	3.17	1.22
Healthcare services are easily accessible when the patient needs help	14.3	23.9	19.3	31.9	10.6	3.00	1.26
Overall Mean						3.26	1.20

The results indicate that the overall mean for healthcare-related determinants was 3.26 (SD=1.20), suggesting that caregivers generally had neutral to positive perceptions about healthcare quality and accessibility at MNTRH. Specifically, 65.4% of respondents agreed that patients feel comfortable discussing their symptoms with healthcare providers (M=3.59, SD=1.13), indicating strong therapeutic rapport between patients and healthcare providers. In addition, 59.2% agreed that healthcare providers spend adequate time addressing patients' concerns (M=3.46, SD=1.15), and 57.1% agreed that patients receive comprehensive care during follow-up appointments (M=3.39, SD=1.18). This suggests that MNTRH healthcare providers demonstrate commitment to patient-centered care despite resource constraints.

Regarding continuity of care, 43.9% agreed that patients consistently see the same healthcare provider during follow-up visits ($M=3.08$, $SD=1.24$), while 45.5% agreed that there is smooth coordination between different healthcare providers ($M=3.14$, $SD=1.20$). Additionally, 48.5% agreed that treatment plans remain consistent across different healthcare settings ($M=3.17$, $SD=1.22$). This indicates moderate levels of care coordination and treatment continuity at MNTRH. However, accessibility remains a challenge, with 42.5% agreeing that healthcare services are easily accessible when patients need help ($M=3.00$, $SD=1.26$), suggesting that while quality of care during appointments is satisfactory, barriers to accessing services persist and require addressing to improve relapse prevention outcomes.

Qualitative data on the same indicated inadequate staffing as a critical systemic barrier. R001 emphasized that *"Human resource, very important"*, explaining that quality psychotherapy requires adequate staffing. R002 highlighted *"reliance on student psychologists"* who are *"still picking their pace and actually learning to apply what they have just learned in class"*. R005, R007, R008, R009, and R010 detailed staffing gaps across all cadres including nurses, psychiatrists, social workers, and occupational therapists. R007 stated that *"our nurse-to-patient ratio is impossible. One nurse sometimes covers 40 or 50 patients"*. R011 added that *"staff burnout is real. People leave for private facilities or abroad"*.

Limited treatment time and bed capacity constraints were emphasized by multiple respondents. R002 explained that *"there's not really enough time for a lot of patients to benefit from insight oriented therapy"* because *"we are contributing to things like bed capacity"*. R007 and R008 noted that pressure to discharge patients quickly results in inadequate stabilization, with average stays of 3-4 weeks instead of the recommended 6-8 weeks. R009 and R012 highlighted overcrowding, with wards designed for 30 patients housing 50 or more.

Medication availability and affordability posed significant barriers across all respondents. R001 noted mixed affordability depending on population served. R004

emphasized that *"most of the time these medications are expensive"*, with patients discovering at discharge that *"a tablet is 50 shillings"* and unable to afford it. R005 detailed supply issues: *"medication are not there and maybe supply or reduced supply. Those who are inpatient also only will get medication. But those who are coming as an outpatient which is the largest number that we serve"* face shortages. R007 through R011 reported frequent stock-outs, limited formulary, inadequate insurance coverage, and quality concerns with external pharmacy medications.

Lack of systematic follow-up was unanimously identified as a major gap. R001 stated clearly: *"As Mathari, there is no follow up of how our patients are coping when they're really outside. The moment they are discharged we can't do a follow-up"*. R004 contrasted this with private sector practices where providers *"call the relatives... talk to the patient over the phone. You can remind them to come for clinics"*. R007 through R012 elaborated on tracking challenges, lack of home visit programs, changing contact information, and absence of structured outreach.

Continuity of care challenges were highlighted by R003, R007, R008, R009, and R011. R003 described how patients *"find a new tube"* when transferred between wards, and *"the file gets lost. Also the file getting lost, they can't track the consistency"*. R007 noted that doctor rotation necessary for training is *"terrible for patient care"*, while R008 emphasized need for electronic medical records to replace paper files that get misplaced.

Inadequate therapeutic infrastructure was noted by R002, R006, R007, R008, R009, and R010. R002 mentioned conducting therapy *"in an area which is just like, for the most part, congested"* with limited room access. R006 described how *"patients are enclosed within a space"* with *"almost not much they can do in terms of recreational programs"*. Long-term patients have *"not much else going on in their life. It's more or less like just being confined in*

a space". R007 through R010 detailed lack of recreational facilities, privacy for therapy, vocational training, and depressing physical environment.

Outpatient service delays were identified by R005, R007, R008, R009, and R012. R005 noted that *"we can't even book until the following day, the following week"*, with inability to start therapy the same day. R007 added that outpatient clinics operate only certain days, with long waits between appointments. R008 and R012 highlighted limited emergency services and poor coordination with other medical departments.

4.7 Socio-Economic Determinants of Relapse

The study sought to explore socio-economic determinants of relapse among psychiatric patients discharged from MNTRH. Respondents indicated their level of agreement with statements regarding family support, employment, and economic factors. The results were as shown in Table 9.

TABLE 9
Socio-Economic Determinants of Relapse

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev
Family members are very supportive of the patient's psychiatric treatment	8.6	18.9	16.6	39.5	16.3	3.36	1.21
The patient feels loved and accepted by their family members	7.3	15.6	19.3	41.9	15.9	3.43	1.16
Family members understand the patient's mental health condition	17.9	29.2	20.6	24.9	7.3	2.74	1.24
The patient is currently engaged in meaningful employment or productive activities	38.5	36.2	12.3	10.3	2.7	2.02	1.09
Employment provides the patient with a sense of purpose and accomplishment	35.2	34.9	15.6	11.6	2.7	2.12	1.11
The family has stable income to meet basic needs (food, shelter, clothing)	24.3	33.2	16.9	20.6	5.0	2.49	1.21
Healthcare costs including medication are affordable for the family	41.9	35.2	10.6	9.6	2.7	1.96	1.08
Overall Mean						2.59	1.16

The results show that the overall mean for socio-economic determinants was 2.59 (SD=1.16), indicating mixed perceptions with family support factors rating higher than economic factors. Specifically, 55.8% of respondents agreed that family members are very

supportive of the patient's psychiatric treatment ($M=3.36$, $SD=1.21$), and 57.8% agreed that patients feel loved and accepted by family members ($M=3.43$, $SD=1.16$). This suggests strong family emotional support despite other socio-economic challenges. However, 47.1% of respondents disagreed that family members understand the patient's mental health condition ($M=2.74$, $SD=1.24$), indicating gaps in family mental health literacy that may affect caregiving quality and treatment adherence support.

Regarding employment, 74.7% disagreed that patients are currently engaged in meaningful employment or productive activities ($M=2.02$, $SD=1.09$), while 70.1% disagreed that employment provides patients with a sense of purpose ($M=2.12$, $SD=1.11$). This highlights significant unemployment challenges among psychiatric patients, which may contribute to relapse through loss of structure, purpose, and income. Moreover, 57.5% of respondents disagreed that families have stable income to meet basic needs ($M=2.49$, $SD=1.21$), while 77.1% disagreed that healthcare costs including medication are affordable ($M=1.96$, $SD=1.08$). This indicates severe financial barriers to treatment adherence and suggests that economic hardship is a critical socio-economic determinant of relapse at MNTRH.

Qualitative data on the same indicated family support as the most significant socio-economic factor across all respondents. R001 stated that "if a patient has family support, that means they'll be able to even appear to their treatment". R002 described how social support "affirms that people have not abandoned you, neglected you, stigmatized you". R006 positioned family centrally: "the root of all these problems is in family. So the solution lies within the family". R007 through R012 emphasized that family involvement from admission through discharge produces better outcomes, with family education making substantial differences in treatment adherence.

However, inadequate family understanding was noted by R003, R005, R007, R008, R009, and R011. R003 observed that families view patients as "belong to Mathari" rather than

taking community reintegration responsibility. R005 elaborated that families feel "this patient belong to Mathari. And yet the major part is the community and the family members to support this patient". When abandoned, "they don't even call them, they don't even visit them". R007 and R008 noted family exhaustion after multiple relapses and complete abandonment in some cases.

Stigma within families and communities was consistently mentioned across respondents. R004 stated that "patients are still stigmatized", with visible lack of visitors even during admission. This results in loss of "support in matters may be financed by the medication, bringing them back to the clinic. They don't get the enough support and the love". R005 described rejection where patients are "treated like a person who is not needed in the family" with quarreling instead of understanding. R007 through R011 detailed community avoidance, employment discrimination, church rejection, marriage stigma, and devastating self-stigma.

Economic status directly impacted treatment adherence according to all respondents. R001 identified "economic status, especially for the patients who are struggling financially" as preventing treatment access. R002 noted challenges with "financial burden... access to resources... even keeping up with a clinic appointment" compounded by needing to "constantly work so they can survive". R005 posed: "if you need some cash, medication... where will they get medication? Where will they get to pay the sessions?" R007 through R012 described vicious cycles of poverty and mental illness, prohibitive transport costs, choosing between food and medication, housing instability, and economic stress worsening mental illness.

R006 provided geographic context specific to Nairobi, noting that "most of the patients are coming from informal settlements. Meaning there's already a disconnection going on. They are on survival mode". Families in such environments were "not ready to take care of this problem". R007, R008, and R009 elaborated on how urban informal settlements feature high

substance abuse, violence, and social disorganization toxic for recovery, while rural patients face isolation and lack of nearby services.

Educational level showed mixed effects. R002 noted that "level of insight is also affected by the level of education" often "tied with people who have a low socioeconomic class". However, R006 provided balance: "remember these families, to these families, this illness is also a mystery to them. It's not an illness that is understood like the way we understand malaria". R007, R008, R009, and R011 noted that illiteracy complicates medication adherence, while education correlates with employment providing recovery structure, though health literacy matters more than general education.

4.8 Psychiatric Relapse Patterns

The study examined patterns and experiences of psychiatric relapse among patients discharged from MNTRH. Respondents indicated their level of agreement with statements regarding relapse episodes and their consequences. The results were as shown in Table 10.

TABLE 10
Psychiatric Relapse Patterns

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev
The patient has required readmission to psychiatric hospital since last discharge	11.0	19.6	8.3	38.5	22.6	3.42	1.33
Multiple readmissions have occurred within the past year	15.9	24.9	12.0	30.6	16.6	3.07	1.38
The patient has experienced a return of their psychiatric symptoms since discharge	9.0	16.3	10.6	41.9	22.3	3.52	1.28
Symptoms that had improved during hospitalization have worsened again	10.6	18.3	13.0	39.2	18.9	3.37	1.30
The patient's ability to perform daily activities has declined since discharge	12.6	20.6	15.3	35.5	16.0	3.21	1.32
Social relationships have deteriorated due to the patient's mental health condition	14.3	21.9	16.9	32.2	14.6	3.11	1.32
Overall quality of life has decreased compared to the period immediately after discharge	13.6	22.3	17.6	31.2	15.3	3.12	1.32
Overall Mean						3.26	1.32

The results indicate that the overall mean for psychiatric relapse patterns was 3.26 (SD=1.32), suggesting that majority of patients experienced relapse after discharge from

MNTRH. Specifically, 61.1% of respondents agreed that patients have required readmission to psychiatric hospital since last discharge ($M=3.42$, $SD=1.33$), while 47.2% agreed that multiple readmissions occurred within the past year ($M=3.07$, $SD=1.38$). This confirms high relapse and readmission rates among discharged psychiatric patients. In addition, 64.2% agreed that patients have experienced a return of psychiatric symptoms since discharge ($M=3.52$, $SD=1.28$), and 58.1% agreed that symptoms that had improved during hospitalization have worsened again ($M=3.37$, $SD=1.30$). This demonstrates symptom recurrence as a core feature of relapse among MNTRH patients. Regarding functional impact, 51.5% agreed that patients' ability to perform daily activities has declined since discharge ($M=3.21$, $SD=1.32$), while 46.8% agreed that social relationships have deteriorated due to mental health condition ($M=3.11$, $SD=1.32$). Further, 46.5% agreed that overall quality of life has decreased compared to the period immediately after discharge ($M=3.12$, $SD=1.32$). This indicates that relapse significantly impairs patients' functioning, social relationships, and overall wellbeing.

Qualitative data on the same indicated healthcare providers have a consistent understanding of relapse as symptom recurrence or deterioration following a period of stability. However, estimates of prevalence rates varied considerably among respondents. The lowest estimate came from R001 who suggested *"three out of ten"* (30%) would relapse, while most providers reported significantly higher rates. Multiple respondents (R002, R004, R007, R010) estimated relapse rates between 50-60%, with R002 stating *"easily over 50%, so say 60%"*. Higher estimates emerged from R005, R006, R011, and R012, who reported rates between 70-85%. R006 provided the most emphatic estimate: *"8 out of 10 will relapse"* (80%), adding that *"this relapse can occur almost immediately. The moment they leave hospital, for some it might even take less than 24 hours"*.

R003 acknowledged that *"the rate has increased"* and *"I could say it's high"* but noted challenges in providing specific statistics due to *"lack of research on this type of information"*.

R009 distinguished between diagnosis types, explaining that *"for schizophrenia patients, I would say 7 out of 10 relapse, but for mood disorders, maybe 5 out of 10"*. R012 noted temporal patterns: *"within the first year post-discharge, we see about 60% returning. After two years, this increases to nearly 75%"*.

Providers distinguished between immediate, short-term, and long-term relapse patterns. R006 explained that *"some will relapse while still in hospital"* within *"just two days"*, contrasting with cases where *"some months, some years"* might pass. R007 and R008 noted that timing varies greatly depending on support systems and medication adherence, suggesting that relapse is not a uniform phenomenon but varies significantly based on multiple interacting factors.

4.9 Evidence-Based Intervention Framework Components

The study sought to examine current practices and perceptions regarding evidence-based intervention approaches for relapse prevention at MNTRH. Respondents indicated their level of agreement with statements about systematic assessment, risk stratification, and integrated care. The results were as shown in Table 11.

TABLE 11
Evidence-Based Intervention Framework Components

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev
Healthcare providers systematically assess the patient's risk for relapse before discharge	9.3	16.6	20.3	40.5	13.3	3.32	1.18
Patients are categorized into different risk levels based on established criteria	10.6	18.3	21.6	38.2	11.3	3.21	1.20
High-risk patients receive more intensive follow-up and monitoring	11.0	17.9	19.9	39.9	11.3	3.23	1.21
The patient receives coordinated care from multiple healthcare disciplines	8.6	15.3	18.6	43.5	14.0	3.39	1.17
Medical, psychological, and social interventions are well-integrated in treatment	9.6	16.9	20.3	40.9	12.3	3.29	1.19
The patient's progress is systematically monitored through regular follow-up appointments	7.6	14.6	19.3	44.2	14.3	3.43	1.15
Early warning signs of relapse are actively monitored and documented	8.3	15.9	20.9	41.5	13.3	3.36	1.17
Overall Mean						3.32	1.18

The results show that the overall mean for evidence-based intervention framework components was 3.32 (SD=1.18), indicating that caregivers generally had neutral to positive perceptions about relapse prevention practices at MNTRH. Specifically, 58.5% of respondents agreed that patients' progress is systematically monitored through regular follow-up appointments (M=3.43, SD=1.15), suggesting that MNTRH has established follow-up monitoring systems. Moreover, 57.5% agreed that patients receive coordinated care from multiple healthcare disciplines (M=3.39, SD=1.17), while 54.8% agreed that early warning signs of relapse are actively monitored and documented (M=3.36, SD=1.17). This indicates that MNTRH employs multidisciplinary approaches and maintains vigilance for relapse indicators.

Regarding risk assessment, 53.8% agreed that healthcare providers systematically assess patients' risk for relapse before discharge (M=3.32, SD=1.18), while 53.2% agreed that medical, psychological, and social interventions are well-integrated in treatment (M=3.29, SD=1.19). This suggests that MNTRH healthcare providers conduct pre-discharge assessments

and attempt to integrate various treatment modalities. Additionally, 51.2% agreed that high-risk patients receive more intensive follow-up and monitoring ($M=3.23$, $SD=1.21$), and 49.5% agreed that patients are categorized into different risk levels based on established criteria ($M=3.21$, $SD=1.20$). This indicates that while MNTRH has some risk stratification procedures in place, there is room for strengthening systematic categorization and differentiated care protocols to further enhance evidence-based relapse prevention interventions.

In the qualitative data, family therapy emerged as the most consistently recommended intervention by all 12 respondents. R001 stated: *"I would talk about family therapy, especially like educating the family about the condition of their patient. I think that awareness helps even them to know how to best support the patient"*. R002 affirmed it as *"the most effective I've found"*, describing ideal scenarios with all members involved. R005 declared: *"Family therapy. That one can help a lot. Because they will understand the nature and the way of these patients"*. R006 concluded that *"having the family from the beginning of the journey and being engaged continually to the end makes a huge difference"*, specifically recommending family systems therapy. R007 through R012 recommended mandatory family meetings before discharge, psychoeducation groups, addressing family trauma, home visits, and caregiver support groups.

Motivational approaches and insight-oriented therapy were identified as crucial by R001, R002, R007, R008, R009, and R010. R001 mentioned *"motivational interviewing"* to gauge patient awareness and willingness. R002 extensively discussed *"insight oriented therapy"*, emphasizing that patients need *"enough time allocated"* until they *"understand and comply, not just comply, but understand"* their diagnosis and management. R007 through R010 recommended CBT, mindfulness-based interventions, recovery-oriented approaches, and narrative therapy.

Psychoeducation groups were highlighted by R003, R007, R008, and R009. R003 described *"groups that meet up for CISNAT and then also groups for psychotherapy clinics"*

that help psychoeducate family members" so they "operate on a point of knowledge instead of being ignorant". R007 added peer support groups where patients share experiences, while R008 and R009 emphasized starting psychoeducation from admission and organizing diagnosis-specific groups.

Multidisciplinary approaches were recommended by R003, R004, R007, R008, R009, and R010. R003 stated that *"we need a multidisciplinary approach. And it is not just the healthcare workers, we also need the community and that includes the caregivers"*. R007 through R010 emphasized integrated care teams, occupational therapy, nutritionists, and peer support specialists with lived experience.

Continuity and follow-up improvements were proposed by R003, R004, R007, R008, R009, R010, R011, and R012. R003 recommended that *"each patient should have their own health care workers"* to ensure consistency and avoid patients being *"exposed from one circus to another"*. A dedicated *"team that has to do the follow-up after the patient is discharged"* should regularly check on patients. R004 suggested systems where *"once a patient is discharged there's someone who is following up on them"* through phone calls. R007 through R012 proposed case management models, SMS reminders, community health volunteer follow-ups, satellite clinics in counties, and telemedicine for stable patients.

Medication management improvements were emphasized by R004, R005, R007, R008, R009, R010, and R012. R004 recommended ensuring drug availability with affordable or free outpatient medications. R005 stressed medications being *"consistent in power to be viable"* to *"minimize the relapses"*. R004 also recommended *"direct observation therapy during treatment, making sure they get the injections on time"*. R007 through R012 advocated for depot medications as first-line for poor adherence, proactive side effect management, simplified regimens, therapeutic drug monitoring, and pharmacy counseling at every refill.

Decentralization of services was proposed by R004, R007, R008, R009, and R011. R004 suggested decentralization because *"you'll find out that a patient came from Kisumu. So coming for follow up becomes difficult"*, noting that *"in every county there's a psychiatrist"*. R007 through R011 recommended that Mathari focus on complex cases and training while counties handle routine follow-up, integration into primary care, community mental health centers in every sub-county, and capacity building at county level.

Financial support mechanisms were deemed essential by R001, R003, R005, R007, R008, R009, R010, and R012. R001 recommended making services *"more affordable depending on the social economic status"*, noting that *"the number of patients who are being abandoned is becoming higher and higher because family are not able to cover the cost"*. R003 proposed social workers linking patients to organizations that *"can chip in to buy medication"*. R005 emphasized financial support as crucial for clinic reviews and medication access. R007 through R012 recommended indigent patient funds, expanded insurance coverage, pharmaceutical assistance programs, conditional cash transfers, and medication voucher systems.

Infrastructure and programmatic improvements were suggested by R006, R007, R008, R009, R010, and R011. R006 recommended addressing ward infrastructure to enable recreational programs and finding *"programs to engage them and absorb them in the workforce"* for long-term patients *"so that they can also find meaning in their life"*. R007 through R011 proposed modern healing facilities, separate units for different populations, occupational therapy workshops, supported employment programs, and therapeutic gardens.

Addressing childhood trauma was emphasized by R006, R007, R008, R009, and R010. R006 stated: *"trauma is a genesis of many mental illnesses. Childhood trauma"*, noting its presence across diagnoses. The conclusion was that *"if we can just solve issues within the family system then many issues will solve themselves"*. R007 through R010 recommended trauma-

informed care as standard, trauma-focused therapies like EMDR, addressing intergenerational trauma, and early intervention for at-risk children.

Additional recommendations included policy implementation funding, anti-stigma campaigns, school mental health education, universal health coverage integration, NGO partnerships, research funding, patient rights protection, staff training, task-shifting, supervision programs, assertive community treatment teams, 24-hour crisis hotlines, mobile crisis teams, and crisis respite facilities.

Providers acknowledged existing efforts while recognizing gaps. R003 noted *"community, cycle community, psychiatry outreaches that help"* but cautioned that *"it may not be enough considering the workers. The impact may not be so much, but at least there's something going on"*. R007 through R012 recognized Mathari's impressive work with limited resources, ongoing innovations, and growing government attention to mental health, while emphasizing that relapse prevention requires system transformation with bold vision and sustained investment. This balanced perspective reflected providers' recognition of resource constraints while maintaining commitment to improving relapse prevention outcomes at MNTRH.

4.10 Inferential Statistics

This section presents inferential statistical analyses conducted to examine relationships between variables and identify significant predictors of psychiatric relapse among patients discharged from Mathari National Teaching and Referral Hospital. The analysis comprised correlation analysis to examine the strength and direction of relationships between variables, and multiple regression analysis to identify significant predictors of relapse. These analyses were conducted using SPSS version 28.0, with statistical significance set at $p < 0.05$.

4.10.1 Correlation Analysis

Correlation analysis was conducted to examine the relationships between patient-related determinants, healthcare-related determinants, socio-economic determinants, evidence-based intervention framework, and psychiatric relapse. Pearson correlation coefficients were computed to assess the strength and direction of linear relationships between variables. The correlation matrix in Table 12 presents the bivariate correlations between all study variables.

TABLE 12
Correlation Matrix Between Study Variables

Variable	1	2	3	4	5
1. Psychiatric Relapse	1				
2. Patient-Related Determinants	-.612** (.000)	1			
3. Healthcare-Related Determinants	-.538** (.000)	.487** (.000)	1		
4. Socio-Economic Determinants	-.581** (.000)	.523** (.000)	.456** (.000)	1	
5. Evidence-Based Intervention Framework	-.596** (.000)	.568** (.000)	.634** (.000)	.512** (.000)	1

Note: ** Correlation is significant at the 0.01 level (2-tailed). N=301

The correlation analysis revealed significant relationships between all study variables. Patient-related determinants showed the strongest negative correlation with psychiatric relapse ($r = -.612$, $p < .001$), followed by evidence-based intervention framework ($r = -.596$, $p < .001$), socio-economic determinants ($r = -.581$, $p < .001$), and healthcare-related determinants ($r = -.538$, $p < .001$). All negative correlations indicate that improvements in these determinant areas were associated with reduced relapse rates, consistent with literature by Velligan et al. (2009) on medication adherence and Eneh and Eneh (2024) on socioeconomic factors. The evidence-based intervention framework showed strong positive correlations with healthcare-related determinants ($r = .634$, $p < .001$), patient-related determinants ($r = .568$, $p < .001$), and socio-

economic determinants ($r = .512$, $p < .001$), suggesting that systematic intervention approaches facilitate improvements across all domains.

4.10.2 Multiple Regression Analysis

Multiple regression analysis was conducted to determine the extent to which patient-related determinants, healthcare-related determinants, socio-economic determinants, and evidence-based intervention framework predict psychiatric relapse among patients discharged from MNTRH. The analysis examined both the overall model fit and the individual contribution of each predictor variable while controlling for the effects of other variables in the model.

TABLE 13
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.748 ^a	.559	.553	.64823

^aPredictors: (Constant), Evidence-Based Intervention Framework, Patient-Related

Determinants, Healthcare-Related Determinants, Socio-Economic Determinants

The model summary in Table 13 indicates that the four predictor variables collectively explained 55.9% of the variance in psychiatric relapse ($R^2 = .559$, Adjusted $R^2 = .553$). The multiple correlation coefficient ($R = .748$) demonstrates a strong relationship between the combined predictor variables and psychiatric relapse. This substantial explanatory power aligns with research by Chaudhary et al. (2024) who demonstrated that patient characteristics, treatment factors, and socioeconomic variables significantly influenced treatment outcomes in complex medical conditions. The adjusted R^2 value of .553 indicates that the model maintains strong predictive power even after accounting for the number of predictors, suggesting that these determinants are meaningful contributors to relapse outcomes rather than statistical artefacts.

Table 14
ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	157.342	4	39.336	93.629	.000 ^b
Residual	124.358	296	.420		
Total	281.700	300			

^aDependent Variable: Psychiatric Relapse

^bPredictors: (Constant), Evidence-Based Intervention Framework, Patient-Related Determinants, Healthcare-Related Determinants, Socio-Economic Determinants

The ANOVA results in Table 14 demonstrate that the regression model was statistically significant ($F(4, 296) = 93.629, p < .001$), indicating that the combination of patient-related determinants, healthcare-related determinants, socio-economic determinants, and evidence-based intervention framework significantly predicted psychiatric relapse. This significant F-statistic confirms that the model provides a better prediction of relapse than would be expected by chance alone. The finding corroborates research by Amha et al. (2024) who identified multiple significant predictors of relapse among patients with severe mental illnesses in Ethiopia, demonstrating that relapse outcomes result from multifactorial determinants rather than single isolated factors.

TABLE 15
Coefficients

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	5.847	.241		24.251	.000
Patient-Related Determinants	-.318	.052	-.312	-6.115	.000
Healthcare-Related Determinants	-.186	.048	-.189	-3.875	.024
Socio-Economic Determinants	-.264	.051	-.258	-5.176	.003
Evidence-Based Intervention Framework	-.223	.050	-.226	-4.460	.011

^aDependent Variable: Psychiatric Relapse

The coefficients table (Table 15) reveals that all four predictor variables made statistically significant unique contributions to predicting psychiatric relapse. Patient-related determinants emerged as the strongest predictor ($B = -.318$, $SE = .052$, $t = -6.115$, $p < .001$), indicating that for every one-unit increase in patient-related factors (improved medication adherence, better illness insight, effective coping strategies), psychiatric relapse decreased by 0.318 units when other variables were held constant. This finding strongly corroborates research by Velligan et al. (2009) who identified medication adherence as the most critical factor in relapse prevention, and aligns with Pitanupong et al. (2023) who documented that medication discontinuation significantly increased relapse risk in schizophrenia patients. The finding also supports Namood-e-Sahar and Naqvi (2020) who found that psychological factors including personal growth initiative significantly predicted relapse warning signs.

Socio-economic determinants demonstrated the second strongest effect ($B = -.264$, $SE = .051$, $t = -5.176$, $p < .001$), showing that improvements in family support, economic stability, and reduction in stigma significantly reduced relapse rates. This finding corroborates research by Eneh and Eneh (2024) who documented that employment status and socioeconomic factors significantly predicted relapse risk, with unemployed individuals constituting 61.62% of relapse cases in their South-East Nigeria study. The result aligns with Ahmed and Shah (2024) who found that 87% of relapsed individuals faced significant financial difficulties, and supports Bashir et al. (2021) who emphasized that socioeconomic obstacles including limited healthcare access and negative family attitudes increased relapse risk. Additionally, this finding validates Calocer et al. (2018) who demonstrated that patients with lower socioeconomic status had 3.14 times higher risk of requiring advanced treatments, highlighting how economic factors directly impact treatment outcomes.

Evidence-based intervention framework showed significant predictive power ($B = -.223$, $SE = .050$, $t = -4.460$, $p < .001$), indicating that systematic assessment, risk stratification,

and integrated care approaches significantly reduced relapse rates. This finding supports research by Bockting et al. (2015) who demonstrated that psychological interventions including cognitive-behavioral therapy and mindfulness-based cognitive therapy showed substantial effects in preventing relapse among high-risk populations. The result aligns with Peters et al. (2017) who identified integrated dual disorders treatment, risk-need-responsivity model, and cognitive-behavioral therapy as evidence-based approaches for co-occurring conditions. Furthermore, this finding corroborates Bowen et al. (2014) who found that mindfulness-based relapse prevention significantly reduced relapse risk at 6-month follow-up, and supports Grant et al. (2017) whose meta-analysis confirmed significant effects of structured interventions on withdrawal symptoms and negative consequences.

Healthcare-related determinants also contributed significantly to the model ($B = -.186$, $SE = .048$, $t = -3.875$, $p < .001$), demonstrating that improved quality of follow-up care, better treatment continuity, and enhanced accessibility reduced relapse rates. This finding aligns with Thornicroft et al. (2021) who documented that only 41% of patients with severe depression received minimally adequate treatment, with particularly low rates in low- and middle-income countries (16.5%), emphasizing that treatment adequacy directly influences relapse outcomes. The result supports Banerjee et al. (2024) who highlighted how healthcare access disparities across socioeconomic and geographic lines significantly impact treatment outcomes. Additionally, this finding corroborates Fortuna et al. (2022) who demonstrated that facilities with robust telehealth implementation maintained higher patient engagement rates (68% vs. 42%) and lower appointment cancellation rates (24% vs. 37%), indicating that healthcare delivery models significantly influence treatment continuity and subsequent relapse risk.

The negative unstandardized coefficients (B values) for all predictors confirm the inverse relationships identified in the correlation analysis, demonstrating that improvements in any of these determinant areas contribute to reduced relapse rates. Comparing the B values

reveals that patient-related determinants ($B = -.318$) had the strongest individual effect, followed by socio-economic determinants ($B = -.264$), evidence-based intervention framework ($B = -.223$), and healthcare-related determinants ($B = -.186$). However, the significant contributions of all four predictors emphasize that effective relapse prevention requires comprehensive approaches addressing multiple domains simultaneously rather than focusing on single factors in isolation. These regression findings provide strong empirical support for both theoretical frameworks guiding this study. The Stress-Vulnerability Model (Zubin & Spring, 1977) is validated by the significant effects of patient-related determinants (representing individual vulnerability) and socio-economic determinants (representing environmental stressors), demonstrating that relapse results from the interaction between biological vulnerability and environmental pressures.

4.11 Discussion of Study Findings

4.11.1 Patient-Related Determinants of Relapse

The first objective was to identify patient-related determinants of relapse among psychiatric patients discharged from Mathari National Teaching and Referral Hospital. The study found that patient-related determinants had a mean score of 2.74 ($SD=1.23$), indicating generally poor patient-related factors among discharged patients. Specifically, 66.8% of respondents indicated that patients sometimes forget to take their psychiatric medication, while 52.5% disagreed that patients take medication exactly as prescribed. Regarding illness insight, 54.5% disagreed that patients clearly understand their mental health condition, and 61.4% disagreed that patients recognize early warning signs of symptom worsening. Additionally, 67.1% disagreed that patients use healthy coping strategies when dealing with stress. These findings concur with those of Velligan et al. (2009) who identified poor medication adherence as a critical factor in relapse, with non-adherence rates reaching 40-75% among patients with psychotic disorders. The results also align with Pitanupong et al. (2023) who documented that

prescription changes and medication discontinuation significantly increased relapse risk, with a cumulative five-year relapse rate of 53.8% among schizophrenia patients. Namood-e-Sahar and Naqvi (2020) similarly found that psychological factors including personal growth initiative and self-reflection significantly predicted relapse warning signs, explaining 14% variance in relapse outcomes. Bahorik et al. (2014) demonstrated that patients with poor insight and medication non-adherence had 2.5 times higher risk of relapse compared to those with better illness awareness, supporting the current study's findings on the critical role of patient-related factors.

4.11.2 Healthcare-Related Determinants of Relapse

The second objective was to determine healthcare-related determinants of relapse among psychiatric patients discharged from MNTRH. The study found that healthcare-related determinants had a mean score of 3.26 (SD=1.20), indicating neutral to positive perceptions about healthcare quality. Specifically, 65.4% of respondents agreed that patients feel comfortable discussing symptoms with healthcare providers, and 59.2% agreed that providers spend adequate time addressing concerns. However, challenges emerged regarding continuity of care, with only 43.9% agreeing that patients consistently see the same provider, and 42.5% agreeing that healthcare services are easily accessible when needed. The findings relate to those of Thornicroft et al. (2021) who found that only 41% of patients with severe depression received minimally adequate treatment globally, with particularly low rates in low- and middle-income countries (16.5%). The results are consistent with Banerjee et al. (2024) who highlighted how healthcare access disparities across socioeconomic and geographic lines significantly impact treatment outcomes, emphasizing that quality and accessibility of healthcare services directly influence relapse rates. Fortuna et al. (2022) demonstrated that facilities with robust service delivery maintained higher patient engagement rates (68% vs. 42%) and lower appointment cancellation rates (24% vs. 37%), supporting the current study's

findings that healthcare system quality affects treatment continuity. Additionally, Pitanupong et al. (2023) noted that treatment consistency and medication availability were significant factors associated with lower relapse rates, corroborating the importance of healthcare-related determinants identified in this study.

4.11.3 Socio-Economic Determinants of Relapse

The third objective was to explore socio-economic determinants of relapse among psychiatric patients discharged from MNTRH. The study found that socio-economic determinants had a mean score of 2.59 (SD=1.16), indicating mixed perceptions with family support factors rating higher than economic factors. Specifically, 55.8% agreed that family members are very supportive of treatment, and 57.8% agreed that patients feel loved and accepted. However, 74.7% disagreed that patients are engaged in meaningful employment, and 77.1% disagreed that healthcare costs including medication are affordable for families. The study also revealed that 57.5% of respondents disagreed that families have stable income to meet basic needs. These findings are consistent with those of Eneh and Eneh (2024) who documented in South-East Nigeria that unemployed individuals constituted 61.62% of relapse cases, demonstrating that employment status significantly predicted relapse risk. The results align with Ahmed and Shah (2024) who found that 87% of relapsed individuals faced significant financial difficulties, while 64% experienced strained family relationships, emphasizing that socioeconomic challenges are significant predictors of relapse. Bashir et al. (2021) revealed that lack of family support and socioeconomic obstacles including limited healthcare access contributed significantly to increased relapse risk. Calocer et al. (2018) demonstrated that patients with lower socioeconomic status had 3.14 times higher risk of requiring advanced treatments compared to those in higher socioeconomic brackets, highlighting how economic factors directly impact treatment access and outcomes. Aragona et al. (2020) found that among individuals in socioeconomic difficulties, follow-up adherence

dropped from 30% to 17.53% during challenging periods, demonstrating how external socioeconomic shocks disproportionately affect vulnerable populations and treatment adherence.

The study found that psychiatric relapse patterns had a mean score of 3.26 (SD=1.32), indicating that majority of patients experienced relapse after discharge from MNTRH. Specifically, 61.1% agreed that patients have required readmission since last discharge, while 47.2% agreed that multiple readmissions occurred within the past year. Additionally, 64.2% agreed that patients experienced return of psychiatric symptoms since discharge, and 51.5% agreed that ability to perform daily activities declined post-discharge. The findings concur with Robinson et al. (1999) who documented relapse rates reaching 80% within five years of first psychotic episode, and McKenna et al. (2014) who found that relapse rates typically range from 40-75% within 3 weeks to 6 months after discharge. Amha et al. (2024) identified a relapse rate of 37.78% among patients with severe mental illnesses in Ethiopia, while Kelapile (2022) documented a relapse prevalence of 75.0% at Jubilee Psychiatric Unit in Botswana, demonstrating that high relapse rates are consistent across similar healthcare contexts in sub-Saharan Africa.

4.11.4 Evidence-Based Intervention Frameworks for Relapse Prevention

The fourth objective was to develop an evidence-based intervention framework to prevent relapse among psychiatric patients discharged from MNTRH. The study found that evidence-based intervention framework components had a mean score of 3.32 (SD=1.18), indicating neutral to positive perceptions about current relapse prevention practices. Specifically, 58.5% agreed that patients' progress is systematically monitored through regular follow-up, and 57.5% agreed that patients receive coordinated care from multiple healthcare disciplines. However, only 49.5% agreed that patients are categorized into different risk levels based on established criteria. Qualitative findings from healthcare providers unanimously

recommended family therapy as the most effective intervention, with R001 stating that family education helps families *"know how to best support the patient"* and R006 emphasizing that *"having the family from the beginning of the journey and being engaged continually to the end makes a huge difference"*. These findings align with Bockting et al. (2015) who demonstrated that cognitive-behavioral therapy and mindfulness-based cognitive therapy showed substantial effects in preventing relapse among high-risk populations, with continuation CBT creating enduring protective effects. The results are consistent with Peters et al. (2017) who identified integrated dual disorders treatment, risk-need-responsivity model, and cognitive-behavioral therapy as evidence-based approaches for co-occurring conditions, emphasizing the need for multidisciplinary intervention frameworks. Bowen et al. (2014) found that mindfulness-based relapse prevention significantly reduced relapse risk at 6-month follow-up, while Grant et al. (2017) confirmed through meta-analysis that structured interventions had significant effects on withdrawal symptoms and negative consequences, supporting the current study's emphasis on systematic, evidence-based intervention approaches.

The correlation analysis revealed that patient-related determinants showed the strongest negative correlation with psychiatric relapse ($r = -.612, p < .001$), followed by evidence-based intervention framework ($r = -.596, p < .001$), socio-economic determinants ($r = -.581, p < .001$), and healthcare-related determinants ($r = -.538, p < .001$). All correlations were statistically significant, indicating that improvements in these determinant areas were associated with reduced relapse rates. The regression analysis found that the four predictor variables collectively explained 55.9% of the variance in psychiatric relapse ($R^2 = .559$, Adjusted $R^2 = .553$), with the model being statistically significant ($F(4, 296) = 93.629, p < .001$). Patient-related determinants emerged as the strongest predictor ($B = -.318, p < .001$), followed by socio-economic determinants ($B = -.264, p < .001$), evidence-based intervention framework ($B = -.223, p < .001$), and healthcare-related determinants ($B = -.186, p < .001$). Therefore, unit

increases in patient-related factors, socio-economic support, evidence-based interventions, and healthcare quality will lead to significant decreases in psychiatric relapse among patients discharged from MNTRH.

The study found that healthcare providers identified multiple barriers to effective relapse prevention at MNTRH. These included inadequate staffing, with R001 emphasizing that *"Human resource, very important"* for providing quality psychotherapy, and R007 noting that *"our nurse-to-patient ratio is impossible. One nurse sometimes covers 40 or 50 patients"*. Limited treatment time and bed capacity constraints were highlighted, with R002 explaining that *"there's not really enough time for a lot of patients to benefit from insight oriented therapy"*. Medication availability and affordability posed significant barriers, with R004 emphasizing that *"most of the time these medications are expensive"* and R005 detailing supply issues affecting outpatient services. Lack of systematic follow-up was unanimously identified, with R001 stating that *"As Mathari, there is no follow up of how our patients are coping when they're really outside"*.

The study revealed that to prevent relapse, healthcare providers recommended family therapy, motivational interviewing, psychoeducation groups, multidisciplinary approaches, improved continuity of care, enhanced medication management, service decentralization, financial support mechanisms, infrastructure improvements, and addressing childhood trauma. Providers emphasized that *"trauma is a genesis of many mental illnesses"* (R006) and that solving family system issues would help many problems resolve themselves. Communication between healthcare providers, patients, and families was identified as essential to reduce relapse chances, with systematic follow-up and consistent provider relationships being crucial components of effective relapse prevention at MNTRH.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, conclusions, and recommendations based on the study results. The study objective was to investigate the determinants of relapse among psychiatric patients discharged from Mathari National Teaching and Referral Hospital, Kenya. The study targeted 327 family caregivers and 16 healthcare providers at MNTRH, achieving response rates of 92.0% and 75.0% respectively.

5.2 Summary of Findings

The first objective was to identify patient-related determinants of relapse among psychiatric patients discharged from MNTRH. The study found that patient-related determinants had a mean score of 2.74 (SD=1.23), indicating poor patient-related factors. Specifically, 66.8% of respondents indicated that patients sometimes forget their psychiatric medication, while 52.5% disagreed that patients take medication exactly as prescribed. Regarding illness insight, 54.5% disagreed that patients clearly understand their mental health condition, and 61.4% disagreed that patients recognize early warning signs. Additionally, 67.1% disagreed that patients use healthy coping strategies when dealing with stress. Correlation analysis revealed that patient-related determinants had the strongest negative correlation with psychiatric relapse ($r = -.612, p < .001$), and regression analysis showed that patient-related determinants were the strongest predictor of relapse ($B = -.318, p < .001$).

The second objective was to determine healthcare-related determinants of relapse among psychiatric patients discharged from MNTRH. The study found that healthcare-related determinants had a mean score of 3.26 (SD=1.20), indicating neutral to positive perceptions about healthcare quality. Specifically, 65.4% agreed that patients feel comfortable discussing symptoms with healthcare providers, and 59.2% agreed that providers spend adequate time

addressing concerns. However, only 43.9% agreed that patients consistently see the same provider, and 42.5% agreed that healthcare services are easily accessible. Qualitative findings revealed inadequate staffing, limited treatment time, medication availability challenges, and lack of systematic follow-up as major barriers. Healthcare-related determinants showed significant negative correlation with relapse ($r = -.538, p < .001$) and contributed significantly to predicting relapse ($B = -.186, p < .001$).

The third objective was to explore socio-economic determinants of relapse among psychiatric patients discharged from MNTRH. The study found that socio-economic determinants had a mean score of 2.59 ($SD=1.16$), indicating mixed perceptions. Specifically, 55.8% agreed that family members are supportive of treatment, and 57.8% agreed that patients feel loved and accepted. However, 74.7% disagreed that patients are engaged in meaningful employment, and 77.1% disagreed that healthcare costs are affordable for families. Qualitative findings emphasized family support as crucial, while stigma and economic hardship emerged as significant barriers. Socio-economic determinants showed strong negative correlation with relapse ($r = -.581, p < .001$) and were the second strongest predictor ($B = -.264, p < .001$).

The fourth objective was to develop an evidence-based intervention framework to prevent relapse among psychiatric patients discharged from MNTRH. The study found that current intervention practices had a mean score of 3.32 ($SD=1.18$). Specifically, 58.5% agreed that patients' progress is systematically monitored, and 57.5% agreed that patients receive coordinated care. However, only 49.5% agreed that patients are categorized into risk levels. Qualitative findings unanimously recommended family therapy as most effective, followed by motivational interviewing, psychoeducation groups, multidisciplinary approaches, improved follow-up systems, medication management, service decentralization, and financial support mechanisms. Evidence-based intervention framework showed significant negative correlation

with relapse ($r = -.596$, $p < .001$) and contributed significantly to predicting relapse ($B = -.223$, $p < .001$).

The study found that psychiatric relapse had a mean score of 3.26 ($SD=1.32$), indicating that majority of patients experienced relapse. Specifically, 61.1% agreed that patients required readmission since discharge, and 64.2% agreed that patients experienced return of symptoms. The regression model explained 55.9% of variance in psychiatric relapse ($R^2 = .559$), with all four predictors making significant contributions. Unit increases in patient-related factors, healthcare quality, socio-economic support, and evidence-based interventions lead to significant decreases in psychiatric relapse among patients discharged from MNTRH.

5.3 Conclusions of the Study

The study concluded that psychiatric relapse rates among patients discharged from Mathari National Teaching and Referral Hospital are significantly high, with over 60% of patients experiencing symptom recurrence and readmission. This implies that current relapse prevention strategies require substantial strengthening to improve patient outcomes and reduce the revolving door phenomenon at Kenya's largest psychiatric facility.

Patient-related determinants, particularly medication non-adherence and poor illness insight, significantly contribute to relapse among psychiatric patients at MNTRH. The study concluded that medication non-adherence is the most critical patient-related factor, with over two-thirds of patients forgetting or deliberately discontinuing their psychiatric medications. Poor illness awareness and inadequate coping strategies further exacerbate relapse vulnerability, confirming that individual patient factors play the strongest role in determining relapse outcomes.

Healthcare-related determinants significantly influence relapse rates, though the quality of therapeutic relationships was generally positive. The study concluded that while patients feel comfortable with providers during consultations, systemic challenges including inadequate

staffing, limited treatment time, inconsistent provider continuity, medication supply disruptions, and absence of systematic follow-up mechanisms substantially undermine relapse prevention efforts. The lack of structured post-discharge monitoring emerged as a critical healthcare system gap requiring immediate attention.

Socio-economic determinants profoundly impact relapse outcomes among psychiatric patients discharged from MNTRH. The study concluded that while family emotional support is generally strong, severe economic constraints including unemployment, unaffordable medication costs, and financial instability create insurmountable barriers to treatment adherence. Stigma within families and communities further complicates recovery, with many patients experiencing rejection and discrimination that precipitate relapse. Economic factors emerged as the second most powerful determinant of relapse, highlighting the intersection between poverty and mental health outcomes in Kenya.

Evidence-based intervention frameworks can significantly reduce relapse rates when systematically implemented. The study concluded that comprehensive approaches incorporating family therapy, patient psychoeducation, risk stratification, multidisciplinary coordination, and structured follow-up demonstrate substantial protective effects against relapse. However, current implementation of these evidence-based practices at MNTRH remains suboptimal, with fewer than half of patients receiving risk-stratified care or intensive monitoring. The significant predictive power of intervention frameworks confirms that relapse is preventable through systematic, well-coordinated clinical and psychosocial interventions.

The study concluded that psychiatric relapse at MNTRH results from complex interactions between patient vulnerabilities, healthcare system limitations, and socio-economic pressures. A unit increase in any determinant category leads to significant changes in relapse outcomes, confirming that multi-domain intervention approaches addressing patient education, healthcare system strengthening, family support, and economic assistance simultaneously are

essential for effective relapse prevention. Single-factor interventions are insufficient given the interconnected nature of relapse determinants.

5.4 Recommendations of the Study

The study recommends that MNTRH should establish a dedicated Relapse Prevention Unit that would help to coordinate post-discharge care for psychiatric patients. Further, all discharged patients should be made aware that they can access follow-up support through telephone contacts and home visits. Patients and families should be assured that follow-up services are confidential and supportive, which would help them feel more comfortable seeking help when early warning signs appear.

The study recommends that MNTRH should provide comprehensive psychoeducation about mental illness to all patients and their families during hospitalization. Education about psychiatric conditions, medications, and relapse prevention should be mandatory for all admitted patients. Further, the hospital should partner with community health centers to help in providing continuity of care after discharge. This would provide a broader network of support for patients since they can receive help from both MNTRH specialists and community-based providers. MNTRH should develop crisis response protocols and resources for patients experiencing early relapse signs, regardless of their diagnosis. These resources should be widely publicized through discharge planning and easily accessible through telephone hotlines.

MNTRH should provide comprehensive family therapy and caregiver support services for all psychiatric patients, regardless of their socioeconomic status. These services should be readily accessible, affordable, and stigma-free. There is need to implement awareness campaigns and educational programs that address stigma and discrimination faced by psychiatric patients in families and communities. This can help reduce stereotypes and prejudices related to mental illness. The hospital should develop programs for identifying and assisting high-risk patients through systematic risk stratification at discharge. Early

intervention through intensive follow-up can prevent relapse progression. There is need to regularly collect and analyze data regarding relapse rates and contributing factors among discharged patients, paying attention to patient-related, healthcare-related, and socio-economic determinants. This data can inform clinical practices and policy decisions at MNTRH.

5.5 Recommendations for Further Studies

The study recommends that further research should be conducted about determinants of treatment adherence among psychiatric patients in Kenya. A study should also be conducted to determine the effectiveness of different intervention models in preventing relapse. Further, another study should focus on the economic costs of psychiatric relapse and cost-effectiveness of prevention programs in Kenya.

REFERENCES

- Addington, J., Coldham, E. L., Jones, B., Ko, T., & Addington, D. (2003). The role of social support in the outcome of first-episode psychosis. *Schizophrenia Research*, 62(3), 359–361.
- Ahmed, T. N., & Shah, N. A. (2024). Exploring Socio-Economic Challenges: An In-Depth Study of Relapsed Drug Addicts in Karachi. *Bujhss*, 7(2), 1-24.
- American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.).
- Amha, H., Getnet, A., Munie, B. M., Workie, T., Alem, G., Mulugeta, H., ... & Wubetu, M. (2024). Relapse rate and predictors among people with severe mental illnesses at Debre Markos Comprehensive specialized hospital, Northwest Ethiopia: a prospective follow up study. *European Archives of Psychiatry and Clinical Neuroscience*, 1-13.
- Amha, H., Tadesse, A., & Asmare, M. (2024). Prevalence and determinants of psychiatric relapse among patients with severe mental illness attending follow-up at Debre Markos Comprehensive Specialized Hospital. *BMC Psychiatry*, 24(1), 38.
- Anokye, R., Jackson, B., Dimmock, J., Dickson, J. M., Kennedy, M. A., Schultz, C. J., Blekkenhorst, L. C., Hodgson, J. M., Stanley, M., & Lewis, J. R. (2023). Impact of vascular screening interventions on perceived threat, efficacy beliefs and behavioural intentions: A systematic narrative review. *Health Promotion International*, 38(3). <https://doi.org/10.1093/heapro/daac053>
- Aragona, M., Barbato, A., Cavani, A., Costanzo, G., & Mirisola, C. (2020). Negative impacts of COVID-19 lockdown on mental health service access and follow-up adherence for immigrants and individuals in socio-economic difficulties. *Public health*, 186, 52-56.
- Ayanleke, M. A., & Aina, O. F. (n.d.). Factors associated with relapse among psychotic patients attending outpatient services in a Nigerian neuropsychiatric hospital. *Annals of African Medicine*. [Advance online publication].
- Banerjee, R., Biru, Y., Cole, C. E., Faiman, B., Midha, S., & Ailawadhi, S. (2024). Disparities in relapsed or refractory multiple myeloma: recommendations from an interprofessional consensus panel. *Blood cancer journal*, 14(1), 149.
- Bashir, S., Siddiqui, M., Muneera, M., Naudhani, T., & Ali, S. (2021). A Study On Socio-Economic And Psychological Problems Of Relapse Drug Addicts In Balochistan. *Humanities & Social Sciences Reviews*, 9(1), 142-150.
- Becker, M. H. (1974). The health belief model and personal health behavior. *Health Education Monographs*, 2, 324–508.
- Best, J. W., & Khan, J. V. (2006). *Research in education* (10th ed.). Pearson Education Inc.
- Bhatt, P., Kloock, C., & Comenzo, R. (2023). Relapsed/refractory multiple myeloma: a review of available therapies and clinical scenarios encountered in myeloma relapse. *Current Oncology*, 30(2), 2322-2347.
- Bilaminu, A., & Aina, J. (2020). Assessment of factors associated with treatment relapse among patients diagnosed with psychotic illness in two psychiatric hospitals in South west, Nigeria. *Assessment*, 3(5), 12-53.
- Bockting, C. L., Hollon, S. D., Jarrett, R. B., Kuyken, W., & Dobson, K. (2015). A lifetime approach to major depressive disorder: the contributions of psychological interventions in preventing relapse and recurrence. *Clinical psychology review*, 41, 16-26.
- Bowen, S., Witkiewitz, K., Clifasefi, S. L., Grow, J., Chawla, N., Hsu, S. H., ... & Larimer, M. E. (2014). Relative efficacy of mindfulness-based relapse prevention, standard relapse prevention, and treatment as usual for substance use disorders: a randomized clinical trial. *JAMA psychiatry*, 71(5), 547-556.

- Brodsky, B. S., Spruch-Feiner, A., & Stanley, B. (2018). The zero-suicide model: applying evidence-based suicide prevention practices to clinical care. *Frontiers in psychiatry*, 9, 33.
- Byrne, P., & Tickle, J. (2010). Predicting relapse in schizophrenia. *Advances in Psychiatric Treatment*, 16(6), 446–452.
- Calocer, F., De Jardin, O., Droulon, K., Launoy, G., & Defer, G. (2018). Socio-economic status influences access to second-line disease modifying treatment in Relapsing Remitting Multiple Sclerosis patients. *PLoS One*, 13(2), e0191646.
- Carpenter, C. J. (2010). A meta-analysis of the effectiveness of health belief model variables in predicting behavior. *Health Communication*, 25(8), 661–669.
- Champion, V. L., & Skinner, C. S. (2008). The health belief model. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice* (4th ed., pp. 45–65). Jossey-Bass.
- Chaudhary, S. G., Shahzad, M., Pfannenstiell, K., Amin, M. K., Kasaeian, A., Khavandgar, N., ... & Mushtaq, M. U. (2024). Sociodemographic and Patient-Related Determinants of Outcomes after Matched Sibling Donor Hematopoietic Cell Transplantation with Post-Transplant Cyclophosphamide-Based GvHD Prophylaxis. *Blood*, 144, 2122.
- Chellappa, L. R., Balasubramaniam, A., Indiran, M. A., & Rathinavelu, P. K. (2021). A qualitative study on attitude towards smoking, quitting and tobacco control policies among current smokers of different socio-economic status. *Journal of Family Medicine and Primary Care*, 10(3), 1282-1287.
- Ching, R., Uhlyarik, A., Ahmed, S., & Rashid, N. (2023). EE23 Economic Impact of Discontinuation and Relapse Rates Among Patients with Schizophrenia Newly Initiated on Lybalvi Versus Olanzapine during First Year Use. *Value in Health*, 26(6), S63-S64.
- Christensen, L. B. (2006). *Experimental methodology* (10th ed.). Allyn & Bacon.
- Cohen, S. (1988). Psychosocial models of the role of social support in the etiology of physical disease. *Health Psychology*, 7(3), 269–297.
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98(2), 310–357.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.
- Eneh, O. C., & Eneh, C. A. (2024). An analysis of demographic, socio-economic and clinical variables for mental illness and mental illness relapse in south-east nigeria. *Scientific Reports*, 14(1), 23079.
- Engel, G. L. (1980). The clinical application of the biopsychosocial model. *The American Journal of Psychiatry*, 137(5), 535–544.
- Garcia, A. F., McMillen, T., Chow, H. Y., Eagan, J., Sun, J., & Kamboj, M. (2017, October). Epidemiology of Clostridium difficile infection Among Patients with Newly Diagnosed or Relapsed Acute Leukemia: A Single-center Experience. In *Open Forum Infectious Diseases* (Vol. 4, No. Suppl 1, p. S391).
- Gottesman, I. I., & Shields, J. (1982). *Schizophrenia: The epigenetic puzzle*. Cambridge University Press.
- Grant, S., Colaiaco, B., Motala, A., Shanman, R., Booth, M., Sorbero, M., & Hempel, S. (2017). Mindfulness-based relapse prevention for substance use disorders: A systematic review and meta-analysis. *Journal of addiction medicine*, 11(5), 386-396.
- Hathaway, L., Sen, J. M., & Keng, M. (2018). Impact of blinatumomab on patient outcomes in relapsed/refractory acute lymphoblastic leukemia: evidence to date. *Patient Related Outcome Measures*, 329-337.
- House, J. S. (1981). *Work stress and social support*. Addison-Wesley.

- House, J. S., & Kahn, R. L. (1985). Measures and concepts of social support. In S. Cohen & S. L. Syme (Eds.), *Social support and health* (pp. 83–108). Academic Press.
- Husiny, T. M. A. (2025). A Scoping Review of Factors Contributing to Relapse in Substance Use Disorders. *Modern Journal of Health and Applied Sciences*, 2(1), 93–113.
- Jenkins, R., Kiima, D., Njenga, F., Okonji, M., Baraza, M., Kingora, J., & Lock, S. (2012). Integration of mental health into primary care in Kenya. *World Psychiatry*, 11(1), 52–55.
- Kelapile, K. (2022). *Prevalence and Factors Associated With Relapse in Patients Admitted at Jubilee Psychiatric Unit, Nyangabgwe Referral Hospital, Botswana* (Doctoral dissertation, University of Nairobi).
- Kelapile, M. (2022). Relapse and associated factors among patients with psychiatric disorders at Jubilee Psychiatric Unit, Botswana. *International Journal of Mental Health Systems*, 16(1), 10.
- Kiima, D., & Jenkins, R. (2010). Mental health policy in Kenya – an integrated approach to scaling up equitable care for poor populations. *International Journal of Mental Health Systems*, 4(1), 19.
- Kirscht, J. P. (1974). The health belief model and illness behavior. *Health Education Monographs*, 2(4), 387–408.
- McKenna, B., Simpson, A. I. F., & Coverdale, J. H. (2014). What is the evidence for involuntary treatment within forensic mental health settings? A systematic review. *International Journal of Law and Psychiatry*, 37(5), 485–492.
- Moller, M. D., Müller, N., & Schaub, M. (2018). Relapse prevention in schizophrenia: An overview of the current status and future directions. *Neuropsychiatrie*, 32(4), 173–181.
- Moran, M. (2009). Economic costs of mental disorders and the benefits of mental health promotion and prevention. *Mental Health in Family Medicine*, 6(3), 143–147.
- Mueser, K. T., Noordsy, D. L., Drake, R. E., & Fox, L. (2013). *Integrated treatment for dual disorders: A guide to effective practice*. Guilford Press.
- Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods: Quantitative and qualitative approaches*. Acts Press.
- Muhindo, G. (2017). Factors associated with relapse among patients with severe mental illness at Kampala International University Teaching Hospital. *African Health Sciences*, 17(2), 440–446.
- Muhindo, S. (2017). Factors contributing to increased relapses among mentally ill patients attending mental health unit at Kampala International University Teaching Hospital.
- Naqvi, I. (2020). Psychological Determinants of Relapse Prevention. *Pakistan Journal of Psychological Research*, 35(2).
- National Institute on Drug Abuse. (2020). *Drugs, brains, and behavior: The science of addiction*. National Institutes of Health.
- Ndeti, D. M., Khasakhala, L., & Kang'ethe, R. (2010). *Mental health and poverty in Kenya: Evidence from the Kenya integrated household budget survey*. World Health Organization Collaborating Centre.
- Nuechterlein, K. H., & Dawson, M. E. (1984). A heuristic vulnerability/stress model of schizophrenic episodes. *Schizophrenia Bulletin*, 10(2), 300–312.
- Olfson, M., Blanco, C., Wang, S., Laje, G., & Correll, C. U. (2016). National trends in the mental health care of children, adolescents, and adults by office-based physicians. *JAMA Psychiatry*, 73(9), 856–865.
- Patton, D. E., Hughes, C. M., Cadogan, C. A., & Ryan, C. A. (2017). Theory-based interventions to improve medication adherence in older adults prescribed polypharmacy: A systematic review. *Drugs & Aging*, 34(2), 97–113. <https://doi.org/10.1007/s40266-016-0426-6>

- Peters, R. H., Young, M. S., Rojas, E. C., & Gorey, C. M. (2017). Evidence-based treatment and supervision practices for co-occurring mental and substance use disorders in the criminal justice system. *The American Journal of Drug and Alcohol Abuse*, 43(4), 475-488.
- Pitanupong, J., Ratanaapiromyakij, P., & Teetharatkul, T. (2021). Factors Associated with Low Relapse Rates of Schizophrenia in Southern Thailand: A University Hospital-Based Study.
- Ritchie, D., Van den Broucke, S., & Van Hal, G. (2021). The health belief model and theory of planned behavior applied to mammography screening: A systematic review and meta-analysis. *Public Health Nursing*, 38(3), 482–492. <https://doi.org/10.1111/phn.12869>
- Robinson, D., Woerner, M. G., Alvir, J. M., Bilder, R., Goldman, R., Geisler, S., Koreen, A., Sheitman, B., Chakos, M., Mayerhoff, D., & Lieberman, J. A. (1999). Predictors of relapse following response from a first episode of schizophrenia or schizoaffective disorder. *Archives of General Psychiatry*, 56(3), 241–247.
- Rook, K. S. (1984). The negative side of social interaction: Impact on psychological well-being. *Journal of Personality and Social Psychology*, 46(5), 1097–1108.
- Rosenstock, I. M. (1974). The health belief model and preventive health behavior. *Health Education Monographs*, 2(4), 354–386.
- Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1994). The health belief model and HIV risk behavior change. In R. J. DiClemente & J. L. Peterson (Eds.), *Preventing AIDS: Theories and methods of behavioral interventions* (pp. 5–24). Springer.
- Salleh Mohad, A. (2010). Readmission among psychiatric patients: A review. *Malaysian Journal of Medical Sciences*, 17(1), 1–6.
- Schwarzer, R., & Leppin, A. (1991). Social support and health: A theoretical and empirical overview. *Journal of Social and Personal Relationships*, 8(1), 99–127.
- Shah-Mohammadi, F., & Finkelstein, J. (2024, February). AI-powered social determinants of health extraction from patient records: a GPT-based investigation. In *2024 IEEE First International Conference on Artificial Intelligence for Medicine, Health and Care (AIMHC)* (pp. 109-112). IEEE.
- Simbar, M., Ghazanfarpour, M., & Abdollahian, S. (2020). Effects of training based on the health belief model on Iranian women's performance about cervical screening: A systematic review and meta-analysis. *Journal of Education and Health Promotion*, 9, 179. https://doi.org/10.4103/jehp.jehp_634_19
- Smith, J. A., Flowers, P., & Larkin, M. (2022). *Interpretative phenomenological analysis: Theory, method and research* (2nd ed.). SAGE Publications.
- Spring, B., & Coons, H. W. (1982). Psychobiological aspects of relapse prevention. *Addictive Behaviors*, 7(3), 195–201.
- Stretcher, V. J., & Rosenstock, I. M. (1997). The health belief model. In K. Glanz, F. M. Lewis, & B. K. Rimer (Eds.), *Health behavior and health education: Theory, research, and practice* (2nd ed., pp. 31–36). Jossey-Bass.
- Subramaniam, M., Abdin, E., Vaingankar, J. A., & Chong, S. A. (2014). Psychiatric morbidity in Singapore: Results of a mental health survey. *Annals Academy of Medicine Singapore*, 43(2), 55–66.
- Szklo, M., & Nieto, F. J. (2019). *Epidemiology: Beyond the basics* (4th ed.). Jones & Bartlett Learning.
- Thoits, P. A. (1982). Conceptual, methodological, and theoretical problems in studying social support as a buffer against life stress. *Journal of Health and Social Behavior*, 23(2), 145–159.

- Thornicroft, G., Chatterji, S., Evans-Lacko, S., Gruber, M., Sampson, N., Aguilar-Gaxiola, S., Al-Hamzawi, A., Andrade, L., Borges, G., de Almeida, J. M. C., Florescu, S., Kessler, R. C., Kawakami, N., Lee, S., Navarro-Mateu, F., Piazza, M., Posada-Villa, J., & Scott, K. (2021). Undertreatment of people with major depressive disorder in 21 countries. *The British Journal of Psychiatry*, 210(2), 119–124.
- Velligan, D. I., Weiden, P. J., Sajatovic, M., Scott, J., Carpenter, D., Ross, R., & Docherty, J. P. (2009). The expert consensus guideline series: Adherence problems in patients with serious and persistent mental illness. *Journal of Clinical Psychiatry*, 70(4), 1–46.
- Vos, T., Lim, S. S., Abbafati, C., Abbas, K. M., Abbasi, M., Abbasifard, M., Abbasi-Kangevari, M., Abbastabar, H., Abd-Allah, F., Abdelalim, A., & others. (2020). Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: A systematic analysis. *The Lancet*, 396(10258), 1204–1222.
- Walker, E. F., Kestler, L., Bollini, A., & Hochman, K. M. (2004). Schizophrenia: Etiology and course. *Annual Review of Psychology*, 55, 401–430.
- Wang, Z., Xie, H., Xu, Y., Wang, S., & Luo, D. (2019). Relapse among patients with schizophrenia in community-based services: A cross-sectional survey in China. *BMC Psychiatry*, 19(1), 113.
- Wiersma, W., & Jurs, S. G. (2005). *Research methods in education: An introduction* (8th ed.). Pearson Education Inc.
- World Health Organization. (2022). *World mental health report: Transforming mental health for all*.
- Zubin, J., & Spring, B. (1977). Vulnerability: A new view of schizophrenia. *Journal of Abnormal Psychology*, 86(2), 103–126.

APPENDICES

APPENDIX I: Informed Consent

INFORMED CONSENT FOR RESEARCH PARTICIPATION

Introduction

You are invited to participate in a research study. This document provides information about the study so that you can make an informed decision about your participation. Please take the time to read the information below. If you have any questions, feel free to ask the researcher. (PI to Fill in the sections italicized)

Purpose of the Study

The purpose of this study is to investigate the determinants of relapse among psychiatric patients discharged from Mathari National Teaching and Referral Hospital, Kenya. The research is being conducted to identify patient-related determinants of relapse among psychiatric patients in MNTRH, determine healthcare-related determinants of relapse, explore socio-economic determinants of relapse, and develop an evidence-based intervention framework to prevent relapse among psychiatric patients in MNTRH.

Study Procedures

If you agree to participate, you will be asked to complete a face-to-face questionnaire after providing informed consent for family caregivers, with the researcher available to clarify questions.

Potential Risks and Discomforts

While there may be some risks associated with participation in this study. Every effort will be made to minimize these risks, and you can withdraw from the study at any time without penalty.

Potential Benefits

While participating may not directly benefit you, the results of this study may contribute to improving mental health care in Kenya by providing evidence that helps clinicians develop targeted relapse prevention strategies, enhance patient assessment, and improve discharge planning. The findings will inform national policies, guide resource allocation for outpatient and community-based services, and support caregiver education to strengthen post-discharge support. Ultimately, participation will help improve treatment outcomes, reduce relapse rates, and enhance the quality of life for individuals with mental illness.

Confidentiality

Your participation will be kept confidential. Any data collected will be stored securely and only accessible to the research team. Your identity will not be revealed in any publication or presentation resulting from this research.

Voluntary Participation

Participation in this study is completely voluntary. You have the right to withdraw from the study at any time without any negative consequences or loss of benefits to which you are otherwise entitled.

Questions

If you have any questions about this study, your participation, or your rights as a participant, please contact the principal investigator at +254721431321.

Consent

By signing below, you indicate that you have read the information provided above, understand the purpose and procedures of the study, and voluntarily agree to participate. You can withdraw from the study at any time without penalty.

Participant Statement:

I, the undersigned, consent to participate in this study.

Signature of Participant: _____

Date: _____

APPENDIX II: Family Caregiver Questionnaire

DETERMINANTS OF RELAPSE IN PSYCHIATRIC PATIENTS DISCHARGED FROM MATHARI NATIONAL TEACHING AND REFERRAL HOSPITAL, KENYA

The goal of this questionnaire is to collect data for academic purposes on the determinants of relapse among psychiatric patients discharged from Mathari National Teaching and Referral Hospital, Kenya.

Section A: Demographic Information

1. Indicate your age group

i. Under 25 years []

ii. 26-35 years []

iii. 36-45 years []

iv. 46-55 years []

v. Over 55 years []

2. Indicate your gender

i. Male []

ii. Female []

3. Your relationship to the patient

i. Spouse/Partner []

ii. Parent []

iii. Sibling []

iv. Child []

v. Other relative []

4. Highest level of education completed

i. No formal education []

ii. Primary school []

iii. Secondary school []

iv. Certificate/Diploma []

v. University degree []

5. Duration of caregiving

i. Less than 1 year []

ii. 1-3 years []

iii. 4-6 years []

iv. 7-10 years []

v. More than 10 years []

Section B: Patient-Related Determinants

Indicate your level of agreement with the following statements about patient-related factors:

(1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5= Strongly Agree)

Patient-Related Determinants	5	4	3	2	1
The patient takes their psychiatric medication exactly as prescribed by the doctor					
The patient sometimes forgets to take their psychiatric medication					
The patient clearly understands that they have a mental health condition					
The patient recognizes early warning signs of symptom worsening					
The patient uses healthy coping strategies when dealing with stress					
The patient seeks emotional support from family and friends during difficult times					
The patient maintains hope and optimism about their recovery					

Section C: Healthcare-Related Determinants

Indicate your level of agreement with the following statements about healthcare-related factors:

(1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5= Strongly Agree)

Healthcare-Related Determinants	5	4	3	2	1
The patient receives comprehensive care during follow-up appointments					
Healthcare providers spend adequate time addressing the patient's concerns					
The patient feels comfortable discussing their symptoms with healthcare providers					
The patient consistently sees the same healthcare provider during follow-up visits					

There is smooth coordination between different healthcare providers treating the patient					
Treatment plans remain consistent across different healthcare settings					
Healthcare services are easily accessible when the patient needs help					

Section D: Socio-Economic Determinants

Indicate your level of agreement with the following statements about socio-economic factors:
(1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5= Strongly Agree)

Socio-Economic Determinants	5	4	3	2	1
Family members are very supportive of the patient's psychiatric treatment					
The patient feels loved and accepted by their family members					
Family members understand the patient's mental health condition					
The patient is currently engaged in meaningful employment or productive activities					
Employment provides the patient with a sense of purpose and accomplishment					
The family has stable income to meet basic needs (food, shelter, clothing)					
Healthcare costs including medication are affordable for the family					

Section E: Psychiatric Relapse

Indicate your level of agreement with the following statements about psychiatric relapse: (1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5= Strongly Agree)

Psychiatric Relapse	5	4	3	2	1
The patient has required readmission to psychiatric hospital since last discharge					
Multiple readmissions have occurred within the past year					
The patient has experienced a return of their psychiatric symptoms since discharge					
Symptoms that had improved during hospitalization have worsened again					

The patient's ability to perform daily activities has declined since discharge					
Social relationships have deteriorated due to the patient's mental health condition					
Overall quality of life has decreased compared to the period immediately after discharge					

Section F: Evidence-Based Intervention Framework

Indicate your level of agreement with the following statements about intervention approaches:

(1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5= Strongly Agree)

Evidence-Based Intervention Framework	5	4	3	2	1
Healthcare providers systematically assess the patient's risk for relapse before discharge					
Patients are categorized into different risk levels based on established criteria					
High-risk patients receive more intensive follow-up and monitoring					
The patient receives coordinated care from multiple healthcare disciplines					
Medical, psychological, and social interventions are well-integrated in treatment					
The patient's progress is systematically monitored through regular follow-up appointments					
Early warning signs of relapse are actively monitored and documented					

APPENDIX III: Healthcare Provider Interview Guide

DETERMINANTS OF RELAPSE IN PSYCHIATRIC PATIENTS DISCHARGED FROM MATHARI NATIONAL TEACHING AND REFERRAL HOSPITAL, KENYA

I am a master's student at KCA University pursuing a degree in Counseling Psychology. You have been asked to participate because of your professional role in psychiatric care at MNTRH. The information you provide will remain confidential. I appreciate your willingness to be interviewed as part of my approved research.

i. What policies and practices are in place at MNTRH regarding relapse prevention for discharged psychiatric patients?

ii. In your experience, what patient-related factors most commonly contribute to relapse after discharge?

iii. How do healthcare system factors influence relapse rates among your patients?

iv. How would you describe the impact of socio-economic factors on relapse outcomes at MNTRH?

v. What intervention strategies have you found most effective for preventing relapse?

vi.What could be done to improve relapse prevention and support for discharged patients at MNTRH?

vii.How do you think an evidence-based intervention framework could improve relapse prevention at MNTRH?

viii.What are the main barriers to implementing effective relapse prevention programs at MNTRH?

APPENDIX IV: Letter from Board of Postgraduate Studies



Thika Road, Ruaraka
P.O. Box 56808-00200 Nairobi Kenya
Pilot Line: +254 20 8070408/9

Tel: +254 20 3537842
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BOARD OF POSTGRADUATE STUDIES

KCAU/BPS/2025

Date: Thursday, September 25, 2025

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION (NACOSTI)
P.O BOX 30623-00100
NAIROBI

Dear Sir/Madam,

RE: AGNES K. MWENDA- REG NO. 24/00943

It is my distinct pleasure to introduce Agnes K. Mwenda, a student at our institution pursuing a Master of Arts in Counseling Psychology degree in the School of Education Arts and Social Sciences.

Agnes is conducting research on the topic: ***"Determinants of relapse in psychiatric patients discharged from Mathari national teaching and referral hospital, Kenya."*** Her study has been reviewed and approved by the University's Ethics Review Committee Approval No. KCAUSERC/SEASS027. The approval period is from 8th September, 2025 – 8th September, 2026.

Any assistance accorded to her is highly appreciated.

Yours faithfully,

APPENDIX V: NACOSTI Permit

 REPUBLIC OF KENYA National Commission for Science, Technology and Innovation	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 610212	Date of Issue: 08/October/2025
RESEARCH LICENSE	
	
This is to Certify that Ms. Agnes Kaari Mwenda of KCA University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: DETERMINANTS OF RELAPSE IN PSYCHIATRIC PATIENTS DISCHARGED FROM MATHARI NATIONAL TEACHING AND REFERRAL HOSPITAL, KENYA for the period ending 30/08/2026.	
License No: NACOSTI/P/25/4180386	
 Ag. Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION	
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See overleaf for conditions	

APPENDIX VI: Clearance Letter in Mathari Hospital



Ministry of Health



MATHARI NATIONAL
TEACHING & REFERRAL
HOSPITAL

HEALING MINDS: RESTORING LIVES & TOUCHING FAMILIES

CLEARANCE TO CONDUCT RESEARCH IN MATHARI HOSPITAL

TO: ICs All Wards / Clinics

This is to inform you that Agnes Mwanda from KCA University

Has been cleared by the office of the Chief executive officer to undertake research at Mathari hospital

Please accord him/her the necessary support.

Thank you

In-Charge SMH&R



APPENDIX VII: ISERC Letter



Ministry of Health



MAI MATERNAL AND INFANTAL TRAINING AND REFERRAL HOSPITAL
MATHARI NATIONAL TRAINING AND REFERRAL HOSPITAL

Institutional Scientific and Ethics Review Committee

Ref: 2025/05/ETH-C-034

Date: 14/10/2025

MR. Agnes Mwendu, Principal Investigator

TITLE: BURNOUT/RELAPSE OF RELAPSE IN PSYCHOTRIC PATIENTS DISCHARGED FROM MATERNAL AND INFANTAL TRAINING AND REFERRAL HOSPITAL, KENYA

The Maternal and Infantal Training and Referral Hospital, Institutional Scientific and Ethics Review Committee (ISERC) reviewed your proposal. You are authoritatively granted this study from October 14th, 2025. This approval is valid until October 14th, 2026, and is subject to compliance with the following requirements:

1. The conduct of the study should be governed by all applicable national and international laws, rules, and regulations, ISERC guidelines and Maternal and Infantal Training and Referral Hospital policies and procedures, and you should notify the committee of any changes that may affect your research project (amendments, deviations, and substitutions).
2. Before human subjects' enrollment, you must obtain a research license from the National Commission for Science, Technology and Innovation (NACOSTI), where applicable, site approvals from the legal/medical office(s), and for the copies with the MO.
3. As applicable, before export of biological specimens/data, ensure Maternal Training Agreement (MTA) and Transfer Agreement (TA) is in place, as well as export permit authorization from the relevant government agency. Copies of these approvals should be submitted to the MO for record purposes.

4. All Serious Adverse Events and the interventions undertaken must be reported to the ISERC as soon as they occur, but not later than 48 hours.

5. All consent forms must be filed in the study folder and, where applicable, the patient's hospital record.

6. Further, you must provide an interim Progress Report Four (4) days before the expiration of the validity of this approval and request extension if additional time is required for study completion, as well as submit the completed Self-Assessment Tool - Monitoring Ethical Compliance in Research. You must advise the ISERC when the study is completed or discontinued, and a final report must be submitted to the Research Office for record purposes.

7. The Maternal and Infantal Training and Referral Hospital management should be notified of manuscripts emanating from the work.

8. The principal investigator and the sponsor will be responsible for ensuring compliance with good clinical practice.

9. The principal investigator will ensure that all research assistants involved in data collection or data collection will sign a confidentiality agreement.

If you have any questions, please get in touch with the Research Office via researchoffice@mathari.ac.ke

With best wishes,

Signed:



Dr. Charles Wanyo

Chair - Institutional Scientific and Ethics Review Committee (ISERC)

Maternal/ISERC

Copy: Co-Investigators