LIFESTYLE CHANGES AND PSYCHOLOGICAL WELLNESS AMONG ADULT PATIENTS WITH CORONARY HEART DISEASE AT MATER HOSPITAL IN NAIROBI COUNTY, KENYA

CATHERINE SANDE OMUKOKO

REG.NO: 1039503

A THESIS SUBMITTED TO THE FACULTY OF ARTS AND SOCIAL SCIENCES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF ARTS IN COUNSELING PSYCHOLOGY AT THE CATHOLIC UNIVERSITY OF EASTERN AFRICA, NAIROBI, KENYA

JULY, 2023

DECLARATION

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

Information from other sources has been duly acknowledged.

Signature ..... Date 28/07/2023

CATHERINE OMUKOKO SANDE

REG.NO: 1039503

This thesis has been submitted for examination with our approval as University supervisors.

Signature ..... Date 28/7/2023

DR. STEPHEN ASATSA

Lecturer Department of Counseling Psychology

Catholic University of Eastern Africa

Signature ..... Date 28/7/2023

DR. PIUS MUASA

Lecturer Department of Counseling Psychology

Catholic University of Eastern Africa

DEDICATION

To God Almighty Father for the gift of life to all in abundance, and to Fr. Peter Meienberg, a Swiss Benedictine Monk who served in the women's prison in Lang'ata –Nairobi, for his deep inspiration during community mass on mental health wellness.

ACKNOWLEDGEMENT

The All-powerful God who has enabled me the gift of life and good health throughout this research work. I wish to sincerely appreciate Rev. Fr. Peter Meienberg, all the staff at Faraja foundation for their moral and financial support that enabled me to write this proposal successfully.

I sincerely appreciate the support of my supervisor(s) for their guidance, kindness, patience, and their professional advice. Despite their busy schedule, they have encouraged me all along, especially those moments I felt like giving up, but they uplifted me throughout this time of writing. Thank you very much. May God bless you always.

I acknowledge my colleagues at Mater Misericordiae Hospital, where I work, for their moral, psychological and spiritual support. With unique references to the counseling unit where I could always fall for consultations, particularly Mrs. Precious Mutune and Mrs. Jackline Anundo, I could not have asked anyone better to guide me through this proposal writing journey other than the Psychologist.

Special thanks goes to my Sister Christine and my brother Vincent, and all my sisters and friends who have always inspired and motivated me to strive for success in my studies, and to all my classmates whom I was always consulting for a way forward as an online student, they made it possible for me. I am indeed very grateful, especially to Fr. Sapalo and Mrs. Jackline Cherono.

TABLE OF CONTENTS

DECLARATION ii

DEDICATION iii

ACKNOWLEDGEMENT iv

TABLE OF CONTENTS v

LIST OF TABLES ix

LIST OF FIGURES x

OPERATIONAL DEFINITION OF KEYWORDS xi

ABSTRACT xii

CHAPTER ONE 1

INTRODUCTION 1

1.1 Introduction 1

1.2 Background Information 1

1.3 Problem Statement 5

1.4 Justification and Significance of the Study 7

1.5 General Objectives of the Study 7

1.5.1 Specific Objective of the Study 7

1.6 Research Questions 8

1.7 Theoretical Framework 8

1.7.1 Theory of Planned Behavior 8

1.8 Scope and Delimitation of the Study 9

1.9 Assumptions of the Study 10

CHAPTER TWO 11

LITERATURE REVIEW 11

2.1 Introduction 11

2.2 Critical Review of Theories 11

2.2.1Theory of Planned Behavior 11
2.2.1.1 Application of the theory to lifestyle changes of a coronary heart disease patient. 13
2.2.1.2. Limitations of TPB 14
2.3 Review of Empirical Studies 14
2.3.1 Lifestyle Practices of Adult Patients with Coronary Heart Disease 15
2.3.2 Psychological Wellness among Adult Patients with Coronary Heart Disease 20
2.3.3 Relationship between Lifestyle Changes and Psychological Wellness among Adult Patients with Coronary Heart Disease 24
2.3.4 Interventions Sought by Adult Patients with Coronary Heart Disease 28
2.4 Research Gaps 33
2.5 Conceptual Framework 33
2.6 Chapter Summary 35
CHAPTER THREE 37
RESEARCH METHODOLOGY 37
3.1. Introduction 37
3.2 Research Design 37
3.3 Study Area 37
3.4 Target Population 38
3.5 Sample Size and Sampling Procedure 38
3.5.1 Sample Size Calculation 39
3.5.2 Sampling Procedure 40
3.6. Data Collection Instrument 40
3.6.1 Questionnaire 40
3.6.2 Lifestyle Appraisal Questionnaire (LAQ) 40
3.6.2.1 Scoring the Lifestyle Appraisal Questionnaire LAQ 41
3.6.3 Interview Guides 41

3.6.4. Pre-Testing of Research Tools 42
3.7 Validity 42
3.8 Reliability 42
3.9 Data Analysis and Presentation 43
3.10 Ethical Considerations 44
CHAPTER FOUR 45
DATA ANALYSIS, PRESENTATION, AND DISCUSSION OF FINDINGS 45
4.1 Introduction 45
4.2 Response Rate 45
4.3 Demographic Information of Respondents 46
4.3.1 Marital Status 47
4.3.2 Gender 48
4.3.3 Age 49
4.3.4 Religion 50
4.3.5 Level of Education 51
4.4 Lifestyle Practices of Adult Patients with Coronary Heart Disease 51
4.5 Psychological Wellness among Adult Patients with Coronary Heart Disease 54
4.6 The Relationship between Lifestyle Changes and Psychological Wellness among Adult Patients with Coronary Heart Disease 57
4.7 Psychological Interventions for Coronary Heart Disease among Adult Patients. 59
CHAPTER FIVE 60
SUMMARY, CONCLUSSION AND RECOMMENDATIONS 60
5.1 Summary of the Study 60
5.2 Summary of the Findings 61
5.2.1 Lifestyle Practices of Adult Patients with Coronary Heart Disease 61
5.2.2 Psychological Wellness among Adult Patients with Coronary Heart Disease 61

5.2.3 Relationship between Lifestyle Changes and Psychological Wellness among Adult Patients with Coronary Heart Disease 62
5.2.4 The Interventions Sought by Adult Patients with Coronary Heart Disease 63
5.3 Conclusions 64
5.4 Recommendations 65
5.5 Recommendations for Further Research 65
REFERENCES 67
APPENDICES 78
Appendix A: Respondent's Consent Request Form 78
Appendix B: Questionnaire 80
Appendix C: Permission to Use Dass 21 Tool 83
Appendix D: Research Budget 84
Appendix E: Work Plan 85
Appendix F: Map of Mater Misericordiae Hospital 86
Appendix G: Permission Letter 87
Appendix H: Research Authorization Letter 88
Appendix I: Introduction Letter from CUEA 89
Appendix J: Permit from NACOSTI 90
Appendix K: Article 91
Appendix L: Evaluation Letter 92

LIST OF TABLES

Table 3.1: Data Analysis 43

Table 4.1: Response Rate 46

Table 4.2: Lifestyle Practices of Adult Patients with Coronary Heart Disease 52

Table 4.3: Psychological Wellness 54

Table 4.4: Model Summary 57

Table 4.5: ANOVA 57

LIST OF FIGURES

Figure 2.1: Theory of Planned Behavior 13

Figure 2.2: Relationship between lifestyle changes and psychological wellness 35

Figure 4.1: Marital Status 47

Figure 4.2: Gender 48

Figure 4.3: Age of Participants 49

Figure 4.4: Religion of Participants 50

Figure 4.5: Level of Education of Participants 51

OPERATIONAL DEFINITION OF KEYWORDS

Anxiety-The study used the term to mean feeling nervous, on edge, or worried, uncertainty about life due to health-related issues. It is a normal emotion that alerts your body to respond to a threat.

Health- Is applied in the study to mean, a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity, (WHO)

Wellness-The study used the term to mean, wellness is an active process of increasing awareness and actively making choices towards a healthy and fulfilling life.

Coronary Heart Disease-It is used in the study to mean, simply a heart disease involving the reduction of blood flow to the heart muscle.

Hypertension- The study used the term to mean high blood pressure that causes damage to blood vessels and can lead to stroke or heart attack.

Lifestyle- The study used the term to mean, how a person lives, his behavioral activities.

Psychological distress –in this study, it's a state of emotional suffering associated with stressors and challenging demands to cope in daily life.

Psychological wellness- The study used the term to mean, an individual's emotional health and overall well-being.

Depression- The study used the term to mean, a mental illness characterized by a persistently depressed mood, loss of interest in activities of daily living.

ABSTRACT

The main aim of the study was to determine lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya. Four specific objectives guided the research: to assess the lifestyle practices of adult patients with coronary heart disease at Mater Hospital in Nairobi County, to assess psychological wellness among adult patients with coronary heart disease at Mater Hospital in Nairobi County, to establish the relationship between lifestyle changes and psychological wellness among adult patients with coronary heart disease at Mater Hospital in Nairobi County and to determine the coping strategies used by adult patients with coronary heart disease at Mater Hospital in Nairobi County, Kenya. This study was anchored on theory of planned behavior (Ajzen and Fishbein, 1980). This study employed a descriptive research design. The study targeted a population of 100 patients with coronary heart disease at Mater Hospital, in Nairobi County. A sample size of 115 participants, (95 patients and 20 nurses) was selected. Data was collected from this sample using standardized questionnaires, Lifestyle appraisal questionnaire (LAQ), and Interview guides. Data was analyzed using SPSS version 24 for descriptive analysis, Analysis of Variance (ANOVA), Independent t-test and correlation analysis. The study found that there is a statistically significant positive relationship between lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya at r=3.00; P value=.000.Therefore, most adult patients with coronary heart disease practiced the indicators of lifestyle practices as many agreed that they had practiced the lifestyle practices to either a moderate degree, a great degree or a very great degree while, the majority of the psychological wellness symptoms, the mean was determined to be over t=4.0; P=.001 meaning that the majority of the respondents experienced the above reactions. The findings imply that, statically there was a significant positive relationship between the lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya. This study made recommendations to the following stakeholders: the doctors and nurses who are always with patients, the patients and clients who come seeking for health services, Counseling department, the cardiac institutions who offer this services to cardiac patients like Kenyatta Hospital, M-Psha hospital among others and the Ministry of Health in the country who are the beneficiaries of this services.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

In this chapter, the background of the problem is presented. The chapter places the topic of research into its context by breaking it into specific areas. These areas include a statement of the study's problem objectives, research questions, significance of the study, justification of study, scope and delimitation of the study, and capturing the conceptual framework and theoretical framework.

1.2 Background Information

Lifestyle means how a person lives, his behavioral activities and how they affect their health, in this aspect it has a negative effect on health and needs to be looked into in a positive way by living a healthy life and thus maintain good health. Disease is a disorder of structure like heart deformity or function like stress or depression. Psychological wellness refers to good mental health in all aspects of spiritual, social and physical.

Globally, High systolic blood pressure remains the leading modifiable risk factor globally for attributable premature cardiovascular deaths, accounting for 10.8 million (95% CI: 9.15-12.1 million) cardiovascular deaths and 11.3 million (95% CI: 9.59-12.7 million) deaths overall in 2021, and has been particularly linked to ischemic heart disease and stroke-related deaths (Journal of the American college of cardiology). Globally, they are the number one cause of death compared to other non-communicable conditions. Cardiovascular diseases such as coronary heart diseases took up the lives of at least 17.9 million in 2016 alone, which translates to 31% of all deaths globally, with 85% of these deaths being attributed to heart attack and stroke (WHO, 2017).

Life events such as the occurrence of the COVID-19 pandemic have forced people into isolation for their benefit. However, these life events, coupled with sicknesses such as CHD, have significantly affected the psychological wellness of individuals suffering from this condition (Gronewold et al., 2021). The usage of physical activity programs such as Tai Chi in China has been found to be instrumental in improving the psychological wellness of patients with CHD as the usage of medication is not entirely feasible (Salmoirago Blotcher et al., 2017).

In Africa, Cardiovascular Diseases are the largest contributor to the total NCD burden, accounting for 38.3% of NCD deaths and 22.9 (Murray CJ, et al, Lancet Global Health. (2019). They are composed of a group of disorders that affect the heart and blood vessels and include coronary heart disease, peripheral arterial disease, rheumatic heart disease, and cerebrovascular disease (CDC, 2018). The risk factors of these diseases include physical inactivity, tobacco and alcohol, and unhealthy diets.

An individual's psychological well-being can be influenced by several factors, such as a chronic disease. An individual with a poor psychological well-being level could be affected by stress, depression, and anxiety, which can be detrimental to their mental state of health (Flynn et al., 2019). Individuals affected with coronary heart diseases are usually forced to take up regular medication and are financially burdened due to payments for treatment of these conditions. This is a highly strenuous and stressful process that results in the development of significant stress.

According to WHO (2017), African and Middle Eastern countries record the highest burdens for coronary heart disease especially given the increased level of sedentary lifestyles, smoking, diabetes, and other related risk factors. The disease occurs among the patients irrespective of age, with the projected prevalence expected to outstrip those of other geographical boundaries (Einarson et al., 2018).

In Kenya, the burden of non-communicable diseases (NCDs) and cardiovascular diseases (CVD) is significant where heart diseases cause 25 percent of hospital admissions and 13 percent of deaths. (WHF 2019).

The low-and middle-income countries are most affected, with at least three-quarters of these deaths taking place in these countries. The prevalence of CVD in countries such as Africa is largely attributed to the insufficient interventions directed at reducing the occurrence of these diseases. An estimation of about 20 million people in Africa is affected by CVDs (Chaddha et al., 2016).

Minimal studies have been conducted in relation to the prevalence of coronary heart diseases in Kenya. However, one study captured a prevalence level of 6% for coronary heart disease among individuals of age 18-69 years (Gichu et al., 2018). A study that captured the prevalence of cardiovascular disease revealed that the burden is profound in Kenya with heart-related diseases resulting in the causation of at least 25% of all hospital admissions in the country and resulting in the causation of at least 13% of deaths in the health facilities in Kenya (Wekesah et al., 2020).

The Kenyan government, through the Ministry of health, forged alliances with the Kenya Cardiac Society and World Heart Federation (WHF) to develop guidelines that would be instrumental in ensuring the proper management of cardiovascular diseases. The national CVD guidelines were launched in 2018 with the aim of improving the health outcomes of those affected with cardiovascular diseases, ensuring that health workers are properly equipped to deal with the diseases, and proper control of the associated risk factors (Kimando et al., 2017). Suffice to say, the government needs to focus on the development of critical programs aimed at improving the well-being of vulnerable patients, especially in the wake of the COVID-19 pandemic.

Coronary heart disease is among the significant causes of death among all races, irrespective of racial or ethnic variations. Coronary heart disease is associated with a narrowing of blood vessels that supply blood and oxygen to the heart, which occurs due to continued atheroma buildup in the arteries. This process is referred to as atherosclerosis. This is also followed by lipid abnormalities which are characterized by low-density lipoprotein cholesterol elevation (LDLC), an increased reduction in the high-density lipoprotein (HDL), and high triacyl glycerides (TAG). This, in turn, results in the development of atherosclerotic plaques, which build up in the arteries during the inflammatory process, thus causing endothelial injury. There are two classifications of coronary heart disease, which are "typical," such as fatal myocardial infarction and sudden death, and it can also be classified as "atypical," such as in the case of catastrophic heart failure or chronic arrhythmias (WHO, 2017).

The Mater Hospital has a special clinic for heart ailments and conducts special cardiac interventions such as Coronary angiography (Heart catheterization), Coronary angioplasty Pacemaker's insertion and programming, Balloon Valvuloplasty, Inferiorvenacava filter insertion, Electrophysiology studies and Ablation, and performs open heart surgeries, for both Kenyans and clients from entire parts of Africa as a Whole. The Hospital receives teams of specialists from Europe who come to perform the most complex surgeries and passes on the skills to the local teams through mentorship and coaching. This was the main reason why the researcher chose The Mater Hospital specifically for this study. (www.MaterKenya.com) As a result of this the hospital receives quite a huge number of heart ailment patients.

The focus should be on developing a program that is built to improve the lifestyle choices of the patients as an intervention for improving their psychological well-being.

People's psychological well-being is influenced by many factors, with one primary concern being lifestyle changes (Tessier et al., 2017). A healthy lifestyle is mainly composed of regular physical activity and refraining from food or actions that would impact an individual's health and well-being, such as smoking, consuming alcohol, and consuming unhealthy foods. Adhering to these stipulations is critical in dealing with the mental health of an individual's contrary to simply associating it with an individual's physical health. Additionally, taking part in moderate alcohol consumption, consuming heath diets, and refraining from smoking while maintaining an average body mass index have been critical in improving mental health. It is also imperative to note that such changes also increase the prevalence of the disease due to an individual's inability to adhere to such changes (Chaddha et al., 2016).

The most important behavioural risk factors of heart disease and stroke are unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol. The effects of behavioural risk factors may show up in individuals as raised blood pressure, raised blood glucose, raised blood lipids, and overweight and obesity. These “intermediate risks factors” can be measured in primary care facilities and indicate an increased risk of heart attack, stroke, heart failure and other complications.(WHO 2013-2020).

1.3 Statement of the Problem

Patients suffering from cardiovascular heart diseases undergo a number of challenges that may have a significant impact on their psychological health. Firstly, this disease is often associated with an increased risk of death if the patient continues with their poor lifestyle choices. Secondly, the patient has to shift their lifestyles rapidly to cater to their health before they ultimately meet their demise. This is associated with increased physical activity and changes in the food consumption patterns to help reduce their BMI and reduce the risk of death which may not be easy

for most patients. Thirdly, the COVID-19 pandemic is mostly lethal for vulnerable patients who are already suffering from respiratory and heart-related conditions. This may negatively affect the well-being and quality of life of these patients.

Additionally, there are very few studies conducted in Kenya that highlight the psychological impact of lifestyle changes among individuals affected with coronary heart disease. Coronary heart disease predisposes an individual to psychological illness, given the burden associated with the management of the condition. The adoption of healthy lifestyles is deemed to be instrumental in the management of the condition. However, patients at the time fall into depression, anxiety, or stress when they are unable to meet or adjust to such conditions.

It is, however, imperative to note that there are minimal interventions directed towards helping the patients to deal with such psychological concerns. These patients also lack social support from their friends and family, which is instrumental in the management of the condition. Healthcare providers also have limited training in the provision of quality mental health care for the management of the disease. Adjusting to the tough conditions associated with management of these diseases, results to depression which in turn significantly affects their overall quality of life. Additionally, Nairobi is a highly urbanized area and people are more likely to live sedentary lifestyles which in turn translates to high number of cases of heart diseases.

The study was therefore sought to fill this gap by determining not only the prevalence of coronary heart diseases but also the role that lifestyle changes (positive or negative) have on the psychological well-being of the patients.

1.4 Justification and Significance of the Study

Coronary heart diseases are relatively difficult to manage and they cause significant issues on the quality of life of the patients. The management of these issues can be properly managed through proper lifestyle changes to ensure that they deal with psychological issues affected by patients. This study will provide information that can be used by the government and health facilities to encourage patients to shift towards healthy lifestyle approaches to deal with cardiovascular diseases. This study will provide new knowledge on how Doctors and nurses should handle the clients they meet with lifestyle issues, like blood pressure, diabetes gout and obesity. Through health education, workshops and seminars. Also visiting the clients in their home environments to observe how they take care of their health. Learn how to do blood sugar check and BMI checks.

1.5 General Objectives of the Study

The overall objective of the study was to examine lifestyle changes and psychological wellness among patients with coronary heart disease at Mater hospital in Nairobi County, Kenya**.**

1.5.1 Specific Objective of the Study

1. To assess the lifestyle practices of adult patients with coronary heart disease at Mater Hospital in Nairobi County.
2. To assess psychological wellness among adult patients with coronary heart disease at Mater Hospital in Nairobi County.
3. To establish the relationship between lifestyle changes and psychological wellness among adult patients with coronary heart disease at Mater Hospital in Nairobi County.
4. To determine the coping strategies used by adult patients with coronary heart disease at Mater Hospital in Nairobi County.

1.6 Research Questions

1. What are the lifestyle practices of adult patients with coronary heart disease at Mater Hospital in Nairobi County?
2. What is the psychological wellness of adult patients with coronary heart disease at Mater Hospital in Nairobi County?
3. What is the relationship between lifestyle changes and psychological wellness among adult patients with coronary heart disease at Mater Hospital in Nairobi County?
4. What are the coping strategies used by adult patients with coronary heart disease at Mater Hospital in Nairobi County?

1.7 Theoretical Framework

This study was anchored on theory of planned behavior that was developed by Ajzen and Fishbein (1980).

1.7.1 Theory of Planned Behavior

The theory of planned behavior was developed by Ajzen and Fishbein (1980), and it suggests that people's behaviors are mostly influenced by their intentions. This theory has proved to be significant in guiding health messages. The theory states that people's behaviors are guided by three considerations which include (a) belief in a likely consequence, (b) beliefs in the expectation of others and motivation to comply, and (c) the belief that there are factors that can hinder the performance of behaviors.

The Theory of Planned Behavior was selected because it provides clear definitions of constructs and is supported by a comprehensive body of correlational evidence. The TPB provides a simple and efficient framework for use in the investigation of an individual's intent to perform context-specific actions. The TPB assumes that the majority of human behavior is goal-directed;

socially influenced, and those individuals are logical and rational in their decision making (Ajzen, 1991).

It is a deliberative processing model that implies individuals make behavioral decisions based on careful consideration of available information. In addition, it recognizes the necessity of estimating the extent to which the individual is capable of exercising control over the behavior in question. The model's ability to consider internal (e.g., abilities; knowledge) and external (e.g., opportunity; cooperation of others) control factors in relation to performing a behavior are important in professional contexts such as educational institutions, where both factors may influence teacher's behavior (Ajzen, 1991).

1.8 Scope and Delimitation of the Study

This research is constrained by the context of my research, which Ammerman, Carroll, Dudley, and McKinney (1998) refer to as the "time-space-network location." Lifestyle changes and psychological wellness among patients with coronary heart disease occur within the context of a specific health institution. As a result, the current study was limited to the settings and focused on patients with coronary heart disease. The setting is limited to selected hospitals in Nairobi County Kenya**.**

The current study focused on lifestyle changes and psychological wellness among patients with coronary heart disease. The study concentrated on two aspects of lifestyle practices: standard drinks of alcohol consumed per day, smoking behavior, blood pressure, body mass index (BMI), drug intake other than alcohol and nicotine, exercise, diet, relaxation, affection, social support, family history of lifestyle disease, stressful life events, sleep, stress symptoms, and tea and coffee intake. Improved interpersonal relationships, self-acceptance, supportive relationships, autonomy, and having a purpose in life were among the psychological wellness domains. The study also

looked at demographic factors and counseling interventions as intervening variables in coping with lifestyle practices and psychological well-being.

1.9 Assumptions of the Study

The study assumed that:

- Lifestyle practices affect adult patients with coronary heart disease at Mater Hospital in Nairobi County.
- There is a relationship between lifestyle changes and psychological wellness among adult patients with coronary heart disease at Mater Hospital in Nairobi County.
- There are coping strategies used by adult patients with coronary heart disease at Mater Hospital in Nairobi County.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The literature review analyzed the outcomes and findings of other studies that are closely related to the current study. Other studies were critically reviewed in order to clearly define the knowledge gaps that the current study sought to fill. It went on to discuss the important theories that are relevant and closely related to the current research. It assessed the theory of planned behavior by Ajzen and Fishbein. The chapter went on to conduct a review of empirical studies in order to identify research gaps. The chapter also explained the conceptual framework, demonstrating the operational explanations of the variables and the relationship between the variables under investigation. It concluded with a summary of the reviewed literature.

2.2 Critical Review of Theories

Various theories have different definitions of psychological wellness. Some theories present psychological wellness as an outcome, as the end result of a process following loss or grief. This study examined one theory: the theory of planned behavior by Ajzen and Fishbein was used to better understand lifestyle changes and psychological wellness among adult patients with coronary heart disease among health facilities in Nairobi County, and how they related to the current study.

2.2.1 Theory of Planned Behavior

The theory of planned behavior was developed by Ajzen and Fishbein (1980), and it suggests that people's behaviors are mostly influenced by their intentions. This theory has proved to be significant in guiding health messages. The theory states that people's behaviors are guided

by three considerations which include (a) belief in a likely consequence, (b) beliefs in the expectation of others and motivation to comply, and (c) the belief that there are factors that can hinder the performance of behaviors.

The Theory of Planned Behavior was selected because it provides clear definitions of constructs and is supported by a comprehensive body of correlational evidence. The TPB provides a simple and efficient framework for use in the investigation of an individual's intent to perform context-specific actions. The TPB assumes that the majority of human behavior is goal-directed; socially influenced, and those individuals are logical and rational in their decision making (Ajzen, 1991).

It is a deliberative processing model that implies individuals make behavioral decisions based on careful consideration of available information. In addition, it recognizes the necessity of estimating the extent to which the individual is capable of exercising control over the behavior in question. The model's ability to consider internal (e.g., abilities; knowledge) and external (e.g., opportunity; cooperation of others) control factors in relation to performing a behavior are important in professional contexts such as educational institutions, where both factors may influence teacher's behavior.

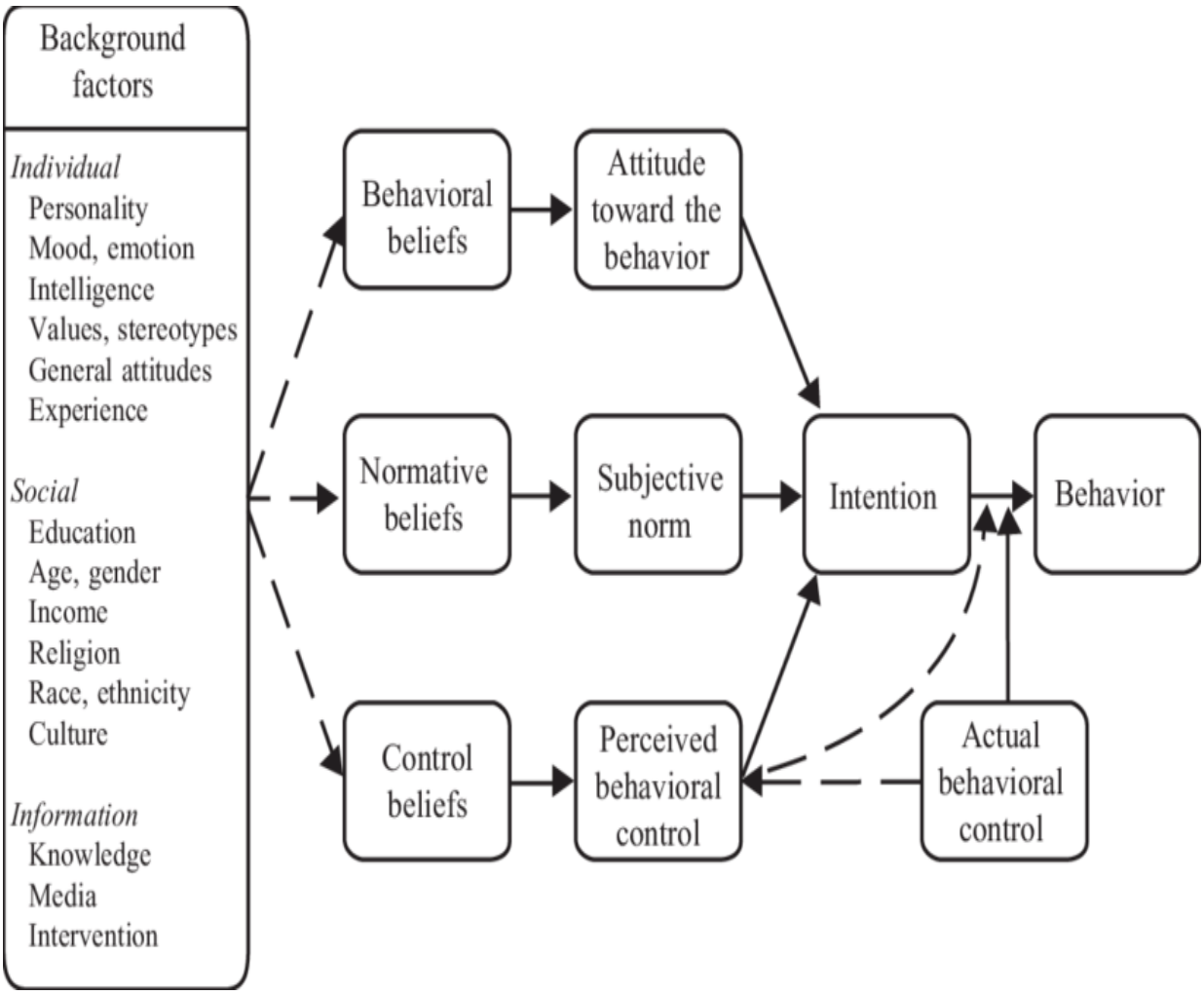


Figure 2.1: Theory of Planned Behavior

Source: Ajzen, (1991)

2.2.1.1 Application of the theory to lifestyle changes of a coronary heart disease patient.

In relation to this study, patients with coronary heart disease will be affected by the awareness that this disease results in death as a consequence. They will therefore be motivated to take part in physical activities and proper feeding behaviors, which would improve their health, thus limiting the associated risks. Eventually, the patients find themselves suffering from depression, stress, and anxiety due to the difficulty of adjusting to the lifestyle changes.

The TPB has been used to predict success and give an explanation to a wide range of healthy behaviors. The theory states that behavioral achievement depends on both motivation and ability. The theory is comprised of six constructs that collectively represent a person's actual control of behavior. a) Attitude b) behavioral intentions c) subjective norms d) social norms, e) perceived power f) perceived behavioral control (Wayne et al. 2019).

2.2.1.2 Limitations of TPB

It assumes the person has acquired the opportunities and resources to be successful in performing the desired behavior regardless of the intentions

It does not account for any variable that factors into the behavioral intention and motivation, such as fear, threat, mood, or past experience

While it does not consider the normative influences, it still does not take into account environmental or economic factors that may influence a person's intention to perform a behavior. It assumes that the behavior is a result of a linear decision-making process and does not consider that it can change over time.

While the added constructs of perceived behavioral control were an important addition to the theory, it doesn't say anything about actual control over behavior

The time frame between "intent" and "behavioral action" is not addressed by the theory.

2.3 Review of Empirical Studies

For a comprehensive understanding of the topic under study, the researcher reviewed relevant and related literature on lifestyle practices affect adult patients with coronary heart disease at Mater Hospital in Nairobi County. In accordance with the study's objectives, the reviewed and

related literature were divided into four sections. As a result, this chapter highlights and presents a summary of the reviewed literature as well as the knowledge gap.

2.3.1 Lifestyle Practices of Adult Patients with Coronary Heart Disease

Fernández, Brotons, Moral, Bulc, Afonso, Akan, Pinto, Vucak and da Silva Martins(2019) conducted a study in six European countries (Croatia, France, Portugal, Slovenia, Spain and Turkey) the aim of this study was to explore lifestyle changes as well as the achievement of targets for risk factors in patients with established cardiovascular disease. A cross-sectional study was conducted in primary care practices. Patients with established cardiovascular disease (coronary heart disease and stroke) attended in primary care were selected and assessed from January to June 2016. Patients were recruited and assessed at the practice by research assistants between 6 months and 3 years after the event. Statistical comparisons were done with the unpaired two-sided Student's t-test for continuous variables and Chi-square test for categorical variables (Fernández et al.2019).

The study results indicated that, nine hundred and seventy-three patients (32.4% females) were assessed. About 14% of them were smokers, 32% were physically inactive, and 30% had nutritionally poor eating behaviors. LDL cholesterol target value below 70 mg/dl was achieved in about 23% of patients, and in general, women were less cardio-protected by drugs than men. Many patients with established cardiovascular disease who attended in general practice still fail to achieve the lifestyle, risk factor, and therapeutic targets set by European guidelines. These results were found to be relevant to general practitioners because these patients had a high risk of subsequent cardiovascular events, including MI, stroke, and death (Fernández et al.2019).However, the current study sampled adult patients with coronary heart disease among health facilities in Nairobi County to generate its findings.

Liu, Hu, Zong, Li, Rimm, Hu, Manson, Rexrode, Shin and Sun(2018) carried a study in the US, the purpose of the study was to examine the associations of an overall healthy lifestyle, defined by eating a high-quality diet (top two-fifths of Alternative Healthy Eating Index), nonsmoking, engaging in moderate- to vigorous-intensity physical activity (≥150 min/week), and drinking alcohol in moderation (5 to 15 g/day for women and 5 to 30 g/day for men), with the risk of developing cardiovascular disease (CVD) and CVD mortality among adults with type 2 diabetes (T2D).

The prospective analysis included 11,527 participants with T2D diagnosed during follow-up (8,970 women from the Nurses' Health Study and 2,557 men from the Health Professionals Follow-Up Study), who were free of CVD and cancer at the time of diabetes diagnosis. Diet and lifestyle factors before and after T2D diagnosis were repeatedly assessed every 2 to 4 years(Liu et al., 2018).The study results indicated that there were 2,311 incident CVD cases and 858 CVD deaths during an average of 13.3 years of follow-up. After multivariate adjustment of covariates, the low-risk lifestyle factors after diabetes diagnosis were each associated with a lower risk of CVD incidence and CVD mortality. The multivariate-adjusted hazard ratios for participants with 3 or more low-risk lifestyle factors compared with 0 were 0.48 (95% confidence interval [CI]: 0.40 to 0.59) for total CVD incidence, 0.53 (95% CI: 0.42 to 0.66) for incidence of coronary heart disease, 0.33 (95% CI: 0.21 to 0.51) for stroke incidence, and 0.32 (95% CI: 0.22 to 0.47) for CVD mortality (all p trend <0.001) (Liu et al., 2018).

The population-attributable risk for poor adherence to the overall healthy lifestyle (<3 low-risk factors) was 40.9% (95% CI: 28.5% to 52.0%) for CVD mortality. In addition, greater improvements in healthy lifestyle factors from pre-diabetes to post-diabetes diagnosis were also significantly associated with a lower risk of CVD incidence and CVD mortality. For each number

increment in low-risk lifestyle factors there was a 14% lower risk of incident total CVD, a 12% lower risk of coronary heart disease, a 21% lower risk of stroke, and a 27% lower risk of CVD mortality (all $p < 0.001$). Similar results were observed when analyses were stratified by diabetes duration, sex/cohort, body mass index at diabetes diagnosis, smoking status, and lifestyle factors before diabetes diagnosis (Liu et al., 2018).

Liu et al., (2018) study thus concluded that greater adherence to an overall healthy lifestyle is associated with a substantially lower risk of CVD incidence and CVD mortality among adults with T2D. These findings further support the tremendous benefits of adopting a healthy lifestyle in reducing the subsequent burden of cardiovascular complications in patients with T2D.This study sample was from US and focused on healthy lifestyle, making it relevant to the current study because it also focuses on lifestyle practices. The current study, on the other hand, focused on adult patients with coronary heart disease among health facilities in Nairobi County and used a mixed method approach to investigate the subjective experiences of patients.

Ameh, Yakubu, Miima, Popoola, Mohamoud and Von Present in (2019) carried out a study in South Africa with the aim of determining the relationship between physician lifestyle practices, CVD prevention knowledge and patient CVD counselling practices among family physicians (FPs) and family medicine (FM) trainees affiliated to FM colleges and organisations in SSA. The study adopted a web-based cross-sectional analytical study by using validated, self-administered questionnaires. Following collation of responses, the relationship between the participants' CVD prevention knowledge, lifestyle practices and CVD counselling rates was assessed (Ameh et al., 2019).

The study results showed that of the 174 participants (53% response rate), 83% were married, 51% were females and the mean age was 39.2 (standard deviation [SD] 7.6) years. Most of the participants responded accurately to the CVD prevention knowledge items, but few had accurate responses on prioritising care by 10-year risk. Most participants had less than optimal lifestyle practices except for smoking, vegetable or fruit ingestion and sleep habits. Most participants (65%) usually counselled patients on nutrition, but less frequently on weight management, exercise, smoking and alcohol (Ameh et al., 2019). The region of practice and physicians with poor lifestyle were predictive of patient counselling rates.

Ameh et al., (2019) thus concluded that training on patient counselling and self-awareness for CVD prevention may influence patient counselling practice. Promoting quality training on patient counselling among FPs as well as a healthy self-awareness for CVD prevention is thus needed. The complex relationship between physician lifestyle and patient counselling warrants further study. This study looked into the relationship between physician lifestyle practices, CVD prevention knowledge and patient CVD counselling practices among family physicians (FPs) and family medicine (FM) trainees affiliated to FM colleges and organisations in SSA. The current study, on the other hand, looked into lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya.

Smachew, Melak, Atenafu and Belew (2022) conducted a study in Ethiopia with the aim of assessing the lifestyle modification practices and related factors of adult hypertensive patients. An institutional based, cross-sectional study was conducted from April 10 up to May 10, 2021. A simple random sampling was used to select 629 study participants. Data were collected by using self-administered and structured questionnaire. Data were entered to EpiData 4.6 and exported to SPSS 20 for further analysis. A multivariable logistic regression analysis was employed to identify

the factors associated with lifestyle modification. Adjusted Odds Ratio (AOR) with 95% confidence interval was used to show the strength of association, while a P-value <.05 of was used to declare the significance of association (Smachew et al., 2022)

Smachew et al., (2022) results revealed that the overall prevalence of recommended lifestyle modification in hypertensive patients was 24.2% (95% CI (20.8, 27.5)). Age ⩾65 years (AOR = 0.59, 95% CI: 0.39, 0.88), no formal education (AOR = 0.65, 95% CI: 0.4, 0.97), diagnosis time is 5 to 10 years (AOR = 1.93, 95% CI: 1.11, 3.34), co morbidities (AOR = 0.47, 95% CI: 0.3, 0.73), and rich wealth index (AOR = 1.99, 95% CI: 1.22, 3.27) are is significantly associated with good lifestyle modification practices (Smachew et al., 2022).

The study thus concluded that, the practice of good lifestyle modifications in the study area was found to be low among the hypertensive patients. Respondents' age, education status, wealth index, duration of diagnosis, and co morbidities were found to be significant factors related to good lifestyle modification practices. Therefore, more attention should be paid to providing nutrition counseling and health promotion to improve the practice of lifestyle modification in patients with hypertension (Smachew et al., 2022). The study looked at the lifestyle modification practices and related factors of adult hypertensive patients in the central Gondar region of north-western Ethiopia. The current study, on the other hand, looked at lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya. As a result, the current study differs in terms of the constructs being investigated, the location, the methodology, and the target population.

Temu, Kirui, Wanjalla, Ndungu, Kamano, Inui and Bloomfieldv (2015) carried out a study in western Kenta, with the aim of assessing PLWH's knowledge, perception and attitude towards cardiovascular diseases and their prevention. The researchers conducted a cross-sectional study in

the largest HIV care program in western Kenya. Trained research assistants used validated questionnaires to assess CVD risk patterns. They also used logistic regression analysis to identify associations between knowledge with demographic variables, HIV disease characteristics, and individuals CVD risk patterns (Temu et al., 2015).

The study results indicated that there were 300 participants in the study; median age (IQR) was 40 (33–46) years and 64 % women. The prevalence of dyslipidemia, overweight and obesity were 70 %, 33 % and 8 %, respectively. Participant's knowledge of risk factors was low with a mean (SD) score of 1.3 (1.3) out of possible 10. Most (77.7 %) could not identify any warning signs for heart attack. Higher education was a strong predictor of CVD risk knowledge (6.72, 95 % CI 1.98-22.84, $P < 0.0001$). Self-risk perception towards CHD was low (31 %) and majority had inappropriate attitude towards CVD risk reduction (Temu et al., 2015).

They concluded that despite a high burden of cardiovascular risk factors, PLWH in Kenya lack CVD knowledge and do not perceive themselves at risk for CHD. These results emphasis the need for behavior changes interventions to address the stigma and promote positive health behaviors among the high-risk HIV population in Kenya (Temu et al., 2015).The present study differs from this study in terms of the constructs under investigation, location, methodology and target population.

2.3.2 Psychological Wellness among Adult Patients with Coronary Heart Disease

Ghannam, Hamdan-Mansour, Arabiat, Azzeghaiby, Abeiat and Badawi (2014), carried out a study in Jordan, the objective of the study was to explore the psychological and social factors among individuals diagnosed with coronary artery disease. 164 patients diagnosed with CHD filled and returned a self-administered. Data were collected in regard to stress, depression, perceived social support, and coping. The study findings revealed that patients who have moderate

level of stress, perceived social support, mild level of depression, have more tendencies to use effective coping strategies. Also, the analysis showed that cope, psychological distress, and perceived social support were significant predictors of high level of depression ($F = 5.2$, $p < .001$), and that perceived social support from others was the most significant protective factors against depression ($F = 12.7$, $p < .001$) (Ghannam et al., 2014).

They thus concluded that mental health care providers need to consider their patients' psychological wellbeing and sources of social support as part of their routine care and assessment. The current study is relevant because it focuses on the psychological well-being of individuals diagnosed with coronary artery disease. The current study, on the other hand, was concerned with psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya.

Valtorta, Kanaan, Gilbody, Ronzi and Hanratty (2016) undertook a systematic review and meta-analysis to investigate the association between loneliness or social isolation and incident coronary heart disease (CHD) and stroke. Sixteen electronic databases were systematically searched for longitudinal studies set in high-income countries and published up until May 2015. Two independent reviewers screened studies for inclusion and extracted data. We assessed quality using a component approach and pooled data for analysis using random effects models (Valtorta et al., 2016).

The findings revealed that of the 35 925 records retrieved, 23 papers met inclusion criteria for the narrative review. They reported data from 16 longitudinal datasets, for a total of 4628 CHD and 3002 stroke events recorded over follow-up periods ranging from 3 to 21 years. Reports of 11 CHD studies and 8 stroke studies provided data suitable for meta-analysis. Poor social relationships were associated with a 29% increase in risk of incident CHD (pooled relative risk:

1.29, 95% CI 1.04 to 1.59) and a 32% increase in risk of stroke (pooled relative risk: 1.32, 95% CI 1.04 to 1.68). Subgroup analyses did not identify any differences by gender (Valtorta et al., 2016)

From their findings they concludedthat deficiencies in social relationships are associated with an increased risk of developing CHD and stroke. Future studies are needed to investigate whether interventions targeting loneliness and social isolation can help to prevent two of the leading causes of death and disability in high-income countries (Valtorta et al., 2016).However, the current study looked into the investigation on lifestyle changes and psychological wellness among patients with coronary heart disease at Mater hospital in Nairobi County Kenya. The current study also differs in terms of location, methodology, and target population.

Tadele, Ahmed, Mintesnot, Gedlu, Guteta and Yadeta (2021) did a study and assessed SWB among RHD subjects enrolled in chronic care at Tikur Anbessa Specialized Hospital (TASH), Ethiopia. This observational cross-sectional study employed a validated Amharic WHO-5 wellbeing index to assess SWB. Sociodemographic and clinical data were collected using structured questionnaire. RHD subjects aged 9 years and above were included. Factors associated with SWB were assessed using logistic regression models (Tadele et al., 2021).

The study revealed that it included 384 subjects, females 68.2% (262). Children, < 18 years, constituted one third of study subjects, 32.8% (126). Moderate and severe echocardiographic RHD dominated, 85.9% (330) with no associated comorbidity, 84.4% (324). Only 17.2% (66) had surgical or device intervention. Poor SWB was documented in 9.6% of study subjects (95% CI: 6.88–13.04). On multivariable regression, those with younger age RHD diagnosis, < 20 years, had almost three times higher odds of poor SWB, adjusted odds ratio (aOR) 2.69(95% CI: 1.30–5.58, P 0.008). Those with monthly family income of < 1000 Ethiopian Birr had three times higher odds of poor SWB, OR 2.97(95% CI: 1.24–7.1, P 0.014). Study subjects

who had good medication adherence had reduced odds of poor SWB, aOR 0.37(95% CI: 0.18–0.77, P 0.028). Those who received psychologic support from their families also had reduced odds of poor SWB, aOR 0.26(95% CI: 0.11–0.64, P 0.003) Tadele et al., 2021).

The study concluded that poor SWB was documented in one-tenth of RHD patients. Family income, younger age at RHD diagnosis, medication adherence and psychological support predicted poor SWB. Poor SWB has to be considered and assessed among RHD patients particularly among those with younger age at RHD diagnosis and poor family income. Further mixed studies are recommended to assess how medication adherence and psychological supports associate with positive SWB among RHD patients (Tadele et al., 2021). This study employs an observational cross-sectional study design, a quantitative research method, to assess SWB among RHD subjects enrolled in chronic care at Tikur Anbessa Specialized Hospital (TASH), Ethiopia. The current study, on the other hand, used a mixed method approach, to better understand the psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya.

Afulani, Ongeri, Kinyua, Temmerman, Mendes and Weiss (2021) examined self-reported stress and burnout levels as well as stress-related physiologic measures of these providers, along with their potential predictors. The study participants included 101 maternity providers (62 nurses/midwives, 16 clinical officers/doctors, and 23 support staff) in western Kenya. Respondents completed Cohen's Perceived Stress Scale, the Shirom-Melamed Burnout scale, and other sociodemographic, health, and work-related items. We also collected data on heart rate variability (HRV) and hair cortisol levels to assess stress-related physiologic responses to acute and chronic stress respectively. Multilevel linear regression models were computed to examine individual and work-related factors associated with stress, burnout, HRV, and cortisol level (Afulani et al., 2021).

They found that 85% of providers reported moderate stress and 11.5% high stress. 65% experienced low burnout and 19.6% high burnout. Average HRV (measured as the root mean square of differences in intervals between successive heart beats: RMSSD) was 60.5 (SD = 33.0) and mean cortisol was mean cortisol was 44.2 pg/mg (SD = 60.88). Greater satisfaction with life accomplishments was associated with reduced stress (β = − 2.83; CI = -5.47; − 0.18), while motivation to work excessively (over commitment) was associated with both increased stress (β = 0.61 CI: 0.19, 1.03) and burnout (β = 2.05, CI = 0.91, 3.19). Female providers had higher burnout scores compared to male providers. Support staff had higher HRV than other providers and providers under 30 years of age had higher HRV than those 30 and above. Although no association between cortisol and any predictor was statistically significant, the direction of associations was consistent with those found for stress and burnout (Afulani et al., 2021).

They thus concluded that most providers experienced moderate to high levels of stress and burnout. Individuals who were more driven to work excessively were particularly at risk for higher stress and burnout. Higher HRV of support staff and providers under age 30 suggest their more adaptive autonomic nervous system response to stress. Given its impact on provider wellbeing and quality of care, interventions to help providers manage stress are critical. (Afulani et al., 2021). The current study main objective is to the psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya.

2.3.3 Relationship between Lifestyle Changes and Psychological Wellness among Adult Patients with Coronary Heart Disease

Smedt, Clays, Annemans, Boudrez, Sutter, Doyle, Jennings, Kotseva, Pająk, Pardaens, Prugger, Woodand Bacquer (2013) did a study with the aim of exploring the relation between self-reported lifestyle changes and HRQoL in European coronary patients. Methods Data on 8745

coronary patients, from 22 countries, participating in the EUROASPIRE III survey (2006-2007) were used. These patients hospitalized for coronary artery bypass graft, percutaneous coronary intervention, acute myocardial infarction, or myocardial ischemia were interviewed and examined at least 6 months and no later than 3 years after their hospital admission to gather information on their HRQoL, self-reported lifestyle changes, and risk factors (Smedt et al., 2013).

The results revealed that there was significantly better HRQoL scores were found in ex-smokers compared to current smokers. Patients who made an attempt to increase their physical activity level had a better HRQoL compared to those who had not made an attempt. Furthermore, dietary changes were associated with HRQoL, with better outcomes in patients who tried to reduce fat and salt intake and increase fish, fruit, and vegetable intake. The intention to change behaviour was not associated with HRQoL. They thus concluded that better HRQoL scores were found in those coronary patients who adopted a healthier lifestyle. The actual lifestyle changes - smoking cessation, increasing physical activity, and adopting a healthy diet - and not the intention to change is associated with better HRQoL outcomes(Smedt et al., 2013).However, the current study used a mixed method design to investigate lifestyle changes and psychological wellness among patients with coronary heart disease at Mater Hospital in Nairobi County, Kenya. Furthermore, the current study is distinct in terms of location, methodology, and target population.

Pischke, Scherwitz, Weidner and Ornish, D. (2018) carried a study that focused on the psychological well-being in the Lifestyle Heart Trial (LHT), an intensive lifestyle intervention including diet, exercise, stress management, and group support that previously demonstrated maintenance of comprehensive lifestyle changes and reversal of coronary artery stenosis at 1 and 5 years. The LHT was a randomized controlled trial using an invitational design. The authors compared psychological distress, anger, hostility, and perceived social support by group

(intervention group, n = 28; control group, n = 20) and time (baseline, 1 year, 5 years) and examined the relationships of lifestyle changes to cardiac variables (Pischke et al., 2018).

Reductions in psychological distress and hostility in the experimental group (compared with controls) were observed after 1 year ($p < .05$). By 5 years, improvements in hostility tended to be maintained relative to the control group, but reductions in psychological distress were reported only by experimental patients with very high 5-year program adherence. Improvements in diet were related to weight reduction and decreases in percent diameter stenosis, and improvements in stress management were related to decreases in percent diameter stenosis at both follow-ups (all $p < .05$). These findings illustrate the importance of targeting multiple health behaviors in secondary prevention of coronary heart disease (Pischke et al., 2018). The study is relevant to the current study because it focused on psychological well-being in the Lifestyle Heart Trial (LHT), an intensive lifestyle intervention but it differs from the current study it in terms of methodology and location.

Mwita and Godman (2021) carried a study with the objective of evaluating the interconnection between CVD and poverty in SSA. They found that the relationship between poverty and CVD is bidirectional. The intersection between poverty and CVD cuts through primordial, primary prevention and secondary prevention interventions. In the context of poverty in SSA, CVD prevention is a challenge due to competing demands to address the never conquered infectious diseases exacerbated by the current COVID-19 pandemic. With a weak healthcare system and out of pocket payment for the costs of CVD care, a significant proportion of individuals with CVD and their households are consequently impoverished. Besides, CVD affects a younger and productive population in SSA than in the rest of the world. Thus, CVD-related loss of

productivity progressively pushes an additional number of individuals into poverty, requiring urgent attention. This study differs from the current study it in terms of methodology and location.

Gyasi, Phillips and Abass (2019) conducted a study with the aim of investigating the relationship between aspects of social support and PWB among older persons in Ghana and the extent to which this relationship is moderated by their education levels and locational characteristics. The study included 1,200 community-residing individuals aged 50 years and older who participated in an Aging, Health, Psychological Wellbeing and Health-seeking Behavior Study (AHPWHB) conducted between July 2016 and February 2017. Logistic regression models evaluated the associations of social support and their interactions with education and locational variables in PWB (Gyasi et al., 2019)

They found that several aspects of meaningful social support: family/friends contacts ($\beta = 0.958$, $p < 0.05$), couple focused ($\beta = 0.887$, $p < 0.001$), emotional bonds ($\beta = 0.658$, $p < 0.005$), attending social events ($\beta = 0.519$, $p < 0.001$) and remittances from children ($\beta = 0.394$, $p < 0.005$) significantly related to improved PWB in later life. These associations remained robust and largely strengthened after accounting for respondents' background and health-related factors. Education and locational characteristics substantially influenced the associations between social support and PWB. They thus concluded that the findings suggested that especially in terms of PWB, aspects of meaningful social support networks are critical elements in later life. Strengthening opportunities for closer interpersonal relations with older persons may enhance their mental health, quality of life and independence (Gyasi et al., 2019).The study location was different from where the current study was conducted, as was the population. The current study concentrated on lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya

2.3.4 Interventions Sought by Adult Patients with Coronary Heart Disease

Pizga, Karatzanos, Tsikrika, Gioni, Vasileiadis, Nanasand Kordoutis (2022), carried out a study on psychosocial interventions to enhance treatment adherence to lifestyle changes in cardiovascular disease in Greece. They did a review of the literature over the past decade so to be a useful tool to the enlightening of health care providers and health educators about the interventions that enhance treatment adherence to lifestyle modification. PubMed, PsycLIT, Cochrane Library, Scopus, CINAhl, PSYinfo, Web of Science, and Central databases were searched to identify articles published within the decade 2011-2021 and 42 studies met the criteria for inclusion (Pizga et al., 2022).

Their study revealed many different approaches to inconsistency in life style prescriptions focusing mainly on psychological and social factors. Interventions like increasing of knowledge, joining cardiac rehabilitation programs, development of a therapeutic alliance, behavioural techniques that reinforce self-efficacy and motivation, use of technology as reminder and creating a support network are not only effective but also low-cost programs that will play a decisive role in treatment effectiveness. Improving treatment adherence to lifestyle recommendations requires a multi dimension approach by an interdisciplinary team of health professionals. Investing in interventions that improve attitudes, beliefs, readiness and self-care, can prove to be very rewarding for patients, health and economics (Pizga et al., 2022).

The reviewed past literature is relevant to the current study in terms of assisting the researcher in investigating how and when health care givers can support patients with coronary heart disease among health facilities in Nairobi County. This justifies the current study, which looked lifestyle changes and psychological wellness among patients with coronary heart disease at Mater hospital in Nairobi County Kenya.

Reid, Ski and Thompson (2013) carried out a study with the objective of systematically reviewing evidence on the effectiveness of psychological interventions for patients with CHD and their partners in Australia. CENTRAL, Medline, EMBASE, CINAHL and PsycINFO databases were searched through October 2012. Randomized controlled trials evaluating psychological interventions for patients with CHD and their partners were included. Selection of studies, study appraisal, data extraction and analysis were undertaken using standard methods, (Reid et al., 2013).

Reid et al., (2013), study results revealed that seven studies comprising 673 dyads (patient and partner) were included. Psychological interventions result in modest improvements in patients' health-related quality of life, blood pressure, knowledge of disease and treatment, and satisfaction with care, and in partners' anxiety, knowledge and satisfaction. There was a non-significant trend for improvements in anxiety for patients, and depressive symptoms for both patients and partners. There was no evidence of a significant effect on mortality, morbidity or other cardiovascular risk factors for patients, or social support for patients and partners (Reid et al., 2013).

They thus concluded that ppsychological interventions for patients with CHD and their partners were found to improve health-related quality of life, blood pressure, knowledge, and satisfaction with care for patients, and anxiety, knowledge, and satisfaction with care for partners. However, as the overall quality of the evidence was low, these results should be interpreted with caution (Reid et al., 2013). This study is relevant to the current study however; there are a number of factors which are likely to have affected external validity. Firstly, the studies included were undertaken at least a decade ago, when standard cardiovascular management and aftercare, including rehabilitation, would have been less sophisticated than today. Secondly, interventions utilised in this review were not a one size fits all – they were dependent to a large extent on the provider, and the relationship between the provider and the patient-partner dyad.

Alkhatib, Nnyanzi, Mujuni, Amanya and Ibingira (2021), carried out a study in Sub Saharan countries on Low and Middle-Income Countries are experiencing a fast-paced epidemiological rise in clusters of non-communicable diseases such as diabetes and cardiovascular disease, forming an imminent rise in multimorbidity. The study adopted a narrative review which scoped the most recent evidence in LMICs about multimorbidity determinants and appropriated them for potential multimorbidity prevention strategies (Alkhatib et al., 2021).

They found that MMD in LMICs is affected by several determinants including increased age, female sex, environment, lower socio-economic status, obesity, and lifestyle behaviours, especially poor nutrition, and physical inactivity. Multimorbidity public health interventions in LMICs, especially in Sub-Saharan Africa are currently impeded by local and regional economic disparity, underdeveloped healthcare systems, and concurrent prevalence of communicable and non-communicable diseases. However, lifestyle interventions that are targeted towards preventing highly prevalent multimorbidity clusters, especially hypertension, diabetes, and cardiovascular disease, can provide early prevention of multimorbidity, especially within Sub-Saharan African countries with emerging economies and socio-economic disparity (Alkhatib et al., 2021).

Alkhatib et al., (2021) concluded that future public health initiatives should consider targeted lifestyle interventions and appropriate policies and guidelines in preventing multimorbidity in LMICs. This study looked at preventing multimorbidity and the little attention it has received in LMICs, especially in Sub-Saharan African Countries. However, the current study used a mixed method design investigate lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya. Furthermore, the current study is distinct in terms of location, methodology, and target population.

Gyasi, Phillips and Abass (2019) study investigated the relationship between aspects of social support and PWB among older persons in Ghana and the extent to which this relationship is moderated by their education levels and locational characteristics. The study included 1,200 community-residing individuals aged 50 years and older who participated in an Aging, Health, Psychological Wellbeing and Health-seeking Behavior Study (AHPWHB) conducted between July 2016 and February 2017. Logistic regression models evaluated the associations of social support and their interactions with education and locational variables in PWB.

Gyasi, Phillips and Abass (2019) several aspects of meaningful social support: family/friends contacts ($\beta = 0.958$, $p < 0.05$), couple focused ($\beta = 0.887$, $p < 0.001$), emotional bonds ($\beta = 0.658$, $p < 0.005$), attending social events ($\beta = 0.519$, $p < 0.001$) and remittances from children ($\beta = 0.394$, $p < 0.005$) significantly related to improved PWB in later life. These associations remained robust and largely strengthened after accounting for respondents' background and health-related factors. Education and locational characteristics substantially influenced the associations between social support and PWB. They concluded that the findings suggest that especially in terms of PWB, aspects of meaningful social support networks are critical elements in later life. Strengthening opportunities for closer interpersonal relations with older persons may enhance their mental health, quality of life and independence (Gyasi, Phillips and Abass 2019).This reviewed study shows that social support networks are critical elements in later life, but the present study investigated lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya. Also, the present study differs in terms of the location and study population.

Oti, van de Vijver, Kyobutungi,Gomez, Agyemang, Moll van Charante, Brewster, Hendriks, Schultsz, Ettarh, Ezeh and Lange (2013), carried out a study with the aim of evaluating the impact of a community-based CVD prevention intervention on blood pressure (BP) and other CVD risk factors in a slum setting in Nairobi, Kenya. Prospective intervention study includes awareness campaigns, household visits for screening, and referral and treatment of people with hypertension. The primary outcome was overall change in mean systolic blood pressure (SBP), while secondary outcomes were changes in awareness of hypertension and other CVD risk factors. We evaluated the intervention's impact through consecutive cross-sectional surveys at baseline and after 18 months, comparing outcomes of intervention and control group, through a difference-in-difference method (Oti et al., 2013).

The study results revealed that it screened 1,531 and 1,233 participants in the intervention and control sites. We observed a significant reduction in mean SBP when comparing before and after measurements in both intervention and control groups, −2.75 mmHg (95% CI −4.33 to −1.18, p=0.001) and −1.67 mmHg (95% CI −3.17 to −0.17, p=0.029), respectively. Among people with hypertension at baseline, SBP was reduced by −14.82 mmHg (95% CI −18.04 to −11.61, p<0.001) in the intervention and −14.05 (95% CI −17.71 to −10.38, p<0.001) at the control site. However, comparing these two groups, we found no difference in changes in mean SBP or hypertension prevalence (Oti et al., 2013).

They concluded that there was a significant decline in SBP over time in both intervention and control groups. However, they also found no additional effect of a community-based intervention involving awareness campaigns, screening, referral, and treatment. Possible explanations include the beneficial effect of baseline measurements in the control group on behaviour and related BP levels, and the limited success of treatment and suboptimal adherence in

the intervention group (Oti et al., 2013).This study is relevant to current study, however, there could have been challenges during implementation, for example, to fully implement the support groups the way they were envisioned. This might have negatively influenced the results as the intended intervention was not fully operationalized. In addition, the existence of secular trends such as food price fluctuations and policy changes, which might have influenced our results, but were beyond the scope of our study. The study also differs from the current study in terms of methodology, sample size and location.

2.4 Research Gaps

The approaches, designs, population, samples, sampling procedures, and context of the literature reviewed varied. The designs used in the studies, however, are to some extent limited. The majority are either qualitative or quantitative in nature. The current study, on the other hand, used a mixed method approach to ensure that the shortcomings of the qualitative design were compensated for by the quantitative design and vice versa. The majority of the studies reviewed relied heavily on questionnaires. However, the current study incorporated interview schedules to ensure that feelings and perceptions were properly captured. The samples used in this study were drawn from hospitals to fill a research gap identified in the studies reviewed, which are mostly of adults that are not patients in any hospital.

2.5 Conceptual Framework

According to Miles and Huberman (1994), a conceptual framework is a set of concepts that, diagrammatically or narratively, explain the main themes to be discussed, key causes, variables, and their presumed relationships. Figure 1 depicts the conceptual framework of lifestyle changes and psychological wellness among patients with coronary heart disease in selected

hospitals in Nairobi County Kenya. Lifestyle changes such as physical activity, alcohol consumption, smoking, and vegetarian diet, and maintaining a healthy body mass index was the independent variable. Psychological counseling or intervention and family support were the intervening variables. These were the variables that could influence the relationship between lifestyle changes and psychological wellness among patients with coronary heart disease at Mater Hospital in Nairobi County, Kenya.

The dependent variable is psychological wellness was measured in terms of psychological effect positive and negative. These factors develop alongside the distressing effects of lifestyle changes would be vital in helping patients mitigate the effects of lifestyle changes.

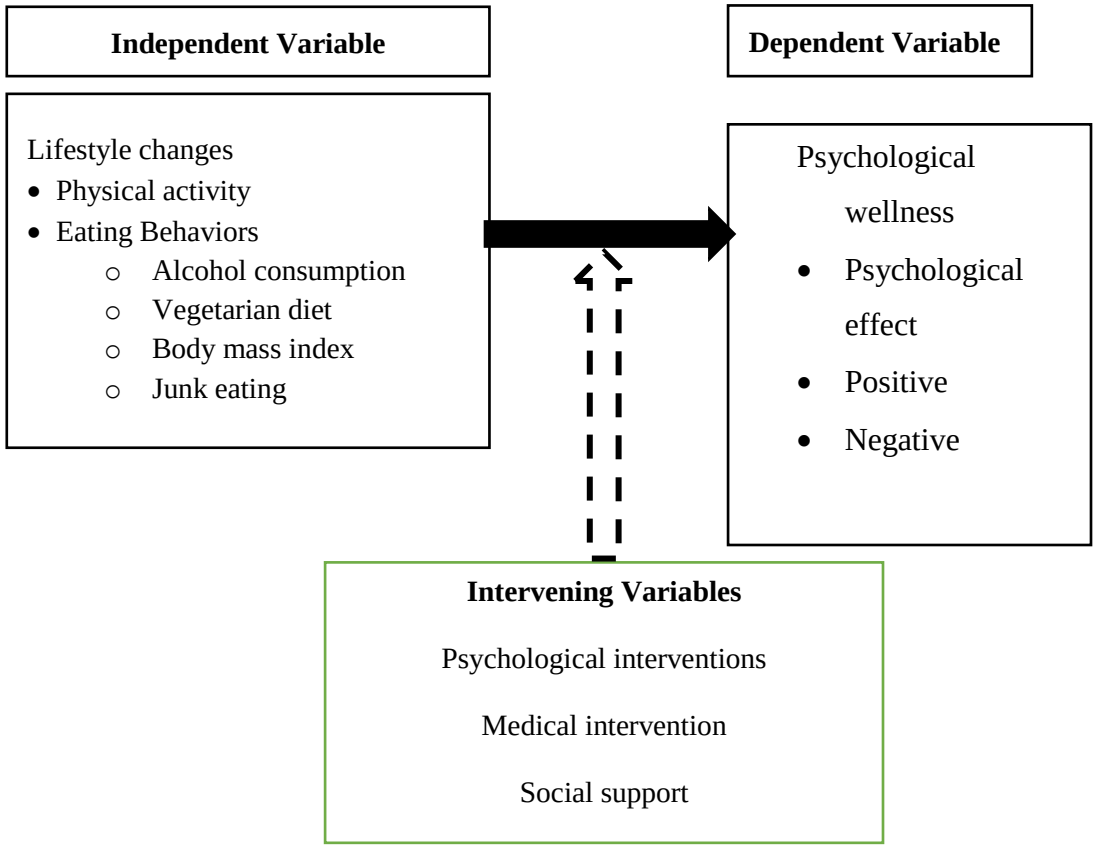


Figure 2.2: Relationship between lifestyle changes and psychological wellness

2.6 Chapter Summary

There is a good deal of extensive research on grief reaction that has been conducted in Europe, Asia, and America, but there are few studies from Africa. According to the few studies conducted in Africa, patients with coronary heart disease attempt to make sense of their experiences. It is also possible that Africans' interpretations of such experiences will differ depending on their socio-economic perspectives. This chapter on literature review was able to present an analysis of the outcomes and findings of other studies that were closely related to the current study. It has conducted a critical review of the literature in order to clearly define the knowledge gaps that the current study aims to fill. It went on to discuss important theories that

are relevant to and closely related to the current research. It evaluated the theory of planned behavior by Ajzen and Fishbein (1980), it also described the conceptual framework, demonstrating the operational explanation of variables and the relationship between the variables under investigation, and concluded with a summary and conclusion.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter intended to discuss the research design and approach used to conduct this research to ensure that the research objectives were met. In addition to explaining the research design, this chapter elaborated on the research location, target population, sample and sampling procedures, data collection instruments, validity and reliability of instruments, piloting and reliability of research instruments, data collection procedures and data analysis procedures, and ethical considerations.

3.2 Research Design

The study used the quantitative research approach employing–descriptive research design whereby quantitative data was obtained to answer the research questions. The research design enabled the researcher to collect data on the study topic. This design was preferred because there are few studies conducted in Kenya that focus on lifestyle issues and psychological concerns among CHD patients in Kenya. Descriptive research design is generally used in the social sciences and has recently expanded into the health and medical sciences, including fields such as nursing, family medicine, social work, mental health, pharmacy, allied health, and others. Its procedures have been developed and refined to suit a wide variety of research questions (Creswell and Plano Clark, 2011).

3.3 Study Area

The study was conducted in Mater hospital based in Nairobi County. Nairobi County is among the 47 counties in Kenya, and it is among the small counties in the country, but it is the

most populated county given the fact that Nairobi city is the capital city of Kenya. The estimated population in the city is estimated at least 4.7 million. The mater hospital is considered as one of the best private health facilities in the country that provide quality care to individuals suffering from heart related conditions. The Hospital is specialized in high level diagnosing and treating heart diseases both congenital and acquired. It does all this by surgery, medical management and interventional care through Catheterization laboratories. Justify selection of only Mater hospital against the other hospitals in Nairobi County.

3.4 Target Population

The target population of this study was estimated to be about 100 patients with a diagnosis of coronary heart disease seen at the four selected Hospitals in Nairobi County participated. The study mainly captured adults between the ages of 18-69 years diagnosed with coronary heart disease. This population is at high risk of being affected by coronary heart diseases. Hence this made the population the most appropriate group to understand the phenomenon under investigation in this study. Also included in the study are nurses of the selected institutions because of their important role in caring for the patients through medical assistance hence a total population of 120.

3.5 Sample Size and Sampling Procedure

According to Mugenda and Mugenda (2003), sampling is the process of selecting a group of individuals for study in such a way that the characters chosen represent the large group from which they were drawn. This implies that a sample is a subset of a population chosen for observation and analysis.

3.5.1 Sampling Procedure

Simple random sampling was used in the selection of the health facility. Simple random sampling was used in the selection of patients (randomly) until the desired sample size is achieved. This is a type of probability in which the researcher selects the subjects randomly and selects a subset from the selected population. This sampling technique, therefore, provides all individuals with equal opportunities of being selected.

3.5.2 Sample Size Calculation

According to Mugenda and Mugenda (2009), the sample size is determined by the purpose of the study as well as the nature of the population under consideration. They also propose that a sample size of 10-30% is adequate for a study. Seven schools were chosen from a total of 22 for the study, these accounts for 30% of the schools as observed by (Mugenda and Mugenda, 2009). Yamane's formula was used to calculate the required sample size of students for this study (Yamane, 1967).

Yamane's formula is: $n = \frac{N}{1+N\,(e)2}$

Where:

n= the desired sample size

e= sampling error (0.05)

N = population size-650

Hence:

$$n = \frac{110}{1 + 110(0.05^2)}$$

Hence n=86.27 ≈ 87

A 10% attrition rate was implemented i.e., 87+8= 95 respondents.

The total sample size for this study was therefore 95 patients and 20 nurses

3.6. Data Collection Instruments

Given the scope of this study, which necessitated a thorough investigation into lifestyle changes and psychological wellness among patients with coronary heart disease, the researcher will employ two sets of research instruments to assess the constructs among the respondents. For the quantitative data, the researcher adapted the Lifestyle Appraisal Questionnaire (LAQ) by Craig, Hancock and Craig developed in 1996and the Scales of Psychological Well-being (SPWB) developed by Ryff in 1989.

3.6.1 Questionnaire

The questionnaire for this study was divided into three sections. The demographic profile is assessed in Section A of the question. The Lifestyle Appraisal Questionnaire (LAQ) is in Section Band the Scale of Psychological Wellness is in Section C.

3.6.2 Lifestyle Appraisal Questionnaire (LAQ)

The LAQ is comprised of two parts, developed to assess multiple risks by counting risk factors present in the previous eight weeks (Part I) and to assess perceived stress over the previous eight weeks, from a unidimensional perspective (Part 11). Part I assesses risk factors which are thought to raise the risks of developing lifestyle diseases such as cancer, CHD, asthma, etc. These

items were based in part on the National Heart Foundation of Australia Risk Factor Prevalence Survey (1990). The items in Part I are scored for severity of the risk factor, so that a higher score for an item theoretically means the person's risk is higher. The total score on Part I is the addition of all scores on the individual risks. High scores would be interpreted as raising the person's risk of disease. Items included in Part consisted of 22 questions soliciting information on the following: standard drinks of alcohol consumed per day, smoking behaviour, blood pressure, body mass index (BMI), drug intake other than alcohol and nicotine, exercise, diet, relaxation, affection, social support, family history of lifestyle disease, stressful life events, sleep, stress symptoms, and tea and coffee intake. It is recommended that the clinician assess blood pressure and BMI. Weightings in Part I.

3.6.2.1 Scoring the Lifestyle Appraisal Questionnaire LAQ

Items in Part I are scored for level of risk. For most items, risks range from (little or no risk) to 4 (high risk) whilst some are dichotomous. Part I is scored by adding up the level of risk. The total possible score on Part I is 73. Higher scores are assumed to be associated with higher risks of disease and lower quality of life. In Part11,a four-point Likert scale ranging from 0 (almost never) to 3 (almost always) was used to assess the person's cognitive appraisal of life pressures and demands. Items are added directly and high scores indicate higher perceived levels of stress. The total possible score for PartI1is 75.Part I was shown to have low but acceptable internal Cronbach Alpha reliability of 0.5. This is reasonable given its two-factor structure.

3.6.3 Interview Guides

During the second phase of the study, an interview guide was used to collect qualitative data on participants' intervention, The interviews were designed to elicit subjective experiences and report on their experience with the patients, which may differ from those captured by the

standardized tool. This eliminates the possibility of more dimensions of this construct emerging by allowing participants to report their subjective experiences. Participants were also asked about their experiences with the types of interventions they offer to the patients.

3.6.4. Pre-Testing of Research Tools

A pilot study was conducted in Mama Lucy Hospital to check on the length, content, wording, and language used in the questionnaire. The questionnaires were administered to at least ten respondents to allow for modification through correcting mistakes and inclusion of other key questions that might be of use to the study. Ambiguous questions will also be restructured for the purpose of clarity, thereby enhancing reliability.

3.7 Validity

Bond (2001) states that validity is the core of any assessment that is trusted, worth, and accurate. Validity is about the accuracy of a measure, and it is assessed by checking how well the results correspond to established theories and other measures of the same concept in the study the extent to which the results really measure what they are supposed to measure. The questionnaire was subdivided in accordance with the variables and objectives to ensure that the content is comprehensive and representative of the domains that were measured. In addition, referring to other research studies was essential in locating similar challenges in a similar context. Other suggestions were sought from the supervisors, and the changes were incorporated in the final document.

3.8 Reliability

A reliable instrument consistently yields the same results when used repeatedly to collect data. Reliability is, therefore, the degree to which research instruments yield consistent results

when administered a number of times (Creswell, 2014). The Lee Cronbach alpha test was used to test for reliability in the questionnaires from the pilot study. A Cronbach Alpha of 0.7 and above is considered as an appropriate threshold. Poor reliability scores, therefore, demeans the precision of the questionnaire.

3.9 Data Analysis and Presentation

Accuracy was ensured by checking the completed questionnaires before they are entered into SPSS software. SPSS 25 was used for analysis. Both descriptive and inferential statistics was analyzed in the study. Data was analyzed through the usage of frequencies, means, and percentages. The differences captured among the study population was determined through the use of chi-square tests. Regression analysis was conducted to determine the association between the independent and dependent variables, which is instrumental in testing the hypothesis of the study. A p-value of <0.05 was used to select candidates for the multivariate analysis. Data will then be presented by the use of frequency distribution tables, graphs, and charts.

Table 3.1

Data Analysis

Variable	**Analysis**
Psychological wellness	Frequencies and percentages
lifestyle practices	Frequencies, percentages, chi square and regression
Impact of lifestyle changes on psychological wellness	Frequencies, percentages, chi square and regression
Psychological interventions for coronary heart disease	Frequencies, percentages

3.10 Ethical Considerations

Before conducting the research, approval was sought from the Institutional Research and Ethics Committee through an introduction letter. The major ethical issues conducting research include: Informed consent, beneficence-no harm to the respondent, respect for anonymity and confidentiality, respect for confidentiality was insured. A declaration will also be adhered to by the researcher during data collection to ensure the respondents of non-disclosure which breaches their confidence. In addition; the researcher will also include a voluntary clause in the questionnaires and declare that identity the respondents will not be revealed. The purpose and nature of the study was expounded to the respondents to provide more information before they decide to participate.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter discusses the study findings based on data gathered using questionnaires and interviews. Descriptive statistics were presented and summarized using frequency, percentages, tables and bar charts. The main objective of the study is to determine lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya

The chapter is divided into seven sections. The first section presents the response rate. The second section presents the demographic information of the participants; third section discusses the assessment of the psychological wellness among adult patients with coronary heart disease; the fourth section discusses the assessment of the lifestyle practices of adult patients with coronary heart disease. The fifth section determines the impact of lifestyle changes on psychological wellness among adult patients with coronary heart disease and the last part evaluates existing psychological interventions for coronary heart disease among adult patients in health facilities in Nairobi County.

4.2 Response Rate

The study targeted a total of 120 respondents; 100 patients with a diagnosis of coronary heart disease and 20 nurses at Mater Misericordiae Hospital in Nairobi County for interviews. The researcher selected 100patients with a diagnosis of coronary heart disease seen at Mater Misericordiae Hospital in Nairobi County to be the main respondents in the study. 20 nurses were also selected for interviews. The total sample was 120 of which 100 students were expected to

respond to self-administered questionnaires while 20 were interviewed. A total of 96patients with a diagnosis of coronary heart disease were issued the questionnaires while 15 nurses were interviewed. A total of 4 patients and 5 nurses were not present at the time of data collection since they did not check in while others chose not to participate in the study, leaving 96 who completed and returned all the questionnaires making it an 88 % response rate. With 15 nurses participating in the interviews to completion, the total number of participants who successfully completed the study was 111. The response rate is summarized in Table below.

Table 4.1

Response Rate

Category	**Total Instrument**	**Returned Instruments**	**Response Rate**
Patients	100	96	96%
Nurses	20	15	75%
Total	**120**	**111**	**93%**

The response rate for patient participants was 96% while the non-response rate was 4%. For the nurses, the response rate was 75% while the non-response rate was 25%. These results were in line with Berg (2004) who argues that a response rate of 60% and above is adequate to permit data analysis. The higher return rate was attained because the researcher personally administered the questionnaires and moderated the process.

4.3 Demographic Information of Respondents

To better understand the population in the current study and to enable future researchers on the topic to do comparison studies, the study examined participant demographics in order to determine sample characteristics.

4.3.1 Marital Status

The study sought to establish the marital status of participants by analysing it in order to establish a true representation of the participants in terms of their marital status. Marital status was an important factor in this study because it is one of the individual differences that could affect the results of the study.

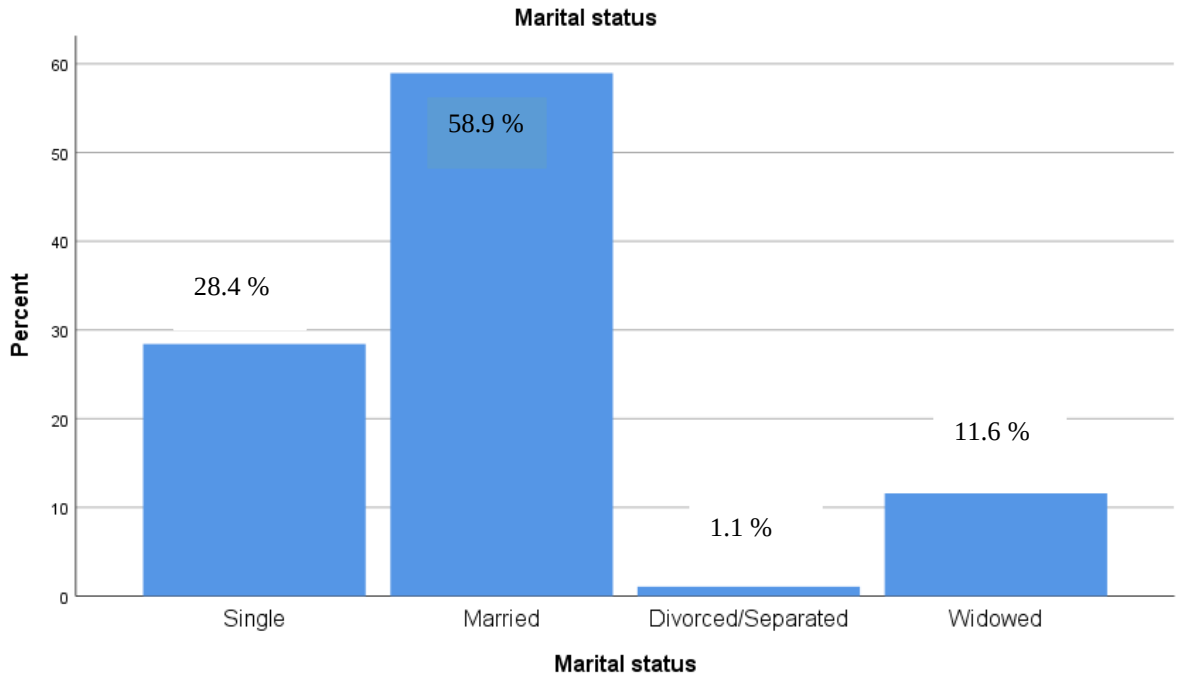


Figure 4.1: Marital Status

Figure 4.1, demonstrates that married participants made up the majority of the sample (58.9%) followed by single participants (28.4%), followed by widowed participants (11.6%), and divorced or separated participants 1.1% were the least.

4.3.2 Gender

The study sought to establish the gender of participants by analyzing it in order to establish true representation of the participants in terms of their sex. Gender was an important factor in this study because it is one of the individual differences that could affect the results of the study.

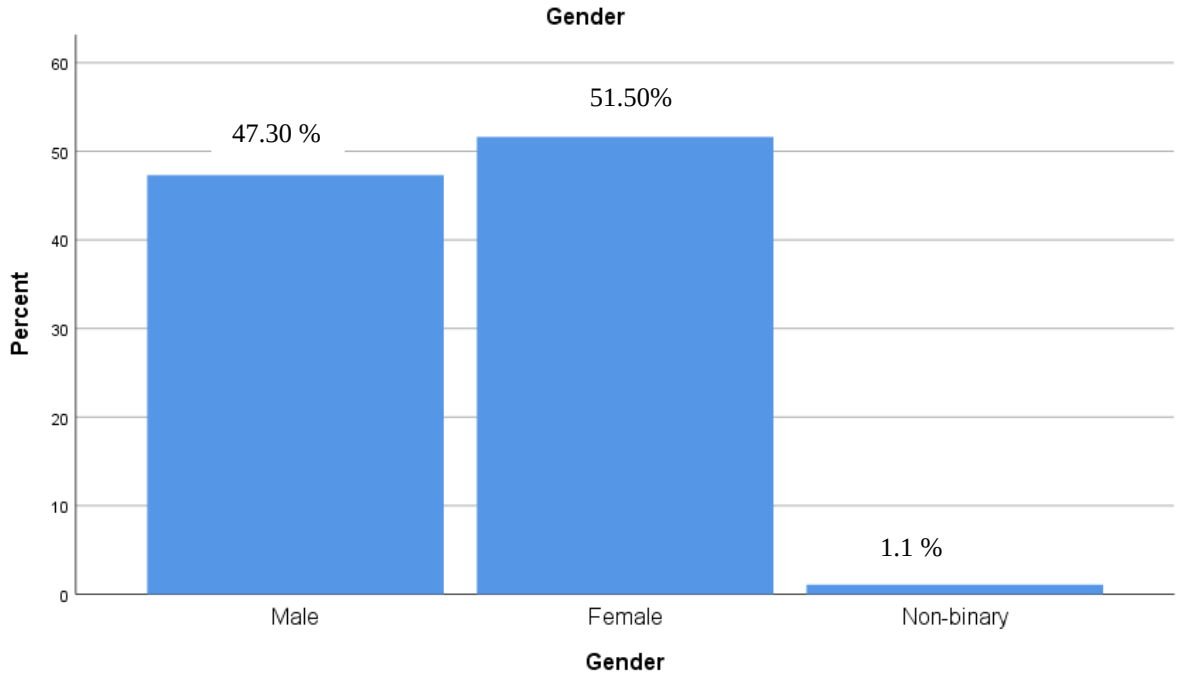


Figure 4.2: Gender

Figure 4.2, shows that majority of the participants were female forming (51.50%) of the sample followed by the male who formed (47.30%) of the participants and the non-binary (1.1%) were the least.

4.3.3 Age

The age of the respondents was sought because age is a vital factor that contributes to how one experiences the world. Age was also considered an important variable for the study because it could help establish how age influences one's lifestyle.

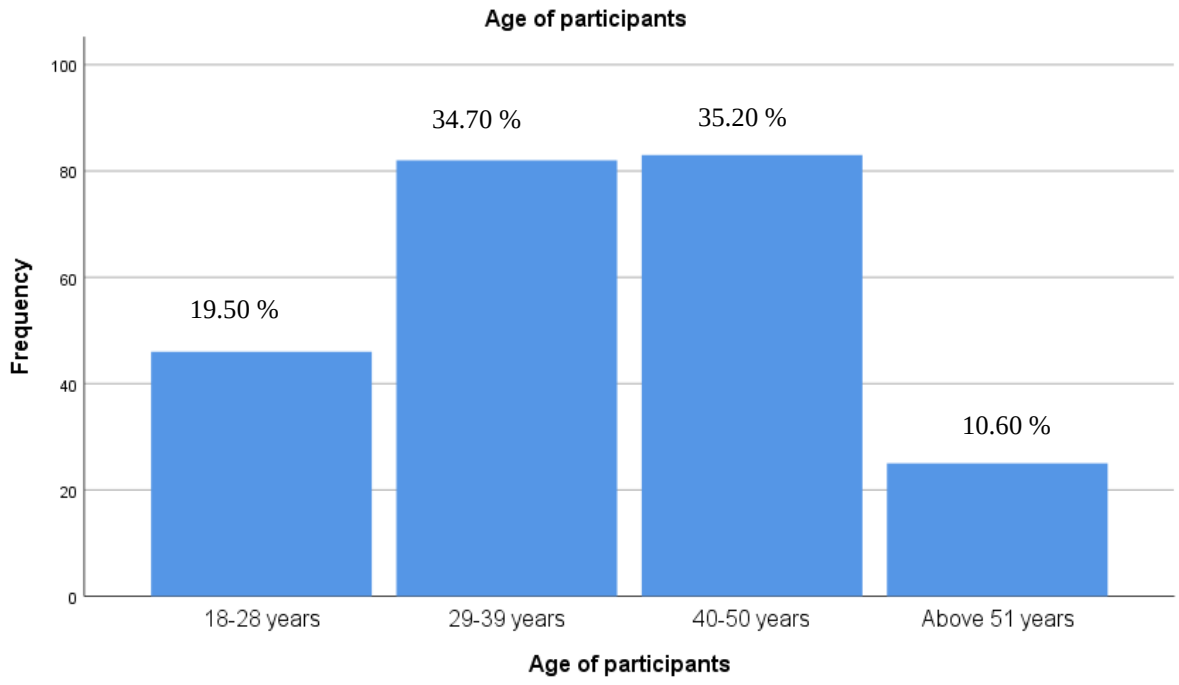


Figure 4.3: Age of Participants

Figure 4.3, shows the results of the age distributionof patients with coronary heart disease in selected hospitals in Nairobi County Kenya. The majority of the participants (35.20%) were in the age bracket of 40-50 years followed by those in the age bracket 29-39years (34.70%), then followed by18-28 years (19.50%) and above 51 years (10.60%) were the least. Based on these findings, it can be acknowledged that the majority of the participants who were engaged in the study belonged to the same age group and this could be very important in making conclusions about how this particular age group experienced the phenomenon under study.

4.3.4 Religion

The religion of the respondents was sought by the researcher and the results are presented because age is a vital factor that contributes to how one experiences the world.

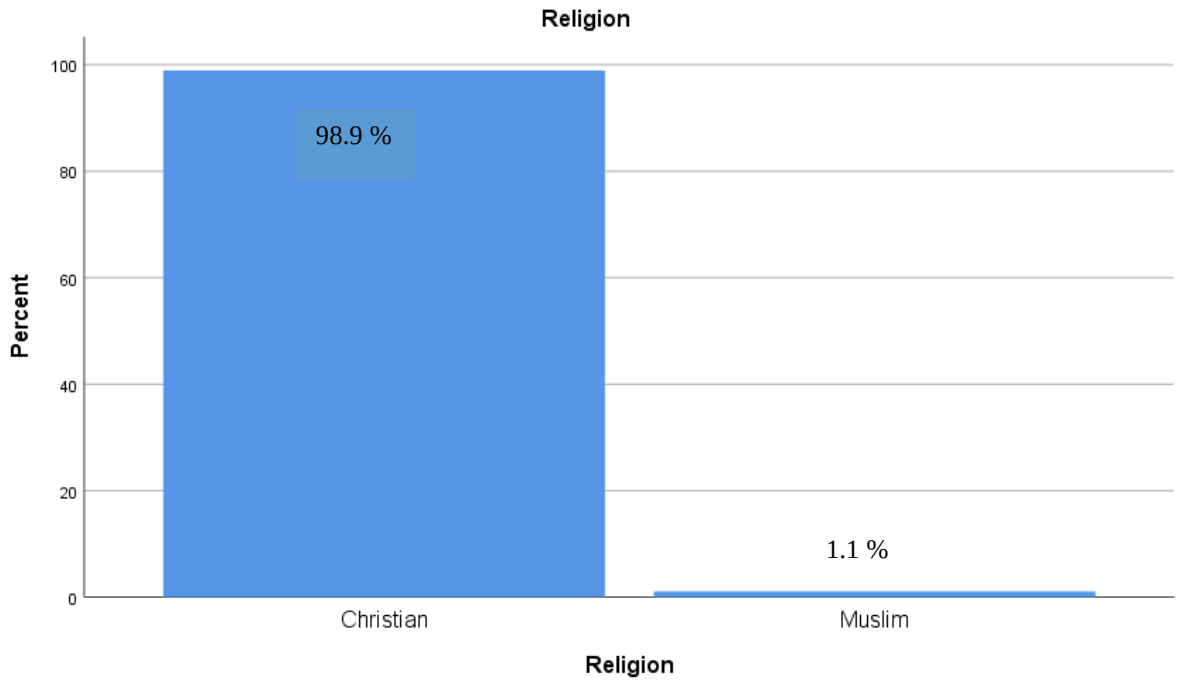


Figure 4.4: Religion of Participants

Figure 4.4, shows that majority of the participants were Christians forming (98.9%) of the sample while Muslims formed (1.1%) of the participants. This is an indication that both religions had the opportunity to participate in the study, thus the findings of the study did not suffer from any gender bias.

4.3.5 Level of Education

The study sought to establish the educational level of participants. This is because the level of education constitutes the life experience and skills acquired by the participants.

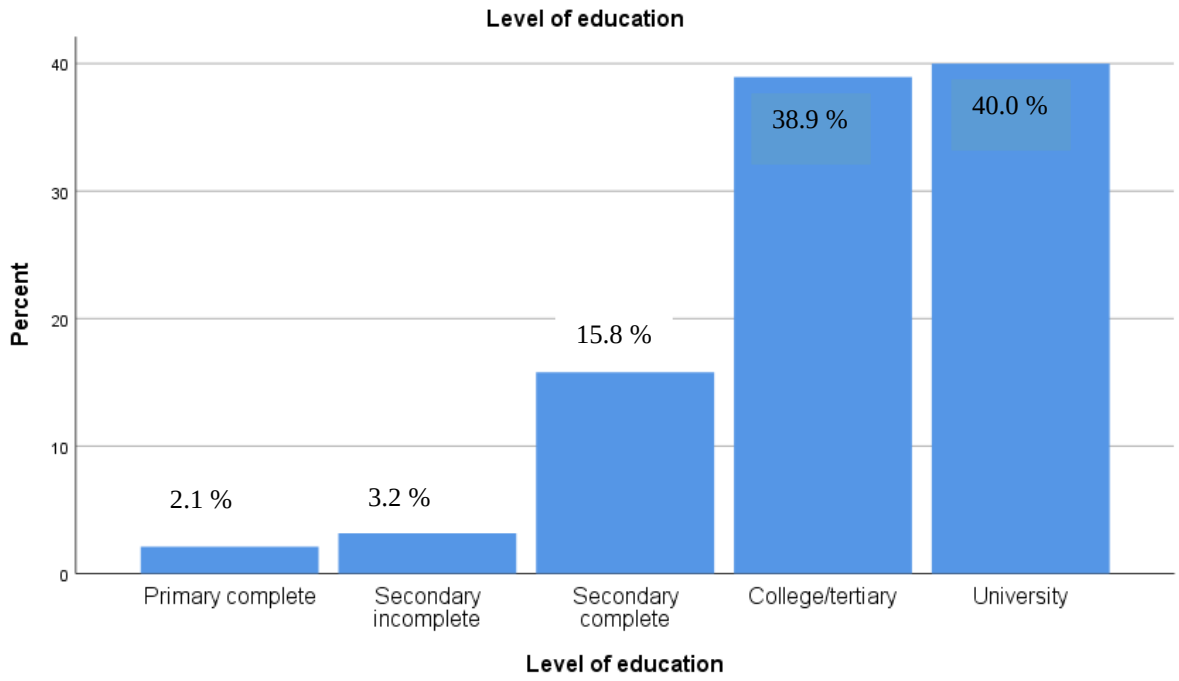


Figure 4.5: Level of Education of Participants

Figure 4.5, reveals the level of education of participants. The results revealed that the majority of the participants with a university education were (40.0%) followed by those with college or tertiary education (38.9%), followed by those who completed secondary education (15.8%), then followed by those who had an incomplete level of education at (3.2%). Those who completed primary education (2.1%) were the least.

4.4 Lifestyle Practices of Adult Patients with Coronary Heart Disease

Research question two was to assess the lifestyle practices of adult patients with coronary heart disease among health facilities in Nairobi County. The second research question explored the objective experiences of the participant's lifestyles. The researcher used a self-administered

Likert scale (12 items) developed to measure patients' lifestyles. The views were given on a 5-point Likert scale measured as 1= Never do 2= Rarely do 3= Sometimes do 4= Often do 5= Very often do. The results were summarized into mean and standard deviation for each response.

Table 4.2

Lifestyle Practices of Adult Patients with Coronary Heart Disease

	N	**Mean**	**Standard deviation**
In the last 12 months, how often have you been able to do your exercise?	96	3.3721	1.04089
I drink alcohol.	96	1.6739	1.00667
I usually Smoke.	96	1.1538	0.64847
I feel I am physically fit.	96	3.0543	1.18009
I spend most days being physically inactive.	96	2.6000	1.16888
I am worried about my current weight.	96	2.6941	1.37168
I eat less than three servings of fruit and five servings of vegetables each day.	96	3.4239	0.98599
I experience side effects from the medications I take.	96	2.1739	1.20993
I often check my body weight.	96	3.3152	1.12835
I check my body mass index regularly.	96	2.3736	1.21699
I regularly drink large amounts of soft drinks or fruit juices.	96	2.8478	1.11862
I regularly eat junk food.	96	2.0435	0.78325

The findings in table 4.2, showed that most adult patients with coronary heart disease practiced the indicators of lifestyle practicesas many agreed that they had practiced the lifestyle practices to either a moderate degree, a great degree or a very great degree. This is supported by the mean where the least mean obtained in the table above was 2.50, thus, revealing a great extent of lifestyle practices from the respondents with coronary heart disease among health facilities in Nairobi County. A maximum standard deviation of 1.05 was determined across all the mean scores indicating small variation from the mean score thus a high confidence level.

These findings are not in line with those Liu et al., (2018), who examine the associations of an overall healthy lifestyle, defined by eating a high-quality diet (top two-fifths of Alternative Healthy Eating Index), nonsmoking, engaging in moderate- to vigorous-intensity physical activity (≥150 min/week), and drinking alcohol in moderation (5 to 15 g/day for women and 5 to 30 g/day for men), with the risk of developing cardiovascular disease (CVD) and CVD mortality among adults with type 2 diabetes (T2D).Their study found that greater adherence to an overall healthy lifestyle is associated with a substantially lower risk of CVD incidence and CVD mortality among adults with T2D. These findings further support the tremendous benefits of adopting a healthy lifestyle in reducing the subsequent burden of cardiovascular complications in patients with T2D.

The findings are in line with those of Fernández et al. (2019), who explored lifestyle changes as well as the achievement of targets for risk factors in patients with established cardiovascular disease. They found that about 14% of them were smokers, 32% were physically inactive, and 30% had nutritionally poor eating behaviors. LDL cholesterol target value below 70 mg/dl was achieved in about 23% of patients, and in general, women were less cardio-protected by drugs than men. Many patients with established cardiovascular disease who attended in general practice still fail to achieve the lifestyle, risk factor, and therapeutic targets set by European guidelines. These results were found to be relevant to general practitioners because these patients had a high risk of subsequent cardiovascular events, including MI, stroke, and death (Fernández et al. 2019).

4.5 Psychological Wellness among Adult Patients with Coronary Heart Disease

The first objective of the current study sought to assess the psychological wellness among adult patients with coronary heart disease among health facilities in Nairobi County. Patients with coronary heart disease respond in diverse ways as they attempt to cope with the sickness. Psychological wellness can be identified from a number of symptoms and this study sought to assess the psychological wellness among adult patients with coronary heart disease among health facilities in Nairobi County. Using a 5-point Likert scale where 1 represented None of the time, 2 represented rarely, 3 represented some of the time, 4 represented often and 5 represented all of the Time. Several questions in form of a tool to measure grief reaction levels were used and the results are shown in table 5.

Table 4.3
Psychological Wellness

	N	Mean	Standard deviation
I sleep at least six hours a day.	96	3.8737	1.04415
When I go to bed, I take a long time to fall asleep.	96	2.6022	1.13386
I always experience disturbing dreams while asleep.	96	1.8617	0.82437
Most times, I find myself not aware of where I am.	96	1.1559	1.12735
Sometimes I see visions that others around me can't see.	96	1.4674	0.93116
I've been feeling optimistic about the future.	96	3.6774	1.27826
I've been feeling useful	96	3.9362	1.09553
I've been feeling relaxed	96	3.4839	0.85482
I've been feeling interested in other people	96	3.7045	1.12607
I've had the energy to spare	96	3.4444	1.08214
I've been dealing with problems well	96	3.6413	1.01182
I've been thinking clearly	96	4.1290	0.81061
I've been feeling good about myself	96	4.0851	0.89994
I've been feeling close to other people	96	4.0110	0.84976
I've been feeling confident	96	3.9787	0.89176
I've been able to make up my own mind about things	96	4.2198	0.9434
I've been feeling loved	96	4.1702	0.82486
I've been interested in new things	96	4.1398	0.99555
I've been feeling cheerful	96	4.0106	0.79643

The most prevalent psychological wellness experience by adult patients with coronary heart disease was being able to make up my own mind about things (mean= 4.2198; standard deviation= 0.9434) followed by feeling loved (mean= 4.1702; standard deviation= 0.82486) and being interested in new things (mean=4.1398; standard deviation=0.99555). The least prevalent psychological wellness experience was finding oneself not aware of where he or she is (mean= 1.1559; standard deviation= 1.12735) followed by seeing visions that others around me can't see (mean= 1.4674; standard deviation= 0.93116) and always experiencing disturbing dreams while asleep (mean= 1.8617; standard deviation= 0.82437).

For the majority of the psychological wellness symptoms, the mean was determined to be over 3.0 meaning that the majority of the respondents experienced the above reactions either sometimes or often. A maximum standard deviation of 0.72 was determined across all mean scores thus indicating a small variation from the mean score. This means that there was no huge difference between the respondents as they were answering the questions increasing the confidence level of the data. Therefore, it was evident that the majority of the respondents admitted that they sometimes or often experienced psychological wellness.

These findings are in line with those of Ghannam et al., (2014), who explored the psychological and social factors among individuals diagnosed with coronary artery disease. They found that that patients who have moderate level of stress, perceived social support, mild level of depression, have more tendencies to use effective coping strategies. Also, the analysis showed that cope, psychological distress, and perceived social support were significant predictors of high level of depression ($F = 5.2$, $p < .001$), and that perceived social support from others was the most significant protective factors against depression ($F = 12.7$, $p < .001$)(Ghannam et al., 2014). They

thus concluded that mental health care providers need to consider their patients' psychological wellbeing and sources of social support as part of their routine care and assessment.

The study findings are also in line with those of Tadele et al., (2021), who assessed SWB among RHD subjects enrolled in chronic care at Tikur Anbessa Specialized Hospital (TASH), Ethiopia. They found that poor SWB was documented in 9.6% of study subjects (95% CI: 6.88–13.04). On multivariable regression, those with younger age RHD diagnosis, < 20 years, had almost three times higher odds of poor SWB, adjusted odds ratio (aOR) 2.69(95% CI: 1.30–5.58, P 0.008). Those with monthly family income of < 1000 Ethiopian Birr had three times higher odds of poor SWB, OR 2.97(95% CI: 1.24–7.1, P 0.014). Study subjects who had good medication adherence had reduced odds of poor SWB, aOR 0.37(95% CI: 0.18–0.77, P 0.028). Those who received psychologic support from their families also had reduced odds of poor SWB, aOR 0.26(95% CI: 0.11–0.64, P 0.003) Tadele et al., 2021).

The study concluded that poor SWB was documented in one-tenth of RHD patients. Family income, younger age at RHD diagnosis, medication adherence and psychological support predicted poor SWB. Poor SWB has to be considered and assessed among RHD patients particularly among those with younger age at RHD diagnosis and poor family income. Further mixed studies are recommended to assess how medication adherence and psychological supports associate with positive SWB among RHD patients (Tadele et al., 2021).

4.6 The Relationship between Lifestyle Changes and Psychological Wellness among Adult Patients with Coronary Heart Disease

Table 4.6 shows the model summary that captures an R of 0.871 thus indicating a positive relationship between the variables. The R square value was .759 which revealed that the independent variable had a significant impact on the general psychological wellness by 75.9% and 42% was influenced by other factors.

Table 4.4

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.871[a]	.759	.599	.41918

The ANOVA showed that the general psychological wellness of had a sum of square of 18.295 with a sum total of 24.094 which reveals that the regression model explains (18/24). A significant relationship was captured between the independent variables and general psychological wellness (F (22, 33) = 4.733, $p < .001$) as shown in Table 4.7.

Table 4.5

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.295	22	.832	4.733	.000[b]
	Residual	5.798	33	.176		
	Total	24.094	55			

a. Dependent Variable: General psychological wellness mean

The ability to exercise often in the last 12 months (β=-0.237, p=0.013), mostly feeling physical inactive (β=0.251, p=0.016), worried about current weight ((β=-0.169, p=0.013), experiencing side effects of medication (β=-0.590, p<0.01), checking BMI (β=-0.248, p=0.05),

regularly eating junk food (β=0.422, p=0.015), taking a long time to fall asleep (β=-0.395, p<0.01), experiencing disturbing dreams (β=0.280, p=0.028, and unaware where they are (β=0.299, p=0.08) were significantly associated with the psychological wellness of the patients as shown in Table 4.7.

The findings are in line with those of Smedt et al., (2013) who explored the relation between self-reported lifestyle changes and HRQoL in European coronary patients. They found that there was significantly better HRQoL scores were found in ex-smokers compared to current smokers. Patients who made an attempt to increase their physical activity level had a better HRQoL compared to those who had not made an attempt. Furthermore, dietary changes were associated with HRQoL, with better outcomes in patients who tried to reduce fat and salt intake and increase fish, fruit, and vegetable intake. The intention to change behaviour was not associated with HRQoL. They thus concluded that better HRQoL scores were found in those coronary patients who adopted a healthier lifestyle. The actual lifestyle changes - smoking cessation, increasing physical activity, and adopting a healthy diet - and not the intention to change is associated with better HRQoL outcomes (Smedt et al., 2013).

These findings also replicate those of Pischke et al., (2018). They focused on the psychological well-being in the Lifestyle Heart Trial (LHT), an intensive lifestyle intervention. These researchers found that reductions in psychological distress and hostility in the experimental group (compared with controls) were observed after 1 year ($p < .05$). By 5 years, improvements in hostility tended to be maintained relative to the control group, but reductions in psychological distress were reported only by experimental patients with very high 5-year program adherence. Improvements in diet were related to weight reduction and decreases in percent diameter stenosis, and improvements in stress management were related to decreases in percent diameter stenosis at

both follow-ups (all $p < .05$). These findings illustrated the importance of targeting multiple health behaviors in secondary prevention of coronary heart disease (Pischke et al., 2018).

4.7 Psychological Interventions for Coronary Heart Disease among Adult Patients.

Psychological wellness programs that were deemed instrumental in improving the patient's wellbeing were noted as anxiety management, physical activity, psychoeducation, counselling, and stress management approaches. Encouraging patients to take up physical exercises and the gym, dancing was also deemed to be instrumental in improving their wellbeing. This relates to a study conducted by Richards et al. (2017) sought to capture the therapies suitable for coronary heart disease. The objective of the study was to capture the effectiveness of the psychological interventions compared to the usual interventions. The data was collected through the Cochrane review searches from different databases such as MEDLINE, Embase and PsycINFO. The review captured a total of 35 studies and a total of 10,703 respondents. Follow-ups were conducted over a period of 6 months to 10.7 years. The psychological interventions were deemed instrumental in dealing with depression and anxiety among the respondents. Another study focusing on the effectiveness of psychological therapies focused on the collection of data through platforms such as Embase, Medline, and PsycINFO databases. A total of 22 studies were captured that focused on the combination of physical activity and psychological therapies. The findings revealed that physical activity interventions can be considered a viable alternative approach to psychological therapies. However, psychological approaches need to be incorporated into the physical activity designs (Thomas et al., 2020).

CHAPTER FIVE

SUMMARY, CONCLUSSION AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the summary of findings, conclusion and gives recommendations for the study.

5.2 Summary of the Study

The general purpose of the study was to examine lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya**.** The review of related literature associated with lifestyle changes and psychological wellness among patients with coronary heart disease. The study adopted the mixed methods sequential explanatory design. The target population consisted of 95 patients with coronary heart disease and 20 nurses in selected hospitals in Nairobi County Kenya**.** The researcher used simple random sampling to select 110 patients with coronary heart disease.

The total sample used in the study was 130 participants of which 20 were nurses from the select hospitals. Data were collected using standardized questionnaires and interview guides. Quantitative data were analyzed presented and summarized using frequency, percentages, tables and charts. Frequency tallying was adopted to designate the anticipated responses to the themes, which associated with the phenomenon. The data analysis enabled the investigator to construct and develop major findings guided by the research objectives and questions.

5.2 Summary of the Findings

5.2.1 Lifestyle Practices of Adult Patients with Coronary Heart Disease

The study assessed the lifestyle practices of adult patients with coronary heart disease among health facilities in Nairobi County and found that most adult patients with coronary heart disease practiced the indicators of lifestyle practicesas many agreed that they had practiced the lifestyle practices to either a moderate degree, a great degree or a very great degree. This is supported by the mean where the least mean obtained in the table above was 2.50, thus, revealing a great extent of lifestyle practices from the respondents with coronary heart disease among health facilities in Nairobi County. A maximum standard deviation of 1.05 was determined across all the mean scores indicating small variation from the mean score thus a high confidence level.

These findings are not in line with those Liu et al., (2018), who examine the associations of an overall healthy lifestyle, defined by eating a high-quality diet (top two-fifths of Alternative Healthy Eating Index), nonsmoking, engaging in moderate- to vigorous-intensity physical activity (≥150 min/week), and drinking alcohol in moderation (5 to 15 g/day for women and 5 to 30 g/day for men), with the risk of developing cardiovascular disease (CVD) and CVD mortality among adults with type 2 diabetes (T2D).

5.2.2 Psychological Wellness among Adult Patients with Coronary Heart Disease

The most prevalent psychological wellness experience by adult patients with coronary heart disease was being able to make up my own mind about things (mean= 4.2198; standard deviation= 0.9434) followed by feeling loved (mean= 4.1702; standard deviation= 0.82486) and being interested in new things (mean= 4.1398; standard deviation= 0.99555). The least prevalent psychological wellness experience was finding oneself not aware of where he or she is (mean= 1.1559; standard deviation= 1.12735) followed by seeing visions that others around me can't see

(mean= 1.4674; standard deviation= 0.93116) and always experiencing disturbing dreams while asleep (mean= 1.8617; standard deviation= 0.82437).

For the majority of the psychological wellness symptoms, the mean was determined to be over 3.0 meaning that the majority of the respondents experienced the above reactions either sometimes or often. A maximum standard deviation of 0.72 was determined across all mean scores thus indicating a small variation from the mean score. This means that there was no huge difference between the respondents as they were answering the questions increasing the confidence level of the data. Therefore, it was evident that the majority of the respondents admitted that they sometimes or often experienced psychological wellness.

These findings are in line with those of Ghannam et al., (2014), who explored the psychological and social factors among individuals diagnosed with coronary artery disease. They found that that patients who have moderate level of stress, perceived social support, mild level of depression, have more tendencies to use effective coping strategies. Also, the analysis showed that cope, psychological distress, and perceived social support were significant predictors of high level of depression ($F = 5.2$, $p < .001$), and that perceived social support from others was the most significant protective factors against depression ($F = 12.7$, $p < .001$)(Ghannam et al., 2014). They thus concluded that mental health care providers need to consider their patients' psychological wellbeing and sources of social support as part of their routine care and assessment.

5.2.3 Relationship between Lifestyle Changes and Psychological Wellness among Adult Patients with Coronary Heart Disease

The ability to exercise often in the last 12 months ($\beta=-0.237$, $p=0.013$), mostly feeling physical inactive ($\beta=0.251$, $p=0.016$), worried about current weight (($\beta=-0.169$, $p=0.013$), experiencing side effects of medication ($\beta=-0.590$, $p<0.01$), checking BMI ($\beta=-0.248$, $p=0.05$),

regularly eating junk food (β=0.422, p=0.015), taking a long time to fall asleep (β=-0.395, p<0.01), experiencing disturbing dreams (β=0.280, p=0.028, and unaware where they are (β=0.299, p=0.08) were significantly associated with the psychological wellness of the patients.

The findings are in line with those of Smedt et al., (2013) who explored the relation between self-reported lifestyle changes and HRQoL in European coronary patients. They found that there was significantly better HRQoL scores were found in ex-smokers compared to current smokers. Patients who made an attempt to increase their physical activity level had a better HRQoL compared to those who had not made an attempt. Furthermore, dietary changes were associated with HRQoL, with better outcomes in patients who tried to reduce fat and salt intake and increase fish, fruit, and vegetable intake. The intention to change behaviour was not associated with HRQoL. They thus concluded that better HRQoL scores were found in those coronary patients who adopted a healthier lifestyle. The actual lifestyle changes - smoking cessation, increasing physical activity, and adopting a healthy diet - and not the intention to change is associated with better HRQoL outcomes (Smedt et al., 2013).

5.2.4 The Interventions Sought by Adult Patients with Coronary Heart Disease

Psychological wellness programs that were deemed instrumental in improving the patient's wellbeing were noted as anxiety management, physical activity, psychoeducation, counselling, and stress management approaches. Encouraging patients to take up physical exercises and the gym, dancing was also deemed to be instrumental in improving their wellbeing. This relates to a study conducted by Richards et al. (2017) sought to capture the therapies suitable for coronary heart disease. The objective of the study was to capture the effectiveness of the psychological interventions compared to the usual interventions. The data was collected through the Cochrane review searches from different databases such as MEDLINE, Embase and PsycINFO. The review

captured a total of 35 studies and a total of 10,703 respondents. Follow-ups were conducted over a period of 6 months to 10.7 years. The psychological interventions were deemed instrumental in dealing with depression and anxiety among the respondents. Another study focusing on the effectiveness of psychological therapies focused on the collection of data through platforms such as Embase, Medline, and PsycINFO databases. A total of 22 studies were captured that focused on the combination of physical activity and psychological therapies. The findings revealed that physical activity interventions can be considered a viable alternative approach to psychological therapies. However, psychological approaches need to be incorporated into the physical activity designs (Thomas et al., 2020).

5.3 Conclusions

The purpose of this study was: (a) to assess the lifestyle practices of adult patients with coronary heart disease among health facilities in Nairobi County. (b) To assess psychological wellness among adult patients with coronary heart disease among health facilities in Nairobi County. (c)To establish the relationship between lifestyle changes and psychological wellness among adult patients with coronary heart disease among health facilities in Nairobi County.(d) To identify the interventions sought by adult patients with coronary heart disease among health facilities in Nairobi County.

The study found that there is a statistically significant positive relationship between lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya.Most adult patients with coronary heart disease practiced the indicators of lifestyle practicesas many agreed that they had practiced the lifestyle practices to either a moderate degree, a great degree or a very great degreewhile the for the majority

of the psychological wellness symptoms, the mean was determined to be over 3.0 meaning that the majority of the respondents experienced the above reactions.

The study also found a statistically significant positive relationship between the lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya.

5.4 Recommendations

This study made recommendations to the following stakeholders: the doctors and nurses who are always with patients, the patients and clients who come seeking for health services, Counseling department, the cardiac institutions who offer this services to cardiac patients like Kenyatta Hospital, Mp-sha hospital among others and the Ministry of Health in the country who are the beneficiaries of this services.

- Psychological distress is a major concern among patients with coronary artery disease. Therefore, it is critical to encourage the patients to seek screening interventions and ensure management of these concerns.
- There is a need for patients to continue adopting strict lifestyle change practices that will be of benefit to their psychological and overall wellbeing.

5.5 Recommendations for Further Research

As previously noted, the size of the sample and the personal content of focus group data have presented a number of themes that should be explored with larger and more diverse populations. Larger studies could also examine differences related to age, gender, years of experience, and grade level perspectives. While the current study has developed a beginning understanding of what is needed to transform knowledge about the needs of patients with coronary

heart disease with the hospital environment. A majority of the studies mainly focus on lifestyle practices, lifestyle changes and psychological issues among patients with heart conditions independently. There is a need to consider focusing on studies that capture the relationship between these factors in one study. This study can also be focused in other areas of the country thus providing new information on the subject matter. Cardiovacular diseases remain a very big burden and continues to rise, everyone need to be involved to learn and participate effectively in managing them. No Miraculous change in our circumstances is going to occur rather its each ones business to actively take part in its management, through primary healthcare. All health care providers need to always advocate for good health through creation of heathy living standards, healthy eating, and sports activities. The government needs to intensify primary health care on health living.

REFERENCES

Afulani, P. A., Ongeri, L., Kinyua, J., Temmerman, M., Mendes, W. B., & Weiss, S. J. (2021, March 6). Psychological and physiological stress and burnout among maternity providers in a rural county in Kenya: individual and situational predictors. *BMC Public Health*, 21(1). https://doi.org/10.1186/s12889-021-10453-0

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978 (91)90020-T

Ali, M. A., Yasir, J., Sherwani, R. N., Fareed, M., Arshad, F., Abid, F., Arshad, R., Ismail, S., Khan, S. A., Siddiqui, U., Muhammad, M. G., & Fatima, K. (2017). Frequency and predictors of non-adherence to lifestyle modifications and medications after coronary artery bypass grafting: A cross-sectional study. *Indian Heart Journal*, *69*(4), 469–473. https://doi.org/10.1016/j.ihj.2017.05.017

Allabadi, H., Alkhayyat, A., &Hammoudi, A. (2019). Depression and anxiety in cardiac patients. *BMC Public Health*, *19*(1).

Alkhatib A, Nnyanzi LA, Mujuni B, Amanya G, & Ibingira C. (2021) Preventing Multimorbidity with Lifestyle Interventions in Sub-Saharan Africa: A New Challenge for Public Health in Low and Middle-Income Countries. Int J Environ Res Public Health. 18(23):12449. doi: 10.3390/ijerph182312449. PMID: 34886172; PMCID: PMC8656800.

Ameh, P. O., Yakubu, K., Miima, M., Popoola, O., Mohamoud, G., & Von Pressentin, K. B. (2019, March 26). Lifestyle, cardiovascular risk knowledge and patient counselling among selected sub-Saharan African family physicians and trainees. African Journal of Primary Health Care &Amp; Family Medicine, 11(1). https://doi.org/10.4102/phcfm.v11i1.1701

Biddle, S. (2016a). Physical activity and mental health: Evidence is growing. *World Psychiatry*, *15*(2), Article 2.

Biddle, S. (2016b). Physical activity and mental health: Evidence is growing. *World Psychiatry*, *15*(2).

Burns, A., Strawbridge, J., & Clancy, L. (2017). Exploring smoking, mental health and smoking-related disease in a nationally representative sample of older adults in Ireland. *Journal of Psychosomatic Research, 98*, 78–86.

Buzby, S. (2021). *AHA: Cardiac clinicians should consider mental health in CVD management*. https://www.healio.com/news/cardiology/20210125/aha-cardiac-clinicians-should-consider-mental-health-in-cvd-management

CDC. (2018). *Heart disease facts*. Centers for Disease Control and Prevention.

CDC. (2021). *Heart Disease and Mental Disorders*. Center for Disease Control and Prevention. https://www.cdc.gov/heartdisease/mentalhealth.htm

Chaddha, A., Robinson, E., & Kline-Rogers, E. (2016). Mental Health and cardiovascular disease. *The American Journal of Medicine, 129*(11), 1145–1148.

Chisuwa-Hayami, N., & Haruki, T. (2017). Associations of body-related teasing with weight status, body image, and dieting behavior among Japanese adolescents. *Health Promotion Perspectives*, *7*(2), 80–87.

Creswell, R. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.

Dar, T., Radfar, A., Abohashem, S., Pitman, R. K., Tawakol, A., & Osborne, M. T. (2019). Psychosocial Stress and Cardiovascular Disease. *Current Treatment Options in Cardiovascular Medicine*, *21*(5), 23. https://doi.org/10.1007/s11936-019-0724-5

De Hert, M., Detraux, J., &Vancampfort, D. (2018). The intriguing relationship between coronary heart disease and mental disorders. *Dialogues in Clinical Neuroscience*, *20*(1), 31–40. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6016051/

Dehghan, P., Asghari-JAfarabadi, M., & Salekzamani, S. (2015). Validity, reliability and feasibility of the eating behavior pattern questionnaire (EBPQ) among Iranian female students. *Health Promote perspective*, *5*(2), 128–137.

DuBois, C. M., Lopez, O. V., Beale, E. E., Healy, B. C., Boehm, J. K., & Huffman, J. C. (2015). Relationships between positive psychological constructs and health outcomes in patients with cardiovascular disease: A systematic review. *International Journal of Cardiology*, *195*, 265–280. https://doi.org/10.1016/j.ijcard.2015.05.121

Duff, O., Walsh, D., & Furlong, B. (2017). Behaviours change techniques in physical activity eHealth interventions for people with cardiovascuae disease: A systematic review. *Journal of Medical Internet Research*, *19*(8).

Einarson, T., Acs, A., Ludwig, C., & Panton, U. (2018). Prevalence of cardiovascular diseases in type 2 diabetes: A systematic literature review of scientific evidence from across the world in 2007-2017. *Cardiovascular Diabetology*, *17*(1).

Fernández, D., Brotons, C., Moral, I., Bulc, M., Afonso, M., Akan, H., Pinto, S., Vucak, J., & da Silva Martins, C. M. (2019, November 26). Lifestyle behaviours in patients with established cardiovascular diseases: a European observational study. *BMC Family Practice, 20*(1). https://doi.org/10.1186/s12875-019-1051-3

Flynn, M., Moran, C., & Rash, J. (2019). The contribution of psychosocial intervention to precision medicine for heart health. *Progress in Cardiovascular Diseases Journal*, *62*(1), 21–28.

Gaudel, P., Neupane, S., Koivisto, A.-M., Kaunonen, M., &Rantanen, A. (2021). Effects of a lifestyle-related risk factor modification intervention on lifestyle changes among patients with coronary artery disease in Nepal. *Patient Education and Counseling*, *104*(6), 1406–1414. https://doi.org/10.1016/j.pec.2020.11.030

Gichu, M., Asiki, G., Juma, P., &Kibachio, (2018). Prevalence and predictors of physical inactivity levels among Kenyan adults (18-69 years): An analysis of STEPS survey 2015. *BMC Public Health*, *18*(3).

Ghannam, B. M. et al. (2014). Psychosocial Wellbeing of Patients Diagnosed with Coronary Artery Disease. Psychology, 5, 801-807. http://dx.doi.org/10.4236/psych.2014.58091

Gronewold, J., Engels, M., Velde, S., & Cudjoe, T. (2021). Effects of Life Events and Social Isolation on Stroke and Coronary Heart Disease. *Stroke*, *52*(2), 735–747. https://doi.org/10.1161/STROKEAHA.120.032070

Gyasi RM, Phillips DR, Abass K. (2019) Social support networks and psychological wellbeing in community-dwelling older Ghanaian cohorts. Int Psychogeriatr. 31(7):1047-1057. doi: 10.1017/S1041610218001539. PMID: 30355385.

Hezomi, H., &Nadrian, H. (2018). What determines psychological well-being among Iranian female adolescents? Perceived stress may overshadow all determinants. *Health Prom perspective*, *8*(1), 79–87.

Huffman, J. C., Legler, S. R., & Boehm, J. K. (2017). Positive psychological well-being and health in patients with heart disease: A brief review. *Future Cardiology*, *13*(5), 443–450. https://doi.org/10.2217/fca-2017-0016

Joshi, M., Ayah, R., Njau, E., Wanjiru, R., Kayima, J., Njeru, E., & Mutai, K. (2014). Prevalence of hypertension and associated cardiovascular risk factors in an urban slum in Nairobi, Kenya. A population-based survey. *BMC Public Health*, *14*. http://www.biomedcentral.com/1471-2458/14/1177

Kahleova, H., Levin, S., & Barnard, N. (2018). Vegetarian dietary patterns and cardiovascular disease. *Progress in Cardiovascular Diseases Journal*, *61*(1), 54–61.

Kalkhoran, S., Benowitz, N., &Rigotti, N. (2018). Prevention and treatment of tobacco use: JACC health promotion series. *Journal of the American College of Cardiology*, *72*(9), 1030–1045.

Kimando, M., Otieno, F., Ogola, E., & Mutai, K. (2017). Adequacy of control of cardiovascular risk factors in ambulatory patients with type 2 diabetes attending diabetes outpatient's clinic at a county hospital, Kenya. *BMC Endocrine Disorders*, *17*(1), 73.

Lavallee, K., Zhang, X., & Schneider, S. (2019). Vegetarian diet and mental health: Cross-sectional and longitudinal analysis in culturally diverse samples. *Journal of Affective Disorders*, *248*, 147–154.

Levine, G. N., Cohen, B. E., Commodore-Mensah, Y., Fleury, J., Huffman, J. C., Khalid, U., Labarthe, D. R., Lavretsky, H., Michos, E. D., Spatz, E. S., Kubzansky, L. D., &null, null. (2021). Psychological Health, Well-Being, and the Mind-Heart-Body Connection: A Scientific Statement from the American Heart Association. *Circulation*, *143*(10), e763–e783. https://doi.org/10.1161/CIR.0000000000000947

Liu, G., Li, Y., Hu, Y., Zong, G., Li, S., Rimm, E. B., Hu, F. B., Manson, J. E., Rexrode, K. M., Shin, H. J., & Sun, Q. (2018). Influence of Lifestyle on Incident Cardiovascular Disease and Mortality in Patients with Diabetes Mellitus. *Journal of the American College of Cardiology*, *71*(25), 2867–2876. https://doi.org/10.1016/j.jacc.2018.04.027

Liu, T., Chan, A. W. K., Liu, Y. H., & Taylor-Piliae, R. E. (2018). Effects of Tai Chi-based cardiac rehabilitation on aerobic endurance, psychosocial well-being, and cardiovascular risk reduction among patients with coronary heart disease: A systematic review and meta-analysis. *European Journal of Cardiovascular Nursing*, *17*(4), 368–383. https://doi.org/10.1177/1474515117749592

Massey, C. N., Feig, E. H., Duque-Serrano, L., & Huffman, J. C. (2017). Psychological Well-Being and Type 2 Diabetes. *Current Research in Diabetes & Obesity Journal*, *4*(4), 555641. https://doi.org/10.19080/crdoj.2017.04.555641

Murphy, B., Le Grande, M., Alvarenga, M., Worcester, M., & Jackson, A. (2020). Anxiety and Depression After a Cardiac Event: Prevalence and Predictors. *Frontiers in Psychology*, *10*, 3010. https://doi.org/10.3389/fpsyg.2019.03010.

Oti SO, van de Vijver SJ, Kyobutungi C, Gomez GB, Agyemang C, Moll van Charante EP, Brewster LM, Hendriks ME, Schultsz C, Ettarh R, Ezeh A, Lange J. A. (2013) community-based intervention for primary prevention of cardiovascular diseases in the slums of Nairobi: the SCALE UP study protocol for a prospective quasi-experimental community-based trial. 1; 14:409. doi: 10.1186/1745-6215-14-409. PMID: 24289751; PMCID: PMC4220814.

Pizga, A., Karatzanos, E., Tsikrika, S., Gioni, V., Vasileiadis, I., Nanas, S. and Kordoutis, P. (2022). Psychosocial Interventions to Enhance Treatment Adherence to Lifestyle Changes in Cardiovascular Disease: A Review of the Literature 2011-2021. European Journal of Environment and Public Health, 6(1), em0102. https://doi.org/10.21601/ejeph/11582

Pischke, C. R., Scherwitz, L., Weidner, G., & Ornish, D. (2008). Long-term effects of lifestyle changes on well-being and cardiac variables among coronary heart disease patients. *Health Psychology*, *27*(5), 584–592. https://doi.org/10.1037/0278-6133.27.5.584

Richards, S. H., Anderson, L., Jenkinson, C. E., Whalley, B., Rees, K., Davies, P., Bennett, P., Liu, Z., West, R., Thompson, D. R., & Taylor, R. S. (2017). Psychological interventions for coronary heart disease. *Cochrane Database of Systematic Reviews*, *4*. https://doi.org/10.1002/14651858.CD002902.pub4

Reid, J., Ski, C. F., & Thompson, D. R. (2013, September 5). Psychological Interventions for Patients with Coronary Heart Disease and Their Partners: A Systematic Review. *PLoS ONE, 8*(9), e73459. https://doi.org/10.1371/journal.pone.0073459

Salmoirago-Blotcher, E., Wayne, P., Dunsiger, S., Krol, J., Wu, W., & Yeh, W. (2017). Tai Chi Is a Promising Exercise Option for Patients With Coronary Heart Disease Declining Cardiac Rehabilitation. *Journal of the American Heart Association*, *6*(10), e006603. https://doi.org/10.1161/JAHA.117.006603

Shen, B.-J., Fan, Y., Lim, K. S. C., & Tay, H. Y. (2019). Depression, Anxiety, Perceived Stress, and Their Changes Predict Greater Decline in Physical Health Functioning over 12 Months Among Patients with Coronary Heart Disease. *International Journal of Behavioral Medicine*, *26*(4), 352–364. https://doi.org/10.1007/s12529-019-09794-3

Skogen, C., Knudsen, K., & Hysing, M. (2016). Trajectories of alcohol use and association with symptoms of depression from early to late adolescence: The Norwegian longitudinal health behaviour study. *Drug Alcohol Rev*, *35,* 307–316.

Smachew, M., Melak, M. F., Atenafu, A., & Belew, A. K. (2022, January). Lifestyle Modification Practice and Associated Factors among Diagnosed Hypertensive Patients in Selected Hospitals in Central Gondar Zone. *Nutrition and Metabolic Insights*, *15*, 117863882210882. https://doi.org/10.1177/11786388221088245

Smedt, D. D., Clays, E., Annemans, L., Boudrez, H., Sutter, J. D., Doyle, F., Jennings, C., Kotseva, K., Pająk, A., Pardaens, S., Prugger, C., Wood, D., & Bacquer, D. D. (2013, January 10). The association between self-reported lifestyle changes and health-related quality of life in coronary patients: the EUROASPIRE III survey. European Journal of Preventive Cardiology, 21(7), 796–805. https://doi.org/10.1177/2047487312473846

Stewart, R., Held, C., Krug-Gourley, S., & Waterworth, D. (2019). Cardiovascular and Lifestyle Risk Factors and Cognitive Function in Patients with Stable Coronary Heart Disease. *Journal of the American Heart Association*, *8*(7), e010641. https://doi.org/10.1161/JAHA.118.010641

Tadele, H., Ahmed, H., Mintesnot, H. *et al.* Subjective wellbeing among rheumatic heart disease patients at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia: observational cross-sectional study. *BMC Health Service Res* **21**, 1354 (2021). https://doi.org/10.1186/s12913-021-07378-0

Taylor-Piliae, R. E., & Finley, B. A. (2020). Tai Chi exercise for psychological well-being among adults with cardiovascular disease: A systematic review and meta-analysis. *European Journal of Cardiovascular Nursing*, *19*(7), 580–591. https://doi.org/10.1177/1474515120926068

Temu, T.M., Kirui, N., Wanjalla, C. et al. Cardiovascular health knowledge and preventive practices in people living with HIV in Kenya. BMC Infect Dis 15, 421 (2015). https://doi.org/10.1186/s12879-015-1157-8

Tessier, J., Erickson, Z., &Mever, H. (2017). Therapeutic lifestyle changes: Impact of weight, quality of life, and psychiatric symptoms in veterans with mental illness. *Military Medicine*, *182*(9–10).

Thomas, J., Thirlaway, K., Bowes, N., & Meyers, R. (2020). Effects of combining physical activity with psychotherapy on mental health and well-being: A systematic review. *Journal of Affective Disorders*, *265*, 475–485. https://doi.org/10.1016/j.jad.2020.01.070

Toma, A., Pare, G., & Leong, D. (2017). Alcohol and cardiovascular disease: How much is too much? *Current Atherosclerosis Reports*, *19*.

Valtorta, N. K., Kanaan, M., Gilbody, S., Ronzi, S., & Hanratty, B. (2016, April 18). Loneliness and social isolation as risk factors for coronary heart disease and stroke: systematic review and meta-analysis of longitudinal observational studies. Heart, 102(13), 1009–1016. https://doi.org/10.1136/heartjnl-2015-308790

Van den Broek, N., Treur, J., & Larsen, J. (2018). Causal association between body mass index and mental health: A Medenianrandomisation study. *Journal of Epidemiology of Community Health*, *72*(8), 708–710.

Wekesah, F., Klipstein-Grobusch, K., & Grobee, D. (2020). Determinants of mortality from cardiovascular disease in the slums of Nairobi, Kenya. *Global Heart*, *15*(1).

Whitman, I., Agarwal, V., & Nah, G. (2017). Alcohol abuse and cardiac disease. *Journal of the American College of Cardiology*, *69*(1), 13–24.

WHO. (2017). *Cardiovascular diseases (CVD)*. World Health Organization.

WHO. (2021). *Cardiovascular diseases (CVDs)*. World Health Organization. https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)

Willage, B. (2018). The effect of Weight on mental health: New evidence using genetics IVs. *Journal of Health Economics*, *57*, 13–130.

APPENDICES

Appendix A: Respondent's Consent Request Form

Introduction

My name is Catherine Omukoko Sande, a postgraduate student currently undertaking studies in Counseling Psychology at the Catholic University of Eastern Africa. I am carrying out academic research titled "Lifestyle changes and psychological wellness of adult patients with coronary heart disease in Nairobi County." Your participation and contribution will help in the completion of this study. I, therefore, request you to provide information on this topic to enable me to achieve this goal.

Purpose of the Study

The main aim of the study is to determine lifestyle changes and psychological wellness of adult patients with coronary heart disease in Nairobi County. Supportive aid will be provided in the event that you experience difficulties in responding to the questions. Confidentiality will be highly respected throughout the study.

Benefits

This study will provide information that can be used by the government counseling psychologist, all health care provider and Private health facilities to encourage patients to shift towards healthy lifestyle approaches to deal with cardiovascular diseases.

Sharing of results:

The results of my study will be presented in an academic and scientific form and published in scientific medical journals and academic papers.

Risks

No risks are associated with participation in the study

Voluntary participation

No form of incentive will be offered for participants recruited in the study, and the participant is obliged to withdraw from the study at any point.

Confidentiality

All information provided in the study will be handled with absolute confidentiality, and the information will not be shared with any other individual who is not part of the study.

Please sign below to give consent for your participation

I, therefore, consent to participate in the study after reading and understanding the purpose of the study.

Sign ……. **Date ……**

Thank you for your support and contribution to this study.

Appendix B: Questionnaire

Respondents Instruction

Dear respondents, the researcher is kindly requesting you to answer the questions which will require your genuine response on your understanding and experiences of psychological wellness and lifestyle changes. Please read the question and seek clarity where you are in doubt. Tick or fill in the space provided appropriately.

SECTION A: SOCIO-DEMOGRAPHIC FACTORS **(Tick or fill in the space provided)**			
1.	Marital Status	Single	
		Married	
		Divorced/separated	
		Widowed	
2.	Gender	Male	
		Female	
3.	Age	_____years	
4.	Religion	Traditionalist	
		Christian	
		Muslim	
		Other specify	
5.	Level of education	None	
		Primary incomplete	
		Primary complete	
		Secondary incomplete	
		Secondary complete	
		College/tertiary	
		University	

Dear respondents, the researcher is kindly requesting you to answer the questions which will require your genuine response on your understanding and experiences of psychological wellness and lifestyle changes. Please read the question and seek clarity where you are in doubt. Tick or fill in the space provided appropriately.

SECTION B: LIFESTYLE FACTORS.

To what extent do the following statement apply to you

(1= Never do 2= Rarely do 3= Sometimes do 4= Often do 5= Very often do)

Statements	1	2	3	4	5
In the last 12 months how often have you been able to do your exercise?					
I drink alcohol.					
I usually Smoke.					
I feel I am physically fit.					
I spend most days being physically inactive.					
I a m worried about my current weight.					
I eat less than three servings of fruit and five servings of vegetables each day.					
I experience side effects from medications i take.					
I often check my body weight.					
I check my body mass index regularly.					
I regularly drink large amounts of soft drinks or fruit juices.					
I regularly eat junk food.					

Adapted from Goodyear-Smith F, Sullivan S, et al., (2004)

SECTION C: PSYCHOLOGICAL WELLNESS To what extent do the following statement apply to you (1= None of the time, 2=Rarely, 3=Some of the time, 4= Often, 5= All of the Time)					
Statements	**1**	**2**	**3**	**4**	**5**
I sleep at least six hours a day.					
When I go to bed, I take a long time to fall asleep.					
I always experience disturbing dreams while asleep.					
Most times, I find myself not aware of where I am.					
Sometimes I hear voices that others around me can't hear					
Sometimes I see visions that others around me can't see.					

Source: Self-generated questions.

Adapted from researchgate.net

SECTION D: GENERAL PSYCHOLOGICAL WELLNESS To what extent do the following statement apply to you (1= None of the time, 2=Rarely, 3=Some of the time, 4= Often, 5= All of the Time)					
Statements	**1**	**2**	**3**	**4**	**5**
I've been feeling optimistic about the future					
I've been feeling useful					
I've been feeling relaxed					
I've been feeling interested in other people					
I've had the energy to spare					
I've been dealing with problems well					
I've been thinking clearly					
I've been feeling good about myself					
I've been feeling close to other people					
I've been feeling confident					
I've been able to make up my own mind about things					
I've been feeling loved					
I've been interested in new things					
I've been feeling cheerful					

Appendix C: Permission to Use Dass 21 Tool

Permission to use Dass 21

Inbox

catherine sande <catesande@gmail.com> 12:19 PM (0 minutes ago)

to me

From: **Peter Lovibond** <p.lovibond@unsw.edu.au>
Date: Tue, Oct 25, 2022, 01:39
Subject: RE: Permission to use Dass 21
To: catherine sande <catesande@gmail.com>

Dear Catherine,

You are welcome to use the DASS in your research. You can download the questionnaires (including translations in certain languages) and scoring key from the DASS website www.psy.unsw.edu.au/dass/ . Please also see the FAQ page on the website for further information.

Best regards,

Peter Lovibond

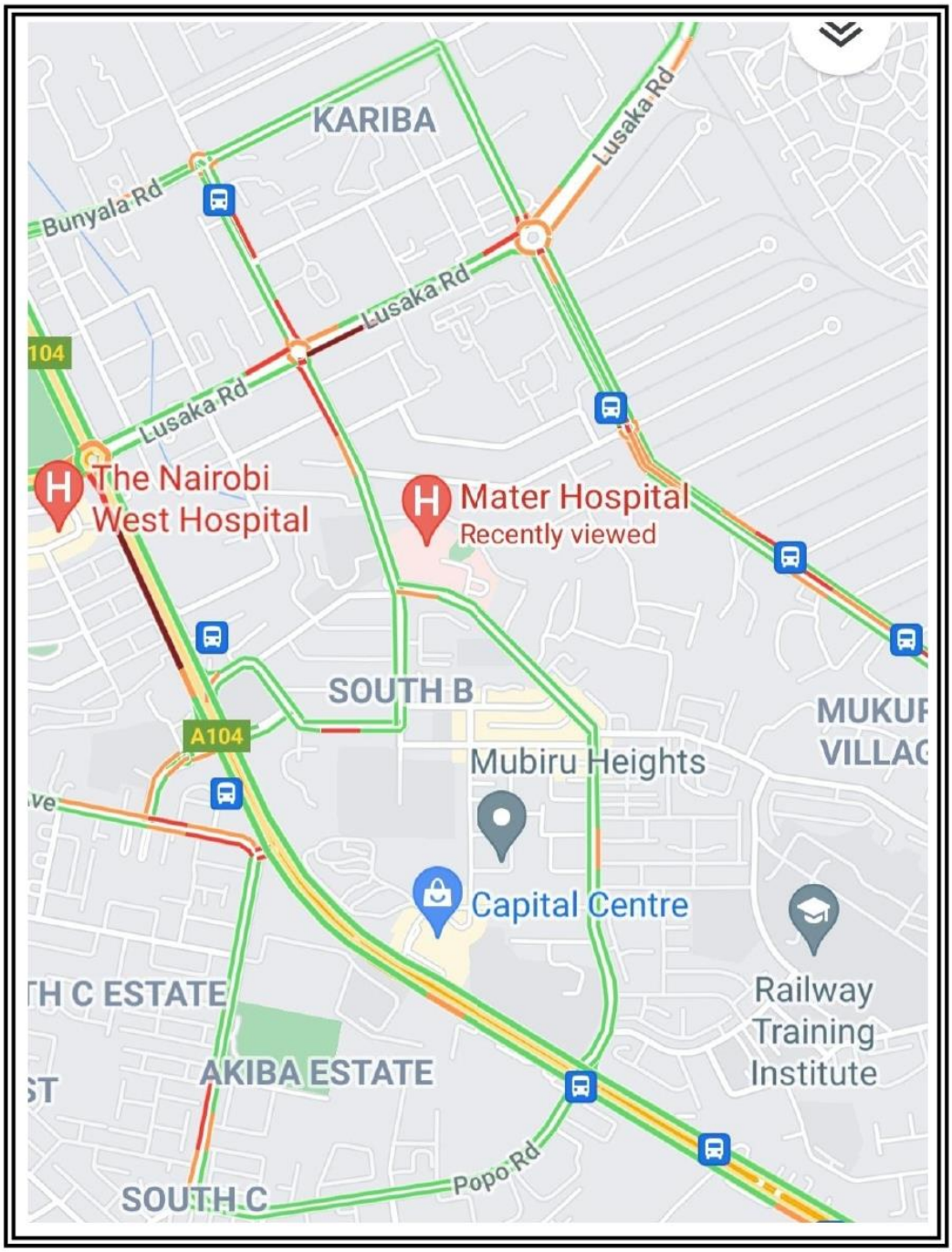
Appendix D: Research Budget

Component	Activity Description	Item	Unit of measurement	Unit cost	Total KES
Research proposal	Final document	Printing	62 pages	10	620.00
		Spiral and cover	62 pages	3	180.00
		photocopying	62 pages	3(5)	930.00
		Binding	62 pages	60(5)	18,600.00
	Data collection				4,000.00
Research Assistant					10,000.00
	Data analysis				10,000.00
Transport					15,000.00
Contingency					10,000.00
Final Report					50,000.00
Total					119,330.00

Appendix E: Work Plan

Month / Activity	AUG 2022	SEP 2022	OCT 2022	NOV 2022	DEC 2022	JAN 2023	Feb 2023	Mar 2023	April 2023	May 2023	June 2023	July 2023
Selection and review of topic												
Concept Paper Defense												
Chapter one												
Chapters two and three												
Finalizing proposal												
Collection of data												
Data analysis												
Final Report writing & Submission												

Appendix F: Map of Mater Misericordiae Hospital



Source: Google Maps 2021ss

Appendix G: Permission Letter

Miss Catherine Omukoko Sande

P.O. Box 191, Turbo

Phone No. 0728320774

10th Jan 2022.

To whom it may concern

Re: PERMISSION TO CARRY OUT RESEARCH IN NAIROBI COUNTY.

Dear Sir/Madam,

Greetings,

Am a student at Catholic University of Eastern Africa, Pursuing a Master's degree in Counseling Psychology, now at data collection level on the topic: Lifestyle changes and psychological wellness among adult patients with coronary Artery disease, in selected Hospitals in Nairobi County.

Am kindly requesting for your permission and blessing to help me proceed with my studies.

Your assistance and consideration is highly appreciated.

Yours Faithfully,

Sande.

Sister Catherine Omukoko Sande

Recommended

COUNTY COMMISSIONER
NAIROBI COUNTY
P. O. Box 30124-00100, NBI
TEL: 341666

10/1/2022.

Appendix H: Research Authorization Letter

REPUBLIC OF KENYA

EXECUTIVE OFFICE OF THE PRESIDENT
NAIROBI METROPOLITAN SERVICES

Telegraphic Address
Telephone +3313002/4
When replying please quote

Kenyatta International Convention Centre
P. O. Box 49130-00100
NAIROBI

REF: EOP/NMS/HS/089

DATE: 20th January 2022

CATHERINE OMUKOKO SANDE
CATHOLIC UNIVERSITY OF EASTERN AFRICA
NAIROBI

Dear Ms. Sande,

RE: RESEARCH AUTHORIZATION

This is to inform you that the Nairobi Metropolitan Services - Health Directorate's Research Technical Working Group (RTWG) reviewed the documents on the study titled "Lifestyle changes and psychological wellness of adult patients with coronary heart disease among health facilities in Nairobi County".

I am pleased to inform you that you have been authorized to undertake the study in Nairobi County. The researcher will be required to adhere to the ethical code of conduct for health research in accordance to the Science Technology and Innovation Act, 2013 and the approval procedure and protocol for research for Nairobi.

On completion of the study, you will submit one hard copy and one copy in PDF of the research findings to the RTWG. In addition, you will disseminate recommendations of the research at a virtual meeting organized by the RTWG. By copy of this letter, all the Sub County Medical Officers of Health and Head - Division of Non Communicable Diseases
are to accord you the necessary assistance to carry out this research study.

Yours sincerely,

DR. OUMA OLUGA - OGW
DIRECTOR HEALTH SERVICES

Cc: All the Sub County Medical Officers of Health
Head Division of Non Communicable Diseases

Appendix I: Introduction Letter from CUEA

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

Faculty of Arts and Social Sciences

Department of Counseling Psychology

Our Ref: CUEA/DVC-ACAD/FASSc/Psychology/Research/Nacosti/ September 2021

Date: 16th December 2021

TO WHOM IT MAY CONCERN

RE: CATHERINE SANDE OMUKOKO REGNO: 1039503

I am writing to introduce to you **CATHERINE SANDE OMUKOKO** who is a final year Masters student at The Catholic University of Eastern Africa, Nairobi – Kenya, and to request you to assist her to accomplish her academic research requirements.

Her specialization is in Counseling Psychology. She has completed all course work requirements for this programme. However, every student in the programme is required to conduct research and write a report/thesis submitted during the final years of studies.

Accordingly, her research topic has been approved. She will conduct research on the following topic:

"LIFESTYLE CHANGES AND PSYCHOLOGICAL WELLINESS OF ADULT PATIENTS WITH CORONARY HEART DISEASE AMONG HEALTH FACILITIES IN NAIROBI COUNTY".

Thanking you in advance for any assistance you give to Catherine.

Sincerely,

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA
FACULTY OF ARTS & SOCIAL SCIENCES
16 DEC 2021
DEPT. OF COUNSELLING PSYCHOLOGY
P.O. BOX 62157 - 00200, NAIROBI

Dr. Stephen Asatsa,
HOD, PSYCHOLOGY.

Appendix J: Permit from NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Date of Issue: 06/January/2022

Ref No: 241702

RESEARCH LICENSE

This is to Certify that Miss.. Catherine Omukoko Sande of Catholic University of Eastern Africa, has been licensed to conduct research in Nairobi on the topic: LIFESTYLE CHANGES AND PSYCHOLOGICAL WELLNESS AMONG PATIENTS WITH CORONARY HEART DISEASE IN SELECTED HOSPITALS IN NAIROBI COUNTY KENYA for the period ending : 06/January/2023.

License No: NACOSTI/P/22/15054

241702

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Recommended

COUNTY COMMISSIONER
NAIROBI COUNTY
P. O. Box 30124-00100, NBI
TEL: 341666
10/1/2022.

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

Appendix K: Article

International Journal of Arts and Social Science www.ijassjournal.com
ISSN: 2581-7922
Volume 5 Issue 10, October 2022.

Lifestyle Changes and Psychological Wellness among Patients with Coronary Heart Disease at Mater Hospital in Nairobi County, Kenya

CATHERINE SANDE OMUKOKO
REGNO: 1039503

A Thesis Proposal Submitted To The Faculty Of Arts And Social Sciences In Partial Fulfillment For The Requirements For The Award Of Master Of Arts In Counseling Psychology At The Catholic University Of Eastern Africa, Nairobi, Kenya

ABSTRACT: *Coronary heart disease is a significant public health problem globally, especially given the rapid changes in lifestyle, which has contributed to the increased occurrence of such non-communicable diseases. The main aim of the study is to determine lifestyle changes and psychological wellness among patients with coronary heart disease in selected hospitals in Nairobi County Kenya. Patients with these diseases report significant mental health deterioration, given the health risks linked to these diseases. The study aimed to determine lifestyle changes and psychological wellness of adult patients with coronary heart disease in Mater Hospital Nairobi County. A descriptive cross-sectional study design was used for data collection. The study will be conducted in Nairobi County. The study will mainly capture adults between 18-69 years diagnosed with coronary heart disease. Purposive sampling was used to select the health facility. Probability simple random sampling was used by creating a list of all the patients and selecting them until the desired sample size is achieved. The Yamane Taro (1967) formula was used to calculate the sample total of 272 respondents captured in the study. A questionnaire was used in the collection of data. The questionnaires were handed over to the participants, and they will be guided, or they will write their responses. SPSS 25 was used for analysis. Descriptive statistics was analyzed through the usage of frequencies, means, and percentages. The differences captured among the study population were determined through the use of Pearson chi-square tests. Regression analysis was conducted to determine the association between the independent and dependent variables, which is instrumental in testing the study's hypothesis. A p-value of <0.05 was used to select candidates for the multivariate analysis. Data was then be presented by the use of frequency distribution tables, graphs, and charts. The results showed that the respondents experienced a number of psychological distress that predisposed them to issues such as difficulty sleeping, experiencing disturbing dreams and being unaware of where they were. In relation to the lifestyle related factors, the results showed that patients were feeling physical fit and had exercised often over the last 12 months, checking the weight and eating less than three servings of fruit. The noted psychological interventions included psychological wellness programs, stress and anxiety management approaches, psychoeducation and physical activity (going to the gym) were instrumental in improving the psychological wellness of the respondents*

I. INTRODUCTION

1.1 Introduction

In this chapter, the background of the problem is presented. The chapter places the topic of research into its context by breaking it into specific areas. These areas include a statement of the study's problem

Appendix L: Evaluation Letter

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA
INFORMATION SYSTEMS LIBRARIAN
TURNITIN ORIGINALITY REPORT

REF: PGS/FASS/103/LANGATA,

The Catholic University of Eastern Africa
INFORMATION SYSTEMS LIBRARIAN
P. O. Box 62157-00200, NAIROBI.

Turnitin Originality Report

Processed on: 18-Oct-2022 17:41 EAT
ID: 1928729574
Word Count: 11516
Submitted: 1

LIFESTYLE CHANGES AND PSYCHOLOGICAL WELLNESS AMONG PATIENTS WITH CORONARY HEART DISEASE AT MATER HOSPITAL IN NAIROBI COUNTY, KENYA By Catherine Sande Omukoko 1039503

Similarity Index	Similarity by Source	
5%	Internet Sources:	3%
	Publications:	2%
	Student Papers:	3%

I HEREBY CONFIRM THAT **CATHERINE SANDE OMUKOKO** REG NO: **1039503**, SUBMITTED A CHECK OF ANTIPLAGIARISM ON CRITICAL EVALUATION OF **LIFESTYLE CHANGES AND PSYCHOLOGICAL WELLNESS AMONG PATIENTS WITH CORONARY HEART DISEASE AT MATER HOSPITAL IN NAIROBI COUNTY, KENYA.** A THESIS **SUBMITTED TO THE FACULTY OF ARTS AND SOCIAL SCIENCES IN PARTIAL FULFILMENT FOR THE REQUIREMENTS FOR THE AWARD OF MASTER OF ARTS IN COUNSELING PSYCHOLOGY AT THE CATHOLIC UNIVERSITY OF EASTERN AFRICA.**

Verification by Systems Librarian:

Name: ..HARUN MWANGI..... Signature: HW..... Date:..19/10/2022

Turnitin Originality Report

Processed on: 18-Oct-2022 17:41 EAT
ID: 1928729574
Word Count: 11516
Submitted: 1

Similarity Index	Similarity by Source	
5%	Internet Sources:	3%
	Publications:	2%
	Student Papers:	3%

LIFESTYLE CHANGES AND PSYCHOLOGICAL WELLNESS AMONG PATIENTS WITH CORONARY HEART DISEASE AT MATER HOSPITAL IN NAIROBI COUNTY, KENYA By Catherine Sande Omukoko 1039503

< 1% match (student papers from 23-Mar-2022)
Submitted to Liberty University on 2022-03-23

< 1% match (Aspasia Pizga, Eleftherios Karatzanos, Stamatoula Tsikrika, Vassiliki Gioni et al. "Psychosocial Interventions to Enhance Treatment Adherence to Lifestyle Changes in Cardiovascular Disease: A Review of the Literature 2011-2021", European Journal of Environment and Public Health, 2022)
Aspasia Pizga, Eleftherios Karatzanos, Stamatoula Tsikrika, Vassiliki Gioni et al. "Psychosocial Interventions to Enhance Treatment Adherence to Lifestyle Changes in Cardiovascular Disease: A Review of the Literature 2011-2021", European Journal of Environment and Public Health, 2022

< 1% match (student papers from 20-Jun-2022)
Submitted to Jacksonville State University on 2022-06-20

< 1% match (student papers from 27-Sep-2021)
Submitted to Open University of Mauritius on 2021-09-27

< 1% match (student papers from 28-Sep-2022)
Submitted to Open University of Mauritius on 2022-09-28

< 1% match (Internet from 29-Apr-2022)
http://thesis.miuc.ac.ke/downloadnotes.php?dow=teacheradmin%2Fimages%2Fpdf%2FThesis+fr.+Joseph+Moyguebate+YARG-SALYA.docx

< 1% match (student papers from 01-Sep-2020)
Submitted to Aspen University on 2020-09-01

< 1% match (Internet from 19-Dec-2021)
https://doaj.org/article/0dbcc61746044291bf49c0bff6ad707e