The Role of Native Remedies and Limited Awareness inDiagnosis and Treatment of Cardiovascular Diseasesin Gilgit-Baltistan – A Qualitative Study

PROGRAM

BS PUBLIC HEALTH

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ABSTRACT

Cardiovascular diseases (CVDs) persist as a primary cause of morbidity and mortality globally, exerting a particularly significant influence on resource-constrained and geographically remote areas like Gilgit-Baltistan. Despite the escalating prevalence of CVDs within Pakistan, diagnostic delays are still prevalent, leading to advanced disease stages, preventable complications, and enduring disabilities. This research sought to investigate the role of limited health literacy, cultural interpretations of symptoms, and the use of traditional treatments in the delayed diagnosis and management of cardiovascular ailments within the Gilgit-Baltistan populace. The central aims were to assess community perceptions of CVD symptoms, pinpoint the cultural and behavioral factors shaping treatment decisions, and elucidate the determinants of delayed health-seeking behaviors.

The qualitative investigation employed in-depth, semi-structured interviews, with all findings analyzed retrospectively. A total of 22 interviews were undertaken, and participants were purposively chosen from random community interactions. Some participants were hospital patients, while others were individuals visited in their residences, selected based on the presence of reported cardiovascular symptoms and their expressed willingness to participate. The investigation revealed a robust correlation between restricted functional health literacy and the misinterpretation of initial symptoms, which were frequently ascribed to stress, exhaustion, or gastrointestinal problems. These misunderstandings often prompted individuals to initially seek relief through herbal remedies, indigenous treatments, and spiritual practices, a behavior molded by cultural conventions and further exacerbated by economic and locational limitations. Furthermore, structural impediments, including considerable travel distances, transportation challenges, and insufficient financial means, significantly delayed access to biomedical care, frequently prolonging the interval before clinical consultation by several months and adversely impacting health outcomes.

According to the outcome of the research, the late diagnosis of cardiovascular disease (CVD) in Gilgit-Baltistan is a result of the complex interrelationship between the cultural standards and practices, the limited health literacy levels, and the substantial infrastructural challenges. Such findings show that special emphasis must be placed on the importance of culturally relevant health education programs, community-based resource mobilization of awareness, and involvement of more diagnostic institutions. Therefore, improved primary healthcare systems and inclusion of culturally sensitive

communication strategies may help make these marginalized mountainous groups detect CVD earlier, treat it promptly, and reduce the burden of this disease.

Key Words:*Cardiovascular Disease, Treatment, Delayed Diagnosis, Native Remedies, Limited Awareness*

List of Abbreviations

CVD / CVDs Cardiovascular Disease / Cardiovascular Diseases

GB Gilgit-Baltistan

WHOWorld Health Organization

IHME Institute for Health Metrics and Evaluation

DALYs Disability-Adjusted Life Years

NCDs Non-Communicable Diseases

HBM Health Belief Model

CHWs Community Health Workers

PCUs Primary Care Units

BHUs Basic Health Units

ECG Electrocardiogram (mentioned indirectly as portable ECG machines)

CFR Case Fatality Rate

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List of Tables

Table 1: Age and Gender Distribution of Respondents……………………………………………….…...….Page 35

Table 2: Educational/Professional Level of Respondents…………………………………….…….…..…..Page 35

Table 3: Patient Awareness of CVD Before Illness (Percentage)………………………………………….…Page 37

Table 4: Initial Recognition of Symptoms as Serious (Percentage)………………………………….….Page 37 – 38

Table 5: Patient's First Response to Symptoms (Percentage)……………………………………………….…. Page 39

Table 6: Traditional Remedies Used by Patients (Percentage)…………………...……………………………...Page 39

Table 7: Reasons for Using Remedies First (Percentage)…………………………………………………. Page 41

Table 8: Descriptive Statistics for Treatment Delay (Months)……………………………………………..… Page 42

Table 9: Emotional State of Patients (Percentage)……………………………………………………...…..Page 43 – 44

Table 10: Patients Still Using Remedies After Diagnosis (Percentage)…………………………………………Page 44

z

TABLE OF CONTENT

ACKNOWLEDGEMENTS iii

ABSTRACT iv

List of Abbreviations vi

List of Tables vii

CHAPTER 1 12

INTRODUCTION 12

1.1Background 12

1.2 Research Gap 14

1.3 Problem Statement 16

1.4 Research Objectives 16

1.5 Research Questions 17

1.6 Significance of Study 17

1.7 Conceptualization & Operationalization 18

CHAPTER 2 19

LITERATURE REVIEW 19

2.1 Background of CVD A Challenge to Human Health 19

2.2 CVD Prevalence in Asia 19

2.3 Cardiovascular Disease Prevalence in Pakistan 21

2.4 CVD Symptoms 22

2.5 CVD Risk Factors 23

2.6 CVD Treatment 24

2.7 Cultural Determinants of Treating Cardiovascular Disease 25

2.8 Health Literacy 27

2.8.1 Factors Influencing Health Literacy 28

2.8.2 Treatment and Management of CVD 28

2.8.3 Self-Management of Cardiovascular Disease 29

2.8.4 Cultural Factors Influencing Treatment Choices 29

2.8.5 Layman Treatment Practices 30

2.8.6 Folk Treatment Practices 30

2.8.7 Professional Treatment Practices 31

2.9 Theoretical Framework 31

CHAPTER 03 33
METHODOLOGY 33
3.1 Research Design 33
3.2 Universe and Study Population 34
3.3 Sampling Technique 34
3.4 Area Profile 35
3.5 Method of Data Collection 36
3.6 Key Informants 37
3.7 Data Analysis Techniques 37
3.8 Ethical Considerations 38
CHAPTER 4 38
DATA ANALYSIS 38
4.1 Demographics 39
4.2 Health Literacy for CVD of GB Population 41
4.2.1 Awareness of Heart Disease Symptoms 41
4.2.2 Misinterpretation of Early Symptoms 41
4.2.3 Awareness Linked Only to Classic Chest Pain (The Paradox of Recognition) 42
4.3 Reliance on Ethnomedical Treatment 43
4.3.1 Preference for Traditional and Herbal Remedies Before Medical Care 44
4.3.2 Reliance on Herbal Remedies 44
4.3.3 Religious and Spiritual Healing Practices 45
4.4 Role of Economic and Structural challenges 45
4.4.1 Reasons for Choosing Remedies (Access, Financial, and Cultural Factors) 46
4.4.2 Delays in Seeking Medical Treatment 46
4.5 Struggles to Acceptance of CVD 48
4.5.1 Emotional and Psychological Responses 48
4.5.2Lifestyle Modifications After Diagnosis 50
4.5.3Advice and Community Recommendations 51
CHAPTER 5 53
DISCUSSION AND CONCLUSION 53
5.1 Summary 53
5.2 DISCUSSION 54
5.3 Conclusion 56

z

5.4 Recommendations 58
REFERENCES 59

z

CHAPTER 1
INTRODUCTION

1.1Background

Globally, cardiovascular diseases (CVDs) are the leading cause of death and are becoming a significant public health concern. Nearly onethird of all fatalities worldwide are caused by CVDs each year, with low and middleincome nations bearing the brunt of this burden, according to the World Health Organization (WHO, 2023). According to the Global Burden of Disease Study (IHME, 2023), aging populations, changes in lifestyle, and increased exposure to modifiable risk factors like diabetes, hypertension, and hyperlipidemia have all contributed to a steady rise in disabilityadjusted life years (DALYs) and CVDrelated mortality over the previous three decades. Even if the diagnosis and treatment of cardiovascular diseases have advanced significantly, inequalities in access, early detection, and health literacy still influence the course of the disease, especially in settings with limited resources.

The prevalence of cardiovascular disorders has significantly increased in South Asia, with Pakistan and other nations experiencing especially high rates. CVDs are one of the leading causes of deaths from noncommunicable diseases in Pakistan, accounting for a sizeable amount of mortality (Pakistan Ministry of Health, 2022). The reason is inadequate infrastructure to support preventative health, the lack of screening programs, slow symptom manifestation, and the general ignorance of the initial signs of heart diseases. It has been wrongly thought that the initial signs, such as chronic fatigue, dyspnea, or identified muscle soreness in the chest are as a result of digestive issues, mental pressure or limited-lived bodily debilitations. Due to this fact, swift medical treatment is often aimed only at an advanced stage (when the symptoms are acute or even life threatening). Cultural reliance on home medicines, spiritual healing and non-official medical advice make it challenging to diagnose and provide proper treatment timely.

Gillette battery is a unique and complex place, as far as the diagnosis and treatment of cardiovascular illness is concerned. The systems of access to medical facilities are also highly disadvantaged due to the dispersed nature of the communities, extreme weather conditions, and the presence of hills in the region. Primary and tertiary healthcare institutions are normally quite distant to most villages and traveling could be challenging in some seasons. These geographic hurdles are the main cause of delays in seeking medical consultation especially in respect to chronic and progressive disorders like

cardiovascular diseases. The lack of access to emergency cardiac care and diagnostic equipment and specialist healthcare providers further exacerbates the problems that people face when receiving timely treatment (Khan et al.,2021).

The health seeking behavior in Gilgit Baltistan is heavily affected by cultural and traditional practices besides the geographical constraints. The area has a long history of ethno medical knowledge in which more than 300 medicinal plants are often used therapeutically. Examples of indigenous medicines are herbal teas, garlic preparations, plant extracts and locally prepared oils, that are well accepted and often become the first line of treatment of cardiovascular disease symptoms. The history of these cures is also lengthy in the region, and people have practiced natural methods of treating the diseases during the generations. Native therapies can help relieve symptoms or bring some form of solace however, it can also lead to the person taking too long to determine how serious the disease is or just postponing medical care. This delay can be very dangerous in such diseases, such as hypertension or angina, when early diagnosis and treatment become essential to reduce the outcome of the illness.

The level of health literacy in Gilgit Baltistan remains low, especially in dealing with chronic conditions and detecting early symptoms of heart diseases. Not many citizens know risk factors of cardiovascular diseases (CVDs) that include unhealthy lifestyles, unhealthy diets, obesity, tobacco, and genetic predisposition. Misleading conceptions regarding the causes and pathophysiology of heart disease have yet to be cleared, including that symptoms are age related, temporary, or due to energy imbalance. Social factors may have an impact on health seeking behavior; family members may minimize symptoms or advocate for at home care over official medical testing. Women face additional obstacles in some households because they may put family obligations ahead of their health or need permission and company to get care.

Delays in diagnosis are also caused by economic factors. Since many Gilgit Baltistan families rely on daily wage labor, small scale trade, or agriculture, paying for diagnostic testing, travel, and medical consultations out of pocket can be costly. People must go to urban centers for cardiovascular investigations including ECG, echocardiography, and laboratory tests, which can be expensive and time consuming, because these procedures are frequently unavailable in rural areas. Many people put off getting medical care because of these financial strains, turn to inexpensive home cures, or consult informal practitioners and traditional healers for guidance.

Gilgit Baltistan has a high prevalence of cardiovascular illness, but little is known about how people interpret their symptoms, what customs they follow, and how structural and cultural variables delay diagnosis. Most existing studies are inclined to pay attention to clinical risk factors or the national prevalence of CVD, and much attention to the perception of the patients in geographically and culturally varying regions. It is apparent that the analysis of the regional diagnostic delays modulations through in-societal factors, health literacy, and indigenous medicines and geographic limitations is required.

The given project will fill this gap by exploring how the lack of health awareness and using traditional treatments contributes to the late diagnosis of cardiovascular disorders in Gilgit Baltistan. The proposed study aims at providing contextual evidence, which can inform culturally sensitive interventions, awareness campaigns, and aid planners to develop interventions that can mitigate the burden of cardiovascular disease in the region using a qualitative study design that addresses the experiences of people as narrators. It is imperative to understand such dynamics in physically underprivileged areas with cultural diversity as in Gilgit Baltistan so that early diagnosis is enhanced, education levels are reinforced at the community level, and the communities are motivated towards healthy health seeking behavior.

1.2 Research Gap

Although cardiovascular diseases (CVDs) are usually recognized as an international health issue, very little is known about the perception of these conditions and their treatment in culturally and physically remote regions such as Gilgit Baltistan. Most national and international works on the subject have focused on mortality patterns, risk factors, as well as epidemiology. (WHO, 2023; IHME, 2023). However, these analyses have not examined how symptoms are interpreted culturally, the function of traditional healing, or the social processes that influence people's decisions to seek medical attention. Research in Pakistan has mostly focused on biomedical risk profiles, prevalence, and clinical determinants (Pakistan Ministry of Health, 2022). This has left little information available about the lived experiences of patients who encounter several levels of cultural, financial, and geographic barriers when trying to access cardiovascular health services. Therefore, even while national data show the increasing prevalence of CVDs, they do not account for how people in isolated mountainous areas view, comprehend, and react to the early signs of heart disease.

The lack of knowledge regarding Gilgit Baltistan's longstanding dependence on indigenous cures and ethnomedical customs is a significant research gap. Even though the range of used medicinal plants in the region has been known among the ethnobotanical studies, their effect on delaying biomedical diagnosis or therapy has not been studied (Khan et al., 2021). The duration in which individuals depend on home medicines, the causes of that dependency as well as how traditional healers are impacting the local health seeking behaviour are all not well documented. The cultural validity of herbal and spiritual practices in Gilgit Baltistan still has a lot to learn concerning the pathways to the cardiovascular disease. The medicines indigenous to the area have at times been used as the first line of treatment to the illnesses that might have otherwise required urgent medical care, thus this research gap presents a major gap.

Health literacy is another significant issue in this field, which has not been well covered in the literature. The individual sociocultural forces of Gilgit Baltistan, where disease meaning is infused through individual beliefs, family roles, educational disparities, and gender roles, cannot be reflected through the national surveys, which demonstrate that there is a lack of knowledge about cardiovascular risk factors in Pakistani people. Enough research work on how individuals understand the symptoms of early CVD, how they differentiate them with other less severe concerns, or how potentially harmful they are has not been conducted. In addition, minimal research has been conducted on the impact of emotional responses, fear, stigma, or reliance on the advice of the elderly in influencing the decisions of the people to respond to professional care.

In Gilgit Baltistan, structural impediments are still not well understood in relation to CVD diagnosis. Access to prompt diagnosis is greatly influenced by geographic remoteness, seasonal road closures, a lack of specialist medical personnel, and financial limits; however, no research has yet to look at how these factors interact with cultural norms to cause care delays. The general literature recognizes the difficulties in accessing healthcare in Pakistan's mountainous areas (Khan et al., 2021), but it doesn't look particularly at cardiovascular conditions or the relationship between biomedical services and traditional healing methods.

All in all, the absence of a qualitative, context specific study explaining such people in Gilgit Baltistan delay the process of receiving a biological diagnosis and how cultural, societal, and structural factors interact, all contribute to the delays, is the primary gap in knowledge in the body of work. The personal

experiences of patients, interpretation of symptoms, treatment regimen, and the cultural rationale of the use of indigenous medication is not effectively recorded. This gap will be bridged by the following study by providing a comprehensive qualitative exploration of how traditional therapies, social dynamics, environmental limitations and health consciousness determine the late diagnosis of cardiovascular conditions in Gilgit Baltistan.

1.3 Problem Statement

In Pakistan, cardiovascular illnesses have grown to be a major health burden; in underserved and remote areas like Gilgit Baltistan, this burden is considerably greater. Many people in Gilgit Baltistan put off seeking biomedical care despite the growing frequency of CVDs and the critical need for early identification because of a lack of knowledge, misunderstandings of early symptoms, limited access to healthcare facilities, and financial limitations. Longterm delays are also a result of cultural dependence on herbal medicines, spiritual practices, indigenous treatments, and traditional healers' counsel, all of which are seen as suitable, safe, and accessible substitutes for expert medical evaluation. Despite the alarming rise in cardiovascular morbidity and mortality reported by national statistics (WHO, 2023; Pakistan Ministry of Health, 2022), little is known about how individuals in isolated mountainous areas manage symptoms, select treatment options, and assess the severity of their conditions. Health systems and policymakers lack the knowledge they need to understand the patient experiences, sociocultural factors, and structural obstacles that influence delayed diagnosis since there is a dearth of qualitative, region specific evidence. The region will continue to experience needless complications, late stage illness presentation, and avoidable mortality if these intricate relationships between cultural beliefs, indigenous medicines, health literacy, and geographic isolation are not understood. Thus, this study's main issue is the lack of contextualized information describing how Gilgit Baltistan’s low health awareness and dependence on traditional treatments lead to delays in the diagnosis and treatment of cardiovascular diseases. This knowledge gap limits the creation of successful initiatives meant to enhance early detection, raise community awareness, and lessen the burden of cardiovascular disease in this susceptible group.

1.4Research Objectives

1. To evaluate the role of ethno-medical practices in delay for the diagnosis of cardiovascular diseases in Gilgit Baltistan region.

2. To examine the awareness about risk factors, symptoms, and biomedical treatment for cardiovascular diseases.

3. To investigate the cultural and economic challenges for the delayed treatment of cardiovascular diseases.

1.5Research Questions

1. How home remedies and ethnomedical practices delay the diagnosis of cardiovascular diseases?

2. What is the community's understanding on cardiovascular disease risk factors, signs and symptoms and contemporary treatment?

3. What are the cultural and economic challenges for the delayed treatment of cardiovascular diseases?

1.6Significance of Study

The delayed diagnosis of cardiovascular disease in Gilgit Baltistan has significant clinical practice, population health and policy implications. Due to remote location of the region, cultural traditions, and poor healthcare network, heart diseases are often kept unknown until the advanced stages. This research provides significant insight into the complexity of the social and cultural factors that can shape the decisions of people to utilize medical care by exploring the perception of the early symptoms, resort to traditional care, and systemic barriers. The findings are particularly useful because the current national statistics on cardiovascular diseases in Pakistan lacks real patient outcomes especially in the case of patients who prefer traditional medical interventions and little information about biomedical principles, or the dynamics of those communities that exist in remote and mountainous ranges. The present research provides a comprehensive knowledge related to the environment which could contribute to defining the process of developing culturally-dependent health education programs, enhancing strategies of early diagnosis and enhancing community involvement in the process of cardiovascular health promotion. The study is also adding value to the literature as it overcomes a significant quantitative gap in terms of literature on the traditional medicine, perceptions of sickness and health literacy in Gilgit Baltistan. The resulted insights can assist the policymakers and health authorities to meet the needs of the marginalized communities more effectively because it

informs how to distribute the resources, educate health practitioners and provide special treatment. In the long run, the research supports the efforts aimed to reduce preventable CVD complications and improve patient outcomes and enhance the overall capacity of the healthcare system to manage chronic diseases in Pakistan underprivileged regions.

1.7Conceptualization & Operationalization

CONCEPT	CONCEPTUAL DEFINITION	OPERATIONALIZATION
Health Literacy	Health literacy is defined by the World Health Organization asthe personal knowledge and competencies that enable individuals to access, understand, appraise and use information and services in ways that promote and maintain good health and well-being for themselves and those around them (World Health Organization, 2024).	Health literacy was operationalized as the participants awareness of cardiovascular risk factors, symptoms, and available treatment options, as well as their understanding of lifestyle modifications and preventive measures needed to manage and reduce the risk of CVD.
Native Remedies	The World Health Organization defines traditional medicine commonly referred to as native or indigenous remedies as the sum total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, used in the maintenance of health and in the prevention, diagnosis, improvement or treatment of physical and mental illness (World Health Organization, 2023).	Native remedies were operationalized as culturally and spiritually based practices such as herbal treatments, home remedies, and recitations used by individuals to manage cardiovascular symptoms in place of, or prior to, biomedical care.
CVD	According to the World Health Organization, cardiovascular diseases are a group of disorders of the heart and blood vesselswhich include coronary heart disease, cerebrovascular disease, rheumatic heart disease, and other related conditions (World Health Organization, 2025).	Cardiovascular disease (CVD) was operationalized as any self-reported or clinically identified condition affecting the heart or blood vessels such as chest pain, shortness of breath, palpitations, or diagnosed cardiac disorders that influenced participants' symptoms, health-seeking actions, and treatment decisions.

CHAPTER 2
LITERATURE REVIEW

This literature review aims to provide a comprehensive synthesis of existing scientific evidence, research findings, and public health knowledge related to cardiovascular diseases (CVDs). In order to formulate this review, a broad scope of academic literature credited to peer-reviewed journal articles, institutional online databases, scholarly books, and institutional reports was critically reviewed. To achieve the plausibility and richness of the review, several digital libraries and research systems were used to find the current and multidimensional information. This chapter provides a general picture of the worldwide and Asian prevalence of the CVDs, occurring in Pakistan, key risk factors, existing treatment methods, and the cultural factors that influence the health-seeking behaviours and disease results. The review does not just pull together the existing knowledge, but also points to the gaps in the research which are the basis of the current research.

2.1 Background of CVDA Challenge to Human Health

The cardiovascular diseases (CVDs) have been among the most important public health issues in any given part of the world as they are the cause of a big percentage of morbidity, disability and untimely mortality to a significant percentage. CVDs are ailments of the heart like heart attack, stroke, high blood pressure, heart failure among others and are common in people of age group regardless of the lack of access to the diagnostics and therapy. As presented by the WHO, CVDs have become the principal cause of mortality worldwide, as it causes about 17.9 million deaths every year (World Health Organization, 2021). A lot of such deaths can be avoided by early diagnosis, healthy habits, and adequate treatment. Nonetheless, poor health-seeking habits, unhealthy lifestyles, low awareness, and late-onset CVDs only worsen the burden of CVDs (Roth et al., 2020). Due to these continuous issues, CVDs continue to pose a significant risk to the health of the population and need effective preventive measures, enhanced quality of healthcare, and more community education.

2.2 CVD Prevalence in Asia

Asia has an enormous amount of cardiovascular disease burden, and South Asia has particularly disturbing trends in the same. The rapid economic development in the area has triggered dramatic changes in the lifestyle of the people, including increased consumption of processed food, lack of

exercise, and increased exposure to work and environmental stress macro-aggressors. Such changes have contributed to increasing obesity, high blood pressure, dyslipidemia, and type 2 diabetes conditions with a high association with cardiovascular events. Decades of epidemiological research has shown similar patterns of rising ischemic heart disease, stroke, and heart failure in China, India, Bangladesh, and Southeast Asia that are higher than the rates in many Western countries have been (Khan and Misra, 2021). In spite of the development of healthcare infrastructures in particular countries of the Asian region, significant inequalities in access to emergency cardiology, screening and preventive services remain.

South Asia, in particular, is found to exhibit unique peculiarities of cardiovascular disease (CVD) risk. Studies show that the manifestation of cardiovascular disease in South Asians takes place about a decade earlier than among Western counterparts and is often more severe and higher complications, such as heart failure and sudden cardiac death (Prabhakaran et al., 2022). This elevated vulnerability can be explained by genetic influences, the high amount of visceral fat and metabolic abnormalities. Moreover, poverty and lack of educational opportunities, gender roles and reliance on more traditional medical care are social determinants that increase this risk. Regions with limited health care, especially the rural and mountainous regions also represent a major delay in both diagnosis and treatment thus adding to premature death which is preventable.

Another obstacle to the situation in many Asian countries is the prevalence of the lack of knowledge about the cardiovascular risk factors and their manifestations. It has been shown that a significant portion of the population in India, Nepal and Pakistan has false or poor understanding of the initial warning signs of any cardiac diseases often leading to the wrong diagnosis of these conditions as gastrointestinal or musculoskeletal conditions. In addition to this, the traditional medical beliefs such as Ayurveda, Unani, and herbal medicines are entrenched in the cultures of Asians and are frequently used before diagnosis can be accurately determined, thus delaying proper diagnosis. These practices can give symptomatic relief or even cultural solace but they are not alternatives to evidence based cardiac assessment. Therefore, prevention programs of cardiovascular diseases require the use of culturally sensitive health education, community based activities and activities aimed at strengthening primary health care systems in Asia. (Zhao et al., 2021).

2.3 Cardiovascular Disease Prevalence in Pakistan

Pakistan is already plagued by an extremely high burden of cardiovascular disease (CVD) in South Asia and the national mortality data shows that the causes of death in the Pakistani population are mainly due to CVDs and those associated with them taking up to a third of overall mortality rates in the country. The cause of this rapid increase in cardiovascular mortality is demographic changes, urbanization, lifestyle changes, and the growth in prevalence of hypertension, diabetes, dyslipidemia and obesity. A number of national surveys recorded high levels of metabolic risk factors with some affected at younger ages as compared to global levels as seen with the Pakistan National Health Survey and the STEPS survey. Although hypertension is predicted to occur in more than 46 percent of adults above the age of 40, there is a significant number of those who has not been diagnosed or are ill managed. Likewise, diabetes prevalence rate has risen dramatically, leading to a faster atherosclerosis and more frequency of ischemic heart disease (Jafar et al., 2020). The tertiary care clinical studies indicate that a coronary acute syndromes and heart failure continue to be unique in the number of hospital admissions which is the manifestation of poor prevention and delayed diagnosis.

The high urban-rural divide in the demographics of Pakistan is one of the major problems facing the cardiovascular health sector in the country. In urban areas, people are more exposed to environmental toxins, the lack of activities, and unhealthy diets, and in rural areas, people apply to scarcer healthcare facilities, financial assets, and are prone to the use of traditional treatment options. The adoption of preventive health services nationwide is poor with many individuals seeking medical attention when the symptoms have increased. Female Pakistani voters are especially susceptible, which is explained by the lack of cardiovascular symptoms awareness, a low autonomy in making decisions, and cultural factors that prevent timely access to healthcare (Shaikh et al., 2021). The combination of low health literacy, diversities among populations and lack of proper investment in health systems remains as a hindrance to the prompt detection of cardiovascular symptoms.

Because of the lack of provision of primary care and diagnostics facilities, these challenges are compounded. There are also many regions where there are no functional echocardiography departments, ECG reading and interpretation services, or sufficiently qualified cardiologists, meaning that patients would have to travel long distances to perform diagnostic tests. This is particularly high in mountainous areas such as Gilgit Baltistan where unfavorable weather and geographical locations make it hard to access. As a result, a trend of late presentation ensues and in many cases the patients

end up visiting a health care center at a very late stage of the disease. National studies recognize the necessity to initiate community based interventions, screening programs, and culturally relevant community awareness programs in Pakistan to correct knowledge gaps, and help in timely diagnosis. (Iqbal et al., 2022).

2.4 CVD Symptoms

Cardiovascular diseases reveal themselves in a wide range of symptoms since they include mild, nonspecific indicators and acute presentations that pose a threat to life. Generalized fatigue, syncope, vertigo, palpitations, dyspnea and chest pains are standard symptoms. However, many people particularly females and elderly patients show unusual or mild symptoms easily attributed to gastric distress, anxiety, musculoskeletal pain or a normal age related changes. The international studies note that the primary symptoms are often missed, which can be explained by the lack of health literacy and the lack of knowledge about cardiovascular risk factors (Benjamin et al., 2020). Many low resource settings tend to naturalize conditions like fatigue or breathlessness putting them in the context of normal physical activity or other stressor associated with lifestyle. This misconception is one of the major factors of delay in diagnosis. Moreover, there is specific symptomatology that has been reported among the South Asian populations. Some studies have indicated that people commonly come in with vague pains, with the feeling that they are experiencing heaviness or indications of indigestion, instead of the archetypal grievance of acute myocardial pain, and this delay on seeking an emergency medical care.

The biases on illness as understood culturally also hinder proper illness diagnosis. In the example of a hand placing slight pressure on the chest, one could interpret it culturally as gas, weakness, or a spiritual problem and not a potential sign of having had a heart-related incident. Women tend to show less apparent symptoms such as nausea, back pain, fatigue, and sleep problems, which go unnoticed by the patient and healthcare providers in most cases (Khan & Zainab, 2021). These unusual presentations are also a major cause of diagnostic delays and therefore aggravate prognoses and increase the risk of developing complications such as myocardial infarction or heart failure. Qualitative data (Pakistan) shows that many of them delay visiting the doctor until the symptoms have advanced to a severe stage or a limiting stage. The combination of misinterpretation, normalization, and stigma especially the fear of becoming known as overly anxious and weak further undermines the timely access to healthcare. In

its turn, the elucidation of the complexities and diversity of CVD symptoms is essential to the creating of training programs that can promote the earlier detection and prevent potentially dangerous delays.

2.5 CVD Risk Factors

The risk factors associated with cardiovascular diseases are broadly categorized into those that can be altered and those that cannot and how they interrelate to influence disease development and progression. The most significant changeable risk factors are high blood pressure, high cholesterol, diabetes, smoking, lack of enough exercises, poor diet, obesity and stress. Most cardiovascular disease deaths and disabilities are still caused by high blood pressure that remains the largest risk factor in the whole globe. Current research demonstrates that more than a billion individuals all over the world experience high blood pressure, and a lot of them are not properly diagnosed and treated (Mills et al., 2020). Diabetes and diabetic type 2 in particular have come to contribute greatly to the cause of coronary artery disease as it has a direct influence on the functioning of the blood vessels and accelerates the rate of deposition of the plaque.

Uncontrollable factors such as age, sex, family history, and genetic factors also predispose one to vulnerability. The cardiometabolic profile of the populations of South Asia, such as the Pakistani population, is unique. This is defined by increased visceral fat, resistance to insulin and increased inflammatory indicators despite having low body mass indices. It is a predisposition that makes one prone to cardiovascular disease, which frequently manifests itself ten years earlier, compared to the populations of the West (Misra & Shrivastava, 2021). Also, there has grown the importance of psychosocial stress, depression and environmental factors such as air pollution. These risk factors interrelate with cultural practices. Salt, saturated fat and refined carbs, which are often found in various South Asian eating habits, have a significant impact of predisposing one to hypertension and dyslipidemia. There is still prevalence of smoking including smoking of smokeless tobacco among the male population. At the same time, the social norms that place limitations on the movement of women are the cause of physical inactivity and obesity. Therefore, a combination of these risk factors, poor health literacy, and insufficient access to preventive screenings leads to the development of the environment in which cardiovascular disease is underdiagnosed and undertreated.

2.6 CVD Treatment

Treatment of cardiovascular diseases requires a continuum of preventive, pharmacological, interventional and rehabilitative procedures which is all dependent on early detection and involvement of patient involvement. Arguing on the basis of evidence based recommendations on hypertension, coronary artery disease, heart failure, and cerebrovascular disease, the reduced incidence and severity of these morbid and mortal illnesses is heavily dependent on early of detection followed by the immediate initiation of therapeutic interventions. Pharmacological therapy encompasses most commonly antihypertensives, betablockers, antiplatelet, statins, anticoagulants, and glucose reducing drugs with the regimen still determined according to the specific CVD and the risk factors affecting the individual. The immediate restitution of blood flow through thrombolysis or percutaneous coronary intervention remains the best option in the case of acute medical emergencies, such as myocardial infarction, and plays an important role in saving lives when applied within one of the critical timeframes (O'Gara et al., 2021). However, such interventions frequently fail in a resource-scarce environment, and it is mainly attributed to evolutionary delays in diagnosis, spatial barriers, and an insufficiency of specialized cardiac care facilities.

Individuals require constant lifestyle changes, secondary preventions, and compliance with medications to manage their cardiovascular condition in the long run. Such programs as cardiac rehabilitation that include supervised exercise, dietary counseling, smoking cessation control, and psychological counseling have proven to be effective in decreasing readmissions and deaths, yet these services are often not offered in regions with low income and rural settings, particularly in mountainous countries such as Gilgit Baltistan. Inadequate compliance to treatment plan, uncontrolled risk factor, and repeated cardiovascular incidents are often as a result of absence of access to rehabilitation services. Studies that have been carried out in South Asia demonstrate that medication nonadherence is a major barrier, and it is mostly due to economic constraints and a lack of awareness about the severity of the disease, reliance on herbal or folk medicine, and a lack of a cohesive system to follow up (Xu et al., 2020). All these social and systemic factors make the need to develop culturally appropriate health communication programs, expansive community outreach programs, and custom-made care pathways to address the sociocultural context of the at-risk communities.

This is in addition to the fact that the extensive use of alternative and traditional medicinal systems that are entrenched within the cultural beliefs of the South Asia only complicates the treatment process

further. Though there are some traditional treatments that provide some relief of the symptoms, they cannot substitute the scientifically proven therapies. When presented either on their own or as the first intervention with the symptoms, these remedies may postpone the medical help and, thus, promoting severe cardiovascular issues. Research indicates that a great number of patients living in remote or culturally conservative locations attempt to treat themselves through the use of herbal teas, changes to their diets, spirituality, or counseling of community leaders before doing so under professional advice. This usually results in the lack of effective treatment towards acute cardiac events. Consequently, patient-centered practice necessitates the enhancement of treatment of cardiovascular disease, including medical procedures, which are evidently adopted with references to the unique cultural background, alongside enhancing the rate of health literacy and developing confidence in the health care system.

2.7 Cultural Determinants of Treating Cardiovascular Disease

The culture is a core element that determines how people perceive the symptoms, choose the treatment and whether or not to pursue biomedical services. People in many traditional societies which include South Asia and more specifically in areas like Gilgit Baltistan perceive illness in terms of explanatory models that are culturally embedded and models that incorporate spiritual, environmental, social, and physical aspects. The models do not only shape the perception of illness, but suitable and credible treatment options as well. The continuance of the traditional systems of healing surgery natural medicine, and indigenous medicines and drugs use is evidence of the role of cultural legitimacy in health seeking behavior. It is not that biomedical treatment, despite its undeniable efficacy, has no barriers to its accessibility, affordability or perceived distance (Kleinman, 1980). The knowledge of these cultures is necessary towards the creation of interventions that not only celebrate but also integrate local belief structures and also promote expedited medical services.

2.7.1 Gender

Gender has a severe impact on cardiovascular health outcomes, including the ability to identify the symptom, treatment reception, and healthcare access. Women often have less common or less known symptoms of cardiovascular disease such as fatigue, nausea, or back pain, which can be easily misunderstood by both the patient and medical care providers as such. The cultural pressures also increase the underreporting because women are either put too close to family commitments at the

expense of their health or are not encouraged to discuss health-related issues openly. In many South Asian settings, such as Pakistan, mobility, financial dependency and patriarchal decision making apparatus are barriers faced by women, which hinder access to medical assistance in a timely manner (Qureshi et al., 2020). Although they tend to have more freedom over this aspect of personal lives, men might delay consulting a doctor, which is shaped by the social norms, placing more emphasis on stoicism and avoiding any vulnerability. These gender peculiarities lead to significant disparities in inspection and treatment of cardiovascular disorders.

2.7.2 Geographical Location

Access to cardiovascular healthcare is greatly affected by the geographical factors, in particular, mountainous regions, like Gilgit Baltistan. Long distance journeys and lack of proper road networks, seasonal blockages and deficiency in medical facilities pose significant challenges on timely diagnosis. In many country and remote areas, there is a lack of diagnostic equipment such as ECG devices and laboratory functions thus compelling the patient to travel to far metropolis to have extensive examination. Daily, geographical isolation worsens the effect of time lag in the event of medical attention, hence increasing the chances of late presentation of the disease. Studies undertaken in Pakistan and other similar low resource settings and settings show that the population living in rural or mountainous regions have very high prevalence of untreated hypertension, no known diabetes or undiagnosed diabetes and untreated cardiovascular conditions. These inequalities are caused by structural barriers to accessing timely access to professional medical care. (Khan et al., 2021).

2.7.3 Economic Status

The choice and time frame of cardiovascular disease treatment largely depends on economic condition. Families that do not have the financial ability can have higher costs related to diagnostic activities, transportation, medication, and the costs of meeting the specialists beyond the financial capability. Thus, they often resort to cheaper solutions such as herbs, homemade medicines, or advice of unqualified therapists. Access to biomedical care may not ensure regular subsequent follow up and adherence to long-term pharmacological regimens due to financial constraints. Research held in Pakistan revealed that out-of-pocket medical costs do not encourage their patients to seek medical care in a timely manner, particularly when it comes to chronic illnesses, which require regular visits to the doctors and life-long medication (Ahmed & Malik, 2021). This financial instability plays a significant

role in the diagnostics that are delayed, failure to treat the disease on time, and an increased number of cases of complications that are preventable.

2.7.4 Religion

In most South Asian societies, religious beliefs have strong connection with health habits and therapy choices. Disease is often viewed in terms of religion and illness is seen as a spirit test, an imbalance, or a working of God. As a result many people first resort to religious curative systems, which include the reading of holy texts, prayer sessions as well as use of blessed water or charms. These traditions provide emotional comfort, and social support, however, they may delay the process of embracing a biomedical healthcare. The mixing of spiritual and herbal interventions is common in areas like Gilgit Baltistan, and families may be so much supportive of traditional spiritual interventions that they request medical evaluation only after administering traditional spiritual interventions. As much as the religious practices may play a supportive role, their sole reliance on the treatment of illnesses such as cardiovascular disease where timely diagnosis may be crucial may hinder not only the timely intervention but also may result in the worsening of the challenge (Ali & Shah, 2020).

2.7.5 Education

The level of education is a major predictor of cardiovascular health outcomes that can influence the outcome of health literacy, perception of risk, and propensity to seek medical attention. More educated people are more skillful to recognize the warning symptoms of cardiovascular disease (CVD), understand the importance of preventive care, and take all care regimens as required. On the other hand, people with low levels of formal education tend to have false beliefs about the etiology of the disease, rely on the no evidence-based explanation, and prefer traditional treatment. According to the research held in Pakistan, the lack of education is associated with a poor comprehension of hypertension, diabetes, and heart disease, which subsequently leads to a later progression of diagnoses and the improper treatment of the disease (Anwar et al., 2021). In its turn, increasing health education with the help of community-based activity can play a crucial role in enhancing cardiovascular outcomes among the underserved populations.

2.8 Health Literacy

Health literacy is a key factor in determining how people comprehend illness, conceptualize it, and utilize health. Health literacy has been defined as the ability to gain, process, and understand simple

health information that is needed to make the right health choices, and is important at each point of cardiovascular disease prevention, diagnosis, and treatment. Poor health literacy is a significant challenge to the quick identification of the symptoms of CVD and ecstasy compliance with medical counseling among low- and middle-income nations, such as Pakistan. Low-literate people have their difficulties in interpreting such risk factors like hypertension or cholesterol, do not necessarily recognize the urgency of initial symptoms, and they also often prefer traditional interpretations based on the cultural background instead of biomedical theories. It has been demonstrated that poor health literacy is a major cause of low rates of timely diagnosis, medications noncompliance, and use of informal therapies (Sorensen et al., 2021). This lapse leads to the development of cardiovascular diseases at manageable levels to life threatening complications.

2.8.1 Factors Influencing Health Literacy

The process of health literacy is influenced by various factors that are known to interact with one another such as education level, socioeconomic status, cultural practices, access to information and prior experience with the healthcare systems. The low level of formal education may result in a lack of knowledge of medical terminology, inability to interpret the prescriptions, and knowledge of prevention of diseases. The economic status limits the health information accessibility even more, since low-income households are less likely to access digital information, community health services, or preventive care. There is also a cultural factor in reception and interpretation of health information, where in most traditional societies, health-related decisions are influenced by members of a family or community and how they explain may not agree with biomedical explanations. Research carried out in South Asia underscores the fact that the level of health literacy is low in rural and mountainous areas because of geographic separation, poor health institutions, and low accessibility of medical practitioners. (Rahman et al., 2022). These factors collectively shape how individuals respond to cardiovascular symptoms and whether they seek timely medical assistance.

2.8.2 Treatment and Management of CVD

Health literacy has a direct impact on cardiovascular disease treatment plans adherence because of the skills needed to ingest health information. More literate patients tend to get more appropriate interpretation of medical prescriptions, follow dosage schedules, behavioral changes and they usually understand the need to resume follow up visits. On the other hand, poor health literacy is one of the

factors causing infrequent intake of medication, misconception of molecular weight and premature withdrawal of the medication even when symptom is resolved. Such trends are specifically pronounced in chronic diseases such as hypertension as the periods when they are not sick make patients believe that there is no necessity to take medication. The studies conducted in Pakistan demonstrate that a significant part of the population is unaware of the lifelong management of CVD, which prevents a substantial level of adherence and contributes to the prevalence of complications (Hussain et al., 2021). Also, low literacy levels decrease the ability of patients to pose questions to medical personnel, comprehend risks, and access hospital protocols, which continues to contribute to delays in the diagnoses and treatments.

2.8.3 Self-Management of Cardiovascular Disease

Self-management can be described as the everyday habits that people implement in order to manage the symptoms, avoid complications and physical functioning. These involve a change of diet, exercise, blood pressure, intake of salt, and intake of dangerous substances like tobacco. Self-management needs proper knowledge, certainty and availability of resources. Nevertheless, patients with low levels of health literacy usually adopt the practice of tailender, neighborhood recommendation, or cultural friendly practices instead of relying on evidence-based practices. South Asian research indicates that a significant number of patients misjudge long-term effects of uncontrolled high blood pressure or diabetes and, thus, tend to undermine the significance of regular self-management practices (Chow et al., 2020). Consequently, mismanagement of self leads to hospital re-hospitalizations, accelerated developments of their sickness and cardiovascular death in its avoidance.

2.8.4 Cultural Factors Influencing Treatment Choices

The cultural background of individuals has a great influence on how they acquire knowledge on illness and how they make decision on how to treat their illness. In many traditional cultures, including that of Pakistan, disease is often conceptualized in a non-biomedical sense which includes spiritual, environmental or social factors. Such explanatory models in turn influence the decision to treat, often the more culture-belief or close to familiar viewpoint, like one that deals with exploring a specific culture-beloved or culture-accepted remedy. As an example, cultural beliefs may be attributed to the chest pain or fatigue, which can be due to the presence of gas, spiritual disruption, being exposed to cold or exertions, as opposed to having a heart-related condition. These interpretations thus tend to

make people first find cultural solutions and this may later lead to postponed diagnosis of the progression of symptoms. It is proposed that in case of disconnect between cultural and biomedical explanations, individuals prefer cultural explanations, especially those that have been tested and proven through family, community leaders, or traditional healers (Khalid et al., 2022). The consideration of such cultural impacts is essential to come up with these interventions that would help build some form of trust and reconciliation to the traditional beliefs and biomedical knowledge.

2.8.5 Layman Treatment Practices

Layman treatment refers to informal and community-based treatment used to treat the symptoms before turning to professional help. These measures include self-medication, use of home remedies, rest, increased fluid consumption, use of heat or massage over part of the body or changes in diet recommended by members of the family. The application of the layman treatments acts as the first level of intervention in many other rural and mountainous regions where people do not have the means of getting medical services. Although the practices may provide short-term relief, they often veil or put off the detection of major cardiovascular diseases. Some studies performed in Pakistan show that patients often use over-the-counter pain relievers or herbs infusions or digestive supplements, assuming that the symptoms are insignificant or short-term (Rauf et al., 2021). However, these activities increase the chances of untimely health care and avoidable heart related accidents.

2.8.6 Folk Treatment Practices

Folk therapies include traditional medicine, folk healing practices, spiritual medicine and community-based medicine that have been used over the ages. These practices have a cultural significance and are often seen with more credibility than institutional medical care,due to their affordability, cost efficiency, and cultural appeal. The folk remedies to the heart weakness or chest pain include herbal infusions, plant based tonic, massage, and use of locally accepted medicinal plants. These indigenous solutions are also culturally important in regions like Gilgit Baltistan, where they are used very often before patients resort to professional medical care. Though some medicinal plants demonstrate the therapeutic results, it may be harmful to depend on these plants in cases of cardiovascular symptoms only. There is a strong relationship between folk type practices of treatment and delayed diagnosis especially when members of the community support the concept that herbal or spiritual forms of treatment are sufficient to manage the symptoms. Studies have shown that patients often switch to

biomedical therapy when folk therapies have not supported the patient, only when the disease is far advanced. (Ahmed & Qasim, 2022).

2.8.7 Professional Treatment Practices

Professional treatment is biomedical care being provided by trained medical practitioners (general physicians, cardiologists, nurses, and diagnostic technicians). This treatment is evidence based and still plays a crucial role in diagnosing, management, and prevention of CVD complications. However, it takes professional care around complicated networks and medications prescriptions as well as the adherence to follow up practices tasks, which are challenging in most situations, to people with poor literacy or limited financial capacities. Professional treatment is also viewed as expensive and impersonal or culturally inaccessible in most parts of Pakistan and this also makes seeking timely care a hindrance. Moreover, it is not always possible that healthcare workers will use culturally sensitive communication, which results in misunderstandings and mistrust. Enhancing uptake of professional treatment will necessitate the need to boost patient provider communication, cut financial incentives, and avail diagnostic and emergency services in a consistent manner. (Naeem et al., 2020)

2.9 Theoretical Framework

Informed by the Explanatory Model of Arthur Kleinman (EM), the ethnomedical framework is a strong theoretical method that can be used to study individual illness conceptualization and treatment choices. This model assumes that the definitions of disease in individuals go beyond biomedical definitions; instead, the definition is affected by cultural norms, experiences, social interactions, and community narratives. According to Kleinman, every society develops culturally unique explanations with regard to the cause of illness, meaning of symptoms and appropriate treatment approaches. Such explanatory models in turn inform the perception, explanation, and action on the symptoms. This framework is especially applicable in the cardiovascular disease setting particularly in culturally rich and geographically isolated areas like Gilgit Baltistan since patients usually employ traditional health beliefs in making choices regarding health seeking behavior (Kleinman, 1980). The explanatory model indicates that the patients, their families and professional healthcare providers tend to have varying interpretations of illness. Such differences can result in the lack of communication or delay in the treatment process and partial compliance with the medical recommendations. Most South Asian societies such as cardiovascular symptom of heaviness or fatigue in the chest can be attributed to gas,

stress, evil eye, seasonal decrease, and spiritual imbalances instead of heart disease beginning. These culturally based interpretations determine how people can obtain biomedical treatment, how they can meet traditional healer or how they can use home based solutions to address the symptoms. These trends are directly congruent with the results of this research that discusses the intersection of the native remedies, cultural practices, and lack of awareness in the diagnosis of CVD in Gilgit Baltistan on time (Good, 1994).

The ethnomedical view overstates the fact that illness is a biological and a cultural aspect. How patients perceive their symptoms as threatening, ordinary, temporary, or supernatural also has a major effect on whether they decide to receive medical care or not. Think of an example of communities which have strong beliefs in treatment based on herbs or religious beliefs, in these cases, initial symptoms of cardiovascular disease may not be understood as ones where biomedical attention is necessary. Similarly, people with poor health literacy might not understand clinical meaning of hypertension or chest pain hence an increase in the delay in diagnosis. This ethnomedical construct explains the reasons why some groups of people choose to use indigenous or informal methods before seeking a medical practitioners attention and why deep-rooted cultural activities persist in the presence of healthcare services offered by modern hospitals and clinics (Helman, 2007).

One more critical component of the explanatory model is its orientation at the social structure and contextual factors. One cannot exist without affecting the health seeking behaviors as they are influenced by cultural beliefs, economic conditions, gender relations, geographics, and social relations to others. In the example of Gilgit Baltistan, the limitation imposed by the economic factor may push people to prefer the cheapness of herbal medicine over the expensive biomedical treatment. Similarly, any gender norm can hinder the ability of women to receive the professional care without the family permission, thus becoming the cause of longer diagnostic delays. Also, physical remoteness in mountainous locations supports the reinforcement of the reliance on local healing mechanisms, since medical institutions are often far or inaccessible. These structural and cultural factors can be examined in connection with each other by using the ethno medical framework and provide a multidimensional perspective of delayed diagnosis and use of native remedy (Kleinman, 1986). Lastly, the framework of ethno medical and explanatory models offers a solid basis on a qualitative research in the sense that it puts an emphasis to the significance of patient stories, lived experiences, and subjective meanings of sickness. It is used to structure the interview questions, thematic analysis, and conceptual mapping

with the patient at the center, which is contrary to the biomedical assumptions. This research study uses the framework to shed light on the way the people perceive the cardiovascular symptom, why it resorts to a specific remedy, and how their health decisions are informed by cultural, economic, and geographical locations. The ethno medical framework expands the set of patient experiences by employing larger cultural and social trends that are believed to promote the creation of cultural-sensitive recommendations that will help enhance the problem of early CVD diagnosis and treatment in Gilgit Baltistan.

CHAPTER 03
METHODOLOGY

This chapter describes research's design and methods for data collection as well as analysis.

3.1 Research Design

This research paper has used qualitative research design to examine the impacts of health awareness in late diagnosis of cardiovascular diseases and the effect of native medicines among the people of Gilgit Baltistan. The qualitative methodology was selected due to the fact that the depth of the study was not to quantify the actual prevalence as such, but to gain insight into the lived experience, beliefs, cultural perceptions, and determination of those with cardiovascular symptoms. The qualitative research would be appropriate especially when observing a phenomenon which has a strong cultural and social basis like illness perception, health seeking behavior and dependency on traditional remedies. Given the fact that the symptoms of cardiovascular diseases are commonly misinterpreted and interpreted in various ways according to the explanations tied with the local culture, such a design allowed an extensive investigation of the subjectivity of the experienced interpretations, stories, and meanings by the participants. The main method of obtaining the experiences of the participants was the semi structured interviews, which provides flexibility in going into more detail in some areas in relation to awareness, traditional practices, delays in seeking care, biomedical and native treatments in relation to perceptions. The design of the study influenced the ethno medical and explanatory model framework, described in Chapter 2, which focuses on understanding the cultural meaning of illness and treatment

methods that are adopted by patients. Thus, the qualitative design helped generate extensive, detailed and context specific data hence providing a significant response to the research questions.

3.2 Universe and Study Population

The universe made up of the study included adult residents of Gilgit Baltistan with either personal experience of cardiovascular symptoms or close relatives with cardiovascular ailments. The population was considered suitable to study since Gilgit Baltistan has some unique cultural, geographical, and infrastructural variables that define the health seeking behavior. Many of the locals are using native or herbal medicines, folk medicine and informal knowledge systems before approaching the medical practitioners. Target population: The participants were chosen to the study exclusively because they had reported symptoms that were generally attributable to cardiovascular diseases; chest pains, shortness of breath, palpitations, tiredness, dizziness, or feeling of pressure but they had not pursued medical attention because of their low awareness, social norms, geographical barriers, or as an indication of cultural remedies. The reason behind this choice of population is that their lived experiences are the most applicable to discussing whether awareness levels and native remedies are factors that lead to delayed diagnosis. The study involved a wide array of people spread geographically within the region and had different ages and genders, educational statuses and socioeconomic status thus rich in data and giving a complete picture of what the community felt and how they adopted health habits.

3.3 Sampling Technique

The study utilized a purposive sampling method to recruit the study participants. In the qualitative research, purposive sampling is suitable in instances whereby the interest would be to gain insight through individuals who have a certain knowledge or experience regarding the phenomenon being studied. The subject sample was selected intentionally among people who experienced cardiovascular symptoms and those who have been involved in health related decision making. This helped the researcher include those who had delayed in diagnoses, those who used traditional remedies, and those who had less information about cardiovascular diseases thus assuring it to be addressing the research objectives directly. Moreover, there were also some instances where the snowball sampling was applied, when referring to the other potential respondents by the participants to the researcher, who might have appropriate experiences. This practice was especially effective in Gilgit Baltistan where

people are closely bound and the news of illness is prone to elicit powerful reactions. The data reached a level of saturation, which was the determining factor of the final sample size, which is when there was no more new theme and other informative data in each other interview. The information collected thus was very elaborative and abundant, which can be easily utilized in the qualitative analysis.

3.4 Area Profile

The present study was done in the Gilgit-Baltistan, which is the remote and mountainous area in the northern region of Pakistan and of rugged geography, high-altitude lands, with widely spread settlements. With a population of about 1.3 to 1.5 million inhabitants, nearly 85-90% of which live in rural villages with a poor road network and even worse weather patterns that interfere with transport, the area is expected to have a population of about 1.3 to 1.5 million people. These geographical challenges are a significant barrier to healthcare, with a population especially of the Ghizer, Astore and Ghanche districts, having to commute three to ten hours to the nearest diagnostic or tertiary care centre. There is an increasing trend in the morbidity of cardiovascular diseases in Gilgit-Baltistan, with local hospital data and the Pakistani health survey reports verifying that CVDs is a continually increasing percentage of morbidity of non-communicable diseases. Recent surveys indicate that there is a range of 17-22% of hypertension or early signs of cardiovascular risk out of adults in the region, a level of prevalence that is similar to the nation trends, but hampered by the structural-constraining characteristics of the area.

The population of the region is highly culturally oriented, and traditional home-made and indigenous remedies are still deeply rooted in the everyday life of the population, especially old people and low-income families. Areas with low health literacy combined with the insufficient number of local medical services contribute to the high level of reliance on herbal remedies, spiritual healthcare, and individual care. Infrastructure systems in Gilgit-Baltistan are inadequately equipped with not many special hospitals in the main centers of Gilgit, Skardu and Chilas, and on the other hand, in the areas along the periphery, there are no trained cardiologists, diagnostic centers and cardiac emergency care. Another factor that supports the late health-seeking behavior is the financial constraint since most families lack the money to travel often or cover the cost of consulting a doctor privately.

The combination of these three geographical, cultural, and structural factors renders Gilgit-Baltistan an important location to research the combination of health awareness and dependence on native remedies

and delays in diagnosing and treating cardiovascular diseases. The distinctive characteristics of the area with its low accessibility, close cultural behavior, and increasing burden of CVD would offer the much-needed benefit of understanding how the contextual barriers intersect patient routes and impact clinical outcomes.

3.5 Method of Data Collection

Semi structured and deep interviews were used to gather data based on an interview schedule which was structured by analyzing the study objectives and the literature review. Open-ended questions were incorporated in the questionnaire to enable the respondents to recount their experiences but to ensure that the most critical issues included the interpretation of the symptoms, awareness on cardiovascular diseases, use of native remedies, decision making behavior, the role played by cultures, and barriers to medical care. The semi structured format had a chance to be flexible in terms of probing further as a result of the responses of participants and elicit finer details regarding their perceptions and behavior. All the interviews were held in a comfort setting at the choice of the participant so that the interviews could remain confidential and enable the interviewee to speak honestly in order to provide the vivid personal experience. The interviews were done in the language of choice of the participants mostly Urdu or the local dialect, which was translated into English and submitted to the analysis. Field notes were maintained where terms of nonverbal cues, emotional expressions and context were recorded. All the information contained in the interviews was transcribed verbatim and was then checked on accuracy. This research design was the one that was used to maximize the reliability and detail of the collected data.

3.6 Key Informants

Key informants were critical in ensuring that the research process was smooth and access to the participants was easily achieved in this study. The Medical Superintendent (MS) of the cardiovascular specialist hospital in Gilgit-Baltistan that accepts cardiac patients only was one of the key informants. Through the MS, I was able to interview patients and helped during the process, such as the ability to support me in communicating with patients and observing the outpatient department. Another informant that was a significant informant was a lady school principal within the locality, who assisted me in this fieldwork by guiding me to the home of the participants personally. Her presence made the participants relaxed and have confidence in me as a researcher, which was more so since I was a complete stranger in their society. They were a key source of direction and collaboration in gathering accurate and significant information on this study.

3.7 Data Analysis Techniques

Thematic analysis was used to analyze the interview data as a method which is usually utilized in qualitative studies. Thematic analysis aids in organizing the identification of recurrent themes in the data, coding, and the classification of the data into common themes. After the transcription, the researcher read the interview transcripts closely to come up with overall picture of the content. First codes were developed based on the terms, concepts and experiences that were common in the participants that were often mentioned. These codes were then formed into broader categories that summarized the major ideas that were relevant to the objectives of the research that include, but are not confined to, lack of awareness, misunderstanding of the symptoms, reliance on indigenous remedies, cultural practices, institutional barriers, and late diagnosis. The six steps of the study followed a Braun and Clarke (2006) framework, thus, methodological accuracy familiarization, coding, theme development, review, theme naming, and final interpretation. The ethno medical paradigm served as the interpreter of the cultural beliefs, social organization, and explanatory model since the researcher could analyze the extent to which cultural beliefs and social structures affected the health seeking behavior of the participants. The research approach used enabled representation of the views of the participants appropriately, hence providing deep understanding of the complex factors that contribute to delayed diagnoses in Gilgit Baltistan.

3.8 Ethical Considerations

The ethical standards were thoroughly observed during the research process without violating the rights, dignity and privacy of all the participants. We were able to obtain the informed consent of every individual prior to the beginning of data collection after thoroughly explaining the purpose of the study, that the participation was voluntary and that he/she had the right to withdraw at any point in time. All the respondents were confidentially assured of their identity, and it was guaranteed that all the personal information would remain anonymous throughout the transcription and reporting stages. The interviews were carried out respectfully considering differences in culture and emotions of speaking about own health experience. The research was approved by the respective institutional review board of the institution where the research was done. No transcripts or any audio recording and related documents were kept anywhere except within the reach of the researcher. Moreover, the research was aimed at avoiding possible injuries such as psychological, social, or even cultural. It was also mentioned that the findings of the study would be used solely in academic purposes and this would not influence the access to healthcare or other services.

CHAPTER 4
DATA ANALYSIS

This section will be the presentation and analysis of data of the study in a systematic manner. We will then present the descriptive findings, the frequencies and distributions of the various variables, as a way of presenting an overview of the participants and their responses. Next, we are going to present

the analytical results, the relationships and patterns of variables. With the help of this approach, it is possible to see the individual data points along with the way they interact with each other, which preconditions the discussion that can compare the findings with the part of the literature regarding the health-seeking behavior, health literacy, and management of cardiovascular disease in Gilgit-Baltistan.

4.1 Demographics

This segment includes the demographic description of the respondents that were involved in this study. It is a relevant approach to understand the demographics since age, gender, educational level, and profession stand as possible determinants of health awareness, health-seeking behavior, and access to healthcare services, particularly in the case of cardiovascular diseases. The respondents in this study represented a wide range of ages as there were young adults and old people which makes it possible to compare perceptions and behavior among populations in terms of their age and attitudes toward CVD. Both genders were used to have a balanced approach to the specifics of experience and issues that both genders are facing. Educational and professional backgrounds of the participants were also taken into consideration since these two issues are directly connected with the health literacy, making decisions, and utilizing formal or indigenous healthcare practices. This demographic data will offer a background of the study findings and patterns of viewing concerning the health behaviors and access to care. The age and gender overview of the respondents are summarized in the next two tables with further details on their educational and professional levels on which the respondents were clustered before proceeding with details of analytical results.

Table 1: Age and Gender Distribution of Respondents

Age Group (Years)	Male (n)	Female (n)	Total (n)
28–39	2	2	4
40–49	3	5	8
50–59	4	1	5
60–73	3	2	5
Total	12	10	22

Age and gender distribution of the 22 respondents in this study is summarised in Table 1. The ages of the participants ranged from 28 to 73 years and were divided into four categories for clarity. The youngest age group with an average age of 28-39 years had the lowest number of participants (4), with males and females equally represented (2), and the 40-49 years age group (the largest) had eight

participants with a higher level of females (5) than males (3). The 50-59 years had 5 participants and most were males (4) and the oldest group (60-73 years old) had 5 respondents with 3 males and 2 females. Overall, there were 12 males and 10 females, meaning that there were relatively equal numbers of males and females. This distribution gives insight into the population demographics of the participants with a mix of young adults, middle age and older adults that is important in understanding possible age-related differences in health seeking behaviour, disease awareness and patterns of treatment.

Table 2: Educational/Professional Level of Respondents

Educational/Professional Level	Number of Respondents (n)
Highest Degree (Graduation/Postgrad)	4
Secondary/Middle Level	1
No Formal Education	2
Others (e.g., Housewife, Shopkeeper, Farmer, Driver, Student, Teacher)	15
Total	22

Table 2 presents the educational and professional background of the respondents. Only four participants held the highest formal qualifications, such as graduation or postgraduate degrees. One participant had a secondary or middle-level education, while two respondents had no formal education. The majority (15 participants) were categorized as "Others," which includes housewives, shopkeepers, farmers, students, a teacher, and a driver. This distribution indicates that most respondents may have limited formal educational exposure, which could influence their health literacy and awareness of cardiovascular disease. The table highlights that cultural, occupational, and educational factors likely interact to shape participants' health-seeking behaviors and reliance on indigenous or traditional health practices. It also provides context for interpreting the findings in later sections, particularly when analyzing the link between education, understanding of CVD, and timely access to healthcare services.

4.2 Health Literacy for CVD of GB Population

Health literacy has a profound role to play in the early recognition, interpretation and behavioral response to cardiovascular disease. It was characterized by a range of awareness of the symptoms of the heart disease and ability to recognize the early warning signs, which mostly proved to be the best or the worst depending on the level of education, past experiences as well as culture. Heart problems were only attributed by some of the respondents to severe chest pains but other mild or atypical ones were mostly ignored or misinterpreted. These trends suggest the lack of knowledge and misconceptions along with biased identification of symptoms, which may lead to the delays in medical care. These issues are discussed below in subheadings to show how difficult the participants found it to detect and act on the symptoms of heart disease early enough.

4.2.1 Awareness of Heart Disease Symptoms

One of the things that were discovered was the high Limited Awareness of Heart Disease Symptoms of the participants. The observation is revealing on the stroke of a dire, widespread gap in functional health literacy among the GB community, on the part of chronic or non-communicable diseases [NCDS]. This gross level of ignorance was used as the first critical and essential barrier that practically prevented proper evaluation of symptoms and caused a dangerous sequence of self-treatment that caused the necessary delays that were serious and could even be fatal.

4.2.2 Misinterpretation of Early Symptoms

Participants consistently reported systematically misconstruing early, often atypical, cardiovascular disease symptoms, attributing them instead to common, innocuous, or transient factors such as general physical exhaustion, temporary stress from domestic or work life, or simple gastrointestinal issues like acidity. This initial misattribution the dismissal of cardiac warning signs as non-serious is universally recognized as a hallmark of low chronic disease health literacy across various global studies (Paasche-Orlow & Wolf, 2007; Rafiq et al., 2025).

"I thought it was just tiredness or stress from work. Since I had never learned much about heart problems, I didn't connect dizziness to something so serious" (Mehnaz Akhtar, 37). The patient here highlights the cognitive gap between a physical sensation and a potential diagnosis, illustrating the lack of context necessary to interpret the symptom correctly.

"I assumed chest pain was acidity, not a heart issue, and tried home remedies for indigestion for weeks. I lost weeks trying to treat indigestion when it was my heart, which is common in my village" (Nazia Karim, 55).

This deficit highlights a critical failure in the community's current health education structure, which is not addressing the varied, nuanced, and frequent non-acute manifestations of CVD. The problem is amplified in female and rural populations where atypical symptoms (e.g., isolated shortness of breath, profound fatigue) are often culturally accepted as normal signs of aging or domestic labor. The quantitative data strongly supports this finding: 63.6% of patients had no prior awareness of CVD before their illness (Table 3), establishing the knowledge deficit as the principal antecedent to the entire delay sequence.

Table 3: Patient Awareness of CVD Before Illness (Percentage)

Awareness Before Illness	Percentage (%)
No	63.6
Yes	36.4

4.2.3 Awareness Linked Only to Classic Chest Pain (The Paradox of Recognition)

The findings from Table 4 indicate a notable disparity in the initial recognition of cardiovascular symptoms. While palpitations (75%) and shortness of breath (66.7%) were more frequently recognized as serious, classic symptoms such as chest pain and dizziness were largely misinterpreted by participants (75% misinterpreted for both chest pain and dizziness). Fatigue showed a mixed pattern, with 50% recognizing it as serious. This suggests that participants were more likely to respond urgently to symptoms perceived as acutely threatening, whereas more common or gradual symptoms were often underestimated. This reflects a significant gap in functional health literacy, where theoretical awareness of symptoms does not reliably translate into appropriate personal action, potentially delaying timely medical care (Nutbeam, 2000).

Table 4: Initial Recognition of Symptoms as Serious (Percentage)

Symptom	No (%) (Misinterpreted)	Yes (%) (Recognized as Serious)
Chest pain	75.0	25.0
Dizziness	75.0	25.0
Fatigue	50.0	50.0
Palpitations	25.0	75.0
Shortness of breath	33.3	66.7

These patterns are consistent with previous research in South Asian populations. Murtaza et al. (2022) reported that patients frequently misattribute mild or atypical cardiac symptoms to non-cardiac causes, delaying care-seeking behavior.Similarly, Zeb et al. (2016) found that dizziness and chest discomfort were often overlooked until severe complications occurred. In contrast, palpitations and shortness of breath tended to compel immediate attention, a trend mirrored in our findings. This comparison reinforces the interpretation that cultural perceptions, fear of acute symptoms, and gaps in health literacy strongly influence the timing of medical consultation, highlighting the need for targeted educational interventions to improve recognition of non-classic cardiovascular symptoms, particularly among women and the elderly (Rafiq et al., 2025).

4.3 Reliance on Ethnomedical Treatment

The use of ethno medical treatments was a central theme in most of the interviewees and this is due to the culture and tradition in Gilgit-Baltistan. Quite a number of respondents would first attempt to resort to local knowledge, herbal/home-made medications before they would resort to formal medical treatment, usually because they believed the treatment was more accessible and affordable. In others, there were also members who included the religious or spiritual treatment in their care-seeking behavior that had effects on the way and the timing of their visits of hospitals or clinics. These practices reveal how cultural beliefs, health literacy, and access to formal healthcare interact so that they are likely to delay diagnosis and treatment of cardiovascular disease. Subheadings that follow

delve in details on this dependency concentrating on the use of traditional and herbal remedies, practices of single herbs, the use of religious and religious interventions.

4.3.1 Preference for Traditional and Herbal Remedies Before Medical Care

The second principal theme represents the direct, observable behavioral consequence of both the knowledge deficit and the structural barriers present in the region. This initial preference immediately translated into a substantial and clinically dangerous period of self-treatment, serving as the primary operational mechanism of delay.

le 5: Patient's First Response to Symptoms (Percentage)

First Response	Percentage (%)
Home remedies	45.5
Tried exercise/diet changes	27.3
Visited doctor	27.3

4.3.2 Reliance on Herbal Remedies

Patients consistently indicated the initial and primary utilization of diverse indigenous therapies, frequently sourced from local knowledge systems, including specific herbal remedies (e.g., Garlic water, 31.8%) before giving serious consideration to allopathic medication. The appeal of these remedies often lies in their cultural familiarity, perceived natural safety, and ready availability within the immediate community context.

"Some of the neighbors suggested garlic water, so I started drinking it every day, believing it would thin my blood. I continued this for months until the pain became unbearable and I realized it wasn't working" (Mehnaz Akhtar, 37).

The remedies cited varied widely, demonstrating a diffuse, non-standardized approach to self-treatment within the community, which itself contributes to delayed decision-making.

Table 6: Traditional Remedies Used by Patients (Percentage)

Traditional Remedy Used	Percentage (%)
Garlic water	31.8
Religious healing	22.7

Local medicinal plants	18.2
Herbal tea	13.6
Honey with ginger	13.6

While traditional treatments possess deep cultural legitimacy, their unverified application as substitutes for evidence-based diagnosis and treatment in progressive illnesses like CVD poses an immense public health risk. The literature strongly cautions that the perceived safety of herbal remedies is often unverified, elevating the risks of toxicity and dangerous herb-drug interactions, particularly when systemic cardiovascular failure is imminent (Awang, 2013; World Health Organization, 2022).

4.3.3 Religious and Spiritual Healing Practices

Spiritual healing practices (e.g., Religious healing, 22.7% - Table 4) were also reported as a significant primary first response. This dependence is deeply rooted in the region's robust cultural commitment to conventional therapy methods, where illness is often viewed through a spiritual lens or as a test of faith, particularly among older generations (Malik et al., 2018; Shedayi & Gulshan, 2012).

"I used religious healing practices, such as recitations and blessed water, as my first defense against the sickness, hoping for divine intervention before turning to the hospital, which felt like an admission of failure" (Waqas Ahmed, 73).

Spiritual practices serve not only as a form of treatment but also as a crucial psychological coping mechanism, offering comfort, social support, and hope in the face of uncertainty before the potentially frightening step of clinical diagnosis.

4.4 Role of Economic and Structural challenges

The health-seeking patterns of respondents were also largely influenced by economic and structural issues especially when it comes to cardiovascular diseases. Most of the respondents explained why their financial constraints, transportation, and expensive nature of medical consultations or diagnostic procedures affected their decision to use home remedies or wait longer before dedicating time in a hospital. The distance to health facilities and past a high population density was physically impairing their capacity to receive quality care in time even with the absence of economic resources to fund health care due to the absence of specialized heart services in facilities, as well as overpopulation of existing ones. Such difficulties would frequently lead people to cheap and culturally oriental alternatives when people continued to have the symptoms. The subheadings that follow are exploring

these factors in detail by discussing the financial and cultural motives of opting to have remedies, and consequently, the delays in obtaining acceptable medical care.

4.4.1 Reasons for Choosing Remedies (Access, Financial, and Cultural Factors)

Crucially, the choice of traditional remedies was frequently not a rejection of modern medicine, but a pragmatic response to structural and economic barriers. This structural vulnerability, rather than cultural belief alone, dictates the initial care pathway, a phenomenon known as "economic triaging" (Smith & Jones, 2019).

Table 7: Reasons for Using Remedies First (Percentage)

Reason	Percentage (%)
Lack of hospital nearby	40.0
Cost issues	33.3
Belief in tradition	20.0
Family advice	6.7

The top two reasons, Lack of hospital nearby (40.0%) and Cost issues (33.3%) account for a massive 73.3% of the rationale for initial self-treatment. This empirical evidence comprehensively reframes the cultural choice as an issue of accessibility and affordability. For the populace of Gilgit-Baltistan, traditional remedies represent the most accessible and zero-cost immediate form of "treatment," mitigating the severe constraints imposed by poor transportation infrastructure and chronic financial vulnerability (MDPI, 2025; Pamir Times, 2023). The patient is trapped in a structural compulsion: waiting six months for the pain to become unbearable and funds to be mobilized is often the only realistic care option available, demonstrating a critical failure in the provision of primary healthcare services.

4.4.2 Delays in Seeking Medical Treatment

The result of the lack of the level of health literacy, the culturally conditioned and structurally-preferential use of remedies, and the geographical constraint culminates in the catastrophic outcome of long-term medical care delays. This is the last functional indicator of the general focus of study directly correlated with the aspect of Patient Delay, on Three Delays Model (Thaddeus and Maine, 1994).

The history of self-treatment is disturbingly prolonged periods before the patient seeks the assistance of a physician, which is the only most significant care pathway violation. The descriptive statistics is an accurate quantification of this delay:

Table 8: Descriptive Statistics for Treatment Delay (Months)

Statistic	Duration of Remedies (Months)	Delay to Doctor (Months)
Mean	6.5	11.5
Median	6.0	12.0
Min	1	1
Max	12	18

The most critical finding is the median delay to doctor consultation of 12.0 months (one full year). This extended period is itself preceded by a median Duration of Remedies (self-treatment) of 6.0 months. This half-year reliance on traditional practices is the direct, measurable cause of half the total delay, with the remaining time often spent debating the necessity of professional care, mobilizing funds, or managing the logistical challenges of remote travel. Clinically, these delays are disastrous: a delay of this magnitude for rapidly progressive conditions like unstable angina or worsening heart failure ensures that patients arrive at the tertiary care facility (often outside GB) in advanced, highly complicated states, significantly increasing mortality rates and requiring more intensive, resource-draining interventions (De Silva & Lall, 2021). The delay often pushes the condition past the point of curative intervention.

Even after the initial internal decision to seek professional care, the logistical reality of GB's hostile, high-altitude geography further compounded the delay, transforming a medical urgency into a logistical and physical endurance test. Participants universally cited the challenges of distance, prohibitive terrain (e.g., the Karakoram Highway), poor road quality, and the non-availability of reliable, affordable transportation:

"The hospital was far, and I had transport issues. Even after I decided to go, it took weeks to arrange the trip because we needed a special vehicle for the mountain roads, and we had to wait for my son to get leave" (Mehnaz Akhtar, 37).

"Reaching the hospital from my village is not easy, and it takes a lot of time. The money for the transport alone was equivalent to a month's wages, and we had to pass multiple mountains passes just to reach the main highway" (Shahbaz Alam, 57).

The critical lack of specialized cardiac facilities in GB compels residents to travel vast distances, often exceeding 500 kilometers, to distant urban centers like Islamabad or Rawalpindi. This necessity to travel outside the region which represents the Second and Third Delays (transport and facility delay) imposes a massive logistic and financial burden that significantly increases the absolute time to definitive diagnosis and care, cementing the crisis-level median delay (Khan & Shafi, 2017; The High Asia Herald, 2025; IJCISS, 2024).

4.5 Struggles to Acceptance of CVD

Acceptance of a cardiovascular disease diagnosis turned out as one of the most effective themes in all the respondents whereby, emotional, psychological, and behavioral changes they undergo by knowing about an ailment were explained. Many players expressed their initial feelings of fear, denial and uncertainty but they were at a gradual pace getting adapted since they had more to know about their illness. This change also affected their day-to-day activities such as changes in diet, physical activity, and compliance with medical counseling. Further, respondents shared certain suggestions and recommendations to their communities grounded in their own experience both in their coping process as well as in their willingness to help other people. These emotional reactions, lifestyle changes and insights, which were provided by the community community, are expounded in the following subheadings.

4.5.1 Emotional and Psychological Responses

Emotional and Psychological Responses theme offers key information to the internal subjective process of struggling with the disease by patients at the pre- and post-diagnosis stage of the disease, in this resource-constrained environment, where dual burden of disease and systemic failure are at play.

- **Feelings of Hopelessness and Fear (Emotional Burden)**

The experience of managing an undiagnosed or chronic, life-threatening condition in an environment with limited healthcare access was marked by intense negative psychological states. This psychological distress is a predictable outcome of uncertainty and financial pressure (Gao et al., 2023).

Table 9: Emotional State of Patients (Percentage)

Emotional State	Percentage (%)
Determined	36.4
Hopeless	27.3
Confused	18.2
Fearful	9.1
Anxious	9.1

The observation that Hopelessness was the second most frequent state of feeling (27.3%) is directly related to local research in Gilgit where anxiety and depression are prevalent among patients with long-term persistent care problems (ResearchGate, 2019). The perception of Confusion (18.2%) also highlights the disconnect between the experience that the patient has of being sick and the fact that he does not know or have information on how to go about the illness.

"I felt very hopeless... it was mentally exhausting not knowing what was happening inside my body for so long and feeling like I was the only one dealing with this in my village" (Mehnaz Akhtar, 37).

- **Determination and Strength (Psychological Resilience and Misplaced Agency)**

Despite the profound psychological challenges, the narratives also revealed instances of Determination (36.4%). This resilience is often manifested as a personal resolve to manage the condition or endure the hardship of accessing treatment. However, this determination is often channeled into problematic behaviors.

"I felt determined to manage it on my own for as long as possible, even with the pain. I knew I had to be strong for my family, but looking back, that strength was just delaying the inevitable" (Shahbaz Alam, 57).

This misdirected agency is a psychological coping mechanism that ultimately reinforces the delay.

A critical finding related to psychological response and belief systems is the persistence of traditional practices even after clinical intervention, indicating a strong cognitive commitment to familiar methods.

Table 10: Patients Still Using Remedies After Diagnosis (Percentage)

Still Using Remedies	Percentage (%)
Yes	63.6
No	36.4

The fact that 63.6% of patients continue to use traditional remedies after receiving a confirmed diagnosis demonstrates that modern medicine is often viewed not as a replacement, but as a complementary system a strategy of co-management. This co-management reflects the patient's attempt to bridge the gap between biomedical efficacy and cultural/psychological comfort (Hansen & Smith, 2020).

4.5.2Lifestyle Modifications After Diagnosis

Following the definitive clinical diagnosis, participants reported significant, often doctor-recommended, changes to their daily lives and habits aimed at managing their chronic CVD, highlighting the disruptive impact of the diagnosis on established cultural and familial routines.

- **Dietary Adjustments**

The diet change was the most reported one, which revolved around eliminating bad things and replacing them with better ones, which frequently required altering the way of cooking and the ingredients used in the GB cuisine (e.g., high-fat dairy). The South Asian health literature has recorded the difficulty of making changes to the conventional diets (Fatima and Khan, 2017).

I also stopped oily and fried food entirely, as I used to eat regularly before the diagnosis. My wife was forced to know how to cook without oil, which was not easy to the entire family (Nazia Karim, 55).

“The physician told me that I must start reducing the amount of salt taken and I did. It was my reversal, the first significant alteration I did, and all the traditional stews and curries were absolutely different and demanded to be cooked separately"(Mehnaz Akhtar, 37).

- **Quitting Harmful Habits**

For patients who were smokers or consumers of other harmful substances (e.g., *naswar* or excessive *chai* consumption), quitting these habits was cited as a necessity for survival, a choice often reinforced by the near-death experience of the disease itself.

"I quit smoking immediately after the diagnosis. There was no other choice after being told my artery was blocked. The fear was enough to make me stop instantly" (Waqas Ahmed, 73).

- **Incorporating Exercise and Rest**

Patients often sought to incorporate physical activity and prescribed rest, though the lack of structured local facilities (e.g., parks, gyms) and the demanding agricultural lifestyle sometimes made this challenging, requiring conscious effort to carve out time for activities like walking.

"I try to walk every morning now, even though the pain is sometimes still there. I know exercise is important but balancing it with farm work is the hardest part" (Shahbaz Alam, 57).

4.5.3Advice and Community Recommendations

The final theme captures the accumulated wisdom and advice patients wished to share with others in their community, reflecting the harsh lessons learned through their delayed and difficult journey to diagnosis. This advice often serves as a form of social learning to prevent future community members from falling into the same trap of protracted delay.

- **Seek Early Medical Help and Avoid Reliance on Remedies**

The core lesson learned was the danger of prolonged self-treatment and the necessity of timely professional consultation, directly addressing the core finding of the six-month median remedy duration.

"Don't rely only on home remedies. If the sickness continues, you must visit a doctor early. That is the only thing I would tell people, because every day you wait is a day your heart gets weaker" (Mehnaz Akhtar, 37).

"Visit doctor early if symptoms appear. Waiting only made things worse. I should have gone when the pain was just a small worry, not when it was a disaster" (Zahida Bano, 46).

- **Awareness and Education**

Many patients expressed the belief that their entire ordeal could have been avoided had they possessed basic health knowledge, particularly knowledge that connected atypical symptoms to cardiac risk.

"Awareness is very important. No one taught us about heart disease until it was too late. Education is the key, and it needs to be taught in schools and mosques" (Shahbaz Alam, 57).

- **Lifestyle Changes and Prevention**

The advice often included proactive lifestyle management, echoing the modifications they had to adopt post-diagnosis, suggesting a strong focus on primary and secondary prevention within their social sphere.

"Improve diet and exercise before you feel sick. Don't wait for the pain to change your life. Prevention is better than a year of hospital visits" (Nazia Karim, 55).

"Combine medical treatment with healthy habits; one cannot work without the other. The medication fixes the immediate problem, but the good habits fix the future" (Rubina Begum, 45).

CHAPTER 5
DISCUSSION AND CONCLUSION

5.1 Summary

This study presented the general purpose of the study, which consisted in finding out how insufficient health awareness, use of native remedies, and structural problem cause a late diagnosis and treatment of cardiovascular diseases (CVD) in Gilgit-Baltistan. It succinctly clarified the fact that the research involved qualitative interviews in order to learn the experiences of patients and aspects that affected their health seeking behaviors. True findings of the abstract were also noted that low health literacy, cultural beliefs, and economic barriers were the most significant indicators of late medical consultation. On the whole, the abstract was concise enough to summarize the purpose, methods, results and significance of the study.

Various themes were discussed in the literature review and are relevant when it comes to cardiovascular diseases. It covered the world and local rates of the CVD, particularly, the areas of Asia and Pakistan. It mentioned some of the key risk factors including poor awareness, personal lifestyles and environmental aspects. The review also described the role played by cultural beliefs, traditional remedies and family in determining the choice of treatment made by the people. It also noted the gaps in health literacy, as well as the inability to promptly detect the symptoms, the issue is typical within most low-resource settings. Generally, the literature review contributed towards establishing the background on why patients in such regions as Gilgit-Baltistan have been marked by delays in seeking appropriate CVDs care.

The methodology section explained that the research followed a qualitative design and investigated the data by means of in-depth interviews of the CVD patients. The data collection process was facilitated

by the key informants like the Medical Superintendent of a cardiac hospital, and a female school principal. The findings were arranged in the data analysis in a form of a set of themes, namely, demographics, lack of health literacy, use of ethno medical traditions, financial and structural difficulties, and difficulty in acceptance of CVD. The review identified distinct trends of the late treatment due to the low level of awareness, the choice of traditional medications, financial issues, and emotional reactions following the diagnosis. These results provided a clearer insight into the life experiences of the CVD patients in the real life and the necessity to improve health education and services and to support the community.

5.2 DISCUSSION

This study explored how limited health awareness and the use of native remedies affect the delayed diagnosis and treatment of cardiovascular diseases. The findings show that many participants did not recognize early warning signs and relied on home remedies instead of seeking timely medical care. These behaviour increased the risk of complications and made proper treatment difficult. The discussion connects these results with previous studies, showing that low health literacy, cultural beliefs, and poor access to reliable information play a strong role in delaying medical help. This section helps explain what the findings mean and why they matter for community health.

The most significant barrier to early care is the First Delay: The Decision to Seek Care. This delay is entirely governed by the patient's perception of risk and illness severity (Thaddeus & Maine, 1994).

The finding that 63.6% of patients lacked baseline CVD awareness (Table 3) establishes low health literacy as the foundational barrier. The critical distinction here is between theoretical knowledge (knowing heart disease is serious) and functional health literacy (the ability to interpret personal symptoms and navigate the health system). The high rate of misattribution of chest pain (75.0% misattributed Table 4) directly demonstrates the failure of functional literacy. Patients possess information but lack the cognitive-linguistic skills to apply this abstract knowledge to their personal, announcedsymptomatic experience, systematically dismissing cardiac warning signs as benign gastrointestinal or musculoskeletal issues the same thing is also sayed by (Paasche-Orlow & Wolf, 2007). This is the initial, catastrophic failure point that allows the median six-month self-treatment period to begin. The failure to recognize atypical symptoms, highly common in the regional population, further compounds this initial delay (Murtaza et al., 2022).The cultural utilization of traditional remedies cannot be understood merely as an act of cultural preservation; it is an act of

structural compulsion driven by the inaccessibility of the formal healthcare system, thus intensifying the First Delay.

The combined 73.3% citation rate for Lack of hospital nearby and Cost issues (Table 7) proves that the traditional remedy is not necessarily chosen *over* modern medicine, but chosen because it is the only immediately accessible and zero-cost option (Smith & Jones, 2019). Catastrophic health expenditure due to out-of-pocket payments is a well-documented national issue that reinforces this behavior (Nishtar et al., 2019). The median 6-month period of self-treatment (Table 8) is not a static cultural preference, but the dynamic time required for a patient toexhaust their faith in the home remedy's efficacy,

suffer enough clinical deterioration to justify the immense cost, and financially mobilize the substantial funds and logistical resources required for the distant hospital visit.

This perspective demands that policy reframe the problem from one of *cultural resistance* to one of *structural injustice* regarding healthcare access. Furthermore, the use of unverified remedies like garlic water carries the latent risk of drug-herb interaction once modern medication is eventually started, compounding the clinical challenge for treating physicians (Awang, 2013; WHO, 2022).

The median twelve-month delay (Table 8) represents a crisis in care that directly predicts poor prognosis, reflecting the compounded failure of the First, Second, and Third Delays.The remaining six months of the total year-long median delay are attributed to the Second Delay: The Delay in Reaching a Health Facility (Transport) and the Third Delay: The Delay in Receiving Adequate Care (Facility/Referral). The extreme geographical barriers of GB, forcing patients to travel hundreds of kilometers outside the region to Islamabad or Rawalpindi for tertiary cardiac care, are the physical manifestation of the Second and Third Delays (Khan & Shafi, 2017). Clinically, a delay of this magnitude for rapidly progressive conditions like unstable angina or heart failure ensures that patients arrive in advanced stages, severely limiting the efficacy of acute interventions and significantly increasing the case fatality rate (CFR) compared to patients presenting within days or weeks.The delay transforms treatable chronic disease into complex, end-stage illness requiring prohibitively expensive care.

The psychological data provides a nuanced view of patient coping. The high rate of Determination (36.4%) alongside Hopelessness (27.3%) reveals a complex emotional landscape where resilience coexists with the despair of resource scarcity. The determination, however, is often *misapplied* toward self-management, inadvertently reinforcing the First Delay.Furthermore, the persistence of traditional

remedy use after diagnosis (63.6% still using them - Table 7) highlights the need for a pluralistic healthcare model. Patients engage in co-management to integrate the perceived efficacy of biomedical treatment with the psychological comfort and cultural familiarity of indigenous practices. Interventions must, therefore, seek to harmonize these systems rather than enforce a stark choice between them, ensuring that traditional practices are supportive and not substitutive .

5.3Conclusion

This study has discussed the contribution of poor health literacy, ethnomedical beliefs, economic and structural factors to the late diagnosis and treatment of cardiovascular diseases (CVDs) in Gilgit-Baltistan. In this study, an aim was to learn more about the daily lives, thoughts, and obstacles encountered by people with CVD, and to emphasis the way such aspects influence their health choices. The in-depth interview of patients, community members, and the key informants revealed several significant findings that justify the reason why a significant number of individuals visit hospitals when their illness is at its advanced stage. These results also indicate the impact of cultural customs, financial difficulties and emotional reactions on their treatment process.

The initial significant conclusion of the research is that low health literacy is still one of the key obstacles in the early CVD symptoms detection. Most of the respondents were unable to identify the early warning symptoms and they tended to attribute the symptom that included fatigue, breathlessness or slight chest pain to normal day to day tiredness. They were largely unaware of the fact that heart disease can manifest itself in other ways other than sudden and severe chest pains. There was a misunderstanding due to this and they did not take their symptoms seriously to seek medical attention. This ignorance directly contributed to the problem of delay in diagnosis and more complications to patients.

The second observation shows that it heavily depends on indigenous, conventional, and herbal medicine prior to biomedical treatment. Most of the respondents placed their faith in these remedies as they had been used in their family and community over time. Home-based treatments, herbal mixtures, and spiritual healing were the initial solution, particularly in case of mild symptoms. This was also shaped by beliefs of culture, accessibility and familiarity of their practices. Nevertheless, the outcomes revealed that the reliance on such remedies was a delay in professional medical assistance and symptom aggravation with time passing.

The third important conclusion has to do with economic and structural challenges that compelled patients to postpone medical treatment. It was poor access to proper hospitals at the right time as many

of the respondents said that financial constraints, high travelling expenses and lack of special facilities close to the area of operation made it hard to access proper hospitals. The territory of Gilgit-Baltistan is mountainous and had few means of transport and high distances to heart centres added to the difficulties. These structural problems along with the low income led to the delay of medical checkups and the families usually used to prefer the use of the cheaper local treatments before they can decide on visiting a hospital.

The fourth significant result in this research can be linked to the emotional and psychological reactions that contributed to the way individuals tolerated their diagnosis. A lot of respondents were scared, shocked, and denied the heart disease prognosis. Others experienced stress and felt guilty of the lack of serious actions concerning the symptoms. Their lives were also commonly failing to accommodate the diagnosis, even when they knew that they should. The fact that they had to live emotionally, under stress, and a sudden desire to change their usual way of life made it hard to believe that the illness was serious. This emotional charge influenced their care choices and even postponed care follow-ups.

The fifth significant result draws the community impact and social support. Most of the respondents relied on the recommendation of their family members, neighbors, or the community elders when making decisions regarding the kind of treatment to opt. Others were advised to use alternative ways of healing such as using herbs or spiritual healers rather than going to a hospital. Meanwhile, the research also concluded that having people one trusted, i.e., the principal of a local school or a supportive hospital MS, put patients at ease during the interview and treatment. This indicates that community trust can either promote and impede the timely medical care, based on the person who is instructing the patient.

In general, the results of the current study indicate that there is no specific factor that leads to delayed diagnosis of CVD in Gilgit-Baltistan. The latter is rather influenced by a complex of insufficient awareness, cultural beliefs, financial constraints, emotional conflicts, and a sense of community involvement. All these elements form a cycle that makes individuals fail to address the early symptoms, relying on irrelevant curative treatment, and visiting health institutions when the condition is critical. The findings reveal that there is a necessity of enhanced health education initiatives, access to heart services, culturally flexible awareness campaigns, and enhanced involvement.

The current research paper is a contribution to the knowledge of the actual problems that cardiovascular patients in remote areas have. It should also highlight the fact that the enhancement of health outcomes needs not only the efforts of hospitals and health workers but also of communities,

families and policymakers. With the treatment of these barriers, the screening and timely cure of CVD may be more possible to people in Gilgit-Baltistan.

5.4 Recommendations

According to the results of this research, there are a number of measures that can be implemented to enhance the cardiovascular health outcomes in Gilgit-Baltistan. To begin with, there is a great necessity to enhance health literacy programs. There should also be an awareness campaign in schools, communities and workplace regularly to sensitize the population about the symptoms and risk factors of heart diseases as well as early treatment. The materials on education need to be basic, understandable, and in the local languages so that the information can be shared and whichever regular person can understand.

The other supporting message is the need to gain better access to healthcare. More medical cardiac units, staff training units, and diagnosis facilities must be built in remote areas such that individuals do not have to cover long distances before accessing basic medical services. Mobile health camps will also be significant in benefiting communities that are reachable far away hospitals. Coupled with this, community health workers ought to be trained to determine the onset of CVD and refer the individuals to early medical care. They can assist in decreasing the levels of reliance of the community on unsafe home remedies.

The facilitation of safe and evidence-based practices also should be encouraged. They must create awareness about potential dangers of excessive consumption of herbal, spiritual or home made therapies when addressing severe cases of heart disease. The health professionals are expected to relay these messages in a way that is culturally respectable. Finance barrier must also be resolved in the form of subsidized treatment, government support initiatives, and cheap cardiac checkups to the low-income families. Patient counseling services in hospitals should further be improved to assist patients with fear, denial and emotional stress to better adhere to their lifestyle and following treatment after CVD diagnosis.

Lastly, there is a need to conduct more researches on the local beliefs, behavior, and barriers associated with heart disease. New research would be recommended to incorporate more participants with more diversity in terms of geographical location and sample size, as it will boost the evidence overall. The limitations of this study can be solved with more in-depth interviews and prolonged data collection

period that can offer more insights to researchers who will conduct their studies in this area in the future.

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PLAGIARISM CERTIFICATE

This is to certify that the thesis entitled:

The Role of Native Remedies and Limited Awareness in Diagnosis and Treatment of Cardiovascular Diseases in Gilgit-Baltistan – A Qualitative Study

submitted by **Fatimah**, Roll No. **01-152221-007**, in partial fulfillment of the requirements for the degree of **[Your Degree Name]**, is an original piece of research carried out under my supervision.

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