PATIENTS' LIVED EXPERIENCES AND COPING MECHANISMS FOLLOWING MITRAL VALVE REPLACEMENT AT JAKAYA KIKWETE CARDIAC INSTITUTE, DAR ES SALAAM TANZANIA

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By

Jinasa Peter Kisangija

A Dissertation Submitted in (Partial) Fulfillment of the Requirements for the Degree of Master of Science (Cardiovascular Nursing) of

Muhimbili University of Health and Allied Sciences
October, 2024

CERTIFICATION

The undersigned certifies that they have read and hereby recommends for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled: **''Patients' Lived Experiences and Coping Mechanisms Following Mitral Valve Replacement at Jakaya Kikwete Cardiac Institute, Dar es Salaam Tanzania'',** in (partial) fulfillment of the requirements for the degree of Master of Science (Cardiovascular Nursing) of Muhimbili University of Health and Allied Sciences.

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_____

Date

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Ms. Salome E. Buluba

Co-Supervisor

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Date

DECLARATION AND COPYRIGHT

I, **Jinasa Peter Kisangija**, declare that this **dissertation** is my original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature…… **Date**……

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My profound appreciation also goes out to my wife Grace Anathory, my kids, and my parents for their patience, help, and inspiration during the preparation of the proposal, conduction of the research project, and preparation of the dissertation.

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DEDICATION

I dedicate this dissertation to my lovely wife Grace Anathory, my kids, and my parents for their patienceunwevering support, and inspiration during the preparation of the proposal, conduction of the research project, and preparation of the dissertation. This work is a testament to your sacrifice and unwavering faith.

ABSTRACT

Background: Mitral valve disease contributes to the mortality rate among valvular heart diseases globally and has a significant impact on the health of patients. Following mitral valve replacement, patients have to undergo life transitions to cope with living with artificial valves for the rest of their lives. This has physical, psychological and socio-economic impacts on the patient and the family; however, little has been explored about these experiences in the context of Tanzania and how the patients cope with the situation.

Aim of the study: The objective of this study was to explore patients' lived experiences and coping mechanisms following mitral valve replacement at JKCI in Dar es Salaam Tanzania

Material and Methodology: An explorative descriptive qualitative design was employed in this study. About 17 patients living with artificial mitral valves attending a cardiac clinic at JKCI were purposefully selected and interviewed where saturation of data was reached. An in-depth interview guide was used for data collection. Data from participants were audio-recorded then transcribed verbatim and analyzed using a thematic analysis approach.

Results: The results showed three themes, the first theme being "quality of life" with four subthemes: (1) physical consequences, (2) social consequences, (3) economic consequences, and (4) psychological consequences. The second theme is "quality of care" with three subthemes: (1) patient-healthcare provider interaction, (2) treatment resources and accessibility, and (3) need for self-care training. The third theme is coping with life with four subthemes: (1) Socializing, (2) Accepting new life, (3) Religious coping, and (4) Seeking support.

Conclusion: The results showed that patients after valve replacement present with physical, socio-economic, and emotional impacts. However by sharing experiences, implementing coping mechanisms, and accessing appropriate support networks, patients enhance their quality of life. Patients need to communicate openly with healthcare providers, and seek out resources personalized to their individual needs. Adapting to a new life may be challenging,

but with good support and it is possible to lead a fulfilling life despite the presence of artificial valves.

Keywords: Coping mechanisms, Lived experience, Mitral valve replacement, Valvular disease.

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LIST OF ABBREVIATIONS

BPS	Biopsychosocial model
CVD	Cardiovascular disease
CVDs	Cardiovascular diseases
DPGS	Directorate of post-graduate studies
DVT	Deep vein thrombosis
HRQL	Health-related quality of life
ICU	Intensive care unit
INR	International normalized ratio
JKCI	Jakaya Kikwete Cardiac institute
LMICs	Low- and Middle-Income Countries
MUHAS	Muhimbili University of Health and Allied Sciences
MVR	Mitral valve replacement
NCDs	Non-communicable Diseases
NYHA	New York Heart Association
PHTN	Pulmonary hypertension
RHD	Rheumatic Heart Disease
RHF	Rheumatic Heart Fever
SSA	Sub-Sahara Africa
TCA	Thematic Content Analysis
VHD	Valvular Heart Disease
WHO	World Health Organization

DEFINITION OF TERMS

Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels. They include coronary heart disease (CHD), cerebrovascular, peripheral arterial diseases, rheumatic heart disease, congenital heart diseases, and deep vein thrombosis (DVT) (1).

Cerebrovascular disease is a group of conditions that affects the blood arteries and blood flow in the brain. Blood vessel constriction (stenosis), clot formation (thrombosis), artery blockage (embolism), and blood vessel rupture (hemorrhage) can all result in problems with blood flow (2)

Congenital heart defects (CHDs) are disorders that damage the heart's structure and function and are present from birth(3).

Coping mechanisms refer to cognitive and behavioral attempts to adjust internal and external demands assessed as surpassing human resources, reducing stress, and promoting good psychological outcomes. While certain coping strategies increase stress and foster poor psychological outcomes (11)

Coronary heart disease (CHD) also known as coronary artery disease or ischemic heart disease is the disease caused by cholesterols deposition and plaque accumulation in the walls of the damaged coronary arteries which supply blood to the heart by the process called atherosclerosis (4).

Deep vein thrombosis (DVT is a medical condition that occurs when a blood clot forms in a deep vein typically in the thigh, lower leg, or pelvis (5).

Lived experiences are how a person is affected by social, biological, psychological, economic, or other factors, as well as the approaches taken to address those issues (10)

Mitral valve replacement is the surgical procedure where a damaged mitral valve is removed and replaced with an artificial or biological valve (9).

Peripheral arterial disease is the term used to describe atherosclerosis-related constriction or blockage of the blood vessels that carry blood from the heart to the legs (6).

Rheumatic heart disease (RHD) is a systemic immune condition resulting from untreated, underrated, or a complication of rheumatic fever. It can result from either a single or repeated attack of rheumatic fever (7)

Valvular Heart Disease (VHD) is a disease that causes damage to any valve in the heart. The leaflets of a healthy heart valve can open and close completely during a heartbeat, while damaged valves may not be able to do so. Any valve in the heart can develop an illness, but the aortic and mitral valves are the most frequently impacted (8).

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Cardiovascular diseases [CVDs] remain a public health concern globally accounting for 20.5 million [30%] deaths(12). The greatest death rates from CVD in 2020 were observed in developed and LMICs (13). Low- and middle-income countries [LMICs] account for almost 80% of deaths from CVD (14). The most commonly affected valves and their percentage death rates in developed countries are the Aortic valves 61.0%, the Mitral valve 15%, and the 24% combination of Tricuspid and pulmonary valves (8). VHD affects about 41 million people [18%] in LMICs including Tanzania (15,16). In LMICs mitral valve disease is more common with a 27% prevalence rate than tricuspid and semilunar valve diseases (17).

In Tanzania, CVDs account for 13% of all deaths related to non-communicable diseases which is higher than most of other African countries (16,18). Valvular heart disease [VHD] is one of the cardiovascular diseases associated with increasing cardiovascular morbidity and mortality (15). VHD is the outcome of damage to the heart valves brought on by one or more episodes of rheumatic fever, an autoimmune inflammatory response to a streptococcal throat infection [streptococcal pharyngitis or strep throat] (19). Rheumatic fever contributes to valvular disease by 8.67% while non-rheumatic conditions contribute 45.10% of VHD (20)**.**VHD is a primary cause of symptoms like exhaustion, dyspnea, and discomfort in the chest area. Moreover, VHD can result in functional heart impairment, such as interruption of unidirectional blood flow during the cardiac cycle (20).

Risk factors for VHD include older age, dyslipidemia, hypertension, cigarette smoking, physical inactivity, and, unhealthy eating. The development of cardiovascular disease is facilitated by these risk factors through their effects on blood vessels and heart valves stenosis or regurgitation and impaired blood flow in the body leading to multi-organ complications (21)**.** Most of the CVDs are preventable, efforts should focus more on expanding responsive healthcare systems and implementing focused primary preventive initiatives to minimize

exposures before developing the disease and early identification of risks (22). Various approaches like the Global Action Plan for Health [WHO], the Health Sector Strategic Plan IV of 2015–2020, the Global Sustainable Goals, and the Strategic Plan and Action Plan for the Prevention and Control of NCD in Tanzania 2016–2020 designed to prevent and control non-communicable diseases, such as cardiovascular disease but the prevalence still high (23). Rheumatic heart disease is common in school-age children affects the mitral valve consistently, and is linked to modifiable risk factors in Tanzania (24).

Depending on the severity, there are different treatment options for valve disease. Medications are used to relieve the symptoms in moderate conditions. Severely damaged valves and exhibiting significant symptoms, surgery may be necessary to replace or repair the valve (25,26). Surgery is recommended in symptomatic patients regardless of Left ventricular function, whereas for asymptomatic patients surgery is recommended for patients with left ventricular end-systolic diameter [LVESD] >50mm or left ventricular end-systolic diameter [LVESD] >25mm/m^2 body surface area[BSA] in patients with small body size or resting LVEF <_50% [class IB] (27).

In Tanzania, treating mitral valve disease often involves mitral valve replacement [MVR]. Severe mitral valve stenosis, severe mitral valve regurgitation, and severe mixed mitral valve disease are the most common reasons for mitral valve replacement therapy (28).

Technical expertise and careful postoperative management of patients with mitral valve replacement reduce early mortality (29). Post-MVR patients are required to take anticoagulants and antibiotics at home for the rest of their lives. Without these drugs, their lifetime risk of thromboembolism and endocarditis may reach 34% (30)**.** Other measures include exercises, socio-psychological support, diet, and care of surgical wounds (1,31). Following MVR, patients need life modification which may need support and motivation to sustain the life change. Life modification will help the patient enhance their well-being and lower their chances of complications associated with poor adherence to living principles following MVR.

Approximately 20 to 40 patients undergo mitral valve repair or replacement per month at JKCI. It has been reported that 3.7% of patients who underwent mechanical valve replacement in Tanzania die within 30 days after surgery due to complications (32). Hospital records show that every 2-3 patients who underwent MVR are admitted every month due to complications. This is a significant issue that deserves more understanding and attention and to come up with robust strategies to improve the quality of lives of people post-MVR.

1.2 Problem statement

VHD is the second leading disease among cardiovascular diseases in Tanzania(18). Around 39% of valvular diseases can be treated with valve replacement [surgery] and 27% are treated by percutaneous valve intervention and medicines(16,18,29). Mitral valve disease is the commonest disease among valvular diseases in Tanzania accounting for 58.1% of all valvular diseases with overall death rates of 13.3% among non-communicable diseases (33). The majority of deaths [64.3%] are due to mitral valve repair, 21.4% mitral valve replacement, and 14.3% tricuspid and semilunar valve disease (33).

The goal of MVR is to improve patient life through the reduction of symptoms, improving the physical function of patients, and increasing potential survival advantage (34)**.** However, heart valve surgery results in some complications in patients' lives including bleeding and infections due to non-adherence to medications. In a study done at JKCI among 54 patients, 3.7% died due to complications following valve replacement (35). Also, JKCI records of November 2021 indicate that among 196 patients who had undergone mechanical valve replacement, 23% developed complications associated with warfarin therapy. The study done in Iran showed that patients felt stress due to lack or limited psychological, physical, and educational support which resulted in poor adherence to treatment following MVR (38).

Planning and enhancing patients' treatment, quality of life, and survival following mitral valve replacement is of great value in preventing complications (36). This can be achieved through consultation on the proper use of medicines and immediate reporting of health problems observed after MVR like wound infection, severe chest pain, and drug reaction. Also

strengthening rehabilitation programs through the provision of educational interventions like avoiding heavy exercise, a balanced diet, and a level of activity after MVR (37).

In Tanzania, there is a paucity of data regarding the lived experiences of patients following MVR, and therefore little is known about the challenges they face and how they cope with the situation of living with an artificial valve. This is an important area to delve into to be able to plan quality improvement measures for patients' post-MVR. This study therefore aims to explore the lived experiences and coping mechanisms of patients following MVR at JKCI in Dar es Salaam Tanzania.

1.3 Research objectives

1.3.1 Broad objective

To explore patients' lived experiences and coping mechanisms following mitral valve replacement at Jakaya Kikwete Cardiac Institute, Dar es Salaam.

1.3.2 Specific objectives

1. To explore the lived experiences of patients who underwent Mitral valve replacement attending a cardiac clinic at Jakaya Kikwete Cardiac Institute, Dar es Salaam.
2. To describe the coping mechanisms of patients who underwent Mitral valve replacement attending a cardiac clinic at Jakaya Kikwete Cardiac Institute, Dar es Salaam.

1.4 Research questions

1.4.1 Main Research Question

What are patients' lived experiences, and coping mechanisms following mitral valve replacement at Jakaya Kikwete Cardiac Institute, Dar es Salaam?

1.4.2 Specific Research Questions

1. What are the lived experiences among patients following mitral valve replacement?
2. What are the coping mechanisms of patients following mitral valve replacement?

1.5 Conceptual Framework

The conceptual framework adopted from the study done in Bahir Dar City North West Ethiopia on lived experiences and coping strategies of patients with chronic diseases guided this study. The conceptual framework was created using George Engel's 1977 Biopsychosocial model as a basis. The interactions between biological, psychological, and social elements are taken into account by the Biopsychosocial (BPS) model, which helps explain why a person may have a problem and have different life experiences and coping mechanisms.

Social factors

Socialization affects the lived experience, coping mechanisms, and support needs of the patient after valve replacement. It comprises the friends, partners, and family that make up a person's closest social circle. These individuals all influence and mold an individual's behavior and lived experiences. Patients who receive good socialization will have different lived experiences and coping mechanisms and feel the value of living compared to patients with poor socialization. High family dependence on the patient to provide for family needs gives challenges to coping mechanisms and lived experience. Patients who have less family dependence have better life experiences and tend to cope early with new life after MVR. Family and friend support to the patient helps the patient to feel loved, and valued and receive basic needs to facilitate coping early to new life after mitral valve replacement. Spiritual or religious needs play a role in lived experience and coping mechanisms after MVR to the patient as it promotes socialization and support from the religious members.

Psychological support

The patients who are supported psychologically following MVR have good adherence to life changes that lead to a good prognosis and quick recovery and vice versa. Interpersonal relationships create adaptive measures for the patient following valve replacement and see the value of compliance to given instructions. The patients who are supported psychologically are free from stress, depressive symptoms, anxiety, fear, and negative self-perception following MVR.

Individual biological factors

The individual physical condition contributes to living experience, coping duration, and support needs after MVR. Physically stable patients can cope early with new life and need little support from family or society members. Patients with unstable physical conditions delay copying and need high support from friends and family after MVR.

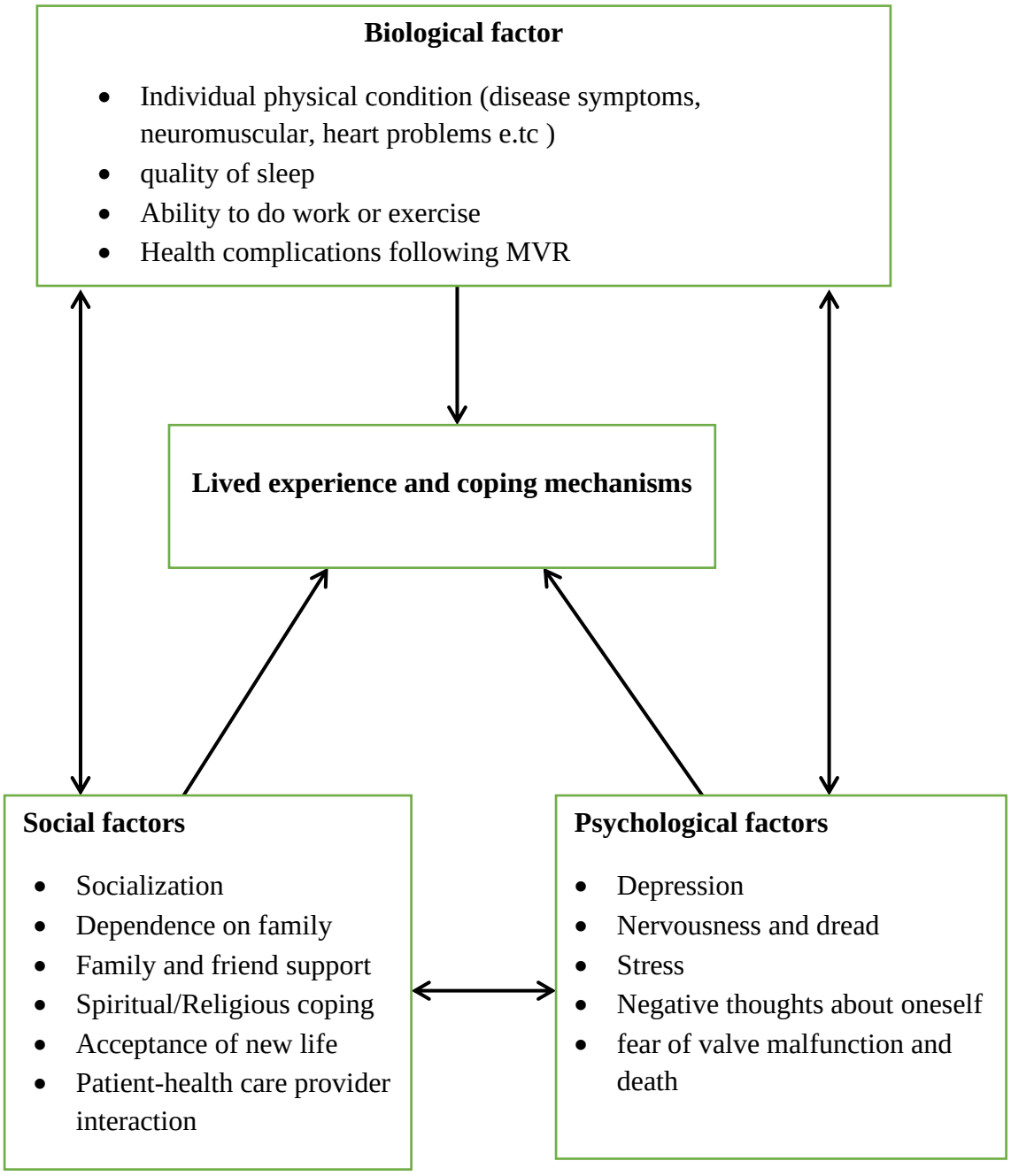


Figure 1: The conceptual framework for the Biopsychosocial aspects of lived experience, coping mechanisms, and post-MVR patients' support needs.

1.6 Rationale of the study

The generated findings of this study describe the living experience, coping mechanisms, and support needs of patients following valve replacement. The results of the study add knowledge on lived experience, coping mechanisms, and supportive needs of post-MVR patients. The results form the basis of knowledge for future studies on the home-based needs of patients following valve replacement. Additionally, this study explored and offered a more profound understanding of practical issues faced by patients in their transitional and post-MVR lives.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

Open heart surgery is a life event that has a profound influence on both the individual and the family as a unit(39). Family members are mutually dependent and of equal importance in the interactive process between them(39). Mortality related to mitral valve disease in 2017 was 15% of all valvular diseases worldwide and rheumatic fever being a typical reason for mitral valve dysfunction(40). The valvular disease causes complications like valve prolapse, regurgitation, or stenosis that need surgical interventions either to repair or replace the valve to resume its function (40). The quality of life of the patients varies across physical, psychological, social, environmental, and spiritual domains after valve replacement (41). This brings the necessity to undergo life changes to cope with living with artificial valves that provide different experiences of life and complications.

2.2 Living with artificial mitral valve experience among patients following MVR

For many people with valve problems, accepting surgery as their only option for therapy comes as a shock and an unpleasant experience that affects every part of their life, leaves them feeling overwhelmed, and presents numerous obstacles (32). Patients initially refuse to have surgery because they are afraid of dying and cannot handle the dangers of the procedure, but in the end, they accept it to solve their physical issues such as excruciating chest discomfort and dyspnea (32,38,39). After valve replacement patients express improvement in health through the reduction of symptoms and improvement in physical activities, this enables them to resume their responsibility in family and society (42). Patients after mitral valve replacement have different needs and preferences, including feeling responsible for their health and having feelings of uncertainty. also, they suffer from physical, socio-economic, and psychological problems (43). Complications from valve replacement, such as bleeding, infections, or issues with the heart or other organs, might affect a patient's quality of life (41).

Patients attempt self-defense when dealing with stress and worry from surgical issues, physical power loss, not being able to perform previous responsibilities and tasks in the family or community, and conflicting emotion(38). Life becomes tough for the patient after mitral valve replacement due to the persistence and worsening of certain medical issues as well as inadequate family and societal support (37). These patients need lifetime care following MVR because they are at risk of thromboembolism and they have to use anticoagulant drugs for the rest of their life (36). These patients need help from family and society members to obtain regular checkups and echocardiograms, antithrombotic medication, and proper antibiotic prophylaxis against endocarditis to prevent or lessen the consequences following MVR (30).

2.3 Coping mechanisms of a patient living with an artificial mitral valve

Patients struggle and show commitment toward their identity to return to regular life, recovering both balance and physical strength (42). After valve replacement, patients demonstrate improvement in all health-related quality of life domains, such as social and physical functioning, except mental health, this could be the reason for the delay in coping with a new life following valve replacement (35). Pre- and post-operative psychological counseling has been shown to improve outcomes; therefore, it is crucial to offer patients psychological support to encourage early coping with life modification following mechanical valve replacement(44). Research has shown that coping mechanisms and quality of life are significantly correlated among patients undergoing heart surgery, patients who cope well after heart surgery also have improved quality of life (45)**.** Identification of the requirements and concerns of patients after MVR facilitates the coping process following valve replacement(42,46).

Coping strategies for the life-threatening and very stressful experience after valve replacement surgery among patients include being in their hands and getting honest answers from family members and health workers(42). It has been reported that up to 25% of patients get depression especially those who lack support needs after heart surgery (42). Other coping ways after valve replacement to minimize anxiety and stress are setting it aside, getting through it, choosing life over death to improve health, learning to live a new self through

making life changes, and life-transforming cardiac events (42,47). Additionally, developing routines for mental well-being, establishing constructive objectives, keeping expectations reasonable, and respecting progress help the patient to overcome stress and enable early coping to new life post valve replacement (48).

Rehabilitation interventions have been demonstrated to help patients cope early following mitral valve replacement. These interventions include cardiac risk mitigation, health instructions, fitness instruction and advocacy, and mental assistance (49). Inadequate anticoagulation therapy with considerable INR volatility is an independent predictor of a reduced lifespan following valve replacement (50). Giving patients the right self-care instruction and educational support to help in coping reduce the likelihood of bleeding issues and keep their INR within a therapeutic target range will improve their prognosis after valve replacement (51).

Patients living with artificial mitral valve employ a variety of coping strategies to adjust to their new lives, such as asking for and accepting support from loved ones, practicing self-management, seeking out professional and social assistance, and being spiritual and optimistic (52). Families have a significant impact on patients' coping mechanisms, helping them through the pre-and post-operative phases of heart surgery and encouraging early adaptation to the patient's new life (53). Also, support from family members helps to reduce feelings of depression, stress, and anxiety in the patient during the period of coping with new life following mitral valve replacement (54).

CHAPTER THREE

3.0 METHODOLOGY

3.1 Study design

This is a qualitative explorative, descriptive design aimed at observing the lived experience and coping mechanisms after mitral valve replacement. Phenomenological studies examine human experiences (lived experiences) through the descriptions provided by the people involved. The goal of phenomenological studies is to describe the meaning that experiences hold for each subject as the goal of this study (55,56).

3.2 Study area

This study was conducted at a cardiac clinic at Jakaya Kikwete Cardiac Institute (JKCI) in Dar es Salaam. Jakaya Kikwete Cardiac Institute is the largest national cardiac institute in Tanzania with a 143-bed capacity. Currently, the institute receives more than 200 patients per day who have cardiac problems. It has a total of 350 workers from various health professions supporting staff. The cardiac clinic at JKCI receives approximately 5-10 patients with valve replacement per day.

3.3 Study population

The Participants were patients with at least 28 days and above post mitral valve replacement with no chronic conditions such as kidney disease, diabetes mellitus, HIV, or cancer who attended a cardiac clinic. Patients with chronic illnesses were not included in the study because their chronic diseases may have an impact on the quality of the data. After all, post-MVR experiences may have been impacted by their chronic illness.

3.4 Sampling and sampling procedure

3.4.1 Sample size

The study participants were obtained through a purposive sampling technique whereby saturation of data was reached at a sample size of 17 where there was a repetition of responses

from the participants. Saturation of patients' views reached when there were repetitions of information from one participant to the next no new information from the participant was obtained. Saturation in qualitative research employing empirical data occurs in a range of interviews with 9-17 individuals (57).

3.4.2 Inclusion criteria

All patients who have artificial mitral valves for at least 28 days and above after valve replacement and can talk and express themselves were included to participate in the study.

3.4.3 Exclusion criteria

Patients living with artificial mitral valves for at least 28 days and above but have chronic diseases like chronic renal failure, Diabetes mellitus, HIV, and Cancer were excluded from this study as may affect the quality of data due to experience from these chronic conditions.

3.5 Data collection tool

In-depth interviews using an interviewer guide with three (3) main questions based on the objectives of the study were used to collect data from participants. The interviewer guide validity tested using content validity techniques. Content validity technique where two supervisors helped to validate the interviewer guide content to determine if it measures the intended objectives of the study. Five (5) participants were interviewed as part of a pre-testing and interviewer guide before data collection to estimate the length of the entire interview and identify any periods of participant fatigue. Pre-test was done to establish any issues with the flow of questions and evaluate language or questions that are difficult to answer. Additionally, a pre-test helped to see if all information needed according to the objectives was captured in the guide.

3.6 Data collection process and management

Data collection process conducted between 03rd may, 2024 up to 25th may 2024 where the researcher established rapport with patients through effective communication where eligible patients were, provided the aim of the study, and participants were asked for consent both oral

and written consent before data collection was considered. The participants gathered from the cardiac surgery clinic on the day of the visit and were asked to participate in the research. Some participants were obtained from the cardiac surgery registration book before the data collection day and contacted to schedule a time to meet during the clinic visit. Then eligible participants asked to consent and signed consent form and interviewed. The interviews were audio recorded by the researcher in a quiet and friendly environment for privacy at JKCI and computer passcode used, field notes were properly handled by restricting other unauthorized people from accessing data to ensure confidentiality. Participants were interviewed after they had completed receiving clinic services to collect information and the interview took approximately 35-50 minutes to complete.

3.6.1 Trustworthiness of the Study

Trustworthiness is the evaluation of the overall study's quality and value of its goals, as well as the degree to which the study's conclusions align with goals according to the information provided by participants. It consists of four parts: transferability, confirmability, credibility, and dependability. Prolonged involvement with participants to develop trust and rapport led to credibility, or the veracity of the facts and interpretations, which in turn increased the likelihood that participants provided rich and relevant information. The credibility of this study was ensured through peer debriefing that involved sharing and discussing research findings, interpretations, and methodological approaches used in the study with my fellows and assisted by the research supervisors.

The dependability or reliability of data from this study is guaranteed because of carefully examining the data with the assistance of the study supervisors and by providing pertinent supporting documentation, such as audio recordings that the supervisor or an external reviewer utilized for data analysis. The systematic collection of resources like participants' audio records would allow the supervisors or an independent auditor to verify data and enable the data of the study to be confirmed or made relevant. Transferability or generalizability of the study findings to similar participants and contexts can be conceivable since the study

described the research setting, the participants involved in the study, the data collecting method used, and the processes observed during data collection.

3.7 Data analysis

Thematic analysis with a six-phase approach developed by Braun and Clarke was used during the analysis and presentation of qualitative data. The first phase was familiarizing with the data through re-reading textual data and transcripts of interviews, responses from the participants, and listening to audio recordings of participants' responses in collaboration with supervisors. The second phase involved systematic analysis by coding data relevant to research questions manually with assistance from my research supervisors. The third phase involved searching for themes that capture information important about the research question through analysis of codes and pattern responses within the data set in collaboration with my research supervisors. The fourth phase was reviewing potential themes with assistance from supervisors according to coded data and the entire set of data. The fifth phase was defining and naming themes by showing a unique and specific characteristic of each and deep analysis of the themes developed and this was done in collaboration with supervisors. The sixth phase was producing the report or dissertation.

3.8 Ethical issues and ethical consideration

This research had ethical approval from MUHAS- Senate of Research and Ethical Committee. Permission to conduct the research was obtained from JKCI management. Participants were given both oral and written information about the study then written informed consent with signatures was obtained. During the data collection and publication of the findings to ensure confidentiality, code numbers (pseudonyms) were used in place of names to ensure anonymity. Participants were also informed that there were no individual benefits in terms of money or items will be given for participating in the study and were informed about their freedom to leave the study at any moment without facing any unjustified repercussions during the data collection process.

3.9 Plan for Dissemination

The investigation's results will be provided to the JKCI, School of Nursing MUHAS, and Department of Clinical Nursing MUHAS. The report will be submitted to Muhimbili University of Health and Allied Sciences for the awarding of a Master of Science in Cardiovascular Nursing. Additionally, a copy of the dissertation will be accessible at MUHAS library. The dissertation will be presented at national and international conferences and will be accessible in national scientific and international publication journals.

CHAPTER FOUR

4.0 RESULTS

The study recruited 17 participants living with artificial mitral valves for more than two months. 13 participants were women and 04 participants were men. The demographic data of participants are summarized in Table 1. The analysis of the data resulted in three main themes and eleven subthemes to emerge. The first theme is quality care with subthemes of patient-healthcare provider interaction, self-care training, and Treatment resources and accessibility. The second theme is quality of life with subthemes, social consequences, physical consequences, economic consequences, and psychological consequences. The third theme is coping with life with subthemes, socializing, accepting new life, religious coping, and seeking support (For detail see Table 2)

Table 1: Participants characteristics (n=17)

Gender	Female	13
	Male	04
Age (Median 40 years)	Below 45 years	09
	46-60 years	04
	61 years and above	04
Marital status	Single	02
	Married	13
	Widow	02
Duration post valve replacement	3months-less than year	06
	1year-5years	07
	6 and above years	04
Level of education	Illiterate	02
	Primary education	05
	Secondary education(ordinary level)	05
	College education and above	05
Occupation	Not employed	04
	Self-employed	06
	Employed	07

Table 2: Themes, sub-themes, and codes

Themes	Subthemes	Codes
Quality of life	Social consequences	• Food restriction • Sexual restriction • Birth restriction • Time restriction • Attend clinic every month • Family parting
	Physical consequences	• Doing much better than before • Artificial valves are noisy • Reduced work activity • Exercises restriction
	Economic consequences	• Health care expenses • Employment Termination • limited income earnings • Cost of treatment • Transport costs • Lost potential earnings • Presenteeism
	Psychological consequences	• Use medication for life • Anxiety about valve malfunction • Depression • worry about warfarin outcomes • Effects of illness on life stability
Quality of care	Patient-healthcare provider interaction	• Supportive • Health talk • Good attitude • Customer care • Counseling
	Treatment resources and	• Long waiting time • Cost of medication

	accessibility	• workload distribution • availability of equipment • Only one clinic in Tanzania
	Self-care training	• Correct medication use • Regulation of dosage • Physical activities and exercise • Stress management
Coping with life	Socializing	• Talk to fellow patients • Escape loneliness • Mix with people
	Accepting new life	• Move forward with life • Adapting • Normalizing situation
	Religious coping	• God knows • Gods plan • Pray to god • Watching religious programs
	Seeking support	• Family support • Healthcare provider support

4.1 Quality of life

After valve replacement patients expressed improvement in health through the reduction of symptoms associated with valve problems. Valve replacement has psychological, social, economic, and physical impacts on the quality of life of patients. This theme is organized into four subthemes namely; Physical, social, economic, and psychological consequences.

Physical consequences

Most of the participants reported resuming their responsibilities in their family and society after mitral valve replacement. However, a few patients expressed that the procedure did not have desirable improvement.

> *"I can do my activities, my health has improved, I can walk, that is, I can do all the activities that I have failed to do in the past before surgery, and I can do them now"**#P06.***
>
> ***And***
>
> *"Before I was operated on and had a valve installed, my breath was tight, my body was tired, and I also had a long cough, but after valve replacement, I don't have any health issues"* ***#P04.***

Participants reported inability or reduction in physical activities in the first months after valve replacement surgery. The patients also are restricted from doing heavy work or exercises that strain chest muscles after valve replacement. Some participants were unable to do any work or activities after valve replacement.

> "*It hasn't helped me because, in the beginning, I was able to do my activities even though I wasn't very strong, but since I was done until now, I can't do any work and I can't walk"* ***#P11.***

Psychological consequences

Valve replaced participants reported to worry about the malfunction of the valve and other complications associated with surgery. Worries about function, durability, and valve dislodgement may cause serious health problems even death.

> *"In the beginning, I was worried about whether later it might come and get pulled out or it might come and cause health problems or even death"* ***#P06***

Some participants reported discomfort associated with noise from the valve that makes them uncomfortable and affects their quality of life after valve replacement. One of the participants responded as follows;

“At first, it was very shocking to me because it was making a lot of noise. If you sit like this, you can hear its sounds” ***#09***

And

“What bothers me is that after the surgery and the valve placement, I hear a sound that makes ta! ta! ta!" ***#P13***

The participant reported anxiety about potential side effects or complications associated with using anticoagulants and antibiotics for life. Participants described that they struggle to accept and adapt to a new reality of constant medical management after valve replacement. Some reported concern about the financial burden of ongoing medication and the impacts on daily life and plans.

Economic consequences

Limited earnings due to work restrictions after valve replacement subject patients to a decline in their economic status. Participants reported having an economic crisis due to restriction of work and employment termination after valve replacement.

“The income has decreased because I'm not working, and to get money, you have to work. I see that I have not recovered, but I have to work, even if it is not like it was in the beginning before valve replacement" ***#P17***

Some participants of this study reported the challenges of adhering to the recommended dietary plan after valve replacement due to their economic status. Financial constraints are reported to limit access to nutritious foods recommended after valve replacement. Some patients stated that income crisis make them not to afford recommended food plans and therefore they eat any food available in the family that day.

"Sometimes I found it difficult to follow the food instructions provided after valve replacement because of my economy, I'm not working to earn an income to help me to afford to buy required food every day" ***#P07.***

Social consequences

Participants after valve replacement had conflicts with their spouses because of sexual and birth restrictions, their spouses demanded children but women are restricted from bearing pregnancy after valve replacement. This has resulted in family parting and men decided to marry other women to have children after their wives underwent valve replacement.

"After valve replacement, my husband left me and married another woman because I could not give birth and I spent money on treatment." ***#P06***

Participants reported having limited time for social events because most of the time was used for seeking treatments and attending the clinic every month for follow-ups and investigations after valve replacement. Sometimes patients do not participate in social events because they avoid noisy environments that may affect their quality of life.

"Social issues, for example, tragedies, especially at weddings, I don't like noisy places, I don't like crowded places, and I always hold back" ***#P02***

4.2 Quality of care

The quality of care provided to patients after valve replacement was elaborated by the participants in different dimensions depending on the individual experiences. This theme describes individual quality of care received after mitral valve replacement and it is organized into two sub-themes, patient-health care provider interaction and treatment resources accessibility.

Patient-healthcare provider interaction

Healthcare providers interact with the patient post-valve replacement during clinic services and provide counseling and encouragement based on the needs of the patients. Participants

expressed that there was a positive and empathetic interaction with health providers post-valve replacement while attending clinics that helped them to be free to seek help if they faced health challenges. Patient-health care provider interaction with better communication and engagement of patients in their care was reported to facilitate patient-centered care that makes patients comfortable with their treatment regime. Participants reported health care providers provide health care with a sense of humanity and help patients when they face difficulties in the instructed drug dosage or when they have a health problem

> "*First of all, I dare to say that in my life, I have never received such good health care as I get here, health care professionals provide better services to patients, and I get all the services very well" #**P02***.
>
> ***And***
>
> *"The service is not bad and health care providers serve with love and respect, they help us because if we face any challenge we explain to them they understand and give explanation and support"#**P03***

Treatment resources accessibility

The patient reported being satisfied with services provided during admission before valve replacement and at the clinic after valve replacement. The participants reported the challenge of accessibility of treatment in Tanzania because there is only one clinic for open heart surgery (Jakaya Kikwete Cardiac Institute) located in Dar es Salaam that provides open heart surgery services. It makes it difficult for them to access the treatment with cost-effectively because they need to travel from different regions to Dar es Salaam where the services are provided.

> *"These cardiac services should be placed in every region where can be easily accessed, because the patients' incomes are different, and other patients have really low incomes, if you tell them to travel from another region to Dar es Salaam to attend clinic every month, fare expenses is giving the challenge". **#P03***

The cost of medicine was reported to be a challenge to some participants, some failed to adhere to the treatment regime because they could not afford the cost of medicine. Some skip taking anticoagulants that increase the risk of blood clotting and affect the quality of health of the patient.

> "*The challenge is to have the warfarin drugs because until I register for exemption from the government to get it. Sometimes I can stay without warfarin drugs for* a *week* waiting for exemption after I have *booked to get them* from the government*" **#P17***

Participants also reported long waiting times spent during clinic follow-up post valve replacement, the factors pointed out are not following the queuing system, another reason for the long waiting time at the clinic delay of doctors arriving and starting the clinic on time.

> *"Sometimes you arrive at the clinic but doctors have not arrived yet; you leave home around 5 o'clock early morning; you stay here at the clinic till late evening; you get home at midnight and hungry because you can't go eat while waiting to be attended to at the clinic"**#P11***

Participants face the challenge of affording transport and accommodation during clinic visits because they travel from different regions to attend the clinic at JKCI in Dar es Salaam. These costs make some patients skip clinics to monitor their health status and take the drugs.

> *"Because we are different in terms of income, some the income is very low if you tell me to travel from Moshi to Dar es Salaam every month to attend clinic the challenge I face is transport costs and the place to reside here I don't have any relative"#P03*

Self-care training

Proper self-care training and informational support in patients with mechanical heart valve replacement have positive results. By maintaining self-care, the level of a therapeutic target range of INR can be maintained and the incidence of bleeding complications can be reduced.

Fluctuations in INR can occasionally disrupt warfarin dosage regulation regimes, causing participants to forget which dose to take on a specific day. Change in INR reported by the

participants of this study as a challenge that leads to taking inappropriate doses of warfarin and causes different health impacts to the patients.

> *"For example, if I take half a pill today and then tomorrow the whole pill, there are days when I forget myself and don't remember whether I should take the whole pill or half. I swallowed half a pill again; maybe I was supposed to swallow the whole pill"* ***#P12***

Some participants reported the challenge associated with fluctuation in the International Normalized Ratio (INR) to be a concern to their quality of life due to thrombus formation and risk for bleeding**.** The level of INR changes depending on the clotting factors in the blood associated with the use of warfarin drug.

> *"The INR since surgery for valve replacement is not stable; it always changes, which is disturbing to me; it causes anemia"* ***#P05***

4.3 Coping to New Life

After mitral valve replacement patients need life modification which may need support and motivation to sustain the life change. Life modification helps the patient enhance their well-being and lower their chances of complications associated with valve replacement such as thrombus formation, and valve failure associated with poor adherence to living principles following MVR. This theme has four sub-themes; accepting new life, socialization, Faith in God, and being supported.

Accepting new life

Participants of this study elaborated different strategies to cope living with artificial valves such as considering themselves healthier and accepting new life through adherence to given instructions from health providers to live with artificial valves.

> *"I have accepted that I have come from another life and that I have to enter another life to live, so I have to respect and obey what the doctors tell me*" **#P02**

Religious coping

Participants reported having faith in God as the way to handle stress after valve replacement. They believe that God is the only solution to their suffering and will make the way to eliminate the illness and restore health. This encourages them during coping to a new life after valve replacement.

> *"I just sat down and prayed to God and said that everything is going according to God's plans, so thinking too much is not the solution because it will be fine. I just decided to stop thinking and let it go"* ***#P09***
>
> *And*
>
> *"I just thank God. I tell Almighty God that you are the creator and that you are the one who will help me"****#P11***

Seeking support

Patients reported attending the clinic regularly for check-ups, monitoring the functioning of the artificial valve, managing medications, and addressing any complication or concern to health care providers. Also, they attend clinics regularly to join with other patients living with artificial valves to share and learn new experiences and seek reliable information about their health, lifestyle modification, and treatment options for their health from healthcare providers. Other patients sought prayers and counseling to their religions to alleviate anxiety related to valve replacement surgery and helped to cope with new life.

> *"When I got health challenges after valve replacement, I came to the hospital for consultation from my doctor, and he advised me to continue taking the medicine and it will stop"****#P02***
>
> **And**
>
> *"When I come to my clinic, I consult with my colleague's patients on their experience, and my colleagues tell me that they have no problems since valve surgery, I consider myself normal, and I consider myself to be fine"#****P06***

Socialization

Mixing with other people and making stories funny has been reported by the participant as one of the ways to handle stress after valve replacement. Through socialization, patients get new experiences from other patients on how they make everyday living and coping strategies used to adapt to a new life after valve replacement.

> *“Mixing with people, we tell stories. They comfort me because when you sit in a group, tell different stories, and I find myself forgetting to think about valve”**#P01***
>
> *And*
>
> *"Family members give me support and think about me; they tell me that I should not think too much; even if something serious happens, they use wisdom to tell me, do not surprise me, and give me the strength to get up and continue with my life" **#P06***

CHAPTER FIVE

5.0 DISCUSSION

This study aimed to explore the lived experiences and coping strategies of patients following mitral valve replacement at JKCI, Dar es Salaam-Tanzania. The results revealed that patients experienced physical, socio-economic, and psychological impacts after valve replacement. Also, the quality of care received after valve replacement such as patient-healthcare provider interaction, treatment resources and accessibility, and patient's self-care training had significant consequences on the lived experience of patients and coping following valve replacement. The patients attempted different strategies such as socialization, accepting new life, religious coping, and seeking support to cope with new life following valve replacement. Based on the findings of this study, it is recommended that post-valve replacement care focuses on proactive management, robust support systems, and lifestyle adjustments to help patients adapt to their new life and minimize daily activity disruptions. Furthermore, emphasizing regular monitoring and strict adherence to medical guidance is crucial for maintaining long-term health and well-being in patients who have undergone valve replacement surgery.

5.1 Quality of life

Participants reported improvement in the physical aspect through cessation of symptoms experienced before valve replacement, improved activity level, resumed work, and stability in health. Based on the results of this study it is crucial to monitor the health of patients after valve replacement to prevent complications and improve the physical abilities of patients. These results are congruent with the study done at Zealand University Hospital, Denmark that reported that participants had improved health and cessation of symptoms associated with the disease and improved level of activities following valve replacement (43). Another study done at King Abdul-Aziz University Hospital (KAUH), Jeddah Saudi Arabia showed that heart valve replacement improves the quality of life of patients (41).

Worry and anxiety related to dislodgment, malfunction of the mechanical valve and durability of the artificial valve, use of anticoagulants for life and its outcomes, and effect of illness on health stability after valve replacement reported to disturb patient's psychological domain and consequently affect the quality of life following valve replacement. It is important to give prior information about valve functions, durability, and complications to reduce worry and anxiety associated with valve replacement. The results of this study are consistently reported by the study done in Denmark which showed that participants experienced existential challenges [life-threatening condition, loss of identity] and psychological challenges such as anxiety and depression, fear of recurrence, or complication following valve replacement (58).

Female participants of reproductive age in this study reported having birth restrictions to prevent complications associated with mechanical valves during pregnancy. Essential preconception counseling and birth restriction post-valve replacement alleviate pregnancy risks, ensuring health through informed decisions and rigorous monitoring during pregnancy. The results of this study are congruent with the results of a study done in Canada that showed that mechanical valves are associated with a high risk for cardiac and pregnancy adverse events, therefore women with mechanical valves are counseled on birth control(59). Similarly, a study conducted in New Zealand found that women with mechanical mitral valves had a higher pregnancy loss rate related to warfarin use during pregnancy (60).

Medical expenses like regular check-ups, diagnostic tests, adjustment of medication regimes, hospital bills, and follow-up appointments were reported to influence financial strains on patients or families and influenced adherence to treatment regimens and health complications after valve replacement. These findings show that patients with artificial valves encounter financial challenges that need support from relatives and healthcare systems for better health outcomes after valve replacement. The findings were also reported by a study done at Santa Marta Hospital, Lisbon, Portugal that post-valve replacement care is beyond cost-effective and thus had increased costs to patients to achieve the required standards of treatments compared to other rehabilitation program (61).

5.2 Quality of care of the patient after valve replacement

Most of the participants of this study reported receiving friendly and holistic care post valve replacement surgery based on patient-health care interaction and treatment accessibility. Participants reported a supportive interaction with good altitude and customer care of health care providers during follow-up appointments, health talks, or counseling after valve replacement at the clinic. Supportive interaction between patients and health care providers showed the impacts on adherence to medication and medical appointments, food restrictions, and psychological needs of the patients and therefore improved quality of health of patients. These results were comparable with that reported by the study done University of Copenhagen Denmark which showed that participants who had positive interactions with medical personnel had relatively low health complications after valve replacement (32).

Accessibility of treatment and consultations following valve replacement was reported to be the challenge because JKCI is the only hospital providing cardiac surgery services in Tanzania therefore; patients need to travel from other regions to Dar es Salaam for cardiac valve surgery services. This indicates that patients can fail to attend clinics and therefore disrupt continuity of care, affect health outcomes, and compromise the well-being of patients. A study in Uganda revealed that heart surgery services were centralized in one institution, emphasizing the critical need to decentralize and expand cardiac valve post-operative care services nationwide to enhance outcomes for valve replacement procedures (62).

Also, some patients reported that they used long waiting times at clinic visits due to a shortage of specialists in the hospital who start attending admitted patients first before the commencement of clinics and sometimes after long waiting times, they were attended by general doctors to save time. Long waiting times for medical care disrupt patients' daily routines, work responsibilities, and social activities, placing additional strain on both patients and their support networks. These results were also reported by the study done by the British Heart Valve Society that there was a long time waiting at the cardiac valve surgery clinic due to a shortage of super specialists to attend to patients with valve replacement (63).

Participants of this study also reported that they were provided post-discharge education after valve replacement on medication use and dosage regulation depending on the INR level and food that interact with warfarin but they forgot since they were given instructions while they were still in pain of surgery and were not provided with leaflets with instructions to read at home after discharge. Regulation of warfarin dosage in case of INR level change was reported as the challenge by the participants therefore indicating that they were not well informed about correct use and dosage regulation based on INR change. It is recommended that patients and their families receive thorough health education on medication use and dietary guidelines both before and after valve replacement surgery, accompanied by detailed discharge leaflets to promote continued understanding and adherence at home. Shirdel's study demonstrated that patients undergoing valve replacement surgery who received health instructions on anticoagulants and diet after six days post-valve replacement had better understanding and experienced fewer anticoagulant-related complications compared to those who received training within the first 6 days post-cardiac valve surgery (64).

5.3 Coping with life after valve replacement.

Participants of this study reported being supported, engaged in social activities, maintaining connections with friends, and sharing experiences, and concerns with fellow patients. This offered belonging and validation, reduced feelings of isolation, enhanced well-being, and focused on enjoying life beyond their medical condition. These results were also similar to a study done in Kuala Lumpur Malaysia where patients used different coping strategies like seeking social and family support to cope with new life after valve replacement (52).

Participants reported that praying to God, meditation, attending religious services, socio-economic support, and seeking guidance from religious leaders helped them during the transitional period to new life after valve replacement. Based on the results of this study it is essential to consider the patient's religious beliefs and practices in offering holistic care that respects and integrates coping mechanisms into the patient's treatment and recovery plan following valve replacement. Similar results from the study done in the United States of America reported that faith in God provided a sense of emotional comfort to patients and

improved quality of life after valve replacement (65). Also, the study done in Kuala Lumpur Malaysia reported that spirituality and optimism influenced coping with new life among patients after valve replacement (52).

Participants also embraced the reality of their health condition of living with artificial valves and made necessary life adjustments to accommodate their new normal. Participants of this study acknowledged physical limitations, food restrictions, use of medications for life, adapted changes in daily activities, and accepted the need for ongoing medical management and care, therefore had adherence to medical instructions that facilitated their well-being. This highlights the significance of both relatives and healthcare workers in supporting patients to achieve the intended health outcomes after valve replacement. The study done in Australia also reported that participants who accepted medical restrictions and instructions were conducive to better adherence and prevented the occurrence of health complications post-heart valve surgery (66). Also, the study conducted in Denmark revealed that individuals had different needs and preferences from healthcare providers or family members. They also actively took charge of their health by seeking guidance from healthcare providers and other sources to optimize health stability (58).

5.4 Strengths and limitations of the study

A qualitative cross-section study design with purposive sampling captured the experience of participants' day-to-day experiences and strategies used to overcome challenges associated with valve replacement. Consideration of ethical standards, informed consent, and the potential psychological impacts of participation in the research enhance the validity and reliability of the research results for patients living with artificial valves. In-depth interviews in a quiet and comfortable environment with adequate time without any interruptions ensured privacy, built trust from the participants, and enabled them to give relevant responses. Transferability of results can be done because data was collected at the only cardiac center that provides open heart surgery services in Tanzania and receives patients with heart diseases from different parts of the country and neighboring countries.

The use of quotes to support and illustrate the data analysis procedure, putting aside researchers' opinions and presumptions and preventing misrepresentation of the intended meaning, perception, or experience of the participants, provides validity to the results. The researcher had no control over the individual differences and psychological state of the participants when they were responding to the questions, which could have an impact on their responses. Participants' responses could be influenced by social desirability bias, where they underreported the negative experiences or overemphasized the positive coping mechanisms. The researcher tried to mitigate this limitation through the use of anonymity of respondents and confidentiality to make them comfortable to provide honest answers without fear of judgment.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATION

Quality of life (QoL) following mitral valve replacement (MVR) is profoundly influenced by multiple factors, including the effectiveness of patient-provider interactions, coping mechanisms, and comprehensive post-operative care. Patients with artificial valves face a unique set of challenges, encompassing physical, emotional, and socio-economic aspects. Effective communication, empathy, and patient education from healthcare providers are crucial for enhancing patient satisfaction and treatment adherence. The ability of patients to adapt to their new reality through diverse coping strategies plays a significant role in their overall well-being and resilience.

Health care providers should develop comprehensive educational materials focusing on coping strategies, self-care, and lifestyle adjustments specific to MVR. Health care workers should provide of holistic support that includes psychological counseling, social support, and spiritual guidance to address both physical and emotional needs of patients. Training institution should incorporate training on the psychological aspects of recovery from MVR into nursing curricula to ensure that healthcare providers are equipped to address the emotional and mental health needs of patients.

Health facilities should streamline appointment scheduling and increase the availability of specialists to reduce waiting times and improve access to mitral valve replacement services. Establishing mechanisms for ongoing monitoring and evaluation of patient post mitral valve replacement outcomes to continually enhance care processes and address any emerging issues. Conduct awareness campaigns to educate patients about the importance of adhering to their treatment regimens and attending follow-up appointments.

Encourage patients to engage in self-care practices and seek regular counseling to stabilize their lives and improve their quality of life post-mitral valve replacement. Support patients in building and maintaining social connections, fostering personal resilience, and accepting their new life circumstances to enhance their overall quality of life.

The interaction between patients with artificial valves and healthcare providers significantly impacts the quality of care and patient outcomes. Effective communication, patient education and counseling, trust, and empathy from healthcare providers were crucial for patient satisfaction and adherence to treatment regimes. Coping mechanisms of patients living with artificial valve replacement encompass a diverse range of strategies including socialization, religious coping, accepting of new life, and seeking support. These coping mechanisms play a vital role in helping patients eliminate physical, psychological, and socio-economic challenges associated with living with artificial valves. By enhancing support networks, drawing personal beliefs and spirituality, and accepting their new reality patients cultivate resilience and find ways to adapt to new life.

It is important to integrate comprehensive training on the psychological aspects of recovery from MVR into nursing curricula emphasizing the importance of addressing both physical and emotional needs of patients following MVR. Develop

Healthcare providers should create patient education materials that focus on coping strategies and support networks to support the stated coping mechanisms to enhance patients' overall well-being and quality of life after valve replacement. Provision of support to the patient such as holistic care, personalized support, and provision education on how to live with artificial valves, encouraging social connections, fostering resilience, and continuation of post-valve replacement care enables the patient to cope with new life. Awareness campaigns are needed to encourage people undergone heart valve surgery to adhere to the treatment cascade regularly. Patients should be instructed to do self-care at home and follow-up counseling sessions to stabilize their lives and improve their quality of life. The health facility should streamline the appointment schedule and increase the number of specialists to minimize the waiting time of patients at cardiac surgery clinics. Also should establish mechanisms for ongoing monitoring, evaluation, and improvement of care processes and outcomes of patients after valve replacement.

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APPENDICES

Appendix I: Investigation tool (Interview guides)

Interviewer guide (English version)

A: Demographic data and information

1. How old are you?
2. Which gender are you?
3. What is your marital status?
    1. Single
    2. Married
    3. Divorced
4. What is your education level?
    1. Below standard seven
    2. Primary education
    3. College or university
5. What do you do for a living**?**

B: The lived experience of the participant following artificial valve replacement

6. How long have you lived with an artificial mitral valve?
7. Tell me your experience of living with an artificial valve.
    - Probe the following aspects
        a) Health status before and after artificial valve replacement
        b) Complications following artificial valve replacement.
        c) Level physical activities
        d) Trends of cardiac clinic visits
        e) Type of family and society support (s) the patient receive

C: How do you cope with life following mitral valve replacement?

Probe the following aspects

a) Do you have any medicines to take while you're at home?
b) Any difficulties taking medication as prescribed
c) Obstacles to adhering to dietary recommendations
d) Ways to handle stress
e) Provision of family needs

Thank you for your participation

Appendix II: Interviewer guide Swahili version

A: Taarifa binafsi za mshiriki

Una umri gani?.....

Jinsia yako ni nini? .....

1. Hali yako ya ndoa ikoje?
    a) Sijaoa/kuolewa.....
    b) Nimeoa/ Kuolewa.....
    c)Mjane/Mgane.....
2. Kiwango chako cha elimu ni kipi?
    a) Chini ya darasa la saba.....
    b) Elimu ya singi.....
    c) Elimu ya sekondari.....
    d) Chuo.....
3. Kazi yako ni nini?.....

B: Uzoefu wa maisha wa mshiriki kufuatia kuwekewa vali bandia

1. Je, umeishi kwa muda gani na vali bandia?.....
2. Je, una uzoefu gani wa kuishi na vali bandia?, uliza juu ya vipengele vifuatavyo
    a) Hali ya afya baada ya kuwekewa vali bandia
    b) Matatizo baada ya kuwekewa vali bandia
    c) Kiwango cha shughuli za kimwili
    d) Mahudhurio ya kliniki ya Moyo
    e) Je, unatumia njia gani za kukabiliana baada ya kuwekewa vali bandia? uliza juu ya vipengele vifuatavyo

C: Je, unafanya nini kuzoea hali ya kuishi na vali bandia baada ya kuwekewa?

a) Kuna dawa ulizopewa baada ya kuwekewa vali bandia za kutumia ukiwa nyumbani?

b) je, unapata ugumu wowote wa kutumia dawa kama ilivyoelekezwa

c) Vikwazo juu ya mapendekezo ya lishe

d) Njia za kushughulikia mafadhaiko(stress)

e) Utoaji wa mahitaji ya familia

Asante kwa ushiriki wako

Appendix III: English version Informed consent form

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

ID No. (……)

Hello,

I am Jinasa P. Kisangija, a master's student in Cardiovascular Science in Nursing. I have to do a research study to complete my master's degree. My research is about 'Patients' lived experiences and coping mechanisms following mitral valve replacement at Jakaya Kikwete Cardiac Institute, Dar es Salaam'. This consent form offers crucial details that can convince you to take part in the research.

Study title:

Patients' lived experiences and coping mechanisms following mitral valve replacement at Jakaya Kikwete Cardiac Institute, Dar es Salaam.

Researcher: Jinasa P. Kisangija

Purpose of the study:

To explore lived experience, coping mechanisms, and support needs required by the patient following mitral valve replacement.

Participants of the study:

Participants in the study will be people with mitral valves without chronic illnesses such as kidney disease, diabetes mellitus, HIV, or cancer who attend a cardiac clinic at JKCI.

What can be expected from the study?

You will be asked questions from an interviewer guide if you consent to participate in this study.

Any risks in participating in the study:

Participating in this study has no risks.

Advantages to participants taking part in the research

There are no personal rewards for taking part in this study; instead, JKCI will receive the information gathered from it, which will enhance patient care.

Any cost in participating in the research:

There is no fee for study participants to take part in the research process.

Confidentiality during participating in the research process:

The researcher and participants will maintain the utmost confidentiality regarding the information gathered from this study, which will be utilized for academic research and patient care enhancement.

Consent to participate:

By signing this form, you attest to having read the material above, comprehending it, and being willing to take part in the research project.

The signature of the Participant Time of date

…… …….

For any clarification of the study contact the following;

1. Jinasa P. Kisangija (Principal investigator) 0769110651 email: peterjinasa@gmail.com
2. Dr. Menti Ndile (Study Supervisor) email: mentlast@yahoo.co.uk
3. Directorate of Research and Publication, Muhimbili University of Health and Allied Sciences, P.O.BOX 65001, Dar es Salaam, Telephone: +255-022-215-2489, Email: drp@muhas.ac.tz

Appendix IV: Consent form Swahili version

CHUO KIKUU CHA AFYA NA SAYANSI SHIRIKISHI MUHIMBILI

Fomu nambari (…….).

Salamu,

Mimi ninaitwa Jinasa Peter Kisangija, mwanafunzi wa elimu ya ngazi ya uzamili, Sayansi ya Uuguzi katika moyo na mishipa ya damu. Ili kukamilisha masomo yangu ya uzamili, natakiwa kufanya utafiti. Utafiti wangu unahusu, "Uzoefu wa kuishi wa mgonjwa na mifumo yakukabiliana kufuatia kubadilishwaji wa Vali aina ya 'mitral' katika Taasisi ya Moyo ya Jakaya Kikwete (JKCI), Dar es salaam Tanzania".
Fomu hii inaelezea taarifa mahususi zitakazokushawishi kukubali kushiriki katika utafiti huu.

Kichwa cha tafiti:
Uzoefu wa kuishi wa magonjwa na mifumo yakukabiliana kufuatia kubadilishwaji wa Vali aina ya 'mitral' katika taasisi ya Moyo ya Jakaya Kikwete (JKCI), Dar es salaam Tanzania.

Mtafiti: Jinasa P. Kisangija

Dhumuni la Tafiti:
Ni kutathmini uzoefu wa kuishi na mifumo yakukabiliana kufuatia kubadilishwaji wa Vali aina ya 'mitral' katika Taasisi ya Moyo ya Jakaya Kikwete (JKCI), Dar es salaam Tanzania. Hii itawezesha kushughulikia mambo mbalimbali yanayoathiri muda wa kukaa kwa wagonjwa kwa uongozi wa hospitali ya JKCI pamoja na vituo vingine vya afya vinavyohusiana na moyo vinavyohitaji ujuzi huo kwa ajili ya kuboresha huduma za wagonjwa.
Pia matokeo ya utafiti huu yatatumika kama rejea kwa wanazuoni wengine watakaohitaji kufuatilia tafiti za aina hii kwa kuwekwa maktaba ya MUHAS.

Washiriki wa utafiti huu:

Wagonjwa wote walio na vali ya ‘mitral’ na hawana magonjwa sugu kama kisukari,ugonjwa sugu wa figo, saratani na ukimwi.

Nini kitatokea wakati wa utafiti?:

Unapokubali kushiriki katika utafiti huu, utaulizwa maswali kutoka kwenye muongozo wa mhoji.

Hatari yoyote katika kushiriki utafiti:

Hakuna hatari yoyote kushiriki katika utafiti huu.

Faida binafsi za mshiriki wa utafiti:

Hakuna manufaa binafsi ya kushiriki katika utafiti huu, badala yake taarifa zitakazopatikana baada ya utafiti huu zitakabidhiwa hospitalini kwa lengo la kuboresha utunzaji na huduma ya wagonjwa wenye tatizo la moyo kushindwa kufanya kazi.

Gharama yoyote katika kushiriki:

Hakuna, gharama kwako kushiriki katika utafiti huu.

Usiri wowote katika kushiriki utafiti:

Tarifa zitakazopatikana kutoka katika utafiti huu zitakuwa ni siri kwa mtafiti na mshiriki na zitatumika kwa madhumuni ya kitaaluma na kuboresha huduma za wagonjwa wa JKCI.

Ridhaa ya kushiriki:

Sahihi yako inaonyesha kuwa umesoma maelezo hapo juu, umeelewa na uko tayari kushiriki katika utafiti huu.

Sahihi ya mshiriki Tarehe

…….. ……

TAARIFA ZA MAWASILIANO

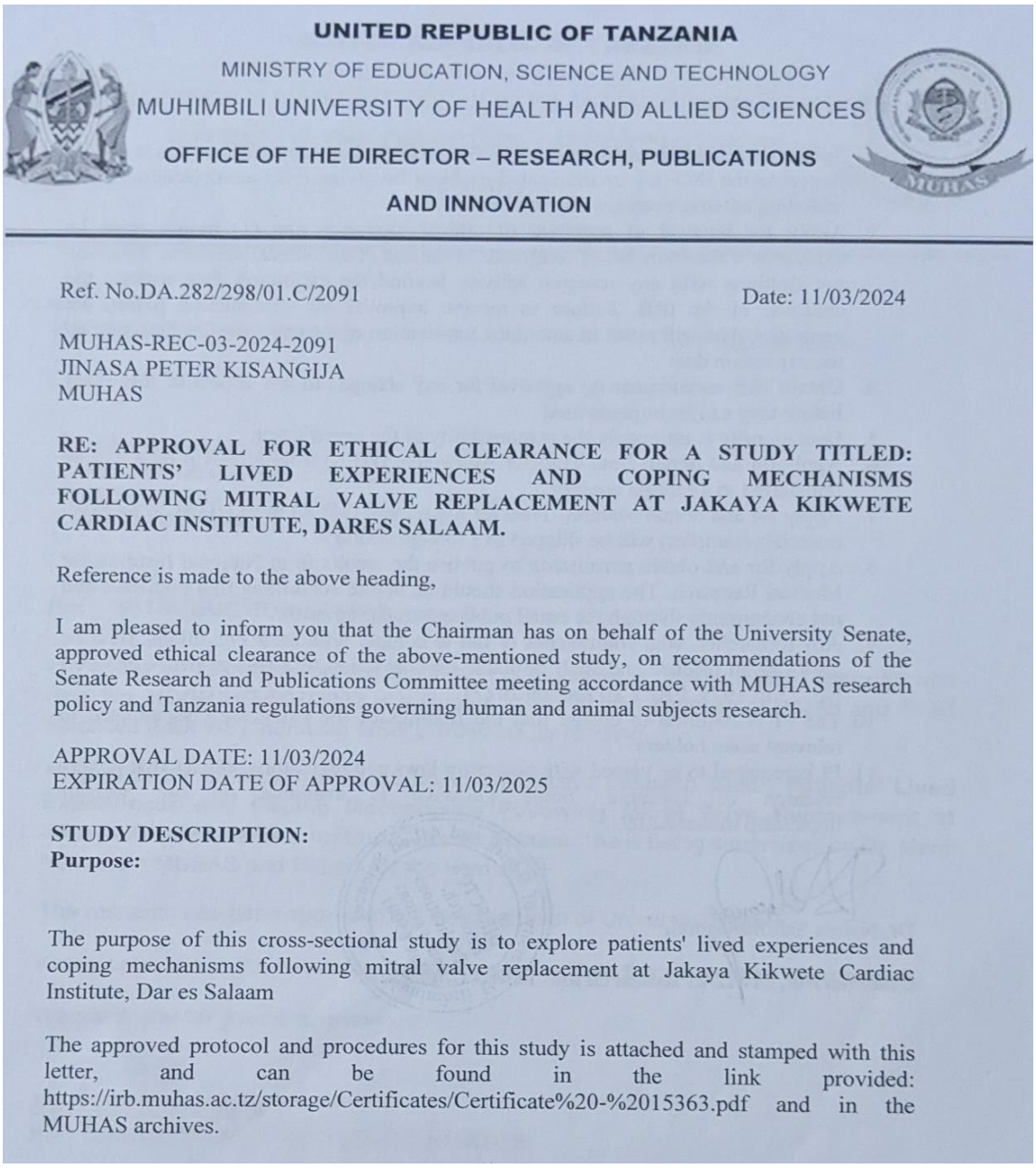
Kwa ufafanuzi wowote wa utafiti, unaweza kuwasiliana na wafuatao;

1. Jinasa P. kisangija (Mtafiti mkuu) +255769 110 651, Barua pepe; peterjinasa@gmail.com

2. Dr Menti Ndile (RN, PhD- Msimamizi wa utafiti) barua pepe: mentlast@yahoo.co.uk

3. Kurugenzi ya Utafiti na Uchapishaji,
   Chuo Kikuu cha Afya na Sayansi Shirikishi Muhimbili,
   S.L.P 65001, Dar es Salaam,
   Simu: +255-022-215-2489, Barua pepe: drp@muhas.ac.tz

Appendix V: Ethical clearance letter



UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

OFFICE OF THE DIRECTOR – RESEARCH, PUBLICATIONS AND INNOVATION

Ref. No.DA.282/298/01.C/2091 Date: 11/03/2024

MUHAS-REC-03-2024-2091
JINASA PETER KISANGIJA
MUHAS

RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED: PATIENTS' LIVED EXPERIENCES AND COPING MECHANISMS FOLLOWING MITRAL VALVE REPLACEMENT AT JAKAYA KIKWETE CARDIAC INSTITUTE, DARES SALAAM.

Reference is made to the above heading,

I am pleased to inform you that the Chairman has on behalf of the University Senate, approved ethical clearance of the above-mentioned study, on recommendations of the Senate Research and Publications Committee meeting accordance with MUHAS research policy and Tanzania regulations governing human and animal subjects research.

APPROVAL DATE: 11/03/2024
EXPIRATION DATE OF APPROVAL: 11/03/2025

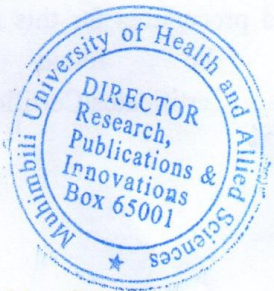
STUDY DESCRIPTION:
Purpose:

The purpose of this cross-sectional study is to explore patients' lived experiences and coping mechanisms following mitral valve replacement at Jakaya Kikwete Cardiac Institute, Dar es Salaam

The approved protocol and procedures for this study is attached and stamped with this letter, and can be found in the link provided: https://irb.muhas.ac.tz/storage/Certificates/Certificate%20-%2015363.pdf and in the MUHAS archives.

The PI is required to:

1. Submit bi-annual progress reports and final report upon completion of the study.
2. Report to the IRB any unanticipated problem involving risks to subjects or others including adverse events where applicable.
3. Apply for renewal of approval of ethical clearance one (1) month prior its expiration if the study is not completed at the end of this ethical approval. You may not continue with any research activity beyond the expiration date without the approval of the IRB. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.
4. Obtain IRB amendment (s) approval for any changes to any aspect of this study before they can be implemented.
5. Data security is ultimately the responsibility of the investigator.
6. Apply for and obtain Data Transfer Agreement (DTA) from NIMR if data will be transferred to a foreign country.
7. Apply for and obtain Material Transfer Agreement (MTA) from NIMR, if research materials (samples) will be shipped to a foreign country.
8. Apply for and obtain permission to publish the results from National Institute for Medical Research. The application should be before submitting to a publisher and not concurrently through the email publications@nimr.or.tz.
9. Any researcher, who contravenes or fail to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine as per NIMR Act No. 23 of 1979, PART III section 10 (2)
10. The PI is required to ensure that the findings of the study are disseminated to relevant stake holders.
11. PI is required to be versed with necessary laws and regulatory policies that govern research in Tanzania. Some guidance is available on our website https://drp.muhas.ac.tz/.



Dr. Nahya Salim Masoud,

Chairperson, MUHAS Research and Ethics Committee

Appendix VI: Permission letter from JKCI

UNITED REPUBLIC OF TANZANIA

MINISTRY OF HEALTH

JAKAYA KIKWETE CARDIAC INSTITUTE (JKCI)

JAKAYA KIKWETE CARDIAC INSTITUTE

In reply please quote;
Ref No: AB.123/307/01K/25

04/04/2024

Jinasa Peter Kisangija
Reg. No. HD/MUH/T.507/2022
Msc. Cardiovascular Nursing - MUHAS

RE: PERMISSION TO CONDUCT RESEARCH AT JKCI

Reference is made to your letter requesting to do a research study entitled **"Patients' lived experiences and coping mechanisms following Mitral Valve Replacement at Jakaya Kikwete Cardiac Institute."** here at JKCI.

This letter serves as an official document that permits you to do the above-mentioned task as requested. However, the institution also requires you to have JKCI local co-supervisor.

It is our sincere hope that you will abide by the rules and regulations of good clinical practice. We wish you the best and hope your stay at JKCI will be fruitful.

Best Regards,

JAKAYA KIKWETE CARDIAC INSTITUTE
P. O. Box 65141
Dar-es-Salaam
JKCI

Dr. Pedro Pallangyo
Head of Research, Training and Consultancy.
CC: ALL DIRECTORATES & Head of Units

Jakaya Kikwete Cardiac Institute (JKCI); Upanga East Plot No. 1048, Kalenga Street, Malik Road, P. O. Box 65141 - Dar es Salaam; Telephone Number + 255 -22- 2152392Email:info@jkci.or.tz, Website: ww.jkci.or.tz.

Appendix VII: Digital Receipt

turnitin

Digital Receipt

This receipt acknowledges that Turnitin received your paper. Below you will find the receipt information regarding your submission.

The first page of your submissions is displayed below.

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Appendix VIII: Plagiarism Report

Peter Jinasa2

ORIGINALITY REPORT

26%	24%	16%	17%
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PRIMARY SOURCES

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