INFLUENCE OF PSYCHOLOGICAL FACTORS ON SELF-MANAGEMENT OF TYPE 2 DIABETES MELLITUS AMONG ADULT PATIENTS IN LAMU HOSPITAL, KENYA

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Declaration

The work in this report is my original work. I therefore declare that it has not been produced for any other award in the Institution of learning.

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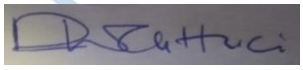
Signature  Date: 9/5/25

Dedication

I wholeheartedly dedicate this study to my dear family. To Lucas, Keith, Lydia, and Laura, your steadfast support and motivation have illuminated my journey. Remembering my late mother, whose love and influence shape my journey. I carry her lessons with me in everything I do.

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Abstract

Type 2 diabetes mellitus' global prevalence is scaling up, with approximately 537 million people affected (IDF, 2021). This growing epidemic poses significant public health challenges, especially in resource-constrained regions. The study investigated the aftermath of psychological attributes on the condition's personal-care behaviors in adult patients at Lamu hospital, Kenya. The study's objectives were to assess the emotional distress, investigate one's ability and belief, explore seeking connection networks as a coping strategy, and investigate diabetes related-distress' influence on personal care behaviors in adult patients in Lamu hospital, Kenya. The study involved 265 participants from the diabetes outpatient clinic and medical wards. Participants were selected based on a confirmed T2DM diagnosis and their willingness to participate. Those with severe medical conditions were excluded. The study was guided by the Roy adaptation model (RAM) and social cognitive theory (SCT). It utilized a quantitative, cross-sectional design. A customized and validated questionnaire, covering aspects such as emotional distress, self-efficacy, seeking social support as a coping mechanism, and socio-demographic data, was used. Expert opinion, pilot testing, and Cronbach's alpha verified the reliability and validity of the data collection tool. Data analysis was carried out using SPSS and other inferential statistical methods, such as chi-square tests, to evaluate the association of psychological and demographic factors. The ethical considerations were safeguarded. Findings indicated a high prevalence of emotional distress among participants, with over half (51%) reporting that diabetes consumed significant mental and physical energy. Chi-square analyses revealed that gender significantly influenced self-efficacy in maintaining a meal plan at social events ($\chi^2 = 6.91$, $p = 0.009$), with females reporting lower confidence. Age differences in exercise self-efficacy were also significant ($\chi^2 = 12.32$, $p = 0.006$), with individuals aged 31–56 years reporting higher confidence. Duration of diabetes significantly impacted medication adherence self-efficacy ($\chi^2 = 22.62$, $p < 0.0001$), where patients with 1–6 years of diabetes reported greater confidence. However, education level did not significantly affect self-efficacy in blood sugar monitoring ($\chi^2 = 4.16$, $p = 0.245$). Around 70% of patients relied on social support as a key coping strategy. Emotional distress frequently interfered with personal care practices, affecting medication adherence, dietary adjustments, physical activity, and blood sugar monitoring. The study concludes that emotional distress significantly undermines the self-management of type 2 diabetes mellitus (T2DM), with low self-efficacy and reliance on social support playing key roles. To improve diabetes care, healthcare providers should focus on interventions that address emotional distress, such as counselling and stress management programs, while also boosting patient self-efficacy through tailored education. Strengthening social support networks, both in families and communities, could help ease the emotional burden. Future research should explore the long-term effects of emotional support interventions and examine how different forms of social support impact patient adherence to diabetes management practices.

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Abbreviations and acronyms

DDS	Diabetes Distress Scale
DMSES	Diabetes management self-efficacy scale
NCD	Non-communicable diseases
NHIF	National Hospital Insurance Fund
RAM	Roy Adaptation Model
SES	Socioeconomic status
SCT	Social Cognitive Theory
SPSS	Statistical packages for Social Sciences
SSA	Sub-Saharan Africa
T2DM	Type 2 Diabetes Mellitus
WHO	World Health Organization

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Type 2 diabetes mellitus (T2DM) poses a significant global health concern, currently affecting approximately 537 million individuals worldwide, with projections estimating an increase to 783 million by 2045 (IDF, 2021; WHO, 2023). The condition is a major contributor to morbidity and mortality, primarily due to complications such as cardiovascular disease, kidney dysfunction, and nerve damage (ADA, 2022). Proper self-management, encompassing adherence to prescribed medication, regular blood glucose monitoring, dietary regulation, and consistent physical activity, plays a vital role in minimizing complications and enhancing health outcomes (Meurs, 2016). However, self-management extends beyond behavioral aspects and is profoundly influenced by psychological factors, including emotional distress, self-efficacy, and coping strategies (Kalra, Jena, & Yeravdekar, 2018).

In several high-income nations, structured psychological support has been incorporated into diabetes care programs to assist patients in managing distress, boosting self-efficacy, and fostering healthy behaviors (Hermanns, DuBois, Millstein, Celano, & Wexler, 2015; Kumar & Agarwal, 2022). Research suggests that individuals experiencing lower emotional distress and greater self-efficacy demonstrate higher adherence to medication, dietary modifications, and exercise routines (Fisher, Hessler, Polonsky & Mullan, 2012; Sarkar, Fisher, & Schillinger, 2006). Conversely, untreated psychological distress can lead to poor self-management and worse health outcomes (Huffman et al., 2015).

In developing nations, especially those in sub-Saharan Africa, diabetes rates are increasing as a result of urban growth, changes in daily habits, and inadequate healthcare infrastructure (Chinenye, Ogbera, & Kalra, 2014). The International Diabetes Federation (IDF) reports that around 24 million adults in Africa currently live with diabetes, and this number is projected to rise twofold by 2045 (IDF, 2021). However, diabetes management in the region is hindered by challenges such as weaknesses in healthcare systems, financial limitations, and cultural perceptions of illness (Ramkisson, Pillay, & Sartorius, 2016). Despite evidence linking diabetes-related distress, low self-efficacy, and inadequate coping mechanisms to poor treatment adherence and unfavorable health outcomes, psychological aspects of diabetes care remain largely overlooked across Africa (Ramkisson, Pillay, & Sibanda, 2017). Unlike in high-income nations, where mental health support is integrated into diabetes management, psychosocial care in many African countries is still in its early stages, leaving numerous patients without access to counseling or psychological assistance (Mendenhall Musau, Bosire, Mutiso, Ndetei, & Rock, 2020).

Kenya encounters similar difficulties in both diabetes care and psychological support. Approximately 3.3 per cent of the population is affected by diabetes, with higher prevalence in urban areas due to lifestyle changes (Njiru, 2022). Studies indicate that more than half of diabetes patients in Kenya experience significant emotional distress, anxiety, and depression, which negatively affect their ability to adhere to treatment (Mendenhall et al., 2020). However, effective care is often constrained by limited access to mental health services, financial barriers, and cultural stigma surrounding psychological support (Stephani, Opoko, & Beran, 2018).

In Lamu County, where healthcare resources are even more constrained, managing T2DM presents additional difficulties, particularly due to heightened emotional distress and low self-efficacy. Many individuals face challenges in adhering to medication, making dietary adjustments, and adopting necessary lifestyle changes, often without sufficient psychosocial support (Stephani et al., 2018). The scarcity of mental health professionals and diabetes educators further exacerbates these difficulties, restricting access to psychological interventions that could facilitate better self-management.

This research examines how psychological elements, including emotional distress, self-efficacy, and coping strategies, affect self-care behaviors in adult Type 2 Diabetes Mellitus (T2DM) patients at Lamu Hospital. The results will inform the creation of psychosocial support programs aimed at improving diabetes care in low-resource environments.

1.2 Statement of the problem

Effective self-management of type 2 diabetes mellitus (T2DM) is critical for disease control and the prevention of complications. Studies indicate that adherence to medication, dietary guidelines, regular physical activity, and blood glucose monitoring significantly improves health outcomes. Moreover, psychological factors, including emotional distress, self-efficacy, and coping mechanisms such as seeking social support, play a vital role in self-management. However, the extent of their influence and the potential contribution of counselling psychology interventions remain insufficiently explored, particularly within the unique setting of Lamu hospital, Kenya. While much of the existing research emphasizes clinical and biomedical aspects, the psychosocial components essential for long-term self-care require further

examination. With a focus on counselling psychology, this study aims to investigate the role of psychological factors in shaping self-management behaviours among T2DM patients. The findings will provide valuable insights to inform psychological interventions that promote effective self-care and overall well-being.

1.3 Purpose of the study

This study examined how psychological factors influence the self-management of type 2 diabetes mellitus (T2DM) among adult patients receiving care at Lamu Hospital, Kenya.

1.4 Objectives of the study

This study aimed to achieve the following objectives:

i. To assess the prevalence of emotional distress among adult patients with T2DM at Lamu Hospital, Kenya.

ii. To evaluate the influence of self-efficacy on self-management practices among adult patients with T2DM at Lamu Hospital, Kenya.

iii. To examine the role of social support as a coping strategy in the self-management of T2DM among adult patients at Lamu Hospital, Kenya.

iv. To analyze how emotional distress influences self-management practices among adult patients at Lamu Hospital, Kenya.

1.5 Research questions

The study sought to answer the following research questions:

i. What is the prevalence of emotional distress among adult patients with T2DM at Lamu Hospital, Kenya?

ii. In what ways does self-efficacy affect the self-management practices of adult patients with T2DM at Lamu Hospital, Kenya?

iii. To what degree do adult patients with T2DM at Lamu hospital, Kenya, utilize social support as a coping strategy?

iv. What is the impact of emotional distress on self-management among adult patients with T2DM at Lamu Hospital, Kenya?

1.6 Research hypotheses

Based on established theoretical frameworks and empirical evidence, this study proposed the following hypotheses to examine the relationship between psychological factors and self-management behaviours in T2DM:

H1: Self-efficacy is significantly associated with diabetes self-management behaviors.

H2: Social support has a significant relationship with diabetes self-management behaviors.

H3: Emotional distress is significantly linked to diabetes self-management behaviors.

1.7 Significance of the study

This research improved understanding of the role psychological elements, particularly those addressed through therapeutic interventions, play in diabetes self-care within resource-constrained environments. Through investigation of the emotional challenges faced by people

living with T2DM, the study addressed an important knowledge gap by highlighting the essential need for psychological support in diabetes management programs.

The findings guided the development of therapeutic approaches centered on counseling, including individual psychotherapy, peer-based support networks, and organized health literacy programs. These methods proved effective in alleviating psychological distress, strengthening adaptive coping skills, and enhancing confidence in self-management, which subsequently resulted in improved medication compliance, better nutritional choices, greater engagement in exercise, and more regular blood sugar testing. Together, these improvements contributed to enhanced well-being and daily functioning for participants.

The research underscored the value of integrating counseling psychology into standard diabetes care. It offered actionable insights for clinicians and policymakers to develop more comprehensive treatment approaches that address both medical and psychological needs, fostering holistic patient well-being.

1.8 Justification of the study

The increasing prevalence of type 2 diabetes mellitus (T2DM) presents substantial challenges, particularly in resource-constrained settings like Lamu Hospital, Kenya. Effective diabetes management extends beyond medical treatment, requiring psychological resilience to navigate the daily demands of the condition. Emotional distress, self-efficacy, and social support are key psychological factors that influence patients' ability to manage their health effectively.

This study explored the prevalence of emotional distress, assessed patients' confidence in managing diabetes-related tasks, and examined the role of psychological support in self-management. By adopting a counselling psychology perspective, the research provides critical insights for developing targeted interventions that alleviate emotional distress, strengthen self-efficacy, and enhance social support. These findings can contribute to improving diabetes care and overall health outcomes in similar resource-limited settings.

1.9 Scope of the study

This study investigated how psychological factors influence Type 2 Diabetes Mellitus (T2DM) self-management among adults at Lamu Hospital in Kenya. The research examined the impact of emotional distress, self-efficacy, and social support-seeking behaviors on patients' ability to maintain effective self-care routines. Key areas of focus included assessing how emotional overwhelm compromises disease management and evaluating patients' confidence in essential diabetes care tasks like medication adherence, dietary control, and glucose monitoring. Additionally, the study analyzed the effectiveness of counseling and group-based interventions as coping mechanisms.

The research involved 265 systematically selected adult T2DM patients from Lamu Hospital. Inclusion criteria limited participation to adults with T2DM, while excluding those with Type 1 diabetes, gestational diabetes, pediatric cases, or cognitive limitations that might affect study participation. The investigation concentrated on psychosocial and behavioral dimensions rather than biological markers, aiming to provide evidence for developing specialized

counseling and therapeutic approaches to improve self-management practices and overall well-being.

1.10 Limitations of the study

Several limitations should be considered when interpreting the study's findings. First, the research was conducted at a single facility, Lamu Hospital, with a relatively small sample size, which may not represent the broader population of T2DM patients in different settings. Although the study effectively captured data on emotional distress and its impact on self-management, its findings might not apply to all individuals with T2DM.

Additionally, reliance on self-reported data introduces potential biases, such as social desirability and recall bias, which could affect the accuracy of the measures for emotional distress, self-efficacy, and social support-seeking behaviors. The cross-sectional design also limits the ability to draw causal inferences, as it only reflects a single point in time.

Furthermore, the study concentrated on specific psychological factors, omitting other potential influences like health literacy, cultural beliefs, and economic status that might also affect diabetes self-management. The focus on one healthcare facility means that the results might be influenced by site-specific characteristics, reducing their generalizability to other regions.

Lastly, although counselling services were available, resource limitations might have hindered access to adequate emotional support, potentially impacting patients' coping strategies

and self-management behaviors. Despite these constraints, the study provides important insights into the role of psychological factors in diabetes self-management and highlights avenues for future research.

1.11 Assumptions of the study

This study was grounded on several key assumptions aligned with its objectives:

1. Prevalence of emotional distress:

   The study assumed that emotional distress was both measurable and prevalent among adult T2DM patients at Lamu hospital. The assessment tools used were presumed to reliably capture the extent of this distress.

2. Role of self-efficacy in self-management:

   The study assumed that self-efficacy significantly influenced the self-management behaviours of adult T2DM patients. Variations in self-efficacy were expected to correlate with measurable differences in how well patients managed their condition.

3. Social support as an active coping mechanism:

   It was assumed that seeking social support constituted an active coping mechanism among adult T2DM patients and that this behavior could be accurately quantified. This formed the basis for exploring the relationship between social support and self-management practices.

4. Stability of psychological factors and socio-cultural context:

   The research presumed that the psychological variables (emotional distress, self-efficacy, and social support) and the socio-cultural environment at Lamu remained

relatively stable during the data collection period. This assumption was essential for ensuring that the cross-sectional design effectively captured the relationships under investigation.

1.12 Operational definitions of key terms

Coping mechanism	Ways of dealing with a situation or condition, such as networking, to manage the psychological and emotional challenges linked to diabetes.
Emotional distress:	Psychological suffering or discomfort experienced by individuals due to the challenges of managing a chronic illness, in this case, type 2 diabetes mellitus.
Self-belief:	Patients' confidence in their ability to consistently perform essential diabetes management behaviors, including maintaining medication schedules, following nutritional guidelines, engaging in prescribed physical activity, and conducting regular glycemic monitoring.

Self-care:	The individual's capacity for autonomous healthcare maintenance, encompassing proper medication use, dietary compliance, regular physical exercise, and systematic blood glucose surveillance as part of comprehensive diabetes care.
Type 2 diabetes mellitus (T2DM):	A metabolic disorder characterized by chronic hyperglycemia due to either impaired insulin utilization (insulin resistance) or inadequate insulin production by pancreatic β-cells.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter systematically examines existing scholarship on psychological influences affecting self-care behaviors in Type 2 Diabetes Mellitus (T2DM) populations, organized thematically according to research objectives. The analysis commences with a critical evaluation of three key areas: (1) the epidemiology of diabetes-related emotional distress, (2) self-efficacy constructs in chronic disease management, and (3) social support systems as adaptive coping mechanisms in T2DM populations. A subsequent section investigates the mechanistic pathways through which psychological distress impairs self-regulation in diabetes care.

The theoretical foundation integrates the Roy Adaptation Model with Bandura's Social Cognitive Theory to create a robust framework for analyzing psychosocial determinants of disease management. This synthesis is visually represented in a conceptual model that delineates the interplay between psychological predictors, mediating variables, and behavioral outcomes in diabetes self-care.

The chapter culminates with a critical synthesis of current evidence, highlighting significant knowledge voids and articulating the present study's contribution to advancing both theoretical understanding and clinical practice in diabetes care psychology.

2.2 Empirical literature

The empirical literature section provides an overview of previous research findings relevant to this study, highlighting key trends, research gaps, and significant insights that shape the study's context.

2.2.1 Prevalence of emotional distress on T2DM self-management among adult patients

International research consistently demonstrates the significant burden of diabetes-related emotional distress among T2DM populations. Snoek, Bremmer, and Hermanns' (2015) seminal review established diabetes distress as a distinct psychological construct arising from disease management demands, emphasizing the need for precise clinical assessment tools. Empirical evidence from diverse cultural contexts supports these findings.

Chew et al.'s (2016) Malaysian study (N=1,107) utilizing the DDS revealed 38% prevalence of diabetes distress, with 11% experiencing comorbid depression, highlighting the condition's clinical significance. European data from Indelicato et al. (2017) corroborated these patterns through standardized psychological assessments in Italy, advocating for routine mental health screening in diabetes clinics.

Large-scale epidemiological studies yield similar conclusions. Nanayakkara et al. (2018) analysis of the Australian National Diabetes Audit demonstrated varying distress prevalence across demographics, reinforcing calls for integrated psychological care. In Ghana, Amankwah-Poku et al. (2020) identified both high distress prevalence and systemic mental health service gaps through questionnaire-based research, particularly advocating for culturally adapted interventions in low-resource settings.

A qualitative study by Nwakobi (2014) in Nigeria examined psychological stress among T2DM patients. The findings indicated that stress was frequently reported, primarily due to disease management concerns, fear of complications, and financial strain. The study further highlighted how cultural beliefs and limited healthcare access aggravated emotional distress, pointing to the need for more robust psychosocial support structures.

In Kenya, Njiru (2022) investigated psychological distress among T2DM patients at Kenyatta National Hospital. The study found that a substantial portion of patients experienced emotional distress due to the daily challenges of managing diabetes. The results reinforced the importance of integrating psychological screening into routine diabetes management to identify and assist affected patients.

Similarly, research by Nyaberi et al. (2014) at a regional hospital in Western Kenya reported that approximately 40 percent of T2DM patients exhibited significant emotional distress. This study highlighted the widespread nature of psychological distress in diabetes patients, stressing the need for regular mental health assessments and enhanced psychosocial support as part of comprehensive diabetes care.

The reviewed literature convincingly demonstrates that emotional distress is a common issue among adult patients with type 2 diabetes. Studies from diverse regions, including Asia, Europe, and Africa, consistently reveal high prevalence rates of diabetes-related distress, often compounded by the challenges of managing the disease. Research emphasizes that the distress experienced by these patients stems not only from the clinical demands of diabetes management but also from socio-cultural factors, fear of complications, and economic

pressures. Given these findings, it is clear that there is a critical need for integrated mental health screening and culturally sensitive support strategies within diabetes care to address both clinical and psychological aspects of the disease.

2.2.2 Self-efficacy on T2DM self-management among adult patients

A substantial body of international research has conclusively demonstrated the fundamental importance of self-efficacy as a determinant of successful self-management practices among individuals diagnosed with type 2 diabetes mellitus. The seminal investigation conducted by Indelicato and colleagues (2017) within the Italian healthcare context yielded particularly noteworthy findings, revealing that patients who exhibited stronger beliefs in their capability to manage their chronic condition consistently demonstrated superior glycemic control outcomes compared to their less confident counterparts. Parallel findings emerged from the important work of Lalnuntluangi, Chelli and Padhy (2017) conducted in the Indian subcontinent, where their comprehensive analysis established a definitive positive correlation between elevated levels of self-efficacy and enhanced adherence to critical self-care behaviors, including strict compliance with pharmacological regimens and implementation of necessary lifestyle modifications.

These foundational findings have been robustly corroborated by subsequent research across diverse cultural contexts. Huang, Zuniga and Garcia's (2022) meticulous examination of diabetes management patterns among Latino American populations in the United States produced remarkably consistent results, further validating the universal relevance of self-efficacy constructs. Similarly, Aloudah and associates' (2018) large-scale investigation in Saudi

Arabia reinforced these conclusions while introducing the important caveat that deficiencies in diabetes-related knowledge could potentially attenuate the beneficial effects of high self-efficacy, suggesting the need for combined educational and confidence-building interventions.

The complex interplay between socioeconomic factors and psychological determinants has been extensively explored in recent literature. Nelson and colleagues' (2019) rigorous analysis of 383 American adults with T2DM yielded particularly insightful findings regarding the multifaceted impact of socioeconomic status. Their data revealed that individuals from disadvantaged socioeconomic backgrounds not only demonstrated poorer self-care practices but also exhibited significantly diminished levels of self-efficacy, creating a compounded negative effect on disease management. This important work was complemented by Derese and associates' (2024) comprehensive systematic review, which methodically examined the intricate relationship between depression and self-efficacy, concluding that the presence of depressive symptoms substantially undermined patients' confidence in their self-management abilities, regardless of cultural context.

The global nature of this phenomenon is further evidenced by research conducted in developing nations. Mumu and colleagues' (2019) careful study of 367 Bangladeshi adults with T2DM provided compelling evidence that self-efficacy served as the most reliable predictor of consistent blood glucose monitoring behaviors. These observations found strong resonance in Mash and Cairncross's (2023) ambitious cluster-randomized controlled trial encompassing 6,560 participants across 24 South African primary healthcare centers, which demonstrated both the potential for improving monitoring confidence through structured interventions and the persistent challenges in maintaining these gains over extended periods.

Cultural considerations have emerged as particularly salient factors in designing effective interventions. Ampofo and associates' (2022) nuanced investigation within the Ghanaian context shed important light on the synergistic relationship between family support systems, spiritual coping mechanisms, and enhanced self-efficacy. Their findings suggested that culturally embedded support structures could substantially amplify the benefits of confidence-building interventions. This perspective was further developed in Bet and Ade-Oshifogun's (2024) evaluation of educational programs in Kenya, which documented significant improvements in both self-efficacy metrics and clinical outcomes following targeted interventions.

However, the existing literature is not without its limitations. Several important studies, including D'Souza and Al Salmi's (2018) Omani research and Morrato and colleagues' (2007) analysis of BRFSS data, have been constrained by methodological factors such as cross-sectional designs and lack of control for confounding variables. These limitations have been thoughtfully addressed in recent systematic reviews, most notably Qin, Blanchette and Yoon's (2020) comprehensive analysis, which while confirming the robust association between self-efficacy and glycemic control, has highlighted the pressing need for longitudinal studies to better understand the temporal dynamics of this relationship and to develop more sustainable intervention models.

Overall, the reviewed literature underscores that high self-efficacy is essential for effective self-management of type 2 diabetes. Patients who possess stronger beliefs in their ability to manage their condition tend to achieve better glycemic control and adhere more closely to recommended self-care practices. However, factors such as limited diabetes-related

knowledge, socioeconomic disadvantages, and depressive symptoms can undermine these benefits. The global evidence emphasizes the need for comprehensive, culturally sensitive interventions that build both confidence and practical self-management skills, while also noting methodological limitations that future research should address.

2.2.3 Seeking social support as a coping strategy on T2DM self-management among adult patients.

Research has consistently shown that strong social support networks play a vital role in effective Type 2 Diabetes (T2DM) management. Various forms of assistance - including emotional backing, hands-on help, and motivational support from relatives, friends, fellow patients, and medical professionals - work together to improve patients' ability to follow crucial self-care routines. This includes taking medications as prescribed, following recommended meal plans, and staying physically active - all key components for maintaining healthy blood sugar levels and avoiding diabetes-related health problems.

Studies clearly indicate that individuals who take advantage of these support systems cope better with the ongoing demands of managing a chronic condition like diabetes. Kurniyawan and colleagues' (2023) in-depth research offered particularly strong proof of how social support and patient empowerment work together. Their work demonstrated that when support systems are intentionally built into patient empowerment programs, people with diabetes show noticeable gains in both their confidence and their actual ability to manage their condition effectively. These conclusions were substantiated by Mirzazadeh-Qashqaei et al. (2023), whose research demonstrated that individuals with well-developed social support infrastructures

exhibited not only more consistent self-care behaviors but also more adaptive coping strategies when faced with disease-related stressors.

Conversely, the absence of adequate social support has been shown to create significant barriers to effective diabetes management. Fidan et al.'s (2020) systematic investigation identified social isolation as a key predictor of suboptimal self-care practices, with unsupported patients experiencing substantially greater difficulties in maintaining treatment regimens. These observations were further validated by Ramkinsson et al. (2017), whose work revealed that while social support mechanisms could mitigate psychological distress, many patients still required additional structured educational components to fully translate social support into improved health behaviors.

The immediate post-diagnosis period has emerged as a particularly critical window for intervention, as demonstrated by Korsah's (2015) longitudinal analysis. This research highlighted how newly diagnosed individuals frequently depend heavily on existing familial and community networks to develop initial coping strategies and self-management competencies. These findings underscore the importance of implementing support systems that provide both immediate assistance during the acute adjustment phase and sustained reinforcement throughout the disease trajectory.

Cross-cultural research has further illuminated the universal relevance of social support while identifying context-specific implementation strategies. Ashur et al.'s (2016) investigation in Libya documented significant correlations between active engagement with support networks and improved adherence metrics. Similarly, Okoronkwo et al.'s (2016) Nigerian study emphasized how social networks in resource-constrained environments often compensate for

systemic healthcare deficiencies by providing both practical disease management assistance and psychological reinforcement.

Recent studies in East African contexts have yielded particularly insightful findings regarding family-based support mechanisms. Onyango et al.'s (2022) Ugandan research revealed that near-universal family involvement (95.3% of participants) was associated with markedly better health outcomes, with financial support and household cohesion emerging as particularly influential factors. These results were echoed in Njiru's (2023) Kenyan study, which quantified how high levels of family engagement directly enhanced specific self-care behaviors including medication adherence, dietary modification, and glycemic monitoring practices. Collectively, this body of research makes a compelling case for the development of culturally-adapted, family-centered intervention models that systematically leverage existing social structures to optimize diabetes care outcomes.

The current evidence base suggests that future interventions should incorporate multidimensional support frameworks that simultaneously address emotional, informational, and practical needs while remaining sensitive to local cultural contexts and healthcare system realities. Such approaches appear most likely to produce sustainable improvements in self-management behaviors and clinical outcomes across diverse patient populations.

In summary, the literature clearly supports that robust social support is fundamental to effective T2DM self-management. By providing emotional, practical, and informational assistance, social networks help patients adhere to essential self-care behaviors and cope with the challenges of managing a chronic disease. The evidence suggests that integrating family and community support within structured intervention programs, especially in the critical post-

diagnosis phase, can lead to significantly improved health outcomes. Moreover, culturally tailored models that recognize local healthcare realities are essential for ensuring the sustainability of these benefits.

2.2.4 Emotional distress' influence on T2DM self-management among adult patients

The psychological burden of emotional distress represents a significant obstacle to successful self-management of Type 2 Diabetes Mellitus (T2DM), often undermining patients' ability to adhere to critical self-care regimens. Research indicates that diabetes-related distress can severely disrupt medication compliance, dietary discipline, and consistent blood glucose monitoring, underscoring the necessity for psychological interventions tailored to mitigate these challenges.

In the United States, Summers-Gibson (2021) conducted a pivotal study examining the interplay between diabetes distress and self-care behaviors. Their findings revealed that elevated emotional distress correlated with diminished participation in essential diabetes management activities. Specifically, individuals grappling with distress exhibited reduced medication adherence, poorer dietary compliance, and infrequent glucose monitoring. The study advocated for targeted psychological interventions to alleviate distress and, in turn, improve self-management efficacy.

Parallel insights emerged from Gao et al.'s (2022) research in China, which explored the compounded effects of diabetes distress and depressive symptoms on self-management. The study demonstrated that emotional distress significantly impaired glycemic control, exacerbating health complications. However, it also identified self-efficacy as a protective

factor—patients with stronger self-confidence in managing their condition were better equipped to counteract the detrimental effects of distress. These findings highlight the dual importance of addressing both emotional well-being and self-efficacy in diabetes care programs.

Reinforcing these observations, Kalra et al. (2018) investigated psychological barriers to diabetes management in India. Their study documented how stress and anxiety disrupted self-care routines, leading to erratic medication use, dietary deviations, and inconsistent glucose monitoring. The researchers emphasized the urgent need for integrating mental health support into standard diabetes care, cautioning that unaddressed emotional distress could perpetuate a cycle of poor disease management and worsening health outcomes.

In Kenya, Mbunya (2022) explored adherence challenges among T2DM patients in Kakamega County, noting that while emotional distress was not the primary focus, stress and frustration emerged as notable impediments to effective self-care. The study suggested that incorporating psychological support into diabetes management strategies could enhance adherence and, consequently, improve long-term health outcomes.

In essence, the reviewed literature reveals that emotional distress is a major barrier to effective T2DM self-management. Elevated distress levels not only disrupt critical self-care behaviors such as medication adherence, dietary discipline, and regular blood glucose monitoring but also exacerbate overall health complications. The findings underscore the importance of implementing targeted psychological interventions and support mechanisms that enhance self-efficacy, thereby enabling patients to better cope with the stresses of managing their diabetes.

2.3 Theoretical framework

Two theories guided this study as follows.

2.3.1 Roy adaptation model (RAM)

The Roy Adaptation Model (RAM), first introduced by Sister Callista Roy (1988), serves as a key framework for examining how individuals adjust to health-related changes. Over time, scholars have expanded and refined this model, making it particularly relevant in the management of chronic illnesses such as Type 2 Diabetes Mellitus (T2DM). This study applies RAM to assess how T2DM patients navigate the challenges associated with their condition, with a specific emphasis on psychological and behavioral adaptation.

Roy views individuals as holistic beings who continuously interact with their environment, responding to internal and external stimuli in ways that shape their overall health. These responses can be either adaptive or maladaptive, influencing well-being. The adaptability and broad application of the Roy Adaptation Model (RAM) have been highlighted by Hanna and Roy (2001), who extended the model to encompass both physiological and psychosocial aspects of patient care key considerations in managing chronic illnesses such as Type 2 Diabetes Mellitus (T2DM).

RAM identifies four modes of adaptation: physiological-physical, self-concept/group identity, role function, and interdependence. Each mode offers insights into how individuals adjust to the challenges of diabetes management. The physiological-physical mode focuses on the practical aspects of care, including medication adherence, diet, and physical activity. Roy's

(1988) framework guided this study in analyzing how patients modified physiological processes to regulate blood glucose and prevent complications. Scholars like Phillips (2011) have applied RAM to chronic disease management, shedding light on how individuals adjust their behaviors to cope with their conditions.

The self-concept mode examines patients' perceptions of themselves, particularly their confidence and self-efficacy in managing T2DM. Emotional distress, such as feeling overwhelmed by the disease, can lead to maladaptive behaviors, while a strong sense of self-efficacy promotes better self-management. Wu, Chang, Tsai, and Liang (2018) applied RAM in chronic illness care, demonstrating how self-concept influences psychological adaptation, particularly in emotional resilience and coping mechanisms.

The role function mode explores how illness affects a person's responsibilities in family, work, and community settings. RAM provides a framework for understanding how individuals adjust to shifts in these roles due to their condition. Ryan (1996) emphasized the importance of assessing role function in chronic illness, noting that disruptions in social and occupational roles impact overall well-being. Recognizing these challenges is essential in designing interventions that support individuals in maintaining their functional roles while managing diabetes.

The interdependence mode of the Roy Adaptation Model (RAM) provides critical insights into how social relationships and support systems facilitate adaptive processes in chronic illness management. Roy's (2011) theoretical elaborations significantly developed this concept, particularly emphasizing the multidimensional nature of social support - encompassing

emotional sustenance from family members, practical assistance from peer networks, and professional guidance from healthcare providers - as a catalyst for positive behavioral adaptation. In the context of Type 2 Diabetes Mellitus (T2DM) management, this support system functions as both a buffer against psychological distress and an enabler of sustained self-care practices, including consistent treatment adherence and successful implementation of lifestyle modifications.

RAM offers a comprehensive theoretical framework that systematically examines adaptive responses to both intrinsic factors (such as emotional distress levels and self-efficacy beliefs) and extrinsic determinants (including healthcare accessibility, social capital, and cultural influences). This model proves particularly valuable in diabetes care as it accommodates the complex interplay between physiological requirements (e.g., glycemic control), psychological processes (e.g., coping mechanisms), and sociocultural contexts (e.g., family dynamics). Russo's (2019) analysis reinforced the model's holistic utility, demonstrating its capacity to simultaneously address the biomedical, psychosocial, and environmental dimensions inherent in chronic disease management.

In the present investigation, RAM served as both a conceptual foundation and methodological guide, informing the development of research questions and the design of potential interventions. The model's structured approach enabled a nuanced examination of adaptation processes among T2DM patients at Lamu Hospital, facilitating: Identification of key adaptive challenges and resources, Analysis of both facilitative and inhibitory factors in disease management and Development of targeted strategies to optimize self-care behaviors

By employing this theoretical framework, the study aimed to generate actionable insights for improving both clinical outcomes and quality of life measures in this patient population, while contributing to the broader discourse on psychosocial aspects of chronic disease adaptation. In conclusion, the Roy Adaptation Model, originally developed by Roy (1988) and later expanded by scholars such as Ryan (1996), Hanna and Roy (2001), Phillips (2011), Wu et al. (2018), and Russo (2019), provided a structured lens for examining the intricate relationship between psychological, social, and physiological aspects of diabetes management. The model underscored the significance of a holistic perspective, emphasizing the role of environmental and support systems in fostering better adaptation and improved health outcomes.

2.3.2 Social cognitive theory

Albert Bandura's Social Cognitive Theory (1971) served as a critical psychological framework for this study, complementing the Roy Adaptation Model to provide a more comprehensive understanding of the factors influencing diabetes self-management. The theory's emphasis on cognitive processes and social learning mechanisms offered valuable insights into how adults with Type 2 Diabetes at Lamu Hospital develop and maintain their self-care behaviors. By integrating these two theoretical perspectives, we were able to examine both the broader adaptive challenges patients face and the specific psychological mechanisms driving their behavioral choices.

At the heart of Social Cognitive Theory lies the concept of self-efficacy, which proved particularly relevant to diabetes management. Patients' belief in their ability to successfully perform self-care tasks significantly influenced their actual adherence to medication regimens,

dietary plans, and glucose monitoring routines. Those with stronger self-efficacy consistently demonstrated better disease management, while those lacking confidence struggled to maintain necessary behaviors. Zimmerman and Cleary's (2006) work further enriched our understanding by highlighting how self-regulation processes like goal-setting and self-monitoring interact with self-efficacy to shape health outcomes. These insights directly informed the development of our assessment tools and intervention strategies.

The theory's principle of observational learning also provided important guidance for our intervention design. We observed that patients frequently acquired and refined their self-management skills by observing healthcare providers, peers in support groups, and educational demonstrations. This finding aligned with Schunk's (2012) research on social learning in group settings and helped justify our inclusion of peer modeling components in the intervention program. Patients who participated in these observational learning opportunities showed better adoption and maintenance of self-care behaviors compared to those who received only verbal or written instructions.

The combination of Social Cognitive Theory with the Roy Adaptation Model created a robust framework that addressed both the psychological and social dimensions of chronic disease management. This integrated approach allowed us to identify specific cognitive barriers to effective self-care while also considering the broader social and environmental factors influencing patients' adaptation to their condition. The theoretical synergy proved particularly valuable in designing culturally appropriate interventions for Lamu Hospital's resource-constrained setting, where both individual beliefs and social support systems play critical roles

in health outcomes. Our experience demonstrated how rigorous theoretical integration can lead to more effective and sustainable behavior change strategies in diabetes care.

Outcome expectations the anticipated consequences of a behavior also influenced patients' motivation to adhere to self-management practices. Patients who believed in the benefits of dietary changes, medication adherence, or regular exercise were more likely to engage in these behaviors, while those with doubts were less likely to comply. Wood and Bandura (1989) expanded this concept in the context of chronic disease management, highlighting the importance of addressing misconceptions that could act as barriers to adherence.

SCT's concept of reciprocal determinism describing the interplay between personal factors, behaviors, and environmental influences closely aligned with RAM's emphasis on internal and external stimuli in adaptation. In this study, reciprocal determinism helped explain how factors like emotional distress (a personal factor) and social support (an environmental influence) interacted to shape self-management behaviors. Pajares (1996) further elaborated on this concept, demonstrating its role in shaping health beliefs and behaviors.

Behavioral capability, referring to the knowledge and skills required to perform a behavior, was another critical aspect of effective diabetes management. This study assessed patients' behavioral capability to identify gaps in their understanding of tasks such as blood glucose monitoring and dietary adjustments. Baranowski, Perry, and Parcel (2002) applied this concept in health education, demonstrating that strengthening behavioral capability led to improved self-management outcomes a finding that aligned with the results of this study.

In conclusion, integrating SCT with RAM created a well-rounded framework for analyzing the psychological and behavioral dimensions of diabetes self-management. SCT provided valuable insights into the cognitive and social drivers of behavior change, complementing RAM's broader perspective on adaptation. This combined approach informed the development of interventions addressing both psychological adjustment and effective self-management strategies.

2.4 Conceptual framework

The conceptual framework outlined the interactions between the study's key variables independent, dependent, and intervening. Psychological factors such as emotional distress and self-efficacy served as independent variables, influencing the self-management behaviors of T2DM patients, which formed the dependent variables. These behaviors included medication adherence, dietary practices, and physical activity.

Intervening variables, including social support, access to healthcare resources, and educational interventions, played a moderating role in this relationship. They influenced the extent to which psychological factors affected self-management behaviors, either reinforcing or weakening this impact. The framework emphasized that while independent variables had a direct effect, the presence of intervening factors shaped how strongly they influenced self-management outcomes. This relationship is visually represented in the diagram below.

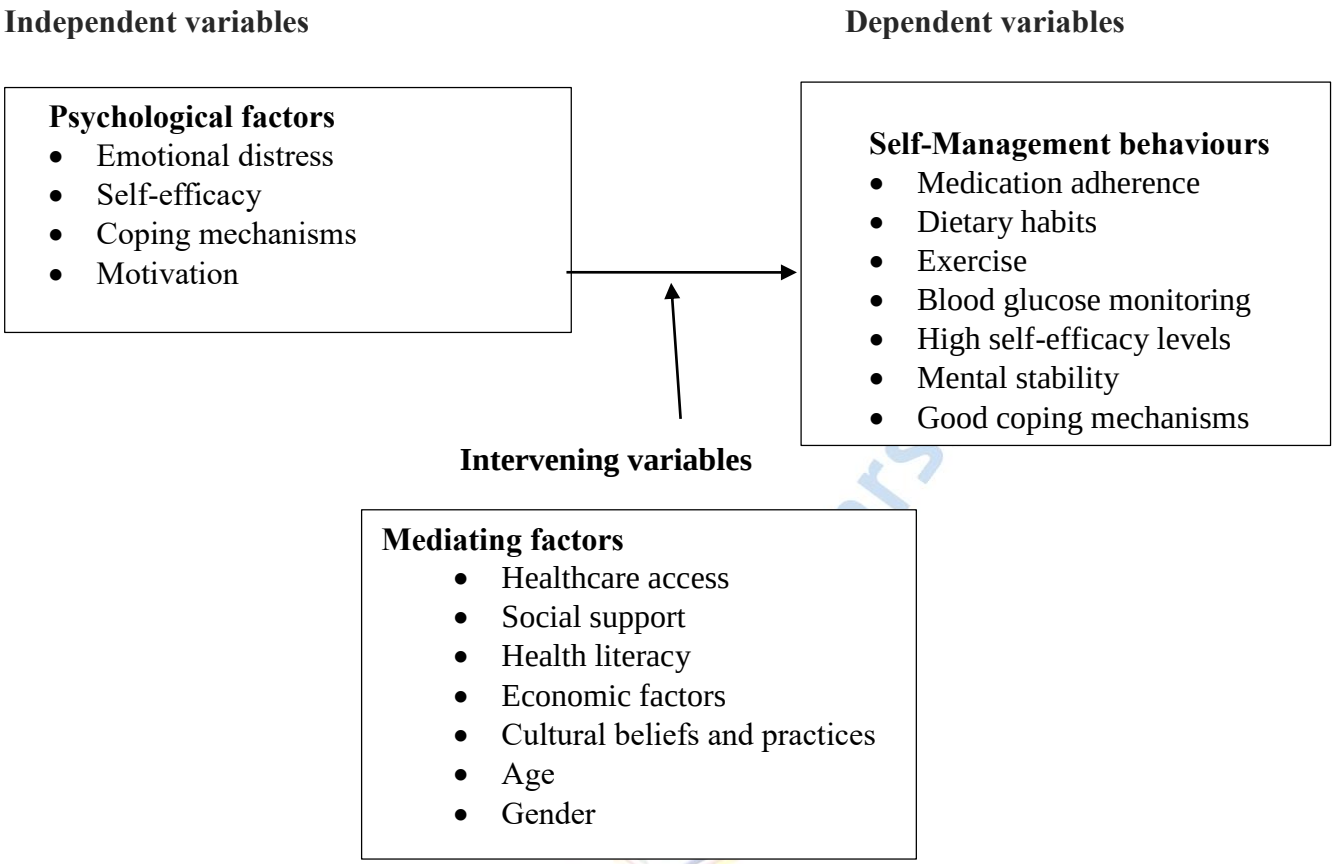

Figure 1: Conceptual framework- (Author 2025)

2.5 Recap of literature review

This study examined the prevalence and impact of emotional distress such as feelings of being overwhelmed and frustrated with diabetes management and its effects on self-care practices. The review highlighted the crucial role of self-efficacy, demonstrating that patients' confidence in managing their condition significantly influenced adherence to treatment and lifestyle modifications.

The chapter explored coping strategies, particularly the role of social support, revealing that strong support networks from family, friends, and healthcare providers contributed to improved diabetes management outcomes. Cultural beliefs, health literacy, and socioeconomic factors were also discussed, emphasizing their influence on patients' experiences and self-management behaviors.

The findings highlighted the importance of comprehensive, patient-focused approaches that address both the psychological and behavioral dimensions of diabetes care. The study drew upon the Roy Adaptation Model and Social Cognitive Theory as conceptual frameworks to examine the dynamic interactions between psychological factors, social influences, and self-management behaviors. These theoretical perspectives helped elucidate how patients' cognitive processes, emotional states, and social environments collectively shape their disease management practices. The chapter culminates in a conceptual model (Figure 1) that visually represents these complex interrelationships and their impact on diabetes outcomes.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presenting methodological framework encompasses five key components: (1) study design, (2) participant selection criteria and procedures, (3) data collection instruments and protocols, (4) analytical techniques, and (5) ethical safeguards implemented throughout the research process.

The study adopted a quantitative, cross-sectional research design to systematically examine the associations between psychological variables (including emotional distress, self-efficacy, motivational factors, and coping mechanisms) and self-management behaviors at a specific temporal point. This design was selected to provide a snapshot of current psychological and behavioral patterns within the target population while allowing for efficient data collection within the hospital setting.

The research focused exclusively on adult patients (aged 18 years and above) with a confirmed T2DM diagnosis who were actively engaged in care at Lamu Hospital. The sampling strategy was carefully structured to ensure adequate representation of the hospital's T2DM patient population while maintaining scientific rigor. Specific inclusion and exclusion criteria were applied to create a well-defined study cohort that would yield meaningful and generalizable findings relevant to similar healthcare contexts in resource-limited settings. Data were gathered using a structured questionnaire incorporating validated tools to assess psychological aspects and self-management practices. Statistical methods were employed to analyze the data and determine associations between variables. Ethical protocols, including obtaining informed

consent, safeguarding participant confidentiality, and ensuring voluntary participation, were strictly followed to maintain research integrity. This chapter systematically describes the methodological process and how study findings were obtained.

3.2 Research Methodology

According to Saunders, Lewis, and Thornhill (2019), research methodology refers to the systematic process and justification of techniques used in a study, encompassing data collection and analysis methods aligned with research objectives. This study adopted a quantitative, cross-sectional approach to assess how psychological factors impact self-management behaviors among adult T2DM patients at Lamu Hospital.

3.3 Research design

This investigation utilized a quantitative, cross-sectional approach to analyze the associations between psychological variables and self-care behaviors in adults with Type 2 Diabetes (T2DM) receiving treatment at Lamu Hospital, Kenya. Adopting Creswell and Creswell's (2018) methodological framework enabled the systematic collection and examination of numerical data to evaluate the impact of emotional distress, self-efficacy beliefs, and social support networks on essential diabetes management practices. The quantitative design proved especially appropriate for this research as it facilitated: (1) accurate quantification of study variables through standardized measures, (2) rigorous statistical evaluation of interrelationships between factors, and (3) control of extraneous variables that might influence outcomes. This methodological approach allowed for objective assessment of how

psychological and social factors collectively shape self-management behaviors in this clinical population.

The cross-sectional design offered several advantages for this investigation. By collecting data at a single point in time, the study efficiently captured current psychological states and corresponding self-management behaviors within the clinical setting. This approach enabled the simultaneous examination of multiple variables while remaining practical given the study's resource constraints. The design also facilitated the use of correlational analyses to explore relationships between variables and regression models to assess predictive relationships, with appropriate controls for demographic and clinical factors that might influence these associations.

Data collection utilized standardized, structured questionnaires to ensure reliable and valid measurement of key constructs. The instruments assessed psychological factors including emotional distress (using diabetes-specific scales), self-efficacy (measuring confidence in performing diabetes management tasks), and perceived social support (evaluating available support systems). These were paired with measures of self-management behaviors such as medication adherence frequency, dietary compliance, physical activity engagement, and blood glucose monitoring regularity. All measures employed Likert-type scales or frequency assessments to generate quantifiable data suitable for rigorous statistical analysis, while being culturally adapted for the study population. This comprehensive approach allowed for robust testing of the study's hypotheses regarding psychological influences on diabetes self-management practices.

One of the main advantages of this approach was its ability to produce objective, quantifiable data, facilitating statistical analysis to test hypotheses. This methodological choice ensured that results were evidence-based, identifying patterns and trends that could inform future interventions and policy recommendations.

3.4 Location of the study

This research was carried out at Lamu County Referral Hospital, located in Lamu County, Kenya. The facility was chosen as the study site because of its pivotal position in delivering medical services within a resource-constrained environment. This setting proved particularly valuable for examining the challenges and dynamics of diabetes self-management in circumstances where healthcare resources are limited. The hospital's patient population and operational context provided an ideal opportunity to investigate how individuals with diabetes navigate self-care practices when facing typical constraints of such healthcare systems.

Lamu county referral hospital is a Level 5 public healthcare facility that offers a range of services, including outpatient consultations, medication distribution, and basic diabetes management (Hospital service charter). While it does not have the advanced resources available in urban hospitals, it remains a key center for treating chronic illnesses within a community with limited healthcare infrastructure.

The hospital serves a wide geographical area with a notable prevalence of T2DM. However, as is common in resource-constrained settings, it faces challenges such as limited access to specialized diabetes care and educational programs (Records, Lamu county hospital).

Examining diabetes self-management in this environment provided valuable insights into the obstacles' patients and healthcare providers' encounter.

By selecting Lamu county referral hospital, this research aimed to explore how both patients and the healthcare system adapt to resource constraints, offering findings that could contribute to strategies for improving diabetes care in similar settings.

3.5 Target population

Etikan and Bala (2017) define a target population as the group of individuals who share specific characteristics relevant to a study and from whom findings are intended to be generalized. This research focused on adult patients diagnosed with T2DM, including those receiving care at the outpatient diabetes clinic and those admitted to the hospital during the data collection period.

Eligible participants were consenting patients from the diabetes clinic and medical wards, irrespective of the duration since diagnosis, provided they had attained at least Form 3 or Form 4 education level. According to the Lamu county referral hospital registry, the total target population comprised 860 patients.

Certain groups were excluded from participation, including critically ill individuals, those diagnosed with severe mental health disorders, pregnant women, and patients who declined to provide consent. A comprehensive demographic breakdown of the target population, including variables such as age and gender distribution, is presented in the subsequent table.

Table 1: Demographic characteristics of target population.

Demographic characteristic	Category	Number of patients	Percentage (%)
Total population	-	860	100%
Gender	Male	480	55.81%
	Female	380	44.19%
Age group	18–30 years	50	5.81%
	31–43 years	180	20.93
	44–56 years	300	34.88%
	57+years	330	38.37%

Explanation:

- Total population: The total number of patients (860) who were registered at Lamu county referral hospital at the time of data collection.
- Gender distribution: The table splits the population by gender, showing the number of male and female patients along with their respective percentages.
- Age group: Patients are classified into different age groups to illustrate the age distribution of the target population.

3.6 Sampling procedures

Sampling procedures define the approach used to select a representative subset of the target population, ensuring that findings can be generalized (Taherdoost, 2016). In this study, the sampling frame comprised 860 patients recorded in the Lamu Hospital patient registry.

To achieve a systematic and unbiased selection of participants, systematic sampling was applied. Starting from a randomly chosen point, every second and third patient was selected for inclusion. Only individuals who were available during the data collection period and met the study's eligibility criteria were considered until the required sample size was attained.

The sample size was determined using the statistical formula outlined by Fisher et al. (2002), ensuring that it aligned with the study objectives and the characteristics of the population. The calculation process is detailed below:

However, when the target population less than 10,000, final estimate (nf) is calculated as;

$$nf = \frac{n}{1+\left(\frac{n}{N}\right)}$$

Where: nf = the desired sample size (if the target population is less than 10,000≈860)

n = the desired sample size (when the target population is greater than 10,000)

N= the estimate of the population size

Substituted in (Serdar, Cihan, Yücel, & Serdar, 2021):

$$nf = \frac{384}{1+\left(\frac{384}{860}\right)}$$

= 265.466≈ 265

Thus, 265 respondents constituted the required sample size. Data was collected from all respondents to assess their psychological state in relation to type 2 diabetes self-management

status. The study examined the relationship between psychological factors and self-management practices. This analysis was conducted at a single point in time.

3.7 Research instruments

This study employed a carefully designed research instrument to systematically evaluate the psychological dimensions of diabetes self-management. Following McBurney and White's (2016) conceptualization of research instruments as structured measurement tools, we developed a comprehensive questionnaire specifically tailored to assess key psychological factors affecting T2DM patients at Lamu Hospital. The instrument was constructed through a rigorous process of adaptation and contextualization, drawing upon validated psychometric tools while incorporating locally relevant elements.

The questionnaire's design strategically integrated three well-established psychological measures to ensure robust assessment of core constructs. For evaluating diabetes-related emotional distress, we incorporated relevant subscales from the Diabetes Distress Scale (DDS), which has demonstrated strong reliability in measuring condition-specific psychological burden. The Diabetes Management Self-Efficacy Scale (DMSES) provided a validated framework for assessing patients' confidence in performing essential self-care tasks. To examine coping mechanisms, we adapted pertinent dimensions from the Brief COPE Inventory, focusing particularly on social support utilization and problem-solving strategies.

Recognizing the unique cultural and healthcare context of our study population, we complemented these standardized measures with carefully developed original items. These researcher-designed components were created to capture specific local experiences and

challenges in diabetes management that might not be adequately addressed by existing instruments. The development of these items followed an iterative process involving expert review, pilot testing, and cognitive interviewing to ensure clarity and cultural appropriateness. The final instrument maintained strong psychometric properties while achieving enhanced contextual relevance for our target population in Lamu County.

To ensure content validity, experts in psychology and diabetes care reviewed the questionnaire. Responses in sections two and four were measured using a Likert scale ranging from 1 (Not at all) to 5 (Very much), with total scores ranging between 3 and 15. In these sections, higher scores indicated greater psychological distress, which could negatively influence self-management, while lower scores suggested better mental well-being. Conversely, in section three, higher scores reflected stronger self-efficacy and more effective coping strategies.

3.8 Piloting of the study

A pilot test was carried out at Mokowe health facility, a location with comparable characteristics to Lamu hospital, involving 27 participants (equivalent to 10% of the total study sample). The objective of this pre-test was to evaluate the clarity, relevance, and usability of the questionnaire while also ensuring it minimized respondent fatigue.

3.9 Reliability and validity

3.9.1 Reliability

Reliability was evaluated to ensure consistency in participants' responses. Internal consistency was measured using Cronbach's alpha, with an acceptable threshold established to verify the

instrument's reliability in assessing psychological factors influencing diabetes self-management.

3.9.2 Validity

To ensure content validity, the research instrument was evaluated by subject matter experts who verified that all survey items appropriately measured the target constructs and aligned with the study's aims. The questionnaire's construct validity was established through careful alignment with the theoretical foundations of the study, particularly drawing upon the Roy Adaptation Model and Social Cognitive Theory. Furthermore, face validity was examined during the pilot phase by collecting and analyzing participant feedback, which confirmed that the items successfully operationalized the key psychological variables of interest (emotional distress, self-efficacy, and social support) and were easily comprehensible to respondents. This multi-faceted validation approach strengthened the measurement properties of the instrument for examining diabetes self-management behaviors in the study population.

3.10 Data collection methods

Creswell et al. (2018) describe data collection methods as structured processes for gathering information relevant to a study's research questions. This study employed a cross-sectional approach, capturing psychological factors affecting T2DM self-management at a specific point in time.

The study employed systematic sampling to select participants from the patient population at Lamu County Referral Hospital. Beginning at a randomly selected patient, researchers systematically enrolled every second and third individual presenting for diabetes care until

reaching the predetermined sample size. This sampling approach ensured representative inclusion while maintaining methodological rigor.

During data collection, researchers gathered detailed information on two key domains: (1) psychological profiles, including measures of emotional distress, self-efficacy beliefs, and perceived social support; and (2) observable self-management behaviors related to diabetes care. This dual focus enabled examination of how psychological factors potentially influence patients' ability to maintain effective disease management routines and achieve optimal health outcomes. To ensure reliability and uniformity, the questionnaire was administered following a standardized protocol.

3.11 Data analysis techniques and procedures

The data analysis process involved applying appropriate statistical and thematic methods to interpret the findings and draw meaningful conclusions aligned with the study's objectives (Neuman, 2014). All collected data were systematically coded and entered into Microsoft Excel 2020 to ensure accuracy before being transferred to SPSS software (version 26.0) for comprehensive analysis. Descriptive statistics, including measures of central tendency (mean, median, mode) and dispersion (standard deviation), along with frequency distributions and percentages, were used to summarize participants' demographic characteristics and key study variables. These initial analyses provided a clear overview of the data patterns and distributions, establishing a foundation for subsequent inferential statistical tests examining relationships between psychological factors (emotional distress, self-efficacy, social support) and diabetes self-management behaviors. The analytical approach enabled rigorous

examination of how these psychosocial variables influence treatment adherence and health outcomes among the study population.

Categorical data were examined through frequency distributions and cross-tabulations to identify trends and relationships among variables. Additionally, bivariate descriptive analysis explored associations between sociodemographic factors, psychological aspects, and self-management behaviors, highlighting key facilitators and barriers to effective diabetes self-management.

The statistical analyses in this study were conducted with rigorous methodological standards to ensure robust and reliable findings. All hypothesis tests were performed using a 95% confidence interval ($\alpha = 0.05$), establishing p-values less than 0.05 as the threshold for statistical significance. This conventional significance level provided an appropriate balance between Type I and Type II error rates while maintaining sufficient statistical power for detecting meaningful relationships. The analytical approach yielded valuable insights into how psychological factors - including emotional distress, self-efficacy, and coping mechanisms - influence self-management behaviors among the diverse population of T2DM patients at Lamu Hospital.

The statistical methodology employed several key techniques to examine these relationships comprehensively. Correlation analyses quantified the strength and direction of associations between psychological variables and self-management practices, while regression models identified significant predictors of adherence behaviors after controlling for relevant demographic and clinical covariates. These analyses accounted for potential confounding

factors such as age, duration of diabetes, and comorbidities, thereby strengthening the validity of the observed relationships. The findings provided nuanced understanding of how psychological factors operate across different patient subgroups, offering clinically relevant insights for developing targeted interventions in similar resource-limited settings.

3.12 Ethical consideration

Ethical considerations in research are essential to safeguarding participants' rights through informed consent, confidentiality, voluntary participation, and harm minimization, ensuring the study maintains high ethical integrity (Beauchamp & Childress, 2019). This research adhered to strict ethical guidelines to protect participants' well-being.

The study implemented rigorous ethical protocols to protect participant rights and welfare. Prior to enrollment, each individual received comprehensive information about the research purpose, methodology, possible risks and anticipated benefits through both verbal explanations and written documentation. Researchers obtained written informed consent (Appendix 2) from all participants, confirming their voluntary agreement to participate after fully understanding the study parameters.

To ensure privacy protection, the research team employed multiple safeguards: all data were de-identified immediately after collection through replacement of personal information with unique codes, electronic files were password-protected and stored on encrypted devices, and paper records were kept in locked cabinets accessible only to principal investigators. Participants retained unconditional rights to discontinue involvement without penalty or compromise to their standard medical care.

The research design incorporated specific precautions to reduce potential participant burdens, including scheduling data collection at convenient times and providing private spaces for interviews. Ethical principles of non-maleficence and beneficence guided all study procedures - researchers implemented safeguards against possible distress while ensuring the investigation yielded valuable knowledge to improve diabetes care practices. The study protocol received full ethical clearance from the institutional review board before implementation, confirming compliance with international ethical standards for human subjects research. Furthermore, the research team received cultural competency training to appropriately engage with the local community, adapting communication styles and assessment tools to respect Lamu County's cultural context while maintaining scientific rigor.

Throughout the study, data integrity and accuracy were emphasized. Any potential conflicts of interest were disclosed, and the findings were presented transparently and honestly. By adhering to these ethical principles, the research ensured that participants' dignity, rights, and well-being remained protected at all times.

CHAPTER FOUR: RESEARCH FINDINGS, ANALYSIS AND PRESENTATIONS

4.1 Introduction

This chapter details the results obtained from a cross-sectional study conducted on adult patients with type 2 diabetes mellitus (T2DM) at Lamu county referral hospital. Information was gathered using a structured questionnaire and subsequently analyzed with SPSS and Excel, with the outcomes presented in tables and diagrams. The results comprise descriptive demographic data, regression analyses, and a comprehensive summary. Participants included consenting patients from the outpatient diabetes clinic and medical wards, regardless of how long they had been diagnosed, provided they had received schooling up to form 3 or 4. The chapter is structured as follows:

4.2 Research presentation, interpretation and discussion

This section details the presentation, interpretation, and discussion of the cross-sectional study's results. It connects the findings to the study objectives and reviews how they relate to existing literature on self-management practices in patients with T2DM.

4.2.1 Response rate

In descriptive research, a high response rate is essential to ensure the accuracy and reliability of the data. Previous studies have indicated that response rates exceeding fifty percent are key for drawing meaningful conclusions (Njiru, 2022). Additionally, Qin, Blanchette, and Yoon

(2020) note that response rates above seventy percent significantly enhance the strength of research outcomes. Table 2 displays the response rate achieved in this study.

Table 2:

Response rate

Response	Frequency	Percent (%)
Returned	202	76.23%
Unreturned	63	23.77%
Total	**265**	**100.00%**

Out of the 265 distributed questionnaires, 202 were completed and returned, yielding an impressive response rate of 76.23 percent. This high rate was deemed very favorable and was largely due to the excellent cooperation from the participants.

4.2.2 Demographic statistics for type 2 diabetes patients at Lamu hospital, Kenya

This section describes the demographic characteristics of the 202 study participants, offering important context about their social and economic circumstances that may influence how they manage type 2 diabetes (T2DM). The analysis includes key background information such as sex, age, relationship status, education level, work situation, financial status, and how long they have had diabetes. These details are presented in Table 3 for easy reference.

The demographic data helps us understand how different life circumstances might affect participants' ability to follow diabetes self-care routines. By examining factors like education, income, and employment, we can better appreciate the challenges they may face in managing their condition. The duration since diagnosis is particularly important as it often relates to how well patients adapt to living with diabetes over time.

Table 3:

Socio-demographic and socio-economic characteristics of respondents (n=202)

Variable	**Category**	**Counts**	**% of Total (n = 202)**	**Chi-square; P-value**
Gender	Female	86	42.6%	χ^2 =6.91, p =0.009
	Male	116	57.4%	
Age	18 – 30 years	49	24.3%	χ^2 = 12.32, p =0.006
	31 – 43 years	48	23.8%	
	44 – 56 years	56	27.7%	
	57 and over	49	24.2%	
Marital Status	Divorced / separated	34	16.8%	χ^2 = 32.32, p =0.0001
	Married	106	52.5%	
	Single	18	8.9%	

	Widowed	44	21.8%	
Education Level	No formal education	30	14.9%	$\chi^2 = 4.16$, $p = 0.245$
	Primary education	78	38.6%	
	Secondary education	53	26.2%	
	Tertiary institution education	41	20.3%	
Employment status	Employed	51	25.2%	$\chi^2 = 0.61$, $p = 0.894$
	Retired	42	20.8%	
	Self-employed	49	24.3%	
	Unemployed	60	29.7%	
Income Level	High (above KES 50,000/month)	44	21.8%	$\chi^2 = 37.58$, $p < 0.0001$
	Medium (KES 10,000-50,000)	79	39.1%	
	Low (below KES 10,000/month)	79	39.1%	

Duration of Diabetes	1 to 6 years	78	38.7%	χ^2 =22.62, p < 0.0001
	7 to 12 years	72	35.6%	
	Above 12 years	34	16.8%	
	Below 12 months	18	8.9%	

The study revealed that 57.4 percent of the participants were male and 42.6 percent were female, with a statistically significant relationship observed between gender and diabetes-related characteristics ($\chi^2 = 6.91$, $p = 0.009$). The ages of participants ranged, with 27.7 percent falling within the 44–56 years bracket and 24.3 percent between 18–30 years; notably, age was significantly linked to diabetes self-management practices ($\chi^2 = 12.32$, $p = 0.006$).

Regarding marital status, most participants were married (52.5%), while 16.8 percent were divorced or separated, 21.8 percent widowed, and 8.9 percent single. This variable was strongly correlated with self-management factors ($\chi^2 = 32.32$, $p = 0.0001$), which may be explained by differences in social support and caregiving roles.

Educational attainment among respondents varied, with 38.6 percent having completed primary education, 26.2 percent secondary education, and 20.3 percent tertiary education. Employment status was relatively evenly distributed: 29.7 percent were unemployed, 25.2 percent employed, and 24.3 percent self-employed. Income level also showed a significant association with diabetes self-management ($\chi^2 = 37.58$, $p < 0.0001$), given that nearly 40

percent of respondents belonged to the low-income category (earning below KES 10,000 per month), which may affect their access to diabetes care and ability to maintain a healthy lifestyle.

In terms of the duration of the diabetes diagnosis, 38.7 percent of participants had been living with the condition for 1–6 years, and 35.6 percent for 7–12 years, while a smaller proportion (8.9%) had been diagnosed for less than a year. The link between the length of time since diagnosis and self-management behaviors was statistically significant ($\chi^2 = 22.62$, $p < 0.0001$), suggesting that those with a longer history of the disease may have developed more effective self-management strategies over time.

These demographic insights provide essential context for examining the primary objectives of the study, particularly in understanding how socio-economic and personal factors interplay with the psychological aspects of diabetes self-management.

4.3 Discussion of the individual objective results

4.3.1 Objective 1: Prevalence of emotional distress on T2DM self-management among adult patients in Lamu hospital, Kenya.

Managing type 2 diabetes mellitus (T2DM) can impose considerable emotional distress, which may hinder patients' ability to manage their condition effectively. This section examines the prevalence of emotional distress among T2DM patients at Lamu Hospital, focusing on experiences of feeling overwhelmed, physical and mental exhaustion, adherence to dietary regimens, and perceptions of failure in diabetes management routines.

4.3.1.1 Demands of living with diabetes

Living with T2DM poses significant emotional and physical challenges. In this study, 61 participants (30.2%) indicated that they felt only "a little" overwhelmed, while 26 participants (12.9%) reported feeling "very much" overwhelmed. These findings underscore the substantial emotional burden experienced by T2DM patients in managing their condition, as detailed in Table 4.

Table 4:

Demands of living with diabetes (n = 202)

8) How often do you feel overwhelmed by the demands of living with diabetes?	Counts	% of Total
A little	61	30.2 %
Not at all	20	9.8 %
Quite a bit	50	24.8 %
Somewhat	45	22.3 %
Very much	26	12.9 %

Drawing from the data in Table 4, the interpretation and implications concerning the frequency with which participants felt overwhelmed by diabetes management are as follows: Although most participants reported experiencing some degree of emotional overwhelm, more than 80 percent indicated facing considerable emotional strain when managing their diabetes. This high level of distress can adversely affect their self-management efforts, potentially compromising critical self-care practices like regular blood glucose monitoring, adherence to medication schedules, and consistent physical activity. Previous research by Chew et al. (2016), Indelicato et al. (2017), and Amankwah-Poku et al. (2020) corroborates these observations by showing that emotional distress is prevalent among diabetes patients worldwide and can significantly

impact their management behaviors. The emotional challenges identified in this study are consistent with these findings from a counseling psychology perspective, underscoring the importance of integrating psychological support into diabetes care.

4.3.1.2 Mental and physical energy consumed by diabetes

Managing diabetes requires constant vigilance over various aspects of health, which can lead to substantial mental and physical fatigue. In this study, 51.0 per cent of participants reported that diabetes management absorbed "quite a bit" or "very much" of their mental and physical energy. This finding illustrates the heavy toll that managing the condition can impose on patients, potentially resulting in burnout and a reduced capacity for effective self-care. This section delves into the extent to which T2DM patients at Lamu Hospital felt that their condition drained their energy.

Table 5:

Mental and physical energy consumed by diabetes (n = 202)

9) How often do you feel that diabetes is taking up too much of your mental and physical energy?	Counts	% of Total
A little	58	28.7 %
Not at all	12	5.9 %
Quite a bit	55	27.2
Somewhat	29	14.4 %
Very much	48	23.8 %

Drawing from the findings above, the following interpretation and implications emerge: Emotional exhaustion appears to be a significant challenge for patients with T2DM, hindering their ability to maintain healthy lifestyle practices. The data imply that counselling interventions that emphasize stress management and cognitive-behavioral strategies might help mitigate this burden. Such interventions could alleviate fatigue and boost patients' capacity to adhere to vital self-care routines. These observations align with the findings of Snoek et al. (2015), who reported that elevated levels of emotional distress and fatigue adversely affect diabetes management, including adherence to essential practices like glucose monitoring and medication routines. Counselling psychologists, therefore, have a crucial role in addressing these issues by implementing strategies for emotional regulation, stress reduction, and energy conservation, fostering better self-management behaviors, such as consistent blood glucose monitoring, adherence to medication, dietary modifications, and increased physical activity.

4.3.1.3 Adherence to a good meal plan

Sticking to a healthy meal plan is fundamental in managing diabetes. However, our findings indicate that a considerable number of patients find it challenging to follow their dietary regimens. 29.8 percent of the participants reported experiencing significant difficulty ("quite a bit") with adherence, which reflects a notable psychological and emotional strain. This struggle may be associated with feelings of guilt, frustration, and tendencies toward emotional eating, all of which can worsen non-adherence. The detailed results are provided in Table 6.

Table 6:

Adherence to a good meal plan (n = 202)

10) How often do you feel that you are not sticking closely enough to a good	**Count**	**% of Total**

meal plan?	s	
A little	52	25.8 %
Not at all	30	14.7 %
Quite a bit	60	29.8 %
Somewhat	40	19.8 %
Very much	20	9.9%

The notable proportion of patients experiencing difficulties with dietary adherence highlights the need for targeted psychological interventions to overcome the emotional obstacles associated with maintaining a healthy diet. Implementing strategies such as counselling and stress-coping mechanisms to address emotional eating could help alleviate these challenges. Research by Nyaberi et al. (2014) supports this approach, demonstrating that structured interventions addressing psychological factors can lead to significant improvements in dietary behavior. By incorporating emotional support, counsellors can guide patients through these challenges, fostering healthier eating habits and better glycemic control.

4.3.1.4 Perceptions in diabetes routine

Feelings of failure in managing diabetes are common and can trigger a cycle of negative emotions that further impair self-management efforts. In this study, 27.2 percent of participants reported experiencing a significant sense of failure in their diabetes management routines. This represents a critical psychological hurdle that could undermine effective self-care. The detailed findings are summarized in Table 7.

Table 7:

Perceptions in diabetes routine (n = 202).

11) How often do you feel that you are failing with your diabetes routine?	Counts	% of Total
A little	55	27.2 %
Not at all	30	14.9 %
Quite a bit	55	27.2 %
Somewhat	32	15.8 %
Very much	30	14.9%

The perception of personal failure can significantly weaken self-efficacy - a crucial component for successful diabetes self-care. Targeted approaches that strengthen patients' confidence while challenging unhelpful beliefs about failure may help break this destructive pattern. Evidence-based psychological methods, including cognitive-behavioral techniques and motivational interviewing strategies, have shown promise in cultivating constructive thought patterns and enhancing patients' sense of control over their diabetes care. These findings align with Nwakobi's (2014) research showing that psychosocial support interventions can effectively diminish self-perceptions of failure while increasing compliance with essential self-management activities.

Furthermore, the research reveals a strong association between emotional distress and challenges in maintaining critical diabetes care practices such as taking medications as prescribed, following dietary recommendations, and regularly checking blood sugar levels. By implementing support systems that specifically target these psychological obstacles, healthcare

providers may help improve both the quality of diabetes management and long-term health outcomes for patients. The integration of mental health support with standard diabetes care appears essential for addressing the complex interplay between emotional wellbeing and physical health in chronic disease management.

In summary, the findings reveal that emotional distress is widespread among T2DM patients at Lamu Hospital, with over 80 percent experiencing some level of emotional strain. 35.2 percent of participants reported feeling significantly overwhelmed by the demands of managing diabetes, while 51.0 percent stated that managing their condition consumed "quite a bit" or "very much" of their mental and physical energy. Furthermore, 39.7 percent experienced challenges with adhering to dietary guidelines, and 42.1 percent felt that they were failing in their diabetes routines. These emotional burdens can adversely affect essential self-management practices such as medication adherence, blood glucose monitoring, and lifestyle modifications. As a result, integrating psychological support through stress management and counseling interventions could help mitigate these challenges and enhance overall diabetes care.

4.4 Self-efficacy levels on T2DM self-management among adult patients in Lamu hospital, Kenya.

The second objective of this study examined the critical role of self-efficacy in type 2 diabetes mellitus (T2DM) management, focusing on patients' confidence in performing essential diabetes care tasks and its impact on treatment adherence and health outcomes. Findings revealed that individuals with higher self-efficacy levels demonstrated better diabetes control through consistent self-care practices, while those with lower confidence struggled to maintain

recommended routines. The study assessed participants' perceived capabilities across five key management domains: maintaining appropriate dietary habits (nutritional regulation), engaging in regular physical activity (exercise adherence), monitoring blood glucose levels (glycemic monitoring), handling hypoglycemic episodes (acute complication management), and following medication regimens (treatment adherence). These results highlight self-efficacy as a modifiable psychological factor that significantly influences diabetes self-management behaviors and clinical outcomes, suggesting that interventions targeting confidence-building in these specific areas could improve overall disease management. The consistent association between stronger self-efficacy beliefs and better diabetes control underscores the importance of incorporating confidence-building strategies into standard diabetes care protocols, particularly in resource-limited settings like Lamu County where self-management plays a crucial role in health outcomes.

By identifying specific areas where patients lack confidence in their self-management abilities, healthcare providers can develop targeted psychological support programs. These interventions aim to strengthen patients' belief in their capabilities, which may lead to improved adherence to treatment plans and positive behavioral changes in diabetes care. The findings emphasize the importance of addressing self-efficacy as part of comprehensive diabetes management strategies, as it serves as a modifiable factor that can significantly influence patients' ability to effectively manage their condition over time.

4.4.1 Self-efficacy in following a healthy meal plan at social events

Adhering to a structured meal plan in social settings can be difficult for individuals with T2DM. As presented in Table 8, 34.6 percent of participants reported having no confidence at all in

maintaining their meal plan during social gatherings, whereas only 9.9 percent felt completely confident. These findings highlight social situations as a notable psychological obstacle to dietary self-management, often contributing to anxiety and feelings of inadequacy.

An analysis of self-efficacy based on gender revealed a statistically significant difference. A chi-square test ($\chi^2 = 6.91$, $p = 0.009$) indicated that gender plays a role in confidence levels related to maintaining a healthy diet in social settings. 42.6 percent of female participants exhibited lower confidence compared to 57.4 percent of males. These results suggest that women may encounter additional difficulties in adhering to dietary recommendations during social interactions.

For counselling psychologists, these insights emphasize the importance of employing strategies such as cognitive-behavioral therapy, role-playing exercises, and motivational interviewing to help patients manage social pressures more effectively. Research by Kurniyawan et al. (2023) supports the effectiveness of structured self-management programs in improving dietary self-efficacy by equipping individuals with coping mechanisms to navigate social challenges. Strengthening self-efficacy in such contexts is essential for maintaining dietary adherence and improving diabetes management.

Table 8:

Self-efficacy in following a healthy meal plan at social events (n = 202)

12) How confident are you in your ability to follow a healthy meal plan even when you are at a social event?	**Counts**	**% of Total**
Completely confident	20	9.9%
Moderately confident	60	29.7 %

Not at all confident	70	34.6 %
Slightly confident	22	10.9%
Very confident	30	14.9 %

4.4.2 Self-efficacy in exercising regularly despite fatigue

Regular physical activity is a key component of T2DM management; however, fatigue often diminishes patients' confidence in sustaining an exercise routine. Self-efficacy in this regard reflects an individual's belief in their ability to persist with physical activity even when feeling exhausted. Understanding these confidence levels is essential for designing targeted interventions that enhance motivation and equip patients with strategies to maintain an active lifestyle.

Among the 202 surveyed patients, only a small proportion (8.9 %) reported high confidence levels. 9.9 percent felt very confident in their ability to maintain regular exercise despite experiencing fatigue. In contrast, a combined 65.9 percent exhibited low confidence, with 37.2 percent feeling slightly confident and 28.7 percent having no confidence at all.

A comparison of self-efficacy levels across different age groups revealed a statistically significant difference ($\chi^2 = 12.32$, $p = 0.006$). Confidence in exercising despite fatigue varied by age, with individuals aged 31 to 43 years (27.7%) and 44 to 56 years (24.2%) reporting higher levels of confidence than both younger (18 to 30 years) and older (57 years and above) participants, whose confidence levels were 24.3 percent and 24.2 percent, respectively. The statistical analysis confirms that these variations are not random, underscoring the influence of age on self-efficacy in maintaining a regular exercise routine.

These findings highlight the psychological barriers that individuals with T2DM face when trying to stay active. For many, fatigue presents a physical limitation and a psychological challenge, weakening motivation and adherence to regular exercise, a crucial aspect of diabetes management. Nearly two-thirds of patients reported low self-efficacy suggesting that fatigue must be addressed from both physical and psychological perspectives.

These results have significant implications for healthcare providers and counselling psychologists. Addressing fatigue in diabetes management should extend beyond physical interventions to include psychological strategies. Motivational enhancement therapy can be instrumental in fostering self-efficacy by helping patients set realistic goals and develop strategies to cope with fatigue. Additionally, stress management techniques can alleviate the anxiety associated with exercising while fatigued.

A more holistic approach to diabetes care would integrate mental health support with physical activity planning. Recognizing and addressing both the physical limitations and psychological barriers related to fatigue can lead to more effective interventions. This perspective aligns with research by Morrato et al. (2007), which found that diabetes self-management education programs significantly improved patients' self-efficacy in overcoming fatigue-related barriers, leading to increased levels of physical activity.

In summary, these findings underscore the impact of fatigue on patients' confidence in engaging in regular exercise. Beyond affecting physical health, low self-efficacy in this area also negatively influences overall well-being. Therefore, counselling strategies that focus on strengthening self-efficacy such as motivational enhancement and stress management are crucial. By addressing the psychological obstacles associated with fatigue, these interventions

can encourage patients to maintain a more consistent exercise routine, thereby supporting long-term diabetes management and enhancing quality of life.

Table 9:

Self-efficacy in exercising regularly despite fatigue (n = 202)

13) How confident are you in your ability to exercise regularly despite feeling tired?	Counts	% of Total
Completely confident	18	8.9 %
Moderately confident	31	15.3 %
Not at all confident	58	28.7%
Slightly confident	75	37.2%
Very confident	20	9.9 %

4.4.3 Self-efficacy in regular blood sugar monitoring

Consistently monitoring blood glucose levels is fundamental to effective diabetes management. However, as illustrated in Table 10, many patients struggle to maintain this routine.

Table 10:

Self-efficacy in regular blood sugar monitoring (n=202).

14) How confident are you in your ability to check your blood sugar levels regularly?	Counts	% of Total
Completely confident	30	14.9 %
Moderately confident	27	13.4 %
Not at all confident	60	29.7%
Slightly confident	70	34.6 %
Very confident	15	7.4 %

In a sample of 202 patients, only 14.9 percent reported being completely confident in their ability to check their blood sugar regularly, while another 13.4 percent felt moderately confident. In contrast, a significant proportion 34.6 percent expressed only slight confidence,

and 29.7 percent were not at all confident in this crucial self-management task. These figures point to a notable gap in perceived self-efficacy regarding blood sugar monitoring.

When examining self-efficacy in blood sugar monitoring across education levels, the results did not show a statistically significant difference ($\chi^2 = 4.16$, $p = 0.245$). Specifically, patients with no formal education accounted for 14.9 percent, primary education 38.6 percent, secondary education 26.2 percent, and tertiary institution education 20.3 percent. While there are variations in self-reported confidence across education levels, the chi-square test indicates that these differences are not statistically significant, suggesting that education level alone may not be a key factor influencing confidence in blood sugar monitoring

For counselling psychologists, this gap highlights the importance of tailored interventions that educate patients on the technical aspects of monitoring and build their confidence. Techniques such as self-monitoring diaries, goal-setting, and regular feedback during counselling sessions can empower patients to take a more proactive role in managing their condition. The findings align with studies by Ashur et al. (2016) and Mash et al. (2018), which demonstrated that diabetes self-management education significantly bolsters patients' confidence in regular blood sugar monitoring.

4.4.4 Self-efficacy in managing low blood sugar

Managing low blood sugar, or hypoglycemia, is essential for individuals with T2DM. This section explores the patients' self-efficacy in handling hypoglycemic episodes, a key psychological factor in effective diabetes self-management at Lamu hospital.

Table 11:

Self-efficacy in managing low blood sugar (n=202).

15) How confident are you in your ability to manage low blood sugar when it occurs?	Counts	% of Total
Completely confident	18	8.9 %
Moderately confident	48	23.8 %
Not at all confident	54	26.7 %
Slightly confident	30	14.9 %
Very confident	52	25.7 %

Effective management of hypoglycemia is a vital aspect of diabetes care, demanding considerable self-assurance from patients. According to Table 11, only 8.9 percent of participants felt fully capable of managing low blood sugar episodes, with an additional 23.8 percent expressing moderate confidence. In contrast, 26.7 percent admitted to having no confidence at all, and 14.9 percent felt only a slight sense of assurance when confronting hypoglycemic events. Although nearly half of the respondents those who were moderately to very confident appear to manage adequately, more than 40 percent do not possess strong confidence highlighting significant risks in daily self-management. These findings reveal a clear vulnerability in patients' ability to effectively address dangerous hypoglycemic situations, emphasizing the need for enhanced support and targeted education.

When analyzing the data by gender, the chi-square test demonstrated a statistically significant difference ($\chi^2 = 6.91$, $p = 0.009$). The data indicated that 42.6 percent of female participants reported lower confidence levels in managing low blood sugar, compared to 57.4 percent of

male participants who exhibited somewhat higher confidence. This statistically significant result suggests that gender may influence self-efficacy in the context of low blood sugar management.

To address this issue, self-management programs and diabetes education strategies endorsed by ALAboudi et al. (2016) and Hurst et al. (2020) could be tailored to improve patients' self-efficacy. Integrating practical exercises, scenario-based training, and stress management techniques into counselling sessions may further bolster patients' confidence in handling hypoglycemic episodes.

4.4.5 Self-efficacy in adhering to diabetes medication

Adherence to prescribed diabetes medication is crucial for maintaining stable blood glucose levels and preventing complications. Table 12 presents the situation in Lamu, highlighting the importance of medication adherence in effective diabetes management.

Table 12:

Self-efficacy in adhering to diabetes medication (n = 202).

16) How confident are you in your ability to take your diabetes medication as prescribed?	**Count**	**% of Total**
Completely confident	32	15.8 %
Moderately confident	36	17.8 %
Not at all confident	5	2.5 %
Slightly confident	54	26.7 %
Very confident	75	37.2 %

According to Table 12, 15.8 percent of the patients felt entirely confident in taking their medications as prescribed, and another 17.8 percent expressed moderate confidence. Positively, 37.2 percent reported being very confident in following their medication regimen. However, 26.7 percent of patients indicated only slight confidence, and a minor segment (2.5%) admitted to having no confidence regarding their medication adherence. While a majority seem to maintain an adequate level of confidence, these mixed findings highlight that a significant subset might benefit from further assistance.

Analyzing the data by diabetes duration, the chi-square test revealed a highly significant difference ($\chi^2 = 22.62$, $p < 0.0001$). Specifically, patients who had been living with diabetes for 1 to 6 years reported the highest self-efficacy in medication adherence, with 38.7 percent expressing strong confidence. In contrast, individuals with diabetes for more than 12 years or less than 12 months exhibited relatively lower levels of confidence, indicating that the length of time living with diabetes may influence one's confidence in managing their medication.

Ongoing counselling and educational interventions aimed at addressing barriers such as forgetfulness, side effects, or misunderstanding dosage instructions are essential. These findings align with those of Aloudah et al. (2018), D'Souza and Al Salmi (2018), who stress the importance of self-efficacy in achieving consistent medication adherence. By reinforcing patients' confidence through structured support and regular follow-up, healthcare providers can help improve adherence outcomes and enhance overall diabetes management.

Collectively, these results illustrate the multifaceted challenges encountered by patients with type 2 diabetes, ranging from blood sugar monitoring and hypoglycemia management to medication adherence, with self-efficacy playing a crucial role throughout. Counselling

psychologists have a unique opportunity to blend psychological support with practical self-management techniques. By emphasizing self-efficacy through education, targeted interventions, and continuous support, there is significant potential to boost adherence to diabetes care routines and improve long-term health outcomes.

4.5 Seeking social support as a coping strategy on T2DM self-management among patients

Objective 3 examined how seeking social support functions as a coping strategy in managing type 2 diabetes. Living with type 2 diabetes presents numerous challenges that necessitate effective coping mechanisms, and seeking support from social networks such as family, friends, and healthcare providers is crucial. The study conducted with 202 patients at Lamu Hospital illustrates how patients rely on their social networks for emotional support during stressful times. This reliance is vital for managing the physical aspects of the disease and alleviating the psychological burdens associated with chronic illness, as detailed in Table 13.

Table 13:

Seeking emotional support during stress (n = 202).

17)When stressed, how often do you seek emotional support from others?	Counts	% of Total
I have been doing this a little bit	30	14.9 %
I have been doing this a lot	80	39.6 %
I have been doing this moderately	60	29.7 %
I have not been doing this at all	32	15.8 %

The data indicate that when asked about seeking emotional support during stress, 39.6 percent of patients reported doing so “a lot,” while 29.7 percent said they did it “moderately.” This means that nearly 70 percent of the patients actively pursue emotional support in stressful

situations. In contrast, 14.9 percent indicated they do so only “a little bit,” and 15.8 percent reported not seeking emotional support at all. These numbers suggest that although most patients rely on social support as a coping mechanism, a smaller group might be at risk of isolation or may not fully utilize available support resources.

The results emphasize the importance of emotional support as a key coping strategy. Approximately 70 percent of respondents regularly turn to their social networks for comfort, reassurance, and guidance, highlighting the role these relationships play in managing the emotional strain of diabetes. However, roughly about 30 percent either infrequently seek or entirely avoid such support raising concerns about potential vulnerabilities, such as heightened stress and isolation, which could negatively impact their diabetes management.

Among the participants, married individuals (52.5%) were most likely to seek emotional support, suggesting that having a partner for emotional sharing provides significant benefits. Divorced or separated individuals (16.8%) also actively sought support, likely in response to the challenges associated with their relationship status. Widowed participants (21.8%) showed varied levels of support-seeking, possibly reflecting the emotional impact of losing a spouse. Conversely, single participants (8.9%) were less inclined to seek emotional support, perhaps due to a more limited social network or a preference for handling stress independently.

From a counselling psychology perspective, these findings have important implications for the design and implementation of diabetes management programs. The high reliance on social support among most patients suggests that reinforcing and expanding these networks should be a priority. Counselling interventions can be tailored to encourage patients to develop stronger support systems through family therapy, peer support groups, or structured sessions

with healthcare providers. Techniques that enhance communication skills and build trust within these networks may empower even those who currently seek support minimally.

For the approximately 30 percent of patients who do not actively engage in seeking emotional support, targeted interventions are necessary. These might include one-on-one counselling sessions to overcome barriers to seeking help, educational workshops that emphasize the benefits of social support, and initiatives aimed at reducing any stigma or misconceptions about asking for help. By promoting emotional resilience and a proactive approach to managing stress, healthcare providers can help lessen the psychological burdens of T2DM, ultimately leading to improved overall disease management and quality of life.

These observations align with previous research by Ramkisson et al. (2017), which highlighted the positive impact of social support on adjusting psychologically to chronic illness. Integrating counselling strategies that stress the importance of emotional support can help patients develop a more robust coping framework, reducing stress and enhancing their ability to handle the multifaceted challenges of living with type 2 diabetes.

4.6 Emotional distress influence on self-management of T2DM among adult patients

The fourth objective of this study focused on investigating the impact of emotional distress on diabetes self-management behaviors. Effective management of type 2 diabetes mellitus (T2DM) necessitates consistent adherence to a complex regimen involving medication intake, dietary changes, physical exercise, and regular glucose monitoring. However, our findings demonstrate that emotional distress - characterized by feelings of frustration, anxiety, and depression - can substantially hinder patients' ability to maintain these critical self-care

practices. In our survey of 202 adult T2DM patients receiving care at Lamu Hospital, participants reported significant difficulties in adhering to their diabetes management plans due to psychological barriers. The quantitative data, presented in Table 14, reveal clear patterns showing how emotional distress interferes with various aspects of diabetes care, with notable effects on medication adherence and dietary compliance. These results underscore the importance of addressing psychological wellbeing as an integral component of comprehensive diabetes care, suggesting that interventions which simultaneously target emotional health and self-management skills may be most effective in improving overall outcomes for patients with T2DM. The findings highlight the need for healthcare providers to routinely assess and address emotional distress as part of standard diabetes management protocols, in resource-constrained clinical settings like Lamu Hospital.

Table 14:

Influence of emotional distress on self-management (n = 202)

Response category	**Counts**	**% of total**
Emotional distress often prevents me from following my diabetes care plan	55	27.2%
Emotional distress sometimes prevents me from following my diabetes care plan	78	38.6%
Emotional distress rarely prevents me from following my diabetes care plan	45	22.3%

Emotional distress never prevents me from following my diabetes care plan	24	11.9%

The findings show that 27.2 percent of patients indicated that emotional distress frequently prevents them from following their care plan, while 38.6 percent noted that it interferes sometimes. In contrast, 22.3 percent reported that such distress rarely disrupts their self-management efforts, and only 11.9 percent claimed that it never affects their condition management. In total, 65.8 percent of patients experience emotional distress at least occasionally to an extent that undermines their diabetes self-management.

A statistically significant gender difference was observed ($\chi^2 = 6.91$, $p = 0.009$), indicating that emotional distress impacts men and women differently. With 57.4 percent of participants being male and 42.6 percent female, further investigation could clarify whether women face greater emotional challenges or if men are simply less inclined to report such difficulties. These insights underscore the necessity for tailored psychological interventions to assist patients in managing the emotional dimensions of their diabetes care.

Overall, these results illustrate the widespread effect of emotional distress on self-care behaviors, emphasizing that the psychological challenges of managing T2DM are as critical as the physical ones. From a counselling psychology perspective, this data highlights the importance of integrating psychological support into diabetes management programs. Evidence-based psychological interventions including cognitive-behavioral therapy (CBT) and stress management techniques like mindfulness meditation and progressive muscle relaxation demonstrate significant potential for helping patients restructure maladaptive thought patterns and cultivate healthier coping strategies for diabetes-related challenges. These approaches can

effectively address the cognitive and emotional barriers that often undermine self-management efforts. Furthermore, integrating standardized psychological assessments into regular diabetes check-ups would enable early identification of vulnerable patients experiencing heightened distress, facilitating timely referral to appropriate mental health support services. Such proactive measures could substantially improve both psychological wellbeing and diabetes outcomes by addressing emotional difficulties before they significantly compromise self-care behaviors. This dual focus on therapeutic intervention and preventive screening represents a comprehensive approach to managing the psychosocial aspects of diabetes care, particularly valuable in resource-constrained settings where patients face multiple stressors.

Enhancing support networks is also crucial. By nurturing stronger bonds with family, friends, and healthcare providers, patients can build a robust support system that mitigates the negative effects of emotional distress. These strategies align with prior research by Kalra et al. (2018), which has highlighted that emotional distress significantly hinders effective diabetes self-management and that focused psychological interventions can lead to markedly better patient outcomes.

Ultimately, addressing the emotional challenges associated with T2DM through integrated counselling services improves adherence to self-management behaviors and enhances overall quality of life. Equipping patients with both emotional resilience and practical skills can empower them to manage their diabetes more effectively, leading to improved long-term health outcomes.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides an overview of the study's findings regarding the psychological factors that influence self-management among adults with T2DM at Lamu Hospital. It investigates how prevalent emotional distress is, examines the impact of self-efficacy, and evaluates the role of social support as a coping mechanism. These findings are interpreted through the lens of counselling psychology, underlining the importance of integrating psychological support into diabetes care.

The chapter outlines the main results in relation to the study objectives, and concludes with key conclusions and recommendations for incorporating psychological interventions into diabetes management. It also reflects on the study's contributions and suggests directions for future research.

5.2 Summary of the result findings

The findings are summarized below according to each study objective.

5.2.1 Prevalence of emotional distress on T2DM self-management

The study assessed the extent of emotional distress among individuals with type 2 diabetes mellitus by focusing on four critical areas: the emotional strain of daily diabetes management,

the resultant mental and physical fatigue, challenges in sticking to dietary guidelines, and feelings of failure regarding routine diabetes care.

Many participants indicated that the everyday demands of managing their condition were overwhelming, which in turn undermined their ability to consistently engage in self-care practices. This emotional strain may impede effective self-management and highlights the necessity for counseling interventions that offer practical coping strategies and emotional support (Amankwah-Poku et al., 2020).

In addition, managing diabetes was found to require substantial mental and physical energy, with over half (51%) of the participants reporting significant exhaustion that interfered with their self-care routines. Implementing stress reduction techniques and cognitive-behavioral strategies could help alleviate this fatigue, thereby fostering increased motivation and engagement in diabetes care (Snoek et al., 2015).

Adherence to dietary recommendations emerged as another area of difficulty, as many participants struggled with emotional distress and frustration that hindered their efforts to maintain a healthy diet. Counseling strategies that focus on boosting motivation and addressing psychological barriers could support patients in developing better eating habits (Nanayakkara et al., 2018).

Moreover, a notable proportion of participants expressed feelings of failure in managing their diabetes routines, which can erode self-efficacy and potentially lead to disengagement from their care plan. Interventions that incorporate psychological support and cognitive reframing

techniques may help these patients rebuild their confidence in effectively managing their condition (Nwakobi, 2014).

Overall, these findings underscore the critical influence of emotional distress on diabetes self-management and reinforce the importance of embedding psychological support within diabetes care programs. Addressing issues such as emotional strain, energy depletion, dietary challenges, and negative self-perceptions can enhance resilience and lead to improved adherence to self-management practices.

5.2.2. Self-efficacy on T2DM self-management

This study explored self-efficacy in managing type 2 diabetes mellitus (T2DM) across five key domains: maintaining a healthy diet in social settings, sustaining an exercise routine despite fatigue, regularly monitoring blood glucose levels, effectively managing low blood sugar episodes, and adhering to prescribed medication. These aspects collectively provided insight into patients' confidence in handling essential components of diabetes self-management.

The findings indicated that many patients faced difficulties in dietary self-efficacy, particularly when navigating food choices at social events, where available options often conflicted with recommended meal plans. A notable 34.6 percent of participants expressed having "no confidence at all" in their ability to maintain a healthy diet in such situations. This low confidence level presented a psychological barrier to effective dietary management, potentially leading to anxiety and self-doubt. Counselling approaches, including cognitive-behavioural strategies and motivational interviewing, could help strengthen self-efficacy by equipping

individuals with skills to make healthier choices despite social pressures (D'Souza & Al Salmi, 2018).

Similarly, engaging in regular physical activity emerged as a significant challenge. Among participants, (37.1%) reported being "slightly confident," while (27.7%) felt "not at all confident" in their ability to sustain an exercise regimen despite experiencing fatigue. This struggle highlighted a psychological conflict between physical exhaustion and the necessity of maintaining an active lifestyle (Morrato et al., 2007). Incorporating motivational enhancement techniques and stress management strategies in counselling interventions could boost patients' confidence, making it easier for them to incorporate exercise into their daily routines (Kang et al., 2022).

The study also revealed variability in confidence levels regarding routine blood sugar monitoring. While some patients exhibited strong self-efficacy, 34.6 percent reported being "slightly confident," and 29.7 percent expressed "no confidence at all" in their ability to monitor blood glucose consistently. These findings suggest a need for targeted interventions, such as self-monitoring training, structured goal-setting, and feedback mechanisms, to enhance self-efficacy in managing blood glucose levels (Ashur et al., 2016).

Managing hypoglycemia was another area where confidence levels varied. Although 25.7 percent of participants reported feeling "very confident" in handling low blood sugar episodes, 26.7 percent were only "slightly confident," highlighting a gap that could be addressed through education and psychological support. Self-management programs that incorporate skill-building and behavioural reinforcement techniques may enhance patients' ability to respond

effectively to hypoglycemic events (Al-Khawalde, Al-Hassan, & Froelicher, 2012; Hurst et al., 2020).

Adherence to prescribed medication also showed differing levels of self-efficacy among participants. While 37.1 percent expressed "high confidence" in taking their medication as prescribed, 26.7 percent reported only "slight confidence." These results emphasize the importance of psychological interventions in reinforcing medication adherence. Strategies such as habit formation techniques, motivational counselling, and addressing emotional barriers could further support patients in maintaining consistent medication routines (Aloudah et al., 2018).

Overall, the study's findings align with the hypothesis that greater self-efficacy correlates with improved diabetes self-management practices. Addressing psychological barriers through tailored interventions could play a crucial role in strengthening patients' confidence, ultimately enhancing their ability to manage their condition effectively.

5.2.3 Seeking social support as a coping strategy in T2DM self-management

Social support plays a crucial role in promoting the psychological well-being of individuals managing type 2 diabetes mellitus (T2DM). The study findings indicated that a substantial number of patients actively sought emotional support when experiencing diabetes-related stress. Specifically, 39.6 percent of participants frequently relied on family, friends, or healthcare providers for emotional reassurance, while 29.7 percent did so occasionally. This means that nearly 70 percent of respondents turned to their social networks as a coping

mechanism, emphasizing the importance of interpersonal relationships in diabetes self-management.

From a counselling psychology standpoint, these findings highlight the significance of social support in mitigating stress, reducing isolation, and enhancing emotional resilience. Previous studies have shown that strong social networks positively influence psychological well-being and adaptation in individuals with chronic illnesses (Ramkisson et al., 2017; Korsah, 2015). The ability to seek and receive support may also contribute to greater self-efficacy in managing diabetes, as individuals who feel supported are more likely to engage in health-promoting behaviors, adhere to treatment regimens, and maintain effective self-care routines.

These results reinforce the study's hypothesis that individuals who actively seek social support tend to experience better psychological adjustment and improved self-management of T2DM. Given these insights, counselling interventions should aim to equip patients with skills to engage meaningfully with their support systems and strengthen communication. Counselling psychologists can design targeted programs that emphasize the benefits of social support while helping individuals develop strategies to foster stronger relationships and seek assistance when needed. Encouraging the use of social support as a coping strategy may enhance emotional resilience, improve stress management, and ultimately contribute to a better quality of life for individuals managing T2DM.

5.2.4 Influence of emotional distress on T2DM self-management

Emotional distress can significantly impact an individual's ability to manage type 2 diabetes mellitus (T2DM) effectively. The study findings revealed that distress often interfered with

self-care behaviors, with 27.2 percent of respondents stating that emotional struggles frequently hindered their ability to adhere to their care plan, while 38.6% reported that distress sometimes disrupted their self-management routines. These results indicate that over half of the participants experienced psychological challenges that affected key self-care activities, including medication adherence, dietary management, regular exercise, and blood glucose monitoring.

The findings align with the study's hypothesis that heightened emotional distress negatively influences self-management behaviors among T2DM patients. Psychological distress manifesting as frustration, anxiety, or feeling overwhelmed can reduce motivation, impair decision-making, and create obstacles to maintaining a structured diabetes care regimen. Without adequate psychological support, these emotional challenges may contribute to poorer health outcomes and lower engagement in self-management activities.

From a counselling psychology perspective, these findings underscore the need to integrate psychological interventions into diabetes care. Counsellors can implement evidence-based approaches such as stress management techniques, cognitive-behavioral therapy (CBT), and emotional regulation strategies to help patients cope more effectively. These interventions can aid individuals in reframing negative thoughts, managing anxiety and depressive symptoms, and developing healthier coping mechanisms (Kalra et al., 2018).

By addressing the emotional components of diabetes self-care, counselling psychologists can enhance patients' ability to manage distress, strengthen self-efficacy, and improve adherence to self-management practices. Integrating psychological support into routine diabetes care may

ultimately lead to better emotional well-being and improved health outcomes for individuals living with T2DM.

5.3 Conclusions of the study

This study explored the psychological factors influencing self-management among T2DM patients at Lamu Hospital. Emotional distress emerged as a significant barrier, with patients experiencing feelings of being overwhelmed, mental and physical exhaustion, difficulties adhering to dietary guidelines, and a sense of failure in managing their condition. Incorporating counselling psychology into diabetes care provided essential coping mechanisms, including stress management strategies and cognitive-behavioral interventions, which helped reduce emotional strain, enhance motivation, and improve self-efficacy.

Self-efficacy was a critical determinant of effective diabetes self-management, yet confidence levels varied among patients. Many struggled with maintaining a healthy diet in social settings, sustaining an exercise routine despite fatigue, and consistently monitoring blood glucose levels. Counselling-based interventions, such as motivational enhancement, cognitive restructuring, and skills training, played a key role in reinforcing self-efficacy and encouraging long-term adherence to self-care practices.

Social support was another crucial factor in diabetes management, as many patients relied on family, friends, and healthcare providers for emotional encouragement. This support network contributed to stress reduction and improved adherence to self-care routines. Counselling interventions further strengthened patients' ability to seek and utilize social support by enhancing communication skills and fostering emotional resilience. Healthcare providers also

integrated social support strategies, such as peer support groups and family education, to optimize diabetes care.

Emotional distress significantly disrupted adherence to diabetes self-management practices, including medication adherence, dietary regulation, physical activity, and glucose monitoring. Addressing these psychological challenges through targeted interventions was essential in reducing distress, building resilience, and promoting consistent self-care behaviors. Evidence-based approaches such as stress management techniques and cognitive-behavioral therapy proved effective in supporting patients' psychological well-being and diabetes management.

In conclusion, psychological factors played a pivotal role in shaping self-management behaviors among T2DM patients. Integrating counselling interventions into diabetes care improved emotional well-being, bolstered self-efficacy, strengthened social support networks, and mitigated emotional distress. A holistic approach that combined medical treatment with psychological support was essential for achieving better health outcomes and improving the quality of life for individuals living with T2DM.

5.4. Recommendations

The findings of this study underscore the need for a comprehensive approach to managing type 2 diabetes mellitus (T2DM) that addresses both the physical and psychological challenges faced by patients.

A key recommendation is the integration of psychological support into routine diabetes care. Healthcare systems should ensure that counselling and psychoeducation are readily accessible,

equipping patients with coping strategies to manage the emotional burden of T2DM. This support can enhance adherence to self-management practices and improve overall well-being.

Additionally, tailored counselling interventions should be developed to address the feelings of being overwhelmed and the mental and physical exhaustion experienced by T2DM patients. Techniques such as cognitive-behavioral therapy (CBT), mindfulness-based stress reduction (MBSR), and relaxation exercises can strengthen resilience and self-efficacy, enabling patients to manage the emotional demands of diabetes more effectively.

Dietary adherence programs should also be implemented, addressing the psychological barriers that hinder patients from following recommended diets. These programs should focus on enhancing motivation, reducing emotional distress related to meal planning, and providing practical strategies for maintaining a healthy diet in social settings. By integrating psychological and practical support, such programs can improve adherence to dietary recommendations.

Routine screening for emotional distress should be incorporated into diabetes care. Tools such as the Diabetes Distress Scale (DDS) can help identify patients struggling with emotional distress, allowing healthcare providers to intervene early and prevent negative impacts on self-management.

Lastly, patient education workshops should be conducted to raise awareness about the psychological aspects of diabetes management. These workshops should equip patients with practical skills in stress management, energy conservation, and cognitive reframing,

empowering them to manage both the physical and emotional aspects of T2DM more effectively.

5.5 Further areas for research

This study highlights the intricate relationship between psychological factors and self-management in T2DM, suggesting several areas for further research.

One important avenue is investigating the long-term impact of counselling interventions on emotional distress and self-management behaviors among T2DM patients. Longitudinal studies could provide insights into how specific counselling strategies contribute to reducing distress and improving diabetes management over time.

Additionally, research should explore the cultural and contextual factors that influence emotional distress, particularly in low-income settings such as Lamu Hospital. Understanding how social norms, cultural beliefs, and socioeconomic status shape patients' emotional experiences can inform the development of culturally sensitive interventions that are more effective and relevant to their needs.

The role of family support in mitigating emotional distress and promoting self-management also warrants further investigation. Researching how family dynamics and social networks influence diabetes management could guide the development of family-centered interventions, encouraging a collaborative approach to care that includes loved ones as active participants.

A comprehensive approach to diabetes care must address systemic barriers that limit access to mental health services, particularly in rural and underserved communities. Critical obstacles

such as mental health stigma, limited patient awareness of available services, and inadequate healthcare infrastructure require thorough investigation to develop context-specific solutions. Future research should prioritize identifying culturally appropriate strategies to overcome these barriers, including community-based mental health programs and integrated care models that normalize psychological support within routine diabetes management.

Comparative analyses of emotional distress patterns across chronic illnesses could yield important clinical insights. Examining how diabetes-related distress differs from that experienced in other conditions like hypertension or cardiovascular disease would enable more precise intervention strategies. Diabetes-specific psychological challenges—such as the constant self-monitoring requirements and fear of complications—may necessitate distinct therapeutic approaches compared to other chronic diseases.

These research directions would facilitate the development of more holistic diabetes care models that effectively address both physiological and psychological aspects of the disease. By implementing targeted, evidence-based interventions that remove barriers to mental healthcare and address condition-specific distress patterns, healthcare systems can significantly enhance treatment adherence, metabolic control, and overall wellbeing for T2DM patients. Such advancements are particularly crucial for resource-limited settings where psychological support services are often underdeveloped yet critically needed to improve long-term health outcomes.

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Appendices

Appendix 1: Introduction Letter

Greetings. I am a master of arts (Counselling Psychology) student at the department of Psychology at Mount Kenya university who goes by the name of Grace Muthoni Kinyanjui, Registration number MCP/2020/63708. The protocol requires that I develop a proposal after which I conduct a study in order to be awarded a master degree. I am working on the following title as my research study: *The influence of psychological factors on type 2 diabetes self-management among adult patients in Lamu hospital, Kenya.*

The aim of this letter is to seek an opportunity at your institution to conduct the study.

I will be grateful for such a chance.

Thank you.

Grace Muthoni Kinyanjui

Learner.

Appendix 2: Consent form

Greetings. I am a psychology student at Mount Kenya university by the name Grace Muthoni Kinyanjui undertaking a research study titled; *The influence of psychological factors on type 2 diabetes management among adult patients in Lamu county, Kenya*. Diabetes is a disorder requiring long-time personal care practices. Having the condition is challenging due to its demands on various aspects of life. The researcher thought it wise to delve on psychological factors that influence self-care practices to come up with interventions to alleviate distress caused by diabetes and improve care of patients in Lamu county, Kenya.

The participants are requested to answer all questions. The information gathered will be used for the study only. Names are not required for the sake of confidentiality. You have a right to decline participation in the study or pull out from participation any point in time without any penalty because your participation is voluntary. The researcher considers it wise that you participate in this study as there is no risk entailed. However, you may become overwhelmed by recollection of thoughts of how diabetes has ruined your life and this will not be taken for granted. Counselling services will be available in case needed. For any queries, kindly reach out to the researcher. I understand and

I do accept to participate in this study.

Sign……

Witness……

Appendix 3: questionnaire for the patients

HEED:

This questionnaire's formulation is intended for this study purposes only.

The information shared will be kept confidential and used only for the research purposes.

The researcher will highly appreciate your response and cooperation.

TAKE NOTE OF:

Your name is not required.

Answer all the questions to the best of your ability.

Be honest as much as possible when answering the questions.

If you have any questions and need clarification, please feel free to ask the researcher.

Section 1: Socio-Demographic Data

1) Sex
   a). Female
   b). Male.
2) Age
   a) 18 – 30 years
   b) 31 – 43 years
   c) 44 – 56 years
   d) 57 and over.

3) Marital status
   a) Widowed
   b) Divorced /separated
   c) Married
   d). Single

4) Education status
   a). No formal education
   b) Primary education
   c) Secondary education
   d) Tertiary institution education (e. g. college, university)

5) Occupation

a). Unemployed

b). Self-employed

c). Employment

d). Retired

6) Income level

a). Low (below KES 10,000/month)

b). Medium (KES 10,000 – 50,000/month)

c). High (above KES 50,000/month).

7) Duration of diabetes since diagnosis

a). Below 12 months

b). 1 to 6 years

c). 7 to 12 years

d) Above 12 years

Section 2: Diabetes Distress Scale (DDS)

These questions focus on emotional distress related to diabetes. Please tick the one that suits you best.

8) How often do you feel overwhelmed by the demands of living with diabetes?

1 = Not at all
2= A little
3= Somewhat
4= Quite a bit
5= Very much

9) How often do you feel that diabetes is taking up too much of your mental and physical energy?

1 = Not at all
2= A little
3= Somewhat
4= Quite a bit
5= Very much

10). How often do you feel that you are not sticking closely enough to a good meal plan?

1 = Not at all
2= A little
3= Somewhat
4= Quite a bit
5= Very much

11). How often do you feel that you are failing with your diabetes routine?

1 = Not at all
2= A little
3= Somewhat
4= Quite a bit
5= Very much

Section 3: Diabetes management self-efficacy scale (DMSES)

These questions assess self-efficacy in managing diabetes-related tasks. Please select one answer that resonates with you.

12). How confident are you in your ability to follow a healthy meal plan even when you are at a social event?

1 = Not at all confident
2 = Slightly confident
3 = Moderately confident
4 = Very confident
5 = Completely confident

13) How confident are you in your ability to exercise regularly despite feeling tired?

14). How confident are you in your ability to check your blood sugar levels regularly?

15). How confident are you in your ability to manage low blood sugar when it occurs?

16) How confident are you in your ability to take your diabetes medication as prescribed?

Section 4: Brief COPE Inventory

Question 17 focuses on seeking social support as a coping mechanism used in response to stress. Please choose one answer that suits your condition.

17)When stressed, how often do you seek emotional support from others?

1= I have not been doing this at all
2= I have been doing this a little bit
3= I have been doing this moderately
4= I have been doing this a lot

For question 18, please choose one answer

18) Does emotional distress impact the self-management practices such as medication adherence, diet, physical activity, and blood glucose monitoring of adult patients with type 2 diabetes mellitus in Lamu hospital?

1 = Not at all
2= A little
3= Somewhat
4= Quite a bit
5= Very much

Appendix 4: Map of Lamu

Source: Google maps.

Appendix 5: Research License

Ref No: 270495 Date of Issue: 15/October/2024

RESEARCH LICENSE: This is to Certify that Ms.. Grace Muthoni Kinyanjui of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Lamu on the topic: THE INFLUENCE OF PSYCHOLOGICAL FACTORS ON SELF-MANAGEMENT OF TYPE 2 DIABETES MELLITUS AMONG ADULT PATIENTS IN LAMU HOSPITAL, KENYA. for the period ending : 15/October/2025.

License No: NACOSTI/P/24/39323

Applicant Identification Number: 270495

Director General NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION (NACOSTI), Off Waiyaki Way, Upper Kabete, P. O. Box 30623 - 00100 Nairobi, KENYA Telephone: 020 4007000, 0713788787, 0735404245.

Appendix 6: ERC Letter

Mount Kenya University

REF: **MKU/I5ERC/2766** Date:19/05/24

TO: **GRACE MUTHONI** REG: **MCP /2020 /63708**

KINYANJUI

Dear Sir/Madam,

RE: THE INFLUENCE OF PSYCHOLOGICAL FACTORS ON SELF-MANAGEMENT OF TYPE 2 DIABETES MELLITUS AMONG ADULT PATIENTS IN LAMU HOSPITAL, KENYA.

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **1776.** The approval period is **19/5/2024 - 18/5/2025.**

This approval is subject to compliance with the following requirements;

i. Only approved documents including informed consents, study instruments, MTA will be used

ii. All changes including amendments, deviations and violations are submitted for review and approval by **Mount Kenya University**

iii. Death and life-threatening problems and serious adverse events or unexpected adverse events, whether related or unrelated to the study, must be reported to **Mount Kenya University** within 72 hours of notification.

iv. Any changes, anticipated or otherwise, that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported **to Mount Kenya University** within 72 hours.

v. Clearance for export of biological specimens must be obtained from the relevant institutions

vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal

vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University.**

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

Mount Kenya University
Ethics Review Committee
P. O. Box 342 - 0100, Thika

Dr. Peter G. Kirira Chairman,

Mount Kenya University ISERC

Appendix 7: MKU Introduction Letter

Mount Kenya University

DIRECTORATE OF GRADUATE STUDIES

MCP/2020/63708

19th June, 2024

National Commission for Science, Technology & Innovation
(NACOSTI) Off Waiyaki,

Upper Kabete,

P.O. Box 30623-001 NAIROBI, KENYA.

Dear Sir/ Madam,

RE: GRACE MUTHONI KINYANJUI - REGISTRATION NO. MCP/2020/63708

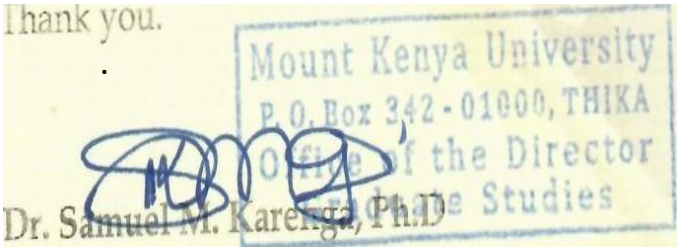
The purpose of this letter is to introduce the above-named student who is pursuing a Master of Arts in Counselling Psychology in the department of Psychology, Languages and Humanities in the School of Social Sciences.

The research title is " The influence of psychological factors on self-management of type 2 diabetes mellitus among adult patients in Lamu hospital, Kenya." It has been cleared by the University's Ethics Review Committee (Certificate attached) and must now proceed to the field to collect data between July 2024 and August 2024.

Any assistance accorded to the student will be highly appreciated.

Thank you.

.

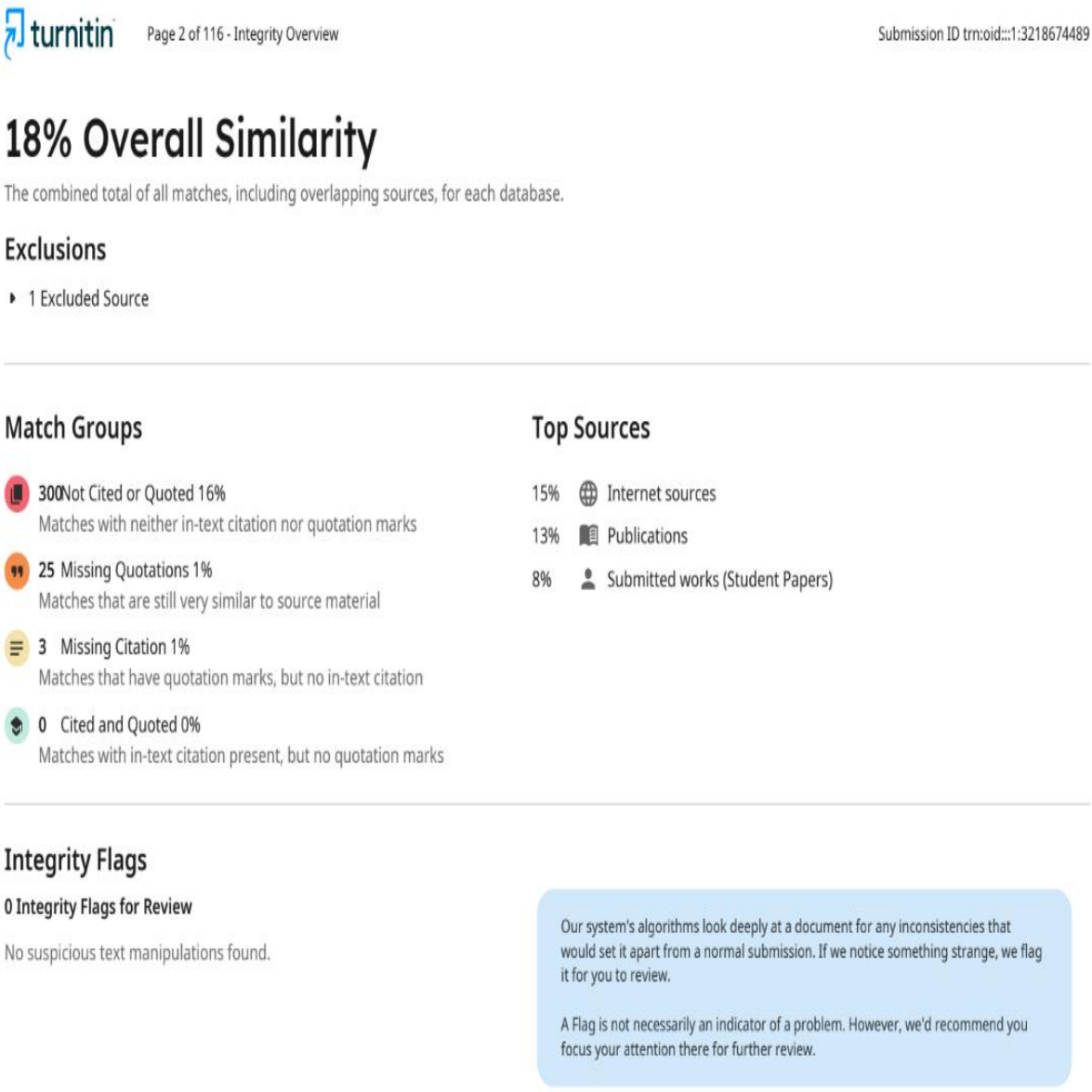


Dr. Samuel M. Karenga, Ph.D

Director, Graduate Studies

Enc.

Appendix 8: Plagiarism Report



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