Health Related Quality of Life among Elderly People Living in Selective Old Homes: A Cross-Sectional Study

By

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CRP, Savar, Dhaka-1343

Bangladesh

A DISSERTATION

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DECLARATION

I declare that the work presented here is my own. All sources used have been cited appropriately. Any mistakes or inaccuracies is my own. I also decline that same any publication, presentation or dissemination of information of the study. I would be bond to take written consent from the Rehabilitation Science department, Bangladesh Health Professional Institute, CRP, Dhaka, Bangladesh.

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I, the undersigned certify that I have reviewed and recommended for approval of this dissertation entitled "**Health Related Quality of Life among Elderly People Living in Selective Old Homes: A Cross-Sectional Study"** submitted by Pradip Kumar Saha for the partial fulfillment of the requirements for the M.Sc. in Rehabilitation Science.

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Abstract

Background: Quality of life is an important issue for determining successful ageing. As an increasing elderly population in the world different services system has been run to support the elderly people. Bangladesh currently experiences the significant increase of aging population with poverty and breakdown of various social and traditional bonds.

Objective: This study was undertaken to assess the background profile and overall quality of life (QoL) with its predictors in elderly population living at old homes in Bangladesh.

Methodology: This study was conducted by non-experimental cross-sectional study by using convenient sampling among 210 participants living at old homes. Data were collected using face to face interview with a semi-structured questionnaire and data were analyzed by using SPSS 26. In each domain of the Older People Quality of Life (OPQOL)-35, descriptive statistical analysis was presented analyzed using chi square test or Fisher's Exact test. To compare the mean domains score of QoL, Student's t-test and ANOVA test were used. Finally, to measure the correlations Bivariate analysis and for predictor of quality of life multivariate linear regression was done.

Result: The findings indicated a mean Quality of Life (QoL) score of 103.46±12.72 and maximum elderly had an overall bad QoL. Across all domains, elderly males displayed higher mean scores, while elderly females exhibited lower mean scores in the overall QoL domain ($P<0.05$). Additionally, individuals who pursued higher education in their later years exhibited a positive overall quality of life. Furthermore, higher water intake and longer sleep durations showed a positive linear correlation with overall QoL. Regression analysis further indicated that education, comorbidities like thyroid dysfunction, cardiac disease, poor eye sight and respiratory diseases were predictors of quality of life in elderly staying in old homes.

Conclusion: The well-being of elderly individuals is influenced by factors such as social interactions, support networks, healthy dietary habits, and overall health status. However, it is regrettable to note that these provisions are currently lacking in context of Bangladesh. Enhancing the quality of life for the elderly involves prioritizing improvements in their financial well-being, reinforcing traditional family ties, and promoting better nutrition along with physical health. Additionally, the government

should take measures to alleviate the challenges faced by senior citizens by introducing old age security schemes, health insurance, and allocating appropriate resources.

Keywords: *Elderly, Old home, QoL, Bangladesh.*

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List of Acronyms

ACA – Affordable Care Act

BAAIGM – Bangladesh Association for the Aged & Institute of Geriatric Medicine

BDT- Bangladesh Taka

BMI – Body Mass Index

BMRC - Bangladesh Medical Research Council

CASPE-19 - Control, Autonomy, Self-realization, pleasure

COVID-19 – Corona Virus Disease 2019

FY – Fiscal year

GoB – Government of Bangladesh

HRQoL – Health Related Quality of Life

IRB – Institution Review Board

NITOR – National Institute of Traumatology & Orthopaedic Rehabilitation

NGO – Non Government Organization

OAA – Old American Act

OPD – Outpatient department

OPQOL – Older People Quality of Life

PRB - Population Reference Bureau

PT – Physiotherapy

QoL – Quality of Life

RDA – Recommended dietary allowance

SDG – Sustainable Development Goal

SPSS - Statistical Package for the Social Sciences

UK – United Kingdom

UNFPA - United Nations Population Fund

UN – United Nations

USA – United States of America

WHO – World Health Organization

WHOQOL – World health organization Quality of Life

Chapter 1 INTRODUCTION

1.1 Background

Since the late 19th century, there has been a noticeable global trend: the swift rise in the elderly population. The proportion of older individuals has grown consistently, from 8% in 1950 to 11% in 2009. This percentage is projected to increase further, reaching 22% by 2050 (Rebelatto *et al.*, 2006). The elderly population is growing significantly faster than the general population. In Bangladesh, 6.9% of the population was elderly in 1950, and this percentage is projected to increase dramatically, from 7.8 million in 2001 to 16.2 million by 2025, ultimately reaching 17% by 2050. Given these statistics, the aging population is becoming a pressing issue. Elderly individuals, often referred to as "older people" or those in the "old age" stage, are a vital segment of our nation demographics, representing the final phase of human life. In Bangladesh, individuals aged 60 or older are considered elderly. However, factors such as poverty, physical labor, malnutrition, geographic conditions, disabilities, and illnesses often cause individuals in this country to age more rapidly than at 60 (Rahman, 2011). As a result of demographic shifts including changes in geography, socio-economic conditions, and the adoption of western lifestyles, the elderly population in developing countries is on the rise. In Bangladesh, older individuals face various unanticipated challenges in their social and familial lives, such as exclusion, loneliness, and insecurity, due to their reliance on others, physical limitations, limited social mobility, and poverty (Barkat et al., 2003). These factors are having an impact on the well-being of older individuals and their overall quality of life. In determining the quality of life of elders, factors such as their health status, the availability of social support, and their psychological state are considered to be crucial (Joshi *et al.*, 2003).

"Quality of Life (QOL) is the general well-being of individuals and societies". The World Health Organization's defines Quality of Life refers to how a person views their place in society, taking into account their cultural and societal norms, as well as their personal objectives, aspirations, values, and apprehensions (World Health Organization, 2012).

Quality of life is shaped by various factors, including an individual's physical health, mental state, degree of independence, social relationships, personal beliefs, and how they interact with key elements of their environment (Guyatt, 1993). In Asian developing countries, especially Bangladesh, individuals aged 60 and above have often lived lives marked by poverty, deprivation, social insecurity, limited access to healthcare, and poor nutrition. These factors negatively affect their physical and psychological well-being in old age, making them largely dependent on family support, a cornerstone of Bangladeshi cultural values. However, with the rapid urbanization, modernization, industrialization, and globalization occurring in the country, this family support is waning. Consequently, the rapid growth of the elderly population is significantly impacting their health status and quality of life (Khan, 2014).

The Quality of Life is a dynamic concept that evolves over time for every individual. It is different when a person is a child, a young adult, and when they reach old age. As the saying goes, "Old men are children for the second time" (Aristophanes), indicating that the Quality of Life in old age can resemble that of childhood in certain ways. Old age refers to the later stage of life, following youth and middle age (Dhamo *et al.*, 2014). It can be observed that elderly people often become a burden due to financial constraints, family fragmentation, urbanization, and inadequate healthcare services. Their problems are becoming more prevalent in this vulnerable situation with each passing day (Faruque et al., 2006). To provide assistance to elderly people, residential accommodations or care homes are crucial terms that describe their way of life. Although reaching an advanced age can be seen as a blessing, it can turn into a burden for a country if it fails to adequately support its elderly population. These senior citizens possess a wealth of knowledge, skills, values, traditions, and heritage that can positively impact the healthy lifestyles of younger generations (Barkat et al., 2003). Elderly individuals serve as guides for younger generations to follow a successful life path, but as they age, they often become tired and experience various physical limitations. In such circumstances, they have the right to receive special care and lead a healthy lifestyle. Unfortunately, environmental and physical factors frequently disrupt the quality of life for elderly individuals. Many age-related limitations stem from organic and functional changes, which

can be managed or adapted to through care and residence in nursing homes. Given that these individuals spend a considerable amount of time in such facilities, it is essential to offer the necessary support to ensure their well-being (de Jesus Martins et al., 2009)

The WHO defines health as, which encompasses not just the absence of disease and infirmity but also the presence of physical, mental, and social well-being, has highlighted the growing importance of quality-of-life issues in healthcare practice and research. Assessing quality of life, which involves measuring changes in physical, functional, mental, and social health, has become crucial for evaluating the costs and benefits of new programs and interventions. In old age, neighbors and friends significantly enhance one's quality of life. Neighbors typically provide emotional support, while friends offer more practical assistance. Friendships are especially vital for women in advanced old age, as they generally maintain more social connections with friends than men (Walker, 2005).

For elderly people residing in old homes, HRQoL assessments are particularly important. Many old homes in Bangladesh may not have been designed or built with the needs of the elderly in mind, and may pose physical, mental, and social challenges that negatively impact HRQoL. For example, older homes may have steps or obstacles that can be difficult for elderly individuals to navigate, or they may be located far away from necessary services, such as grocery stores or healthcare facilities, making it difficult to maintain their independence. The quality of life for individuals residing in nursing and residential care homes, where they spend much of their time, is heavily influenced by the standard of care provided and the physical environment of the facility (Parker et al., 2004).

At times, elderly people's quality of life can be negatively impacted by living in institutional settings, such as care homes. For instance, in these facilities, individuals reside in communal spaces with limited privacy, and their relationships with one another are often superficial. They may also have restricted mobility and limited opportunities to engage with society (Gutsa, 2011).

In Bangladesh, efforts to support senior citizens have been made through various measures, but their effectiveness is often limited by poor implementation. The government and NGOs have introduced initiatives such as pension schemes, the Old Age Allowance Program (Boyoshko Bhata Karmashuchi), and the National Elderly Policy under the Ministry of Social Welfare. These initiatives aim to address social security, healthcare services, financial security, national awareness programs, and intergenerational coordination. However, there seems to be a lack of comprehensive planning for elder care in future policies (M Billah, 2012).

In Bangladesh, some steps have already taken to support the senior citizens. The elderly population has not been able to benefit from the measures implemented due to their inadequate implementation. Both government and non-governmental organizations in Bangladesh have implemented various measures, such as pension schemes, the Old Age Allowance Program (Boyoshko Bhata Karmashuchi), and the National Elderly Policy under the Ministry of Social Welfare, to tackle the issue (Sultana, 2022). These policies emphasize aspects like social security, healthcare services, financial stability, national awareness programs, and coordination between generations. However, there is currently an insufficient strategy in place within future plans to provide adequate care and support for the elderly (Sharmin *et al.*, 2021). NGOs participate in addressing concerns related to the elderly to enhance their living standards, although their actions are not highly impactful (Rahman, 2023). In Bangladesh, the government, NGOs, and welfare organizations have initiated programs like pensions and the Old Age Allowance (Boyoshko Bhata Karmashuchi), but due to insufficient attention and effort to execute these policies, the elderly are deprived of basic necessities, which negatively affects their quality of life. The objective of the study was to find out the health related quality of life of elderly living in old homes.

1.2 Problem Statement

In Bangladesh, a country with low economic status, 36% of the population resides below the poverty line of earning less than one United States dollar per day (Atnic et al., 2005). According to PRB (2022), the country's overall population is 171.2 million and has one of the most elevated population densities in the world, with 2140 individuals per square kilometer (PRB, 2022). At present, the senior citizen population of the nation, who are 60 years old or older, is close to 10.2 million (PRB, 2022). The United Nations Population Fund (UNFPA) predicts that by 2050, there will be approximately 36 million people in Bangladesh who are aged 60 or above, making up about 22% of the country's overall population. As projected by the WHO, by 2030, one out of every six people worldwide will be aged 60 years or older. Elderly individuals commonly experience a high prevalence of illness and co-morbidities (Kabir et al., 2003). However, formal healthcare provision for this demographic remains inadequate. Our society is not adequately prepared to support the aging population. This issue is not well incorporated into the government's development strategy, nor is it integral to our economic planning. According to demographers and economists, the current healthcare system and available resources are insufficient to meet the growing needs for care and assistance among senior citizens (Molla, 2022).

Demographer Warren Thompson first introduced the demographic transition model in 1929. This model comprises four stages: pre-industrial, urbanizing/industrializing, mature industrial and post-industrial (Baum, 2011). Bangladesh is now going through the third stage of demographic transition (Bairagi & Datta, 2001). for Bangladesh, this window of demographic opportunity will close around 2040 (Bidisha, 2022), therefore the policy focus must be on elderly population and ensuring health care opportunities for them.

Paraphrasing a John F Kennedy quote, he said, "We could add years to life but could not add life to years. This has become a big challenge for the elderly."

Wherefore the study will conduct to describe the HRQoL and proficiency to examine the association of comorbidities among the elderly for further preparedness. We are aimed to distinguish the primary and secondary medical demands for the elderly people (age 60 and above) ensuing the future rise of elderly population in Bangladesh, which fulfills the dearth of other study and determined about gather all the

comprehensive information of health-related problems and vulnerability among the elderly in Bangladesh.

1.3 Justification of the study

Today's child will become tomorrow's senior citizen, reflecting the brief journey of a person's lifespan on Earth. In virtually all regions of the world, the elderly population of the future is expected to possess higher levels of education and refinement than their predecessors. This will enable them to actively participate in their communities with enthusiasm. Bangladesh has experienced a decrease in mortality rates since the mid-twentieth century, and a decline in fertility rates since the late 1970s, indicating that the country is now in the third stage of demographic transition. This demographic shift has resulted in a significant increase in the number of young people and an expanding elderly population (Razzaque et al., 2010). Less economically developed countries will experience an aging population at a lower stage of economic development compared to developed countries. This trend will pose significant implications for policymakers and development planners. As the elderly population expands, there will be greater demand for healthcare services and welfare initiatives tailored to their needs. Consequently, this will strain resources, and changes in the economy may potentially dilute the economic power of the elderly (Islam *et al.*, 2012). The anticipated rise in the elderly population signals a future need for more hospital beds, geriatricians, home health aides, and nursing home beds. Furthermore, the ratio of older individuals, especially those in the oldest age bracket, affects the number of working-age adults available to offer financial support and serve as home health aides, geriatricians, and other support roles in healthcare and food services (Waite, 2004). In recent decades, evaluating HRQoL has become a routine practice in heath research, supported by a variety of assessment tools (Hickey et al., 2005), It has gained significant attention for monitoring various health aspects, including the effects of population interventions on conditions like arthritis (Mili *et al.*, 2003).

This study concentrates on assessing the future capability to provide economic and caregiving support for the elderly. From a demographic perspective, the elderly population is at risk of facing financial and healthcare support issues, particularly if there is a lack of familial support. This could be due to the economic instability of society, despite increasing women's empowerment and participation in the workforce. The trend towards nuclear families could also add additional pressure to the elderly support system. These societal shifts, combined with economic challenges, present a

significant challenge to the support system for the elderly in Bangladesh. It is essential to address these issues and implement sustainable aging policies within the country's five-year plan, adopting a phased approach to ensure the enduring viability of the elderly support system.

1.4 Research Question

➧ What is the Health Related Quality of Life among Elderly People Living in Old Homes?

1.5 Objectives

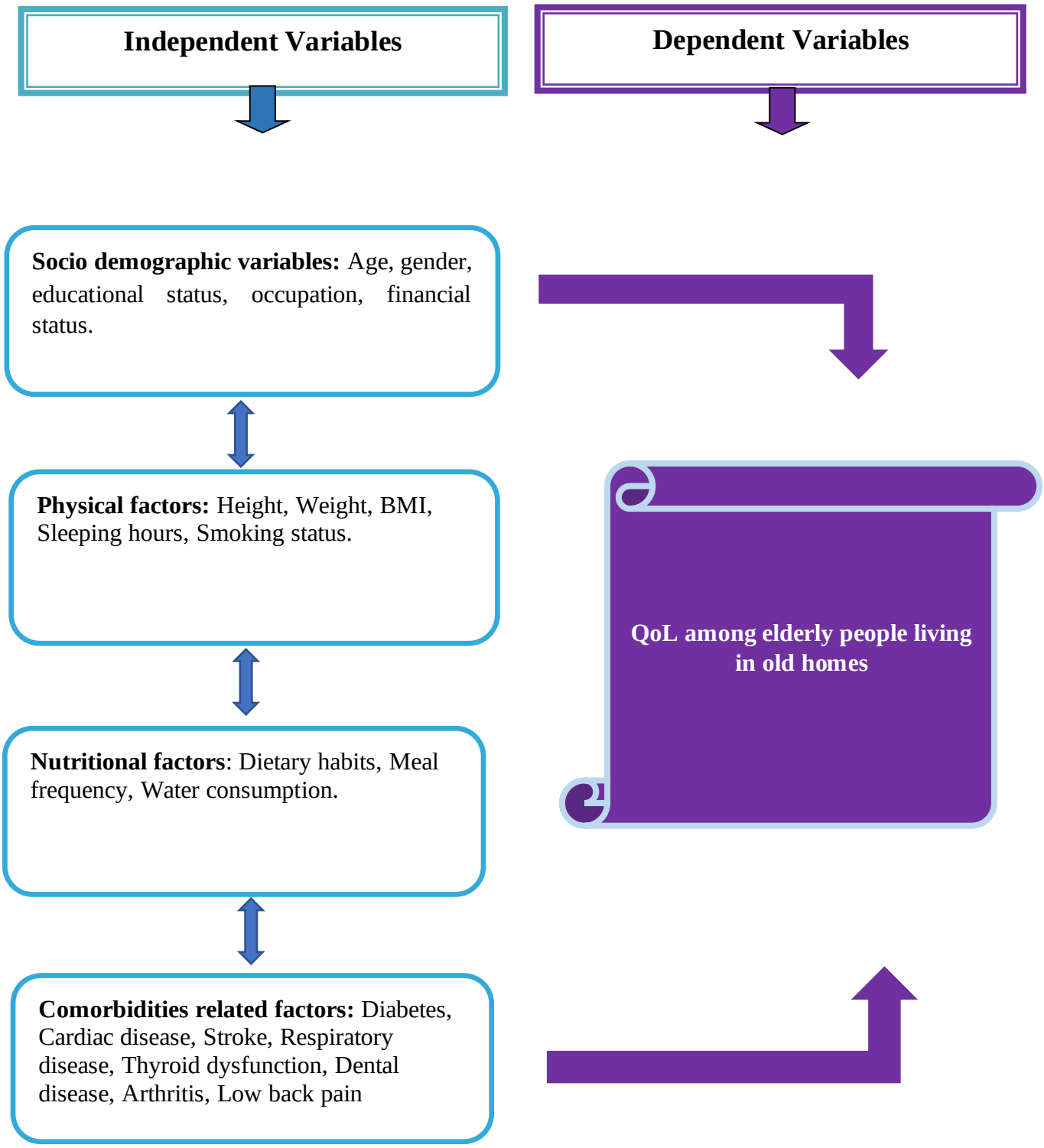
General objective -

- To trace out the Health Related Quality of Life among Elderly People Living in Selective Old Homes

Specific objectives -

- To demonstrate the socio-demographic characteristics among the participants.
- To scrutinize the health related quality status among the participants.
- To identify the difference in quality of life related to gender.
- To find out the predictors of quality of life among the participants.

1.6 Conceptual framework



1.7 Operational definition:

Older People: On November 17, 2013, the cabinet endorsed the National Policy on Older Persons, officially designating elderly individuals as senior citizens in alignment with United Nations policy. On November 29, 2014, President Abdul Hamid of Bangladesh declared that citizens aged 60 years or older in the country would be recognized as senior citizens (S. Alam, 2015).

Health related quality of life (HRQoL): It is a multifaceted concept that includes physical health, role functioning, social interactions, and psychological well-being and functioning (de Wit & Hajos, 2013).

Old home: A facility where elderly individuals can reside together and receive care when they are unable to care for themselves due to weakness or illness (*Old People's Home*, 2023)

Health: The WHO constitution states: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." (World Health Organization, 1984).

Independence: Independence refers to the capacity of an individual to carry out their daily living tasks or ADLs. The capability to conduct tasks on one's own guarantees the person's ability to reside independently in their home environment (Curzel et al., 2013).

Emotional wellbeing: Emotional well-being pertains to an individual's comprehension and acknowledgement of their emotions, as well as their ability to cope with various life circumstances (Sissons, 2022).

Social relationship: In a general sense, social relationships refer to the connections people maintain through ongoing interactions that hold personal significance for them. This encompasses relationships with family, friends, neighbors, coworkers, and others, but excludes brief or superficial interactions deemed of minimal importance (such as transactions with service providers or retail employees). Researchers in behavioral medicine often prioritize a person's social network or informal ties over formal relationships with clergy, doctors, or other professionals (August & Rook, 2013).

Disability: A disability refers to any impairment of the body or mind that makes it challenging for the individual affected to perform specific activities (activity limitation)

and engage fully with their surroundings (participation restrictions) (World Health Organization, 2022).

Vulnerable Elders: Older individuals facing heightened risks of health decline are a crucial focus for medical intervention (Saliba et al., 2001).

Morbidity: Morbidity refers to the presence of a disease or its symptoms, the prevalence of disease within a population, or medical issues resulting from a treatment (National Cancer Institute, 2011).

Community: A community is defined as the individuals residing in a specific area or those regarded as a single entity due to their shared interests, social group, or nationality (Cambridge Dictionary, *n.d.*)

Prevalence: In epidemiology, prevalence indicates the proportion of a particular population affected by a medical condition, such as a disease or a risk factor like smoking or seatbelt use, within a specific time frame. To determine prevalence, the number of individuals with the condition is compared to the total population studied, with the outcome expressed as a fraction, a percentage, or the number of cases per 10,000 or 100,000 people. Prevalence is frequently utilized in studies involving questionnaires (Wikipedia, 2023)

Determinants: A factor which decisively affects the nature or outcome something (Vocabulary, *n.d.*).

OPQOL-35: The OPQOL is a newly developed measure of quality of life (QoL) consisting of either 32 or 35 items. It uses a 5-point likert scale from “strongly agree” to “Strongly disagree” to rate questions in the domains of overall life, health, social relationships and participation, independence, control over life and freedom, home and neighborhood, psychological and emotional wellbeing, financial circumstances, religion/culture. All the positive responses are reverse coded where higher score represents better quality of life (QoL) (Bowling, 2010).

Likert Scale: Likert scale is a psychometric (i.e. the measurement of psychological constructs-emotions, attitudes, behaviors) tool that is usually used in questionnaires to determine individuals level agreement with a particular statement or phenomena. The most common way of measuring responses in survey research is also commonly referred to as the rating scale. The scale is named after psychologist Rensis Likert

(Likert, 1932). Respondents provide their level of agreement or disagreement with statements, a symmetric agree-disagree scale in likert item. Those values express the level their consent the attach to each item. As a result, likert scale are used in business, marketing, statistics, psychology and the social sciences. Likert items are statements that respondents rate by placing a mark on a continuum, such as strongly agree to strongly disagree. Symmetry and balance in likert scale items are hallmarks of good item design. Symmetry means that there are an equal number of positive and negative positions around a neutral value, while balance ensures that the scale is balanced so that it is possible to make quantitative comparisons differentiating between levels on a response scale such as when averaging over items applied on a greater than two points response scale (Bush and Burns, *n.d.*).

Sustainable Development Goals (SDGs): The Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. No poverty, zero hunger, good health and wellbeing, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth industry, innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace, justice and strong institutions, partnerships for the goals. The SGDs also detail the affinities between economic, social and environmental pillars of sustainable development by placing emphasis on sustainability.

The SDGs adopted in 2015 by the United Nations General Assembly (UNGA) as part of the post-2015 development agenda, following the completion of Millennium Development Goals that year. Informally known as Agenda 2030, the goals were enumerated and built upon in a UNGA resolution adopting the 2030 agenda. The UNGA adopted resolution on July 6, 2017 regarding the targets with more specifics and introduced indicators to enable faster migration of the SDGs from concept to practice. While a few of the goals have no deadline, the majority are to be met within the next fifteen years (United Nations, 2017)

Frutis: Fruits refers to botanical structures derived from the mature ovaries of flowering plants, typically containing seeds, developed as a result of fertilization. In a culinary context, fruits are often characterized by their sweetness and are commonly

consumed as part of a balanced diet, contributing essential vitamins, minerals, and dietary fiber. Examples include apples, oranges, berries, and bananas. This definition distinguishes fruits from vegetables, emphasizing their botanical origin and the presence of seeds (Lewis, 2001).

Vegetable: Vegetables refers to the edible parts of plants that are consumed as part of the human diet, excluding fruits, nuts, seeds, and grains. Vegetables are typically characterized by their savory taste and are rich in essential nutrients such as vitamins, minerals, and dietary fiber. Common examples of vegetables include leafy greens (e.g., spinach, lettuce), root vegetables (e.g., carrots, potatoes), cruciferous vegetables (e.g., broccoli, cauliflower), and legumes (e.g., peas, beans). This definition emphasizes the plant-based nature of vegetables and their role in providing nutritional benefits to individuals.

Milk products: Milk products refers to food items derived from milk and its components through various processes such as fermentation, coagulation, or separation. These products include dairy items such as milk, cheese, yogurt, butter, and other derivatives. Milk products are characterized by their nutritional content, specifically being rich in calcium, protein, and other essential vitamins and minerals. This definition emphasizes the diverse range of consumable products obtained from milk, each offering distinct taste, texture, and nutritional profiles (Tunick & Van Hekken, 2015).

Chapter 2 LITERATURE REVIEW

2.1 Introduction

This section provides an overview of the global elderly population, with a special focus on Bangladesh. It explores the number of elderly individuals worldwide and in Bangladesh, comparing the quality of life for seniors in developed and developing countries. The section also delves into the services available for the elderly in Bangladesh, ultimately highlighting the quality of life for seniors specifically in Bangladesh.

2.2 Elderly

The elderly stage of life refers to the period following youth and middle age. According to the United Nations, individuals over 60 years old are considered elderly. WHO notes that in developing countries, old age may be defined by changing or lost roles and the reduced ability to actively contribute to society (Dhamo *et al.*, 2014). The term "elderly" refers to individuals characterized by their age, changes in social roles, and decline in functional abilities. In many developed countries, "old age" is often defined by the point at which individuals retire from paid work and become eligible for pension benefits, typically around the ages of 60 or 65. (World Health Organization, 2015). While most countries globally consider 65 years as the standard age defining elderly individuals, Bangladesh defines individuals as those aged 60 years or older. Notably, the elderly population in Bangladesh is growing steadily (Khan, 2014).

The process of ageing is something that is experienced universally and it can be traced back to the emergence of life approximately 3.5 billion years ago. The various theories that attempt to explain the process of aging should be utilized, whenever possible, to address practical issues such as the application of the free radical theory of aging. Societal measures that were previously established to provide adequate care for elderly individuals are no longer sufficient due to changes in lifestyle, an increasing percentage of elderly people, declining birth rates, and a smaller workforce to support the elderly. However, new measures are being proposed to address this issue. There is potential for significant progress in extending the functional lifespan and enhancing the quality of life for older individuals (Harman, 2006).

It is unlikely that most individuals can achieve successful aging according to all the criteria. However, successful aging should be regarded as an ideal state that should be strived for, viewed through multiple dimensions, and placed on a continuum of accomplishment rather than judged through oversimplified norms of success or failure. Although ongoing research exists on this topic, abandoning the term "successful aging" would not be beneficial. Instead, adopting a more comprehensive viewpoint would be relevant and advantageous for elderly individuals (Bowling & Dieppe, 2005).

2.3 The elderly people in Bangladesh

Population aging is a global issue that currently affects or will soon impact nearly every country worldwide. The elderly population is expanding rapidly across the globe (Lee *et al.,* 2010). According to the WHO report, the current global population of elderly individuals exceeds 600 million. Projections indicate that this figure is expected to double by 2025 and reach 2 billion by 2050 (Khaje-Bishak et al., 2014). In 1999, the Indian government introduced a nationwide policy for the elderly, leading to a gradual increase in the proportion of elderly individuals in India from 6.8% in 1991 to 8.6% in 2011. Projections suggest this percentage will rise to 19% by 2050 (Hameed *et al.,* 2014, Shahanaz, 2015). Bangladesh, recognized as one of the least developed countries with the highest population density globally, had a population of 171.2 million in 2022 (PRB 2022). As of that year, 6.2% of the population, representing over 10.2 million people, were aged 60 years and older (PRB, 2022). Approximately 80,000 individuals join this age group each year. Unlike wealthier nations, Bangladesh faces a swift rise in its aging population, leaving less time to address associated challenges. Factors like the decline of landlines, rural-to-urban migration, and changes in lifestyle leading to smaller families have left the elderly population in Bangladesh particularly vulnerable. Poverty and social isolation pose significant threats to their overall well-being (Ahmed et al., 2005).

In Bangladesh, elderly care is primarily the responsibility of families and the wider community. Adult children, particularly sons, are viewed as the primary providers of economic and security assistance to their parents, especially during times of illness, natural disasters, and old age. Reflecting its Asian heritage, Bangladesh has a strong cultural and religious tradition of familial and community care for the elderly, with an expectation that families and communities will undertake this responsibility.

However, the traditional extended family and community care system in Bangladesh has been disrupted by various factors including rapid socioeconomic and demographic changes, widespread poverty, evolving social and religious values, and the influence of Western culture. Consequently, many elderly individuals in Bangladesh face significant challenges such as inadequate financial support, age-related health issues, limited access to proper healthcare facilities, social exclusion and neglect, deprivation, and socioeconomic insecurity (Islam *et al.,* 2012). However, this traditional support system is gradually becoming less effective. The main reason for the decline in support for elderly individuals is the shrinking size of families. Moreover, families' inability and reluctance to provide care for the elderly are significant contributing factors to this issue (Khan *et al.,* 2014).

Most elderly individuals in Bangladesh live in rural areas where opportunities for earning income are notably difficult due to several barriers. These include physical limitations or poor health, age-related discrimination, limited access to capital, restricted decision-making power within households, social constraints on mobility, and insufficient skill development. Elderly women encounter greater challenges than men in pursuing work outside their homes due to biases related to both age and gender. Cultural and social norms constrain their activities, limiting their opportunities for income generation through employment, a situation less prevalent in urban settings (Barkat et al., 2003).

2.4 Quality of life in elderly

Aging is a natural process characterized by gradual changes in metabolic activity and a decline in cell regenerative capacity. Globally, average lifespans have been increasing due to factors like genetics, lifestyle choices, healthy diet, avoidance of smoking, and physical activity. However, elderly individuals often face higher risks of developing multiple health conditions due to reduced physical and mental functions. Emotional challenges such as loneliness, diminished sexual activity, and chronic metabolic disorders can also impact their quality of life.

WHO defines quality of life as an individual's subjective assessment of their position in society, influenced by their cultural background, values, goals, expectation, standards, and concerns. It encompasses a state of overall well-being that is achieved

through a combination of physical, functional, emotional and social factors. Factors such as poverty, limited access to education and healthcare, and social isolation can all contribute to a reduced quality of life among elderly individuals (Khaje-Bishak et al., 2014). The concept of quality of life is widely acknowledged as a vital component of overall well-being. Encompassing both tangible aspects such as income, living conditions, access to services and environmental factors. It also includes dimensions like close relationships, social well-being, community engagement, and societal participation, as well as health factors such as physical health, fitness, mobility, and symptoms of illness. Emotional well-being, which involves emotions, self-esteem, spirituality, and cognitive functions, is also a significant component. Additionally, productivity indicators such as job satisfaction, competence, autonomy, and meaningful roles are important aspects of quality of life (Huusko *et al.,* 2006, Shahanaz, 2015).

The concept of quality of life for older adults is shaped by a range of factors, including their physical and mental health, living environment, psychological well-being and social connections (Browing *et al.*, 2013). For instance, assessing an individuals physical abilities is essential in evaluating their quality of life, as it directly affects their overall health. Health-related quality of life refers to how someone perceives their health status, overall well-being and experiences with illnesses or diseases (Huusko *et al.,* 2006, Shahanaz, 2015). The quality of life in elderly care settings hinges significantly on factors such as physical comfort, functional capabilities, privacy, independence, dignity, engaging activities, positive relationships, and safety. Psychological and social well-being are also pivotal in shaping quality of life. Chronic illnesses can diminish quality of life among elderly individuals, but behavioral, psychological, and social support can mitigate these effects. Adopting healthy habits and maintaining control over daily activities can positively impact well-being despite health challenges. Social resources, including participation in social activities and receiving support from others, play a crucial role in enhancing quality of life. Additionally, financial resources are essential for maintaining a standard of living that allows elderly individuals to sustain independence, stay socially connected, and access necessary healthcare (Browing *et al.*, 2013).

2.5 Health care measures for elders

An individual's decision to seek healthcare services is influenced by various factors, such as their present health condition and their ability to access healthcare. Ideally, healthcare utilization would be based solely on the health needs of an individual or community. However, in reality, this is not the case. There have been numerous studies over the past few decades to understand why patterns of healthcare utilization vary among individuals. Several theoretical models have been proposed to explain the factors that influence healthcare utilization, including economic, psychosocial, behavioral, and epidemiological factors, in order to better understand the extent to which different variables impact the decision to seek healthcare services (Hulka *et al.*, 1985).

The proportion of elderly individuals in a country's population varies across the three stages of economic development. The most developed countries in the region have around 12-14% of their population in the 'elderly' category, while the middle group has about 9%, and the developing countries have approximately 4-6%. These differences are mainly due to varying life expectancies at birth, which are linked to a country's economic well-being and healthcare standards. The comprehensiveness of formal services for the elderly also varies across these stages of development. Australia and Japan have the most extensive provision of income maintenance, healthcare, and institutionalization facilities. Japan has a strong familistic culture where the elderly are often supported within the families of their children. Hong Kong, Singapore, and South Korea fall into a middle stage of economic development, with varying degrees of financial assistance and residential facilities. South Korea is just beginning to face the problem of a growing elderly population, while the Philippines has a relatively developed social and health care support system for the aged. Other countries in the region have little in terms of specialized health care facilities or income-maintenance programs for the elderly (GORE, 1985).

The results of a study offer many opportunities for further exploration in developing social and health policies aimed at improving the protection and independence of elderly individuals. It is important that family and social interactions are taken into account when designing these policies. The significant proportion of elderly individuals who are dependent or living alone highlights the need for support

services that can help them maintain their independence according to their level of frailty. The importance of medical services also underscores the need for new healthcare policies that meet the needs of the aging population. To achieve this, it is necessary to have an adequate number of primary care professionals (such as family physicians, nurses, and social workers) who are trained to care for the elderly, as well as specialists in geriatrics. There is a great need for preventive gerontology, and physicians should spend more time caring for older patients, their families, and their caregivers (Fernández-Olano et al., 2006).

Initially, Canada's 1984 Canada Health Act did not require home care as a covered benefit. However, under the current administration led by Prime Minister Justin Trudeau, a significant investment has been announced to support home and community-based care. This initiative aims to improve access to services and provide support to caregivers, with the goal of reducing inequalities in service access (MacKendrick, 2017). Australia has launched a centralized online platform for community-based care services, aiming to simplify access for seniors to a range of services and subsidies, including home care, meal delivery and palliative care (*Australian-Government Subsidised Aged Care Services*, 2017).

In the United States, there are several healthcare measures in place to ensure the well-being of elderly individuals. These include:

- Medicare: This is a government funded health insurance program that offers coverage to seniors (65+) and individuals with disabilities. It provides comprehensive medical benefits, including hospital stays, doctor appointments and preventive care services, to help ensure access to quality healthcare (Medicare, 2023).
- Medicaid: It is a joint federal-state program that provides healthcare coverage to low income individuals, including seniors who meet certain income and asset requirements. This program helps ensure that those who are most in need of financial assistance can access essential medical services (Medicaid, 2023).
- Social Security: This is a federal program that offers retirement benefits to elderly individuals who have contributed to the system through their work and payments over their careers (Social Security Administration, 2023)

- Affordable Care Act (ACA): This federal law, commonly referred to as Obamacare, expanded healthcare access for millions of Americans, including elderly individuals, through subsidies aimed at facilitating the purchase of health insurance (health care, 2010)
- Older Americans Act (OAA): This federal law allocates funding for various programs and services designed to enhance the health and well-being of elderly individuals. These include nutrition programs, caregiver support, and transportation services (Administration for community living, 2020).

The region is already experiencing the effects of aging populations, prompting governments to prepare for the future. Currently, 21 countries in the region have implemented national policies for older adults, while 12 countries have enacted laws specifically addressing their needs. Additionally, 8 countries have established dedicated bodies within their ministries to focus on aging issues. Many countries are making progress in providing social protection and care for older individuals. For example, Thailand has introduced a universal social pension for those 60 and older, which has been adjusted to a progressive rate based on age. The country has also established an elderly fund support to support activities organized by elderly group. Ongoing efforts are being made under the UN's social protection floor initiative, with support from relevant ministries (UNFPA & HelpAge International, 2012)

India's National Policy on Older Persons was established in 1999 with the goal of ensuring the well-being of elderly individuals and facilitating their active participation in society. The policy aims to cater to the needs of older persons across various domains such as healthcare, social security, housing, and financial support. It outlines several key initiatives including healthcare and nutritional provisions, promoting active and productive aging, and supporting caregivers. Additionally, the policy strives to safeguard older persons from abuse, neglect, and social discrimination. Under this policy, the Indian government has implemented various programs and initiatives. These include the National Program for Health Care of the Elderly, which offers healthcare services tailored for elderly individuals, and the Indira Gandhi National Old Age Pension Scheme, providing financial aid to elderly individuals below the poverty line. The policy also emphasizes fostering intergenerational bonds and ensuring the involvement of older persons in societal development processes. Recognizing the significant role older individuals can play in society, the policy aims to create

opportunities for them to contribute to community well-being. Overall, India's National Policy on Older Persons is designed to address the specific needs and challenges faced by elderly people in the country, promoting their welfare and enhancing their active participation in society (Ministry of social justice and empowerment, Government of India, 2011). The government of Sri Lanka has implemented several measures to improve the health of older persons, including the establishment of geriatric clinics and day-care centers, and the provision of home-based health care services (Samaraweera & Maduwage, 2016). The government of Nepal has established geriatric clinics and home-based care services for older persons. It has also implemented programs to provide health care services and social support to older persons in rural areas (Public health update, 2022).

2.6 Elderly in Old Homes

A range of studies have explored the experiences of elderly individuals in old age homes. Dubey found that those in old age homes often feel neglected and burdened while Vanitha highlighted the physical and mental health issues faced by these individuals (Dubey et al., 2011; Vanitha, 2014). Menezes discussed the emergence of old age homes in India due to changes in family structure, and the need for these homes to provide a meaningful existence for the elderly (Menezes & Thomas, 2018). Carter focused on the prevalence of environmental hazards in the homes of older people, which could potentially impact their safety and wellbeing (Carter et al., 1997). These studies collectively underscore the importance of addressing the physical, mental and environmental needs of elderly individuals in old age homes.

The quality of life of elderly people in old age homes is influenced by various factors. Including their physical, psychological, social and environmental wellbeing (Chandrika et al., 2015; Kengnal et al., 2019; Panday et al., 2015). Studies have found that elderly individuals living in urban areas tend to have higher quality of life scores in these domains compared to those in rural areas and old age homes (Kengnal et al., 2019). However, the quality of life in old age homes can be better than in family setups, particularly in terms of physical and social domains (Panday et al., 2015). The availability of facilities and the type of old age home can also impact the quality of life, with private old age homes generally providing better services (Gupta et al., 2014).

2.7 Health care measures for elders in Bangladesh

The vast majority of elderly individuals in Bangladesh reported experiencing health issues, and many reported experiencing multiple health problems. Women and rural residents reported more health issues than men and urban residents, respectively. Socioeconomic factors were not found to have a significant impact on the reporting of health problems. In Bangladesh, family members played a crucial role in providing support to the elderly. Emotional, practical, and material support was mainly provided by the spouse, daughter, son, and daughter-in-law. While elderly individuals received support from their family members, they also reported providing support for household activities and financial needs. The government of Bangladesh has established community-based health care services for the elderly, including medical check-ups, health education, and screening for common health problems such as diabetes and hypertension (Kabir, 2001).

In accordance with the WHO world health statistics report, the promotion of optimal physical and mental health across all ages demographics is of paramount importance in achieving the sustainable development goals (World Health Organization, 2016). While Bangladesh has demonstrated significant advancement in fulfilling various SDG targets, there remains a noticeable deficiency in progress regarding physical and mental health concerns among the elderly population. Regrettably, geriatric mental health is often relegated to a position of low priority in Bangladesh (M. R. Alam et al., 2021; Mazumder et al., 2020).

The current deficiencies in geriatric care could deteriorate further during the COVID-19 pandemic, potentially resulting in higher mortality and morbidity rates among older adults who are particularly vulnerable to infection and may face inadequate healthcare. To sustain the advancements achieved in enhancing public health through preventive measures in recent decades, policymakers and other stakeholders must prioritize geriatric care lessons derived from the COVID-19 pandemic (Hossain et al., 2020).

A comprehensive survey was conducted from November 2019 to January 2020, encompassing 478 households, each with at least one member aged 60 or above. The survey findings indicated that an approximate percentage of 93% of elderly respondents reported experiencing an illness within the preceding six months. Of particular concern,

84% of these health conditions were identified as chronic in nature. The most prevalent ailment was hypertension and other common health issues included gastric or ulcer problems, followed by pain. Additionally they also reported suffering from diabtetes, while few cases reported cardiac disease. Weakness was reported while asthma affected. Furthermore, the elderly population reported experiencing flu or cough, arthritis and eye infections (Tithila *et al.*, 2021).

Without a home-based care program for older adults in Bangladesh, individuals dealing with health issues have no alternative but to consider institutional services (Hossain et al., 2020) , This is particularly significant given that over sixty-three percent of the country's population resides in rural areas (The World Bank, 2016).

The Probin Hospital, located in Dhaka's Sher-E-Bangla Nagar, is a specialized geriatric hospital with doctors who have expertise in geriatric medicine. The hospital receives approximately 3,700 older patients seeking medical assistance every three months on average.

Recognizing the concerning aging demographic in the country, Professor Dr. A K M Abdul Wahed, a prominent physician in the region, founded an organization in 1960 known today as the Bangladesh Association for the Aged and Institute of Geriatric Medicine (BAAIGM). BAAIGM is the oldest and largest non-governmental organization dedicated entirely to addressing aging issues, focusing on the healthcare and well-being of older persons regardless of their background, in partnership with the Government of Bangladesh (GoB) and various national and international organizations (‘Overview – Bangladesh Association for the Aged and Institute of Geriatric Medicine’, *n.d.*). Out of the 92 branches of the Bangladesh Association for the Aged & Institute of Geriatric Medicine (BAAIGM) nationwide, only 63 branches are presently operational. The central branch located in Dhaka's Sher-E-Bangla Nagar is the sole branch equipped with a full hospital setup, offering both indoor and outdoor healthcare facilities (Tithila *et al.*, 2021).

Chapter 3 METHODS AND MATERIALS

3.1 Study design

The research employed an observational approach with quantitative data and a cross-sectional study design. This method was chosen because mixed methods are suitable for this study, given the straightforward and well-defined nature of the issue, which required minimal time for completion (Brannen, 1992). Cross-sectional studies are a cost-effective type of observational research that can be conducted relatively quickly (MacDonald et al., 2011). Self-administered structured questionnaire was consisted of cross-sectional study design to gather data on HRQoL of elderly patient living in selective old homes in Dhaka.

The objective of this research was to examine the health related quality of life among the elderly population in Bangladesh. The methodology employed for this study involved the use of various documentation techniques, networking and quantitative tools. The primary sources of information for this research were derived from a comprehensive literature review conducted using search engines such as Google Scholar and PubMed, spanning the time frame from 1974 to 2022. Key search terms included “health related quality of life of the elderly”, “aging”, “elderly”, “old homes”, “nursing homes:, :caregiving homes:, “health measures”, “Bangladesh”, and “world”. This study was conducted as a fulfillment of the final year requirements for the Master of Science in Rehabilitation Science degree at Bangladesh Health Professional Institute, CRP, Dhaka, Bangladesh.

3.2 Study area

Data were collected from Old Rehabilitation Center, Gazipur; Bangladesh Association for the Aged and Institute of Geriatric Medicine, Agargaon; Apon Vubon, Uttara; Subarta Trust, Manikganj.

3.3 Study period

The duration of study was one year. The study was conducted from October 2023 to March 2024.

3.4 Study population

The study populations comprised of both female and male people who are age 60 or above and living in old homes.

3.5 Inclusion criteria and Exclusion criteria

Inclusion criteria:

- Age range: 60 years and above of old people (Khan et al., 2014).
- The elderly people who are living at an old home.
- Both male and female was included (Khan et al., 2014).
- Respondents must be willing to participate in the study.

Exclusion criteria:

- Respondents those who were severely ill.
- Apart from male and female another gender was be excluded.
- Patients those who were psychologically unstable.

3.6 Sample size

Sample sizes were determined by the calculating the following equation

$n = \frac{Z^2 pq}{d^2}$ (Hannan, 2007)

Here,

n = Desired sample size

Z = Standard normal deviate usually set at 1.96 which correspondents to 95% confidence level.

p = Proportion of the population estimated to have a particular characteristic.

q = 1-p

d = Degree of accuracy desire, usually set at 0.05%

Satisfaction level,

(20.4% Khan, Islam and Shahiduzzaman 2014)

(16.3% (Zahan et al., 2019)

Where,

Z = confidence level= 95% for this study

p = estimated proportion rate of patient satisfaction 16.3% = 0.163

q = 1-p = (1-0.163) = 0.837

n = desired sample size is= 210

3.7 Sampling technique

Samples was selected conveniently to interview the study population considering the inclusion and exclusion criteria.

3.8 Data collection procedure

Permission was be sought from the participants by the investigators prior to data collection. Each participant was provided with a written consent form and a form was be created based on inclusion criteria. The data was collected through the use of a structured questionnaire, specifically the OPQOL-35, which is a closed-ended questionnaire aimed at measuring the quality of life of older individuals.

3.8.1 Translation and Linguistic validation

In 1999, a group of experts from the pharmaceuticals industry, academia and contract research organizations (CROs) gathered at the ISPOR Third Annual European Congress in Antwerp to discuss the challenges and best practices of translating and adapting patient-reported outcome measures for use in clinical trials and research. The attendees shared their knowledge and experience in this area, with some having already worked on translating and adapting PRO measures for various studies (Guidetti et al., 2014). In January 2007, the ISPOR health science policy council resolved to establish a dedicated task force focused on translation and linguistic validation. This decision was subsequently endorsed by the ISPOR board in March 2007, Thereby formally authorizing the creation of task force (Wild et al., 2005). It is imperative that researchers exercise caution when selecting and utilizing questionnaires, as the accuracy of their findings is contingent upon the careful assessment of the measurement properties of these instruments. To ensure the validity of their research, investigators must meticulously choose the most suitable tools and possess an profound understanding of

the instruments they intend to employ, including their constituent items, domains, formats and measurement characteristics. The reliability of the data collected from these instruments is directly dependent on their psychometric properties, thereby necessitating a thorough evaluation of these attributes prior to their utilization (Souza et al., 2017). As the global clinical trials landscape continues to expand, there is a growing imperative to translate and adapt patient-reported outcome (PRO) instruments into languages other than the original English-based source. This demand is driven by the increasing participation of countries such as India and China in clinical research. Given that many PRO instruments originate from English-speaking countries, it is crucial to translate and adapt them to accommodate the linguistic and cultural nuances of other nations, thereby ensuring their accuracy and relevance in diverse settings (Wild et al., 2005). The linguistic validation adhered to an internationally recognized translation methodology and was conducted using a well-established process that includes the following standard steps:

Forward Translation

The aim of this phase was to produce a version in the target language that closely mirrors the original questionnaire in both meaning and concept. To achieve this goal, the process includes clarifying the meaning of each item in the original questionnaire with the author and ensuring that translators in different languages have a shared understanding of the concepts and items. This ensures that the translations accurately convey the original meaning (Mgbeojedo et al., 2022). Two skilled translators, fluent in both the source language and native speakers of the target language, were assigned to independently create two separate translations of the original questionnaire. A final version of the translation was subsequently developed by comparing and harmonizing the differences between these two translations (Arafine, 2019; Seventer et al., 2010).

Backward Translation

The reconciled translation was then back-translated into the source language by a professional translator who is a native speaker of the target language and fluent in English, and who had no prior knowledge of the questionnaire. This backward translation was subsequently compared to the original questionnaire by a multidisciplinary team, resulting in the creation of a second reconciled version in the target language. Throughout this process, any discrepancies or linguistic issues that

arose were identified and addressed, leading to necessary modifications (Mgbeojedo et al., 2022).

3.9 Data collection tool

Data was conducted by semi structured questionnaire, pen, paper, file, clip, board and check list.

3.10 Data Analysis

SPSS 26 version software was used in data entry and analyzing the results of data. Frequency, percentages, mean and standard deviation will be used to calculate the data. Student's t-test, ANOVA were used to compare means, bivariate analysis was used to identify the correlation between factors and QoL. Multivariate logistic regression test were used to analyze the predictors of QoL.

3.11 Ethical consideration:

The protocol was required to be approved by the ethical review committee of the Bangladesh Health Professional Institute. Throughout the study, guidelines from the Institution Review Board (IRB) and World Health Organization (WHO) research were strictly followed. Written informed consent was obtained from all participants upon enrollment, and verbal consent was also sought when necessary. The consent form included the study title, objectives, data collection procedures, expected duration, confidentiality measures, and anticipated outcomes. Participants were briefed in simple and clear language about the study results before data collection, and they were informed of their right to withdraw from the study at any time. Proposal information about participants was kept strictly confidential, and data provided by participants were analyzed using coded identifiers to ensure anonymity.

3.12 Informed consent

Participants were provided with a written consent form before completing the questionnaire, which included a space for their signature. The consent form assured participants that they had the right to refuse to answer any questions during data collection and could withdraw from the study at any time without consequences. Participants were also assured that their confidentiality would be strictly maintained, and any information used in presentations or publications would not identify them

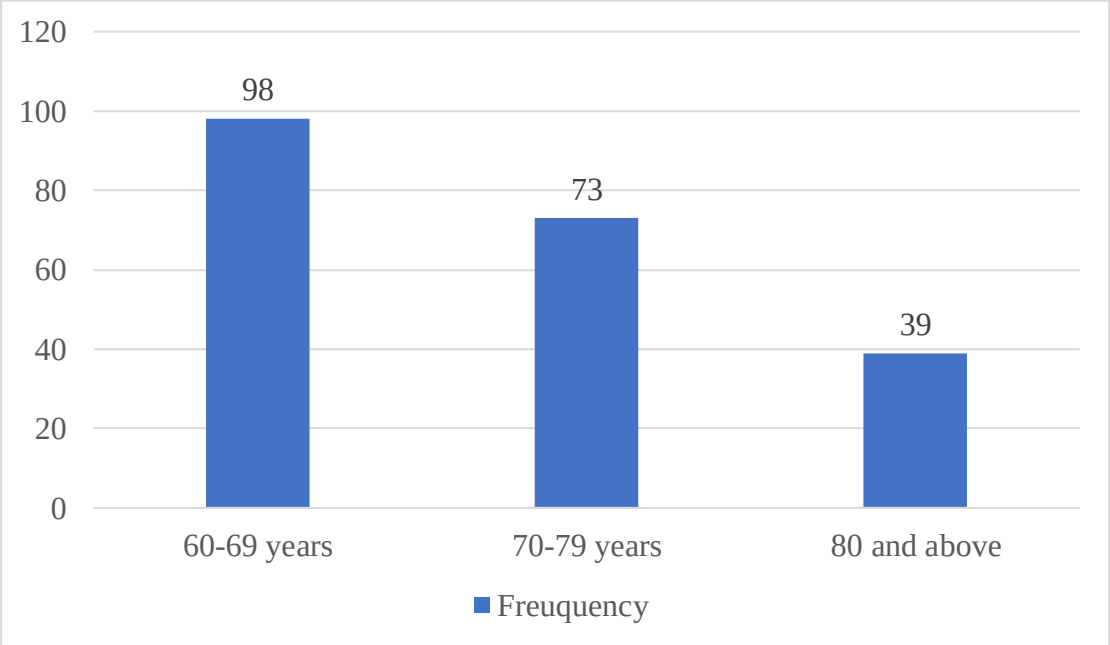
personally. They were informed that the research results would not be harmful to them, and that there might not be any direct benefit from participating. All information gathered in the study was coded anonymously to protect confidentiality and ensure that participants could not be personally identified in any publications reporting the study's findings.

Result

4.1 Sociodemographic characteristics of the participants

4.1.1 Distribution of participants according to age (n = 210)

Figure. 1: Distribution of the participants by age group



The study was conducted on 210 participants of both male and females. Participants mean age was 71.16 (SD ± 7.654) years. The minimum age was 60 and maximum was 95 years. Among the participants, the greater number were the range 60-69 and the frequency was 98. Among the age groups, 60-69 years were 46.7%, 70-79 years were 34.8% & 80 and above were 18.6%, *(Figure. 1)*.

4.1.2 Distribution of participants according to gender (n = 210)

Figure. 2: Distribution of the participants by gender

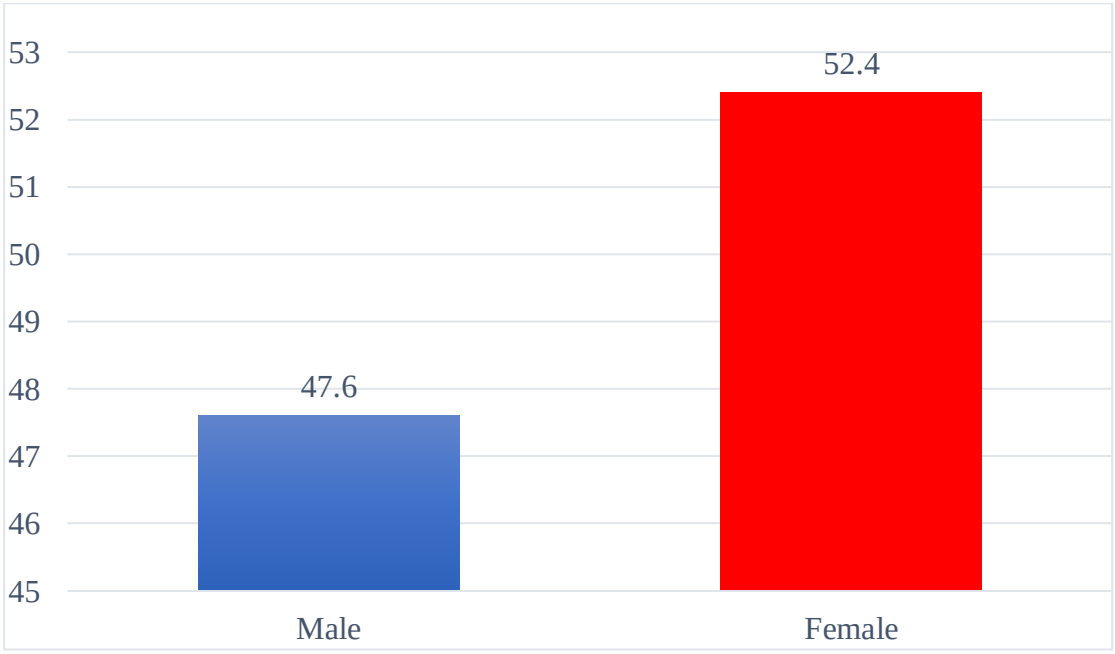


Figure. 1 showed that among the participants (n = 210), male was 100 (47.6%) and female was 110 (52.4%).

4.1.3 Distribution of participants according to marital status (n = 210)

Figure. 3: Distribution of the participants by marital status

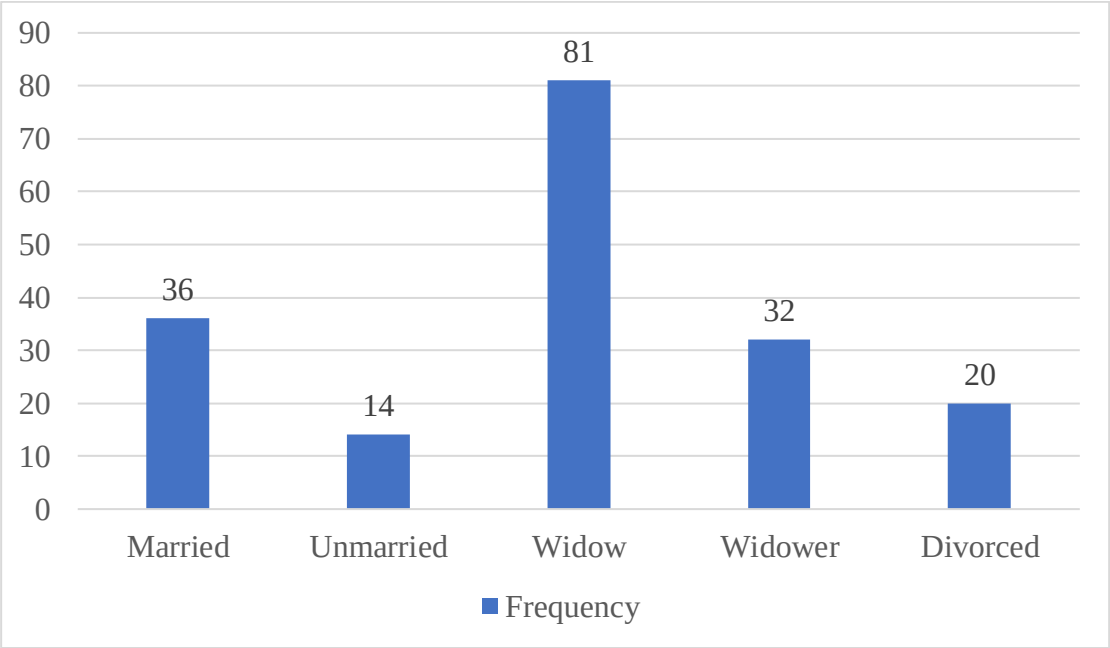


Table. 2 showed that among the participants (n = 210), 63 (30%) were married, 14 (6.7%) were unmarried, 81 (38.6%) were widow, 32 (15.2%) were widower, 20 (9.5%) were divorced.

4.1.4 Distribution of participants according to education (n = 210)

Figure. 4: Distribution of the participants by educational qualification

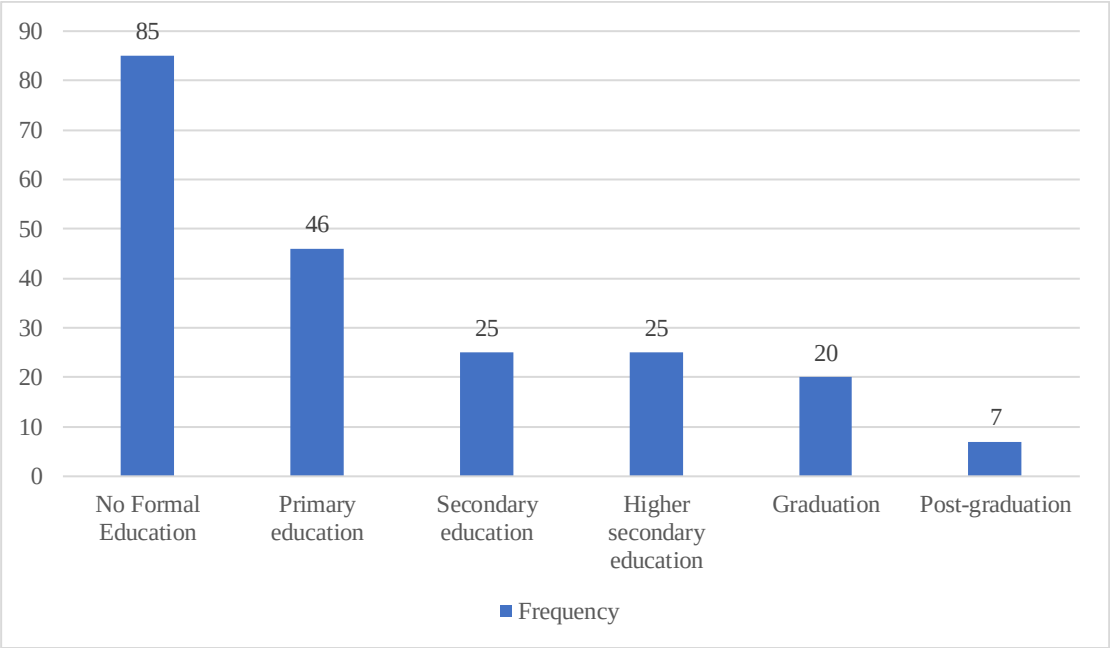


Table. 3 showed that among the participants (n = 210), received No formal education 85 (41.4%), Primary education 46 (21.9%), Secondary education 25 (11.9%), Higher secondary education 25 (11.9%), Graduation 20 (9.5%), post-graduation 7 (3.3%).

4.1.5 Distribution of participants according to monthly family income (n = 210)

Table. 1 showed that mean monthly family was 40,904.76 (SD ± 34,647.790) BDT. The minimum monthly income was 15,000 and maximum was 250,000 BDT. Among the participants, the greater number were the range 20000 to 39999 and the frequency was 122. Among the monthly income categories, below 20000 BDT were 4.3%, 20000 to 39999 BDT were 58.1%, 40000 to 59999 BDT were 23.8%, 60000 and above were 13.8%.

Table. 1: Distribution of the participants by monthly family income

Monthly family income	Frequency	Percent	Mean ± SD
Below 20000	9	4.3%	40,904.76 ± 34,647.790
20000 to 39999	122	58.1%	
40000 to 59999	50	23.8%	
60000 and above	29	13.8%	
Total	210	100.0%	

4.1.6 Distribution of participants according to Old homes (n = 210)

Table. 2 showed that showed that 70.5% of the participants were from Old rehabilitation center, 12.9% from BAAIGM, 14.3% from Apon Vubon & 2.4% from Subarta Trust.

Table. 2: Distribution of the participants by old homes

Characteristics	All (*n* = 210)	Male (*n* = 100)	Female (*n* = 110)	Chi-square	*P-value*
Old homes (%)				57.27	0.000
Old Rehabilitation Center	148 (70.5)	95 (95)	53 (48.2)		
BAAIGM	27 (12.9)	5 (5)	22 (20)		
Apon Bhubon	30 (14.3)	0 (0)	30 (27.3)		
Subarta Trust	5 (2.4)	0 (0)	5 (4.5)		

4.2 Physical health related factors of the participants

Table. 2 shows that mean BMI was 23.78 (SD ± 4.43) kg/m^2. The mean BMI was higher in females (24.74 kg/m^2) than males. Body mass index was categorized according to Centers for Disease Control and Prevention (CDC) (Weight, 2015). Among the participants, the greater number were the range 18.5-24.9 (Normal weight) and the frequency was 114. Among the body mass index categories, Underweight were 17.6%, Normal weight were 54.3%, Overweight were 17.6%, 30 and Obese were 10.5%.

Among the participants (n = 210), most of them included vegetables sometimes (46.2%), included fruits sometimes (46.2%), included fish or meat or egg or lentil sometimes (44.3%) and included milk or milk product sometimes (5.5%) in their diet.

Among the participants (n = 210) regarding water consumption in 24 hours, the greater number were the range >1 ½ liters (60%). Among the water consumption groups up to 1 ½ liters were 40%.

Regarding daily sleep duration, among the participants (n = 210), the greater number were the range 3-5 hours (36.2%). Among the sleep duration categories 6-7 hours were 34.8% and 8 & above hours were 29%.

Table. 3: Distribution of the participants by Physical health, diet status related factors.

Characteristics	All (*n* = 210)	Male (*n* = 100)	Female (*n* = 110)	Chi-square	*P-value*
Body Mass Index, mean ± SD	23.78 ± 4.43	22.72 ± 3.88	24.74 ± 4.70		0.001
Body Mass Index categories (%)				11.69	0.009
Underweight	37 (17.6)	23 (23)	14 (12.7)		
Normal weight	114 (54.3)	59 (59)	55 (50)		
Overweight	37 (17.6)	13 (13)	24 (21.8)		
Obese	22 (10.5)	5 (5)	17 (15.5)		
Eat vegetables (%)				1.499	0.683
Daily	49 (23.3)	26 (26)	23 (20.9)		
Often	37 (17.6)	19 (19)	18 (16.4)		
Sometimes	97 (46.2)	44 (44)	53 (48.2)		
None	27 (12.9)	11 (11)	16 (14.5)		

Eat fruits (%)				4.256	0.235
Daily	10 (4.8)	6 (6)	4 (3.6)		
Often	34 (16.2)	19 (19)	15 (13.6)		
Sometimes	97 (46.2)	39 (39)	58 (52.7)		
None	69 (32.9)	36 (36)	33 (30)		
Eat fish, meat, egg or lentil (%)				3.92	0.269
Daily	29 (13.8)	14 (14)	15 (13.6)		
Often	47 (22.4)	28 (28)	19 (17.3)		
Sometimes	93 (44.3)	39 (39)	54 (49.1)		
None	41 (19.5)	19 (19)	22 (20)		
Drink milk or milk product (%)				6.22	0.098
Daily	5 (2.4)	2 (2)	3 (2.7)		
Often	19 (9)	10 (10)	9 (8.2)		
Sometimes	106 (50.5)	42 (42)	64 (58.2)		
None	80 (38.1)	46 (46)	34 (30.9)		
Water consumption per day (%)				7.95	0.005
Up to 1 ½ Liters	84 (40)	30 (30)	54 (49.1)		
> 1 ½ Liters	126 (60)	70 (70)	56 (50.9)		
Sleep duration per day (%)				17.80	<0.001
3-5 hours	76 (36.2)	25 (25)	51 (46.4)		
6-7 hours	73 (34.8)	33 (33)	40 (36.4)		
8 and above hours	61 (29)	42 (42)	19 (17.3)		

4.3 Comorbidities related factors of the participants

Among the participants (n = 210), 61% had diabetes in which most of were females (67.3%). Only about 28.6% elderly had history of thyroid dysfunction and maximum were females (31.8%). 34.8 % of the participants had pervious history of stroke and most males were affected (42%). Regarding cardiac disease, 48.1% of the elderly had history of cardiac disease and maximum were females (52.7%). Most of the elderly had HTN (67.1%) and maximum were females (71.8%). Regarding urological disease, 44.8% of the elderly had positive history, and most were females (53.6%). Most of the elderly participants had history of dental disease (68.6%). Among them only 36.7% had history of skin disease and most were males (40%). Regarding arthritis, most of the participants had positive history of arthritis (69.5%) and mostly females were affected (76.4%). Among the participants most of them had eye sight problem (72.4%). Most of the elderly had low back pain (78.6%). 47.11% of the elderly had history of pulmonary disease and most were females (49.1%).

Table. 4: Distribution of the participants by comorbidities related factors.

Characteristics	All (*n* = 210)	Male (*n* = 100)	Female (*n* = 110)	Chi-square	*P-value*
Diabetes (%)				3.87	0.049
Present	128 (61)	54 (54)	74 (67.3)		
Absent	82 (39)	46 (46)	36 (32.7)		
Thyroid dysfunction (%)				1.19	0.275
Present	60 (28.6)	25 (25)	35 (31.8)		
Absent	150 (71.4)	75 (75)	75 (68.2)		
Stroke (%)				4.41	0.036
Present	73 (34.8)	42 (42)	31 (28.2)		
Absent	137 (65.2)	58 (58)	79 (71.8)		
Cardiac disease (%)				1.98	0.159
Present	101 (48.1)	43 (43)	58 (52.7)		
Absent	109 (51.9)	57 (57)	52 (47.3)		
HTN (%)				2.28	0.130
Present	141 (67.1)	62 (62)	79 (71.8)		

Absent	69 (32.9)	38 (38)	31 (28.2)		
Urological disease (%)				7.35	0.007
Present	94 (44.8)	35 (35)	59 (53.6)		
Absent	116 (55.2)	65 (65)	51 (46.4)		
Dental disease (%)				1.85	0.174
Present	144 (68.6)	64 (64)	80 (72.7)		
Absent	66 (31.4)	36 (36)	30 (27.3)		
Skin disease (%)				0.913	0.339
Present	77 (36.7)	40 (40)	37 (33.6)		
Absent	133 (63.3)	60 (60)	73 (66.4)		
Arthritis (%)				5.10	0.024
Present	146 (69.5)	62 (62)	84 (76.4)		
Absent	64 (30.5)	38 (38)	26 (23.6)		
Eye sight problem (%)				2.76	0.096
Present	152 (72.4)	67 (67)	85 (77.3)		
Absent	58 (27.6)	33 (33)	25 (22.7)		
Low back pain (%)				8.33	0.004
Present	165 (78.6)	70 (70)	95 (86.4)		
Absent	45 (21.4)	30 (30)	15 (13.6)		
Pulmonary disease (%)				0.35	0.553
Present	99 (47.1)	45 (45)	54 (49.1)		
Absent	111 (52.9)	55 (55)	56 (50.9)		

4.4 Older people's Quality of life (OPQOL-35)

4.4.1 Descriptives of QoL score among the participants

The Older People Quality of Life-35 questionnaire has 8 domains (Bowling, 2009). Table. 4 shows that Life overall domain had minimum 4 and maximum 19 scores and the mean score was 12.21 (SD ± 2.49), health domain had minimum 4 and maximum 19 score and the mean score was 10.28 (SD ± 3.35), social relationship domain had minimum 6 and maximum 21 scores and the mean score was 13.97 (SD ± 2.27), Independence, control over life, freedom domain had minimum 5 and maximum 20 scores and the mean score was 10.80 (SD ± 2.87), home and neighborhood domain had minimum 7 and maximum 20 scores and the mean score was 13.76 (SD ± 2.33), psychological and emotional wellbeing domain had minimum 8 and maximum 20 scores and the mean score was 13.30 (SD ± 2.31), financial circumstances had minimum 4 and maximum 19 scores and the mean score was 8.55 (SD ± 3.17), leisure and activities domain had minimum 14 and maximum 30 scores and the mean score was 20.55 (SD ± 2.70).

Table. 5: Descriptives of OPQOL-35 among the participants (n = 210)

OPQOL-35	Mean ± SD	Minimum	Maximum
Life overall	12.21 ± 2.49	4	19
I enjoy my life overall	3.39 ± 0.86	1	5
I am happy much of the time	3.21 ± 0.90	1	5
I look forward to things	2.92 ± 0.97	1	5
Life gets me down	2.70 ± 1.05	1	5
Health	10.28 ± 3.35	4	19
I have a lot of physical energy	2.67 ± 1.11	1	5
Pain affects my wellbeing	2.33 ± 1.13	1	5
My health restricts me looking after myself or my home	2.55 ± 1.06	1	5
I am healthy enough to get out and about	2.73 ± 1.16	1	5
Social relationship	13.97 ± 2.27	6	21
My family, friends or neighbors would help me if needed	2.75 ± 1.04	1	5

I would like more companionship or contact with other people	2.86 ± 1.07	1	5
I have someone who gives me love and affection	2.70 ± 1.11	1	5
I'd like more people to enjoy life with	2.85 ± 1.06	1	5
I have my children around which is important	2.81 ± 1.15	1	5
Independence, control over life, freedom	10.80 ± 2.87	5	20
I am healthy enough to have my independence	2.91 ± 1.11	1	5
I can please myself what I do	2.79 ± 1.03	1	5
The cost of things compared to my pension/income restricts my life	2.38 ± 1.03	1	4
I have a lot of control over the important things in my life	2.72 ± 1.09	1	5
Home and neighborhood	13.76 ± 2.33	7	20
I feel safe where I live	3.96 ± 0.78	2	5
The local shops, services and facilities are good overall	3.53 ± 0.92	1	5
I get pleasure from my home	3.04 ± 1.03	1	5
I find my neighborhood friendly	3.24 ± 1.08	1	5
Psychological and emotional wellbeing	13.30 ± 2.31	8	20
I take life as it comes and make the best of things	3.42 ± 0.82	1	5
I feel lucky compared to most people	3.14 ± 0.97	1	5
I tend to look on the bright side	3.52 ± 0.82	1	5
If my health limits social/leisure activities, then I will compensate and find something else I can do	3.22 ± 0.94	1	5
Financial circumstances	8.55 ± 3.17	4	19
I have enough money to pay for household bills	2.07 ± 0.96	1	5

I have enough money to pay for household repairs or help needed in the house	1.84 ± 0.87	1	5
I can afford to buy what i want to	2.21 ± 1.13	1	5
I cannot afford to do things i would enjoy	2.44 ± 1.27	1	5
Leisure and activities	20.55 ± 2.70	14	30
I have social or leisure activities/hobbies that I enjoy doing	3.24 ± 0.88	1	5
I try to stay involved with things	3.12 ± 0.99	1	5
I do paid or unpaid work or activities that gives me a role in life	2.91 ± 0.97	1	5
I have responsibilities to others that restrict my social or leisure activities	3.06 ± 0.99	1	5
Religious, belief or philosophy is important to my quality of life	3.91 ± 0.84	1	5
Cultural/religious events/festivals are important to my quality of life	4.30 ± 0.76	2	5

4.4.2 QoL score among the participants

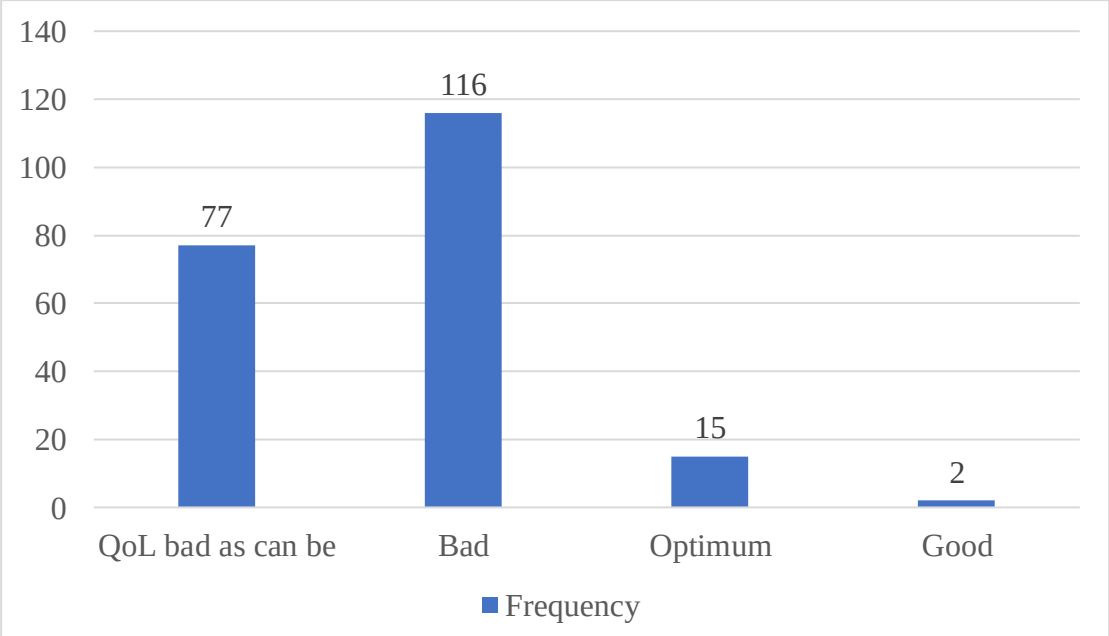
Table. 5 and figure. 5 showed that, among the participants (n = 210), the minimum score was 65 and the maximum score was 150 out of 175 and the mean score was 103.46 (SD ± 12.72). The greater number were in the range bad (100-119) and the frequency was 116 (55.2%). Among the QoL score categories, QoL bad as can be were 36.7%, Optimum were 7.1%, Good were 1%, QoL as good as can be were 0%.

Table. 6: Distribution of the participants by quality of life scores (*n* = 210)

Characteristics	All (*n* = 210)	Male (*n* = 100)	Female (*n* = 110)	Chi-square	*P-value*
Quality of Life (QoL), mean ± *SD*	103.46 ± 12.72	105.50 ± 12.30	101.61 ± 12.86	-	0.026[a]
Quality of Life (QoL) score categories[c] (%)				4.25	0.216[b]
Bad as can be (less than 99)	77 (36.7)	30 (30)	47 (42.7)		
Bad (100 – 119)	116 (55.2)	60 (60)	56 (50.9)		
Optimum (120 – 139)	15 (7.1)	9 (9)	6 (5.5)		
Good (140 – 159)	2 (1)	1 (1)	1 (0.9)		

[a]t-test; [b]Fisher's exact correction test used for having 20% or more expected frequencies less than 5; [c]No participants belonged to the highest category (160-175) of QoL scores.

Figure. 5 Distribution of the participants by quality of life scores



4.4.3 Tests of normality of QoL scores of the participants

Table 6 shows that data were normally distributed as skewness (0.224) and kurtosis (0.985) individually were within ±1. Critical ratio (*Z* value) of the skewness (1.33) and kurtosis (2.94) in which only kurtosis was within ±3.29 (table. 6). Similarly, in table. 22 Shapiro–Wilk test (*P* = 0.037) was significant and Kolmogorov–Smirnov test (*P* = 0.200) was statistically insignificant, that is, data were considered not normally distributed. As sample size was >50, Kolmogorov–Smirnov test results were taken and Shapiro–Wilk test result was avoided (Mishra et al., 2019).

Table. 7: Descriptives of QoL scores of the participants

QoL scores (*n* = 210)	
Skewness	0.224
Std. Error of Skewness	0.168
Kurtosis	0.985
Std. Error of Kurtosis	0.334

Table. 8: Tests of normality of QoL scores of the participants

Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Statistic	df	Sig.	Statistic	df	Sig.
0.054	210	0.200	0.986	210	0.037

Figure. 6.1: Normality curve of QoL scores of the participants

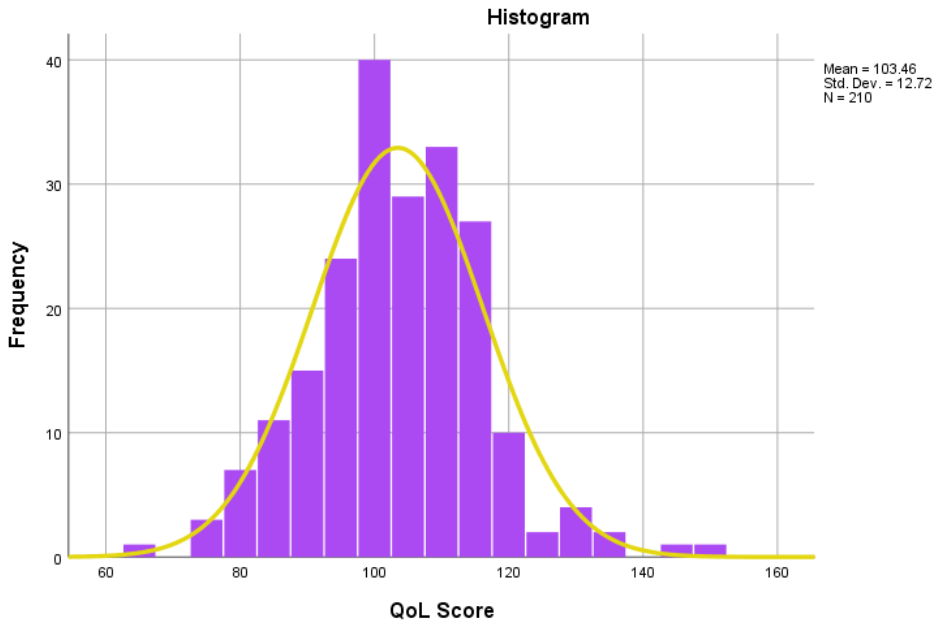
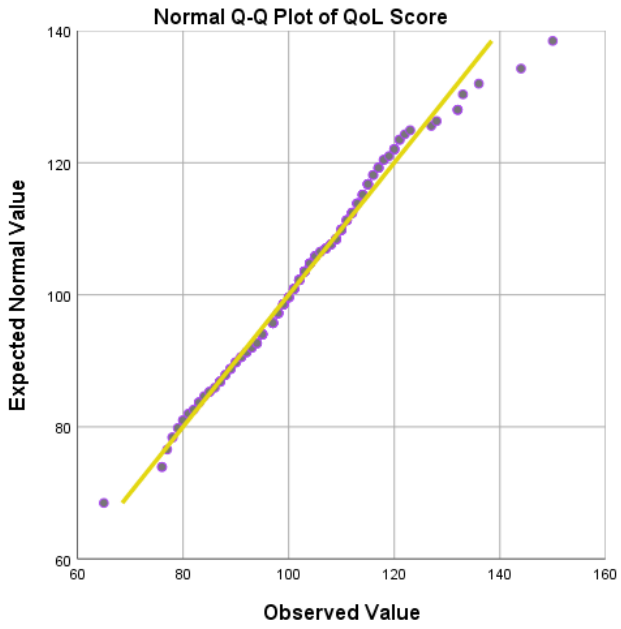


Figure. 6.2: Normality Q-Q plot of QoL scores of the participants



4.4.4 Distribution of QoL scores by sociodemographic, physical health and comorbidity factors of the participants

Table. 8 shows that among the participants while there is no significant difference in QoL scores across different age groups (*P* 0.147), the highest mean QoL score is seen in the 70-79 years age group 105.51. This suggests that the quality of life may improve slightly in the 70s but tends to decline as people reach their 80s.

Regarding gender, males have a significantly higher QoL score compared to females (*P* 0.026). Specifically, males' mean QoL score is 3.8% higher than that of females. This disparity indicates potential gender-specific factors affecting quality of life, possibly related to health, social, or economic differences.

There is a clear trend showing higher educational levels associated with higher QoL scores (*P* 0.010). For instance, the mean QoL score for post-graduates is approximately 14% higher than for those with no formal education. Education seems to play a crucial role in enhancing the quality of life among the elderly, possibly by providing better economic opportunities and health literacy.

Participants who consume up to 2.5 liters of water daily have a 6.6% higher mean QoL score compared to those who drink up to 1.5 liters. Adequate hydration appears significantly correlated with improved QoL (*P* 0.002).

Among the participants who sleep 8 or more hours have a QoL score that is 7.5% higher than those who sleep 3 to 5 hours. Adequate sleep is a significant determinant of higher QoL (*P* 0.002).

No significant difference in QoL scores based on diabetes status suggests that diabetes may not be a major factor influencing QoL in this population (*P* 0.328).

Among the participants without thyroid dysfunction have a 8.2% higher QoL score than those with thyroid dysfunction, indicating a significant impact of thyroid health on QoL (*P* 0.000).

Absence of cardiac disease is associated with a 5.8% higher QoL score, highlighting the negative impact of cardiac conditions on quality of life (*P* 0.001).

Among the participants there is no significant difference in QoL scores based on stroke status (*P* 0.966).

Participants without eyesight problems have a 6.9% higher QoL score than those with eyesight issues, indicating a significant impact of visual health on QoL (*P* 0.000).

Participants without respiratory disease have a 7.6% higher QoL score, showing a significant negative impact of respiratory conditions on QoL (*P* 0.000).

The analysis reveals that gender, education, water intake, sleep duration, thyroid dysfunction, cardiac disease, eyesight problems, and respiratory disease significantly impact QoL scores among the elderly. Males, individuals with higher education, those who drink more water and sleep longer, and those without thyroid dysfunction, cardiac disease, eyesight problems, or respiratory diseases tend to have higher QoL scores. Age, diabetes, and stroke status do not show a statistically significant impact on QoL scores. These findings underscore the importance of addressing these specific health and lifestyle factors to improve the quality of life among elderly populations.

Table. 9: Distribution of QoL scores by sociodemographic, physical health and comorbidity factors of the participants

Characteristics (*n* = 210)	**QoL score,** mean ± SD	***P*-value**	**95% CI**
Age		0.147[a]	101.73 to 105.19
60 to 69 years (*n* = 98)	101.70 ± 14.06		98.88 to 104.52
70 to 79 years (*n* = 73)	105.51 ± 11.15		102.90 to 108.11
80 and above years (*n* = 39)	104.05 ± 11.52		100.32 to 107.79
Gender		0.026[b]	
Male	105.50 ± 12.30		103.03 to 107.99
Female	101.61 ± 12.86		99.16 to 104.04
Education		0.010[a]	101.73 to 105.19
No formal education (*n* = 87)	100.74 ± 11.06		98.38 to 103.09
Primary education (*n* = 46)	102.28 ± 12.56		98.55 to 106.01
Secondary education (*n* = 25)	105.96 ± 13.87		100.23 to 111.69
Higher secondary education (*n* = 25)	105.32 ± 12.83		100.02 to 110.62
Graduation (*n* = 20)	108.60 ± 11.58		103.18 to 114.02
Post-graduation (*n* = 7)	114.86 ± 21.13		95.32 to 134.40

Old home		0.000[a]	
Old Rehabilitation Center (*n* = 148)	106.36 ± 11.77		104.45 to 108.27
BAAIGM (*n* = 27)	95.04 ± 9.61		91.23 to 98.84
Apon Bhubon (*n* = 30)	96.70 ± 14.92		91.13 to 102.27
Subarta Trust (*n* = 5)	103.80 ± 3.834		99.04 to 108.56
Water		0.000[b]	
Up to 1.5 Liters (*n* = 84)	99.75 ± 11.93		97.23 to 102.25
> 1.5 Liters (*n* = 126)	105.94 ± 12.67		103.71 to 108.18
Sleep		0.002[a]	101.73 to 105.19
3 to 5 hours (*n* = 76)	100.43 ± 10.83		97.96 to 102.91
6 to 7 hours (*n* = 73)	102.85 ± 11.771		100.10 to 105.60
8 and above hours (*n* = 61)	107.97 ± 14.75		104.19 to 111.75
Diabetes		0.328[b]	
Present (*n* = 128)	102.77 ± 13.11		100.56 to 104.99
Absent (*n* = 82)	104.54 ± 12.08		101.56 to 107.16
Thyroid dysfunction		0.000[b]	
Present (*n* = 60)	97.75 ± 12.90		94.54 to 101.21
Absent (*n* = 150)	105.75 ± 11.94		103.76 to 107.64
Cardiac disease		0.001[b]	
Present (*n* = 101)	100.44 ±12.60		98.08 to 102.92
Absent (*n* = 109)	106.27 ± 12.31		103.99 to 108.82
Stroke		0.966[b]	
Present (*n* = 73)	103.41 ± 11.952		100.48 to 106.30
Absent (*n* = 137)	103.49 ± 13.154		101.28 to 105.77
Eye sight problem		0.000[b]	
Present (*n* = 152)	101.53 ± 12.09		99.47 to 103.59
Absent (*n* = 58)	108.53 ± 13.03		105.18 to 111.83
Respiratory disease		0.000[b]	
Present (*n* = 99)	99.49		96.89 to 102.26
Absent (*n* = 111)	107.00		105.02 to 109.21

[a] One-way ANOVA test; [b] t-test

4.4.5 Correlation between Sociodemographic, Physical health, Comorbidity Factors and Quality of Life (QoL) Scores. (*n* = 210)

A bivariate correlation test (Table 10) showed that QoL directly correlated with gender (r = -0.153, P <0.05)), marital status (r = -0.167, P <0.05), educational status (r = 0.254, P <0.01), water intake (r = 0.187, P < 0.01), hours of sleep (r = 0.236, P < 0.01), thyroid dysfunction (r = 0.285, P < 0.01), cardiac disease (r = 0.230, P < 0.01), urological disease (r = 0.194, P < 0.01), arthritis (r = 0.163, P < 0.05), eye sight problem (r = 0.247, P < 0.01) and pulmonary disease (r = 0.295, P < 0.01). The correlation coefficient (r) value of the association between QoL and gender was negative, meaning that the QoL scores were higher in male compared to females (gender: male = 0, and female = 1).

Table. 10: Correlation between quality of life (QoL) scores with sociodemographic, physical health, comorbidity factors in elderly population (n = 210).

	Age	Gender	Marital status	Education	Occupation	**QoL Score**
Age	1	-0.148*	-0.114	-0.086	-0.107	0.092
Gender		1	0.297**	-0.353**	0.517**	-0.153*
Marital status			1	-0.166*	0.116	-0.167*
Education				1	-.378**	0.254**
Occupation					1	-0.183**
	BMI	Water	Sleep	Diabetes	Thyroid dysfunction	**QoL Score**

BMI	1	-0.054	-0.155*	0.063	-0.008	-0.061
Water		1	0.362**	0.079	0.021	0.187**
Sleep			1	0.059	0.022	0.236**
Diabetes				1	-0.034	0.068
Thyroid dysfunction					1	0.285**
	Stroke	Cardiac disease	Urological disease	Dental disease	Skin disease	**QoL Score**
Stroke	1	0.038	0.007	-0.109	-0.099	0.003
Cardiac disease		1	0.168*	0.036	-0.1	0.230**
Urological disease			1	0.197**	-0.049	0.194**
Dental disease				1	-0.017	0.111
Skin disease					1	0.117
	Arthritis	Eye sight problem	HTN	Respiratory disease	Low back pain	**QoL Score**
Arthritis	1	0.193**	0.154*	-0.038	0.360**	0.163*
Eye sight problem		1	0.135	0.071	0.352**	0.247**
HTN			1	0.133	0.277**	0.066
Pulmonary disease				1	.168*	0.295**

Low back pain	1	0.123

**Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed).

4.4.6 Linear Regression Analysis to Predict Quality of Life in elderly participants

The statistically significant factors from the bivariate correlation analysis were incorporated into the regression model. The dependent variable was the QoL score, a continuous measure. The selected independent variables were: gender (0 = male, 1 = female), marital status (0 = married, 1 = unmarried, 2 = widow, 3 = widower, 4 = divorced), educational status (0 = no formal education, 1 = primary education, 2 = secondary education, 3 = higher secondary education, 4 = graduation, 5 = post-graduation), occupation (0 = retired, 1 = farmer, 2 = businessman, 3 = service holder, 4 = unemployed, 5 = housewife, 6 = others), water intake, sleep duration, thyroid dysfunction (0 = yes, 1 = no), urological disease (0 = yes, 1 = no), arthritis (0 = yes, 1 = no), eyesight problems (0 = yes, 1 = no), and pulmonary disease (0 = yes, 1 = no). There was no multicollinearity among the independent variables.

According to Table 10, the results showed that educational status (P = 0.026), thyroid dysfunction (P < 0.001), cardiac disease (P = 0.032), eyesight problems (P = 0.005), and pulmonary disease (P < 0.001) were significant predictors of QoL. Other variables were not statistically significant and were excluded from the final model.

The predicted model for the data was based on the aforementioned significant factors: Quality of life = 82.98 + 1.26 (educational status) + 7.24 (thyroid dysfunction) + 3.45 (cardiac disease) + 5.11 (eye sight problem) + 6.29 (respiratory disease).

Table 11. Identifying the factors predicting the QoL in elderly

Variable	*β*-Coef.	SE	*P*-value	95% CI for *β*
Constant	82.98	4.44		
Gender	1.67	1.89	0.378	-2.06 to 5.42
Marital status	-0.20	0.63	0.741	-1.45 to 1.03
Education	1.26	0.56	0.026	0.15 to 2.38
Occupation	-0.42	0.43	0.331	-1.28 to 0.43
Water	0.37	0.34	0.277	-0.30 to 1.05
Sleep	0.60	0.47	0.199	-0.32 to 1.53
Thyroid dysfunction	7.24	1.68	0.000	3.92 to 10.57
Cardiac disease	3.45	1.60	0.032	0.29 to 6.61
Urological disease	1.35	1.59	0.398	-1.79 to 4.49
Arthritis	1.70	1.71	0.322	-1.67 to 5.09

Eye sight problem	5.11	1.81	0.005	1.54 to 8.68
Pulmonary disease	6.29	1.53	0.000	3.26 to 9.32

Figure. 7: Scatter diagram of QoL scores and educational status

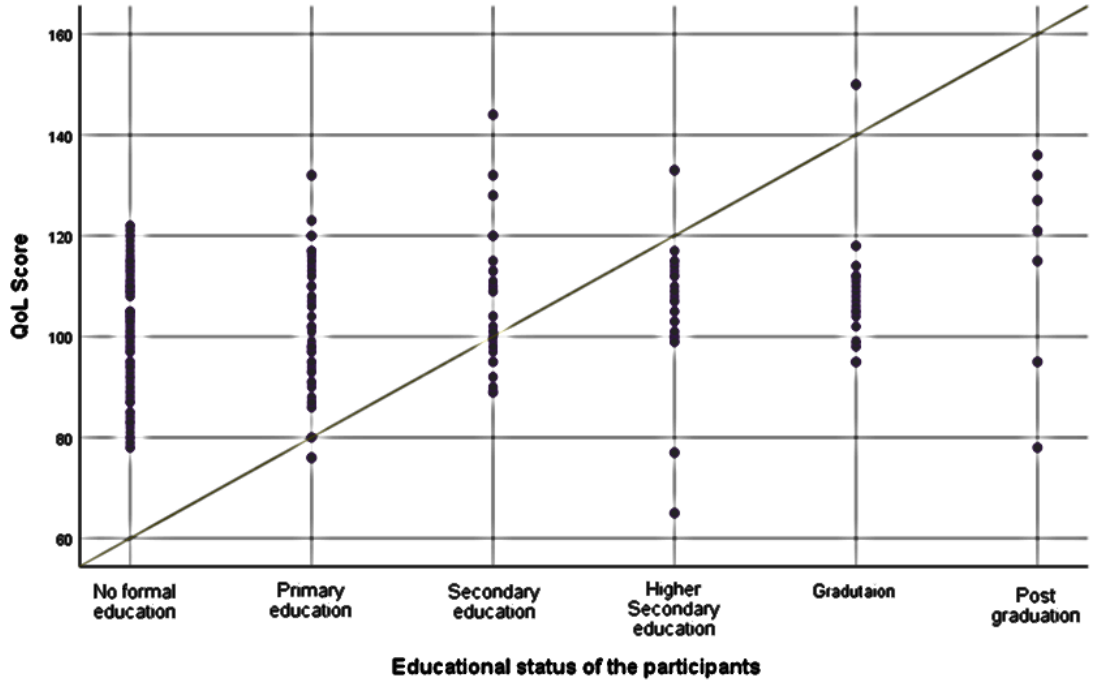


Figure 7 illustrates that the data points were dispersed around an implied straight line, demonstrating an upward trend in the QoL score (Y) as educational status (X) increases. This suggests a potential positive correlation between these variables. The regression line is positioned diagonally from the lower left to the upper right, further indicating a positive correlation between QoL scores and educational status.

Figure. 8: Scatter diagram of QoL scores and thyroid dysfunction

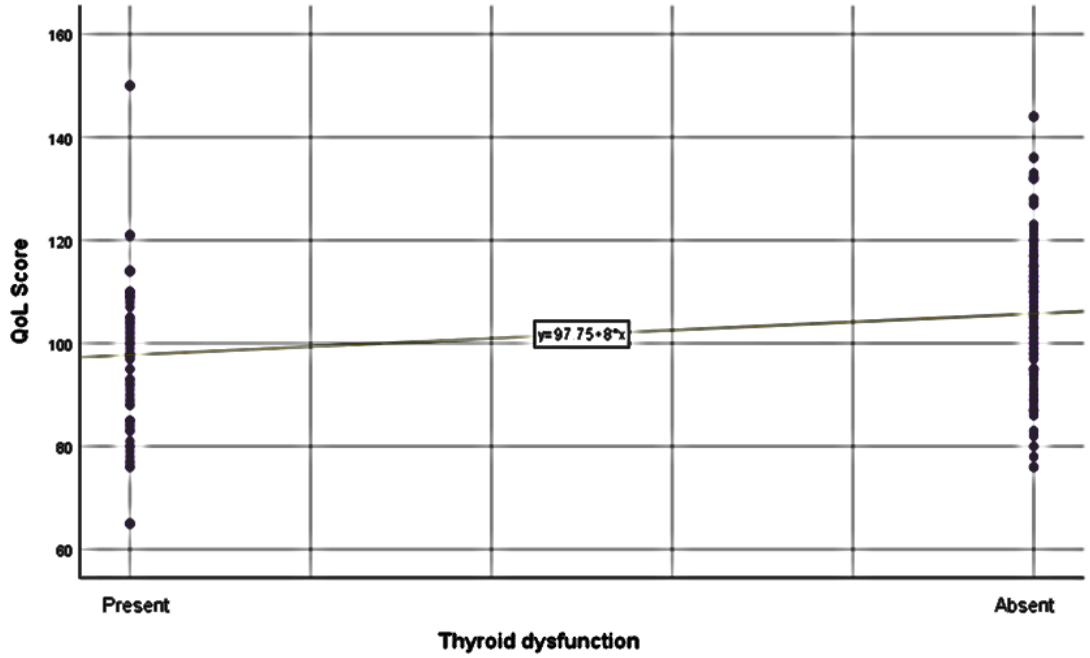


Figure 8 illustrates that the data points were dispersed around an implied straight line, revealing an upward trend in the QoL score (Y) when thyroid dysfunction (X) is absent. This suggests a potential positive correlation between these variables. The regression line slopes diagonally from the lower left to the upper right, further indicating a positive correlation between QoL scores and the absence of thyroid dysfunction.

Figure. 9: Scatter diagram of QoL scores and cardiac disease

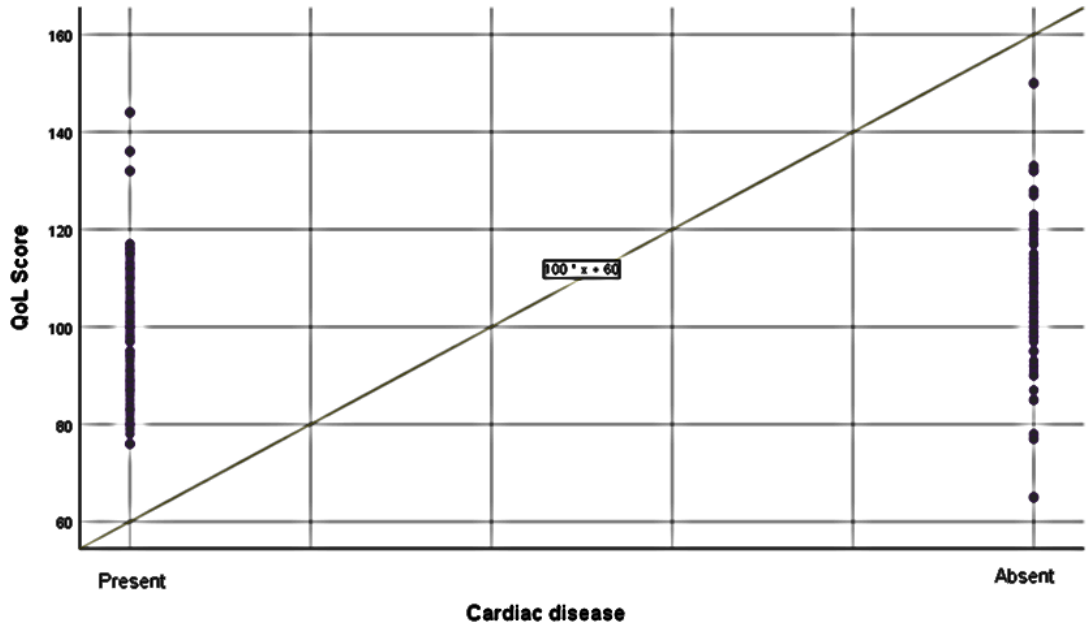


Figure 9 depicts data points distributed around an implied straight line, with an observed rise in the QoL score (Y) when cardiac dysfunction (X) is absent. This suggests a potential positive correlation between these variables. The regression line trends from the lower left to the upper right, reinforcing the indication of a positive correlation between QoL scores and the absence of cardiac dysfunction.

Figure. 10: Scatter diagram of QoL scores and eye sight problem

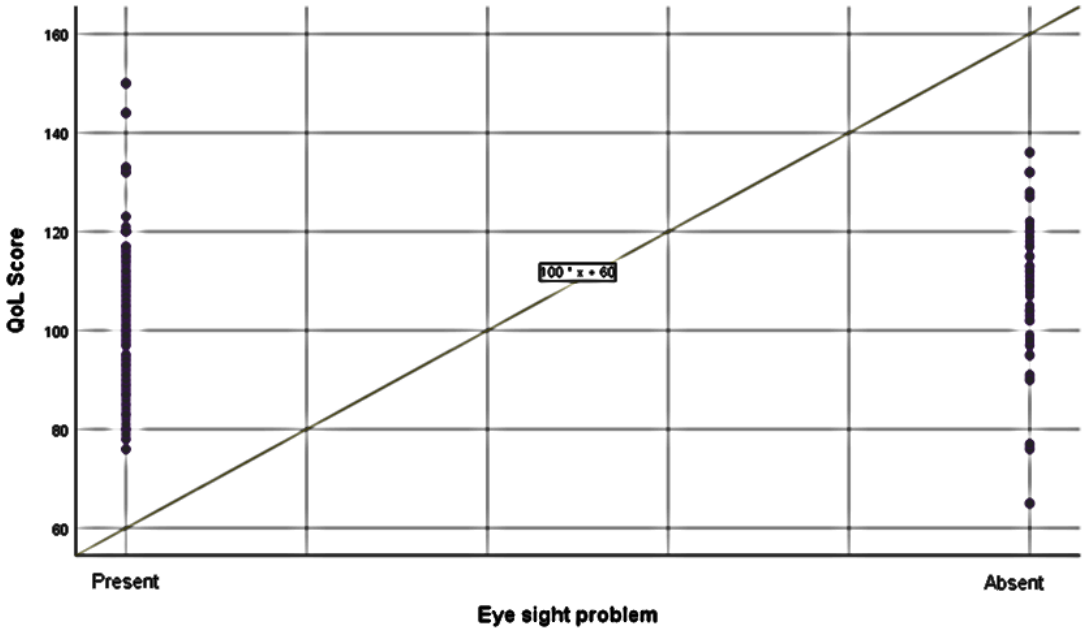


Figure 10 illustrates data points dispersed around an imaginary straight line, with an upward trend in the QoL score (Y) when there is no eye sight problem (X). This suggests a potential positive correlation between these variables. The regression line extends from the lower left to the upper right, indicating a positive correlation between QoL scores and the absence of eye sight problems.

Figure. 11: Scatter diagram of QoL scores and respiratory disease

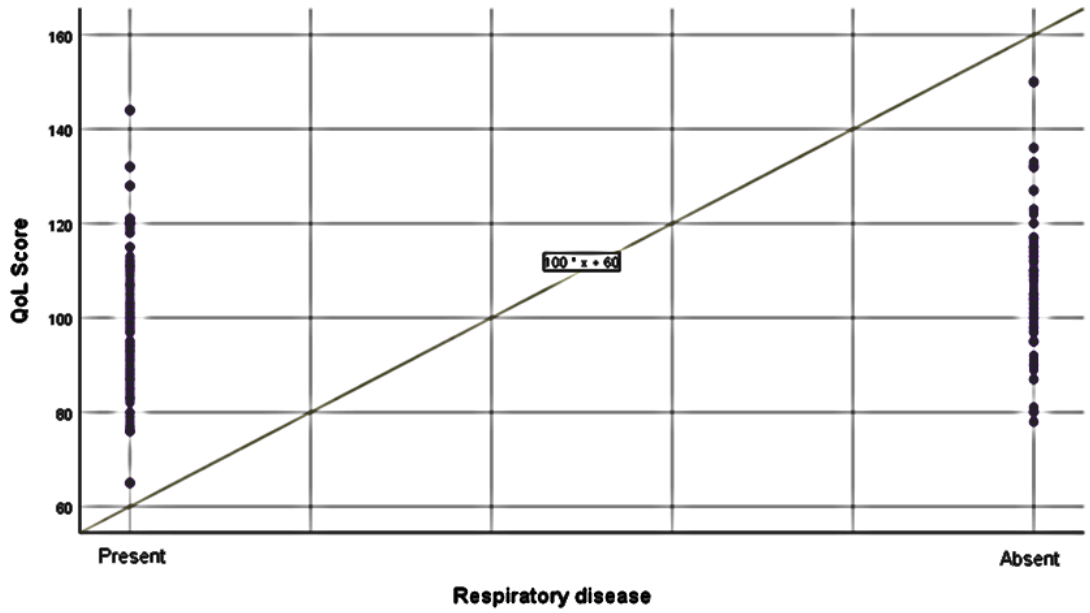


Figure 11 depicts data points scattered around an unseen straight line, with an upward trend in the QoL score (Y) when there is no respiratory disease (X). This suggests a potential positive correlation between these variables. The regression line extends from the lower left to the upper right, indicating a positive correlation between QoL scores and the absence of respiratory disease.

Chapter 5 Discussion

Evaluating quality of life is a crucial metric for gauging successful aging and serves as a benchmark for assessing the efficacy of social policies, welfare programs and healthcare initiatives. In response, there is a growing emphasis on quantifying the quality of life among elderly populations through rigorous surveys, which have yielded encouraging outcomes (McGee et al., 2011).

A recent study examining the quality of life among elderly individuals residing in old homes has yielded concerning findings. The majority of participants reported a subpar quality of life, within only a minute percentage (1%) indicating a satisfactory level of wellbeing. Notably, nearly 40% of respondents rated their quality of life as very poor. This disparity is striking when compared to a similar study conducted in Britain, which reported a higher proportion of elderly individuals experiencing a better quality of life. Furthermore, the study suggests that elderly individuals from diverse ethnic backgrounds may be disproportionately affected, potentially experiencing a lower quality of life compared to their peers (Bowling, 2018).

In another study conducted in England, a follow-up survey among 80 elderly participants revealed that 35 rated their overall quality of life (QoL) as very good, 28 rated it as good, 10 as moderate, and 7 as bad but not the worst possible (Gabriel & Bowling, 2004). Subsequent research indicated that most participants reported good QoL, some reported moderate QoL, and very few reported bad QoL. However, in a study involving elderly people living in old homes, researchers found that 40% reported a poor QoL. According to Bowling, the designation of "very bad" or "bad" QoL could not be worse. The study suggests that poor QoL in the old home setting may be influenced by geographic context, the care home environment, and various demographic factors.

Several factors contribute to the quality of life of elderly individuals. Research conducted on elderly populations in rural Tanzania highlighted that the aging process itself has a substantial influence on their quality of life. Poor quality of life, well-being, and overall health status among the elderly are significantly correlated with marital status, age, gender, social interactions, and educational attainment (Mwanyangala et al., 2010).

A recent study has revealed a notable disparity in the gender ratio of elderly individuals residing in the old home, with a proportion of 11 females to 10 males. Notably, the quality of life of female participants was found to be inferior to that of male counterparts. This findings is consistent with a previous study conducted in Iran, which demonstrated that elderly men generally exhibit a superior quality of life compared to women in various aspects, including physical function, perceived health, living conditions, lifestyle, economic status and social relationships (Nejati et al., 2008).

According to a recent study, women consistently exhibit a superior quality of life compared to men, which may be attributed to their longer average life expectancy (Netuveli et al., 2006). A recent study has uncovered a statistically significant correlation between gender and quality of life, with men exhibiting a higher overall QoL score compared to women. The observed disparity was found to be statistically significant. The research revealed that women scored lower than men in various domains, including health, economic status, independence, control over life and psychological and emotional well-being. These findings suggest that women may be more susceptible to detrimental factors that impact their quality of life, potentially due to societal neglect and their limited ability to meet fundamental needs as a result of poor economic status.

Marital status is also a crucial determinant of quality of life (QOL) among the elderly population. A study indicated that elderly individuals who have a life partner can share their emotional burdens and experience a more enjoyable and fulfilling QOL. The study established a significant relationship between marital status and QOL, revealing that married participants reported higher QOL scores compared to those who were single, divorced, widowed, or widowers (Khan et al., 2014). In this current study, analysis similarly demonstrated that the mean overall QOL scores differed significantly among elderly people, with married participants showing higher QOL than widows, widowers, or divorced individuals. In many societies, males are often the primary breadwinners and provide support within marital relationships. However, for women who lose their spouses, particularly due to socioeconomic challenges and the lack of emotional support networks, their QOL can be significantly affected.

A recent investigation revealed a statistically significant disparity in quality of life score between individuals lacking educational qualifications and those posing some level of education attainment (Netuveli *et al.* 2006). Educated individuals tend to be more informed about their health, living conditions, and lead lifestyles that are generally more favorable compared to those who are illiterate. In this current study, the majority of participants were illiterate, with very few having completed graduation or post-graduation. Those who were illiterate or had less than primary education generally reported lower QOL scores. A significant association was found between educational level and QOL in the analysis; QOL scores were highest among those with post-graduation qualifications ($P<0.05$). The analysis revealed a moderate association between educational status and QOL, suggesting that lower educational attainment is a predictor of poorer QOL.

In a study it is found that in elderly adults aged 70–90 years, obesity is linked to and anticipates a decline in overall quality of life, particularly impacting independent living, social relationships, and the perception of pain (Wang et al., 2018). In an another study in Jiangsu, China, similar findings were seen, that underweight is an explicit risk factor of low QoL in both the male and female elderly, while the effect of overweight on low QoL varies slightly by gender (You et al., 2018). In this study, the findings closely aligned with those of other studies. In this study Body Mass Index (BMI) demonstrated an association with quality of life showing an insignificant difference in multiple comparison tests.

In long-term care settings, insufficient intake of food and fluids leading to malnutrition is common among older adults (Keller et al., 2015). Studies emphasize the importance of adequate water intake to promote health, monitor dehydration symptoms, encourage fluid and food consumption to maintain optimal hydration, be vigilant about physical and clinical conditions affecting hydration in the elderly, and consider environmental factors affecting fluid balance (Davidhizar et al., 2004). These findings indicate that participants who consumed 11 or more glasses of water daily had significantly higher quality of life (QoL) scores, whereas those consuming 3-7 glasses daily reported the highest prevalence of very poor QoL ($P<0.05$). There was a significant association between daily water consumption and QoL; overall QoL scores were highest at 2.5 liters ($P<0.01$). Bivariate correlation analysis between water intake

and QoL showed a significant positive relationship ($R = 0.187$; $P < 0.01$), indicating that QoL improves with increased water consumption.

A study conducted in Australia indicated that both short and long sleep durations were significantly linked to poorer self-rated health and lower quality of life among a large sample of middle-aged and older adults (Magee et al., 2011). Similarly, a study in China highlighted the benefits of appropriate sleep duration and good sleep quality for enhancing quality of life and reducing the incidence of depression (Zhi et al., 2016). In contrast, another study found that women who slept for 7 hours had better scores on the SF-36 physical and mental scales compared to those with extreme sleep durations (≤ 5 or ≥ 10 hours) in 2001. Among men, sleeping ≤ 5 hours was associated with lower scores on the role-physical scale in 2001. The impact of these associations was similar to the decline in quality of life associated with aging (Faubel et al., 2009). Furthermore, the study revealed that participants who slept for 8 or more hours daily had the highest prevalence of good quality of life. Bivariate correlation analysis demonstrated a significant association between sleep duration and quality of life, indicating that quality of life improves as sleep duration increases.

The impact of thyroid disease on the quality of life in the elderly is a complex issue. Recker found that levothyroxine substitution improved quality of life in both young and old patients with subclinical hypothyroidism, with some variations in specific areas of improvement (Recker et al., 2019). However, Tognini reported conflicting results on the association between subclinical hypothyroidism and cognitive function and quality of life (Tognini et al., 2014). Gussekloo found that high levels of thyrotropin were associated with a lower mortality rate in the oldest old, suggesting that not treating elderly individuals with subclinical thyroid disorders may be beneficial (Gussekloo, 2004). Chiovato highlighted the challenges in interpreting thyroid function tests in the elderly due to age-related changes and the prevalence of thyroid diseases in this population (Chiovato et al., 1997). This study also revealed a relation with thyroid dysfunction and the quality of life was lower among the participants with thyroid dysfunction.

The quality of life in elderly individuals with cardiac disease living in nursing homes is influenced by various factors. These include education, age, chronic disease, and place of residence (Taheri et al., 2015). Quality of life in elderly individuals with

cardiac diseases living in old homes is influenced by various factors such as comfort, comorbidities, mental health status, and health-related behaviors. Studies have shown that there is a significant correlation between comfort and quality of life in older cardiac patients, with physical, psycho-spiritual, environmental, and socio-cultural comfort playing crucial roles (Demir Erbaş et al., 2023). Comorbidities like type 2 diabetes mellitus and stroke have been linked to psychological problems and lower quality of life in elderly patients with coronary heart disease (Tang et al., 2021). Additionally, health-related behaviors like physical activity, smoking, alcohol consumption, and diet have been found to impact the quality of life in older adults at risk of heart failure, with factors like smoking negatively affecting mental quality of life and physical activity positively influencing it (Jawad & Hussien, 2022).

The research investigation has revealed a significant correlation between visual impairment in older adults and a diminished quality of life (El-banna et al., 2019; Falahaty et al., 2015; Radzo Alibegovic et al., 2022; Tsai et al., 2004). The research findings indicate that the degree of visual impairment has a substantial influence on an individual's quality of life, with those experiencing severe visual impairment reporting the most compromised quality of life (Radzo Alibegovic et al., 2022). Another investigation has uncovered a significant correlation between utilization of eye care services, typically rendered by ophthalmologists, and a superior quality of life (Tsai et al., 2004). In another research, it revealed a correlation between visual impairment and its impact on quality of life, with multiple factors contributing to this association. Specifically, the study found that demographic variables such as age, gender, ethnicity and socioeconomic status, as well as health behaviors, play a significant role in the development of visual impairment and its subsequent effects on an individuals over all wellbeing (Falahaty et al., 2015). This study also shows similar results indicating lower QoL associated with visual impairment.

A recent investigation has revealed that overall wellbeing of elderly individuals afflicted with respiratory diseases, particularly chronic obstructive pulmonary disease (COPD), is substantially impacted by the severity of their respiratory symptoms (Masror-Roudsary et al., 2021). The impact of respiratory symptoms on quality of life in elderly individuals with COPD is worsened by additional factors, including being female, having a lower level of education, having a longer disease duration and experiencing frequent hospitalization (Masror-Roudsary et al., 2021). A significant

correlation has been observed between the presence of chronic respiratory conditions, including bronchitis, emphysema, wheezing and asthma, among nursing home residents and a diminished quality of life. The most pronounced effects of these conditions are evident in the physical and environmental domains of life, suggesting a substantial impact on the overall of quality of life of these individuals (Carreiro-Martins et al., 2016). Diminished respiratory capacity and compromised quality of life and cognitive performance in elderly female populations are significantly correlated (Costa et al., 2019). The respiratory health of older adults is significantly affected by various conditions, which in turn have a profound impact on their overall quality of life. Notwithstanding the importance of this issue, there is a pressing need for further research to elucidate the specific effects of respiratory syncytial virus (RSV) disease on the quality of life of this vulnerable population (Curran et al., 2022). A research investigation has revealed that physical symptoms such as fatigue and breathlessness have a significant and far-reaching impact on the overall quality of life of older adults (Saccomann et al., 2011). Results in this study revealed similar results showing a relation with poor QoL along respiratory disease in elderly.

These findings could serve as a guide for the relevant authorities to address challenges and systemic issues associated with the old age, aiming to enhance the overall quality of life for elderly individuals staying in old homes in Bangladesh.

5.1 Limitation

Every research project is likely to have certain limitations. This study, too, encountered several constraints and barriers that could potentially impact the accuracy of the research findings.

The main limitation is the absence of a standard OPQOL-35 score for Bangladeshi population for comparison. OPQOL-35 questionnaire was used in this study based on UK population and their culture although there are quite differences in culture and population.

There was little evidence to support the result of this project in the context to Bangladesh.

Data were collected only from old homes in Dhaka. So, this might not represent the whole population of elderly in the context of Bangladesh.

The majority of elderly individuals were hesitant to provide accurate information due to concerns about their privacy. The privacy concern posed a significant challenge for the investigator in collecting data. The reluctance of older individuals to share information, coupled with their demanding schedules, created obstacles during the data collection process.

The researcher wanted to apply old home based random sampling technique but because of shortage of data the researcher applied convenient sampling technique which was not reflecting the wider population under study.

Chapter 6 Conclusion

The term "quality of life" encompasses an individual's or a group's standing within a country and globally, reflecting their life circumstances. It also encompasses the quality of services and the living environment. In the context of Bangladesh, aging has become a significant social issue in the new millennium. Older individuals often experience rejection from family and community when they are no longer able to earn an income or meet basic needs. However, the reality is that the quality of life is compromised by various factors, including inadequate services, limited access to information, and insufficient connections with other elderly care facilities, both nationally and internationally.

Ensuring the physical and mental well-being, as well as a healthy overall life for the elderly within the community, requires conducting assessments of their quality of life. The government of Bangladesh should formulate policies aimed at providing treatment facilities, financial stability, and other opportunities for the elderly. It is essential for both governmental and non-governmental organizations, along with private hospitals, to offer comprehensive services beyond mere medication. This includes treatment, psychological support, and specialized services such as physiotherapy. These entities need to be well-informed and actively engaged in providing diverse support for the elderly population.

Educating elderly individuals to embrace aging positively and maintain good health, while also providing education at all levels on addressing age-related challenges, is crucial. Initiating various programs is necessary to help seniors lead a fulfilling life and maintain a high quality of life. Future research should focus on specific service-based interventions that enhance quality of life in both community settings and elderly care homes. Additionally, expanding the scope of current studies to include hospitals throughout Bangladesh would be beneficial.

Recognizing that the elderly population constitutes a valuable asset for the nation, their wealth of experience, wisdom, and knowledge can significantly contribute to national development. It is the collective responsibility of society to care for this national asset and make effective use of their valuable experience. Aging is an inevitable and significant phase of life, and as individuals approach old age, their desire

is to live peacefully and harmoniously. Therefore, it is imperative for the nation to proactively work towards the well-being of our esteemed senior citizens in Bangladesh.

6.1 Recommendations

Based on field observations the following recommendations are put forwarded for enhancing the performance of the elderly quality of life-

- ✓ Focused consideration needs to be directed towards elderly women across all age groups, offering expertise and advocacy tailored to their specific needs.
- ✓ Participation community in could be ensured so that quality of life have a better performance. As elderly peoples have bad quality of life who were unmarried or lost partner in conjugal life.
- ✓ The level of education serves as an predictor for one's quality of life. By directing efforts towards enhancing the education of the population, the government can contribute to an improved quality of life during later stages of life. The government should make efforts to ease the discomfort of its senior citizens by formulating old age security schemes, health insurance and allocating its expenditure.
- ✓ For the elderly, milk plays a crucial role in their diet, offering numerous nutritional advantages that enhance overall health. Various dairy products, milk included, are enriched with vitamin D, essential for calcium absorption and vital in maintaining bone health. Incorporating an ample supply of both calcium and vitamin D through regular milk consumption can aid in preventing common bone diseases prevalent among the elderly. Therefore, it is advised to increase the frequency of milk consumption to enhance the overall health quality in the elderly.
- ✓ It is imperative for the elderly to maintain adequate water intake due to its vital role in supporting overall health. Staying properly hydrated is essential for various bodily functions, including digestion, circulation, and temperature regulation. Additionally, adequate water consumption is crucial in preventing dehydration, which can lead to complications such as dizziness, urinary tract infections, and impaired cognitive function. Therefore, it is highly recommended for the elderly to prioritize regular water intake to support their overall well-being and prevent potential health issues associated with dehydration.
- ✓ Ensuring sufficient and quality sleep is paramount for the well-being of the elderly. It is recommended that older individuals aim for >8 hours of sleep per

day to promote optimal health. Adequate sleep contributes to cognitive function, emotional well-being, and overall physical health in the elderly. Creating a conducive sleep environment, maintaining a consistent sleep schedule, and engaging in relaxation techniques can enhance the quality of sleep. Prioritizing good sleep hygiene is essential for preventing issues such as insomnia and daytime fatigue, ultimately supporting a healthier and more fulfilling lifestyle for the elderly.

- ✓ For the FY 2022-2023, 5.7 million elderly individuals are receiving allowances, with an annual budget of 34.44 billion BDT (*Department of Social Services*, 2023). However, the current program coverage is insufficient compared to the number of vulnerable older people. Therefore, there is a need to expand the coverage of the program.

6.2 Implications for Future Research

This study has assessed the effects and implications of the program. The results have pinpointed specific areas that require further enhancements to ensure the program's effectiveness. Consequently, it is suggested that additional research be commissioned to delve deeper into these areas. Future studies could also investigate critical issues such as fund management, which significantly impacts the program's implementation.

Chapter 7 Reference

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APPENDIX 1 Institutional Review Board Approval

IRB/10/2023/736 10/10/2023

To

Pradip Kumar Saha

M.Sc. in Rehabilitation Science

Session: 2021-2022

Student ID: 181210144

BHPI, CRP, Savar, Dhaka-1343, Bangladesh

Subject: Approval of the thesis proposal "Health Related Quality of Life among Elderly People Living in Selected Old Homes: A Cross-Sectional Study" by ethics committee.

Dear Pradip Kumar Saha,

Congratulations.

The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above mentioned dissertation, with yourself, as the principal investigator.

The Following documents have been reviewed and approved:

Sr. No.	Name of the Documents
1	Research Proposal
2	Questionnaire (English & / or Bengali version)
3	Information sheet & consent form.

The purpose of the study is to trace out the health related quality of life among elderly people living in selected old homes. The study involves use of a Semi structured questionnaire & any other measurement tools to assess the level of physical activity among rehabilitation professionals in Bangladesh. That may take approximately 15 to 20 minutes for participants to complete.to answer / fill in the questionnaire and there is no physical or psychological harm to the participants.

CRP-BHPI/IRB/10/2023/736 10/10/2023

The members of the Ethics committee have approved the study to be conducted in the presented form at the meeting held at 8.30 AM on 8th April, 2023 at BHPI (35th IRB Meeting).

The institutional Ethics committee expects to be informed about the progress of the study, any changes occurring in the course of the study, any revision in the protocol and patient information or informed consent and ask to be provided a copy of the final report. This Ethics committee is working accordance to Nuremberg Code 1947, World Medical Association Declaration of Helsinki, 1964 - 2013 and other applicable regulation.

Best regards,

Member Secretary
Institutional Review Board (IRB)
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

APPENDIX 2

Informed Consent Paper (সম্মতিপত্র)

Greetings, you have been selected to take part in this thesis. I would like to interview you. This thesis is being conducted by Bangladesh Health Professional Institute, Rehabilitation Science department student Pradip Kumar Saha. The title of this research is **"Health Related Quality of Life among Elderly People Living in Selective Old Homes: A Cross-Sectional Study"**. The aim is to trace out the Health Related Quality of Life among Elderly People Living in Old Homes. (শুভেচ্ছা, আপনি এই গবেষণার জন্য মনোনীত হয়েছেন। আমি আপনার সাক্ষাতকার নিতে ইচ্ছুক। এই গবেষণাটি বাংলাদেশ হেলথ প্রফেশনাল ইন্সটিটিউট, রিহ্যাবিলিটেশন বিজ্ঞান বিভাগের শিক্ষার্থী প্রদীপ কুমার সাহা দ্বারা পরিচালিত। গবেষণার উদ্দেশ্য **বৃদ্ধাশ্রমে থাকা প্রবীণদের জীবনযাত্রার মান সম্পর্কে জানা**।)

Confidentiality: All the information given by you will be kept confidential and will be used only for academic and research purpose. (সাক্ষাৎকার থেকে অংশগ্রহনকারীর সংগৃহীত সমস্ত তথ্যের নিরাপত্তা এবং গোপনীয়তা বজায় রাখা হবে এবং শুধু মাত্র গবেষনার জন্য ব্যবহৃত হবে।)

Participants rights, risk and benefit: Participants are free to decline answering any question during interview. Participants can withdraw from the study at any time. Although participant of the study will not benefit or harm from this study. (অংশগ্রহণকারী সাক্ষাৎকারের সময় যেকোনো প্রশ্নের উত্তর দিতে প্রত্যাখ্যান করতে পারেন। অংশগ্রহণকারী যে কোন সময় এই গবেষণা ছেড়ে চলে যেতে পারেন। গবেষণার মাধ্যমে অংশগ্রহণকারী কোন লাভ বা ক্ষতির সম্মুখীন হবে না।)

Participants consent: I have been addressed well about this study. I hereby choose consciously & voluntarily to take part in all steps in this study. (এই গবেষণার উদ্দেশ্য সম্পর্কে আমাকে স্পষ্ট ভাবে জানানো হয়েছে। আমার স্বজ্ঞানে এবং স্বেচ্ছায় এই গবেষণায় অংশগ্রহণ করতে সম্মতি জানাচ্ছি।)

Signature of the Participant (অংশগ্রহণকারীর স্বাক্ষর)**:**

Mobile No. (মোবাইল নং)**:**

Signature of researcher (গবেষনাকারীর স্বাক্ষর)**:** **Date** (তারিখ)**:**

APPENDIX 3 English Questionnaire

Participant ID No: Date:

Name of the participant:

Address:

Section 1- Socio demographic factor:

Serial No.	Question	Response	Code No.
1	What is your age?	_____-Years	
2	Gender	Male Female	0 1
3	What is your marital status?	□ Married □ Unmarried □ Widow □ Widower □ Divorced	0 1 2 3 4
4	What is your educational qualification?	□ No formal education □ Primary education □ Secondary education □ Higher secondary □ Graduation □ Post-graduation	0 1 2 3 4 5
5	What is your occupation?	□ Retired □ Farmer □ Businessman □ Service holder □ Unemployed □ House wife □ Others	0 1 2 3 4 5 6
6	Religion	□ Islam □ Hindu □ Christian □ Buddhist	0 1 2

		□ Others	3 4
7	What is your monthly family income?	_____Taka	
8	Where do you live?	□ Urban □ Sub-urban □ Rural	0 1 2

Section 2- Physical health related factors:

Serial No.	Question	Response	Code No.
9	Height	_____Inch	
10	Weight	_____kg	
11	BMI	_____Kg/m^2	
13	Do you get adequate vegetables in your diet?	□ Yes, daily □ Yes, often □ Yes, sometimes □ No	0 1 2 3
14	Do you get adequate fruits in your diet?	□ Yes, daily □ Yes, often □ Yes, sometimes □ No	0 1 2 3
15	Do you get adequate fish or meat or egg or lentil in your diet?	□ Yes, daily □ Yes, often □ Yes, sometimes □ No	0 1 2 3
16	Do you get adequate milk and milk product in your diet?	□ Yes, daily □ Yes, often □ Yes, sometimes □ No	0 1 2 3

17	How many glasses of water do you drink every day?	_____Times	
18	How much do you sleep per day?	_____Hour	

Section 3- Comorbidities related factors:

Serial No.	Question	Response	Code No.
19	Do you have any Diabetes Problem?	□ Yes □ No	0 1
20	If 22 is yes, Duration of diabetes?	_____years	
21	Do you have any Thyroid problem?	□ Yes □ No	0 1
22	Do you have any history of stroke?	□ Yes □ No	0 1
23	Do you have any history of cardiac problem?	□ Yes □ No	0 1
24	Do you have any history of urological problems?	□ Yes □ No	0 1
25	Do you have any history of dental?	□ Yes □ No	0 1
26	Do you have any history of skin disease?	□ Yes □ No	0 1
27	Do you have any history of stroke?	□ Yes □ No	0 1
28	Do you have any arthritis/joint pain?	□ Yes □ No	0 1
29	Do you have any visual problem?	□ Yes □ No	0 1

30	Do you have high blood pressure?	□ Yes □ No	
31	Do you have any respiratory problems?	□ Yes □ No	0 1
32	Do you have any low back pain?	□ Yes □ No	0 1

CONFIDENTIAL **SERIAL NO.**

Older People's Quality of Life Questionnaire (OPQOL-35)

We would like to ask you about your quality of life:

Please tick one box in each row. There are no right or wrong answer. Please select the response that best describes you/your views.

1. Thinking about both the good and bad things that make up your quality of life, how would you rate the quality of your life as a whole?						
Your quality of life as a whole is		Very good (1)	Good (2)	Alright (3)	Bad (4)	Very bad (5)
2. Please indicates the extent to which you agree or disagree with each of the following statements. (Tick one box in each row)						
Life overall						
1	I enjoy my life overall	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
2	I am happy much of the time	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
3	I look forward to things	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
4	Life gets me down	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
Health						
5	I have a lot of physical energy	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
6	Pain affects my wellbeing	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)

7	My health restricts me looking after myself or my home	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
8	I am healthy enough to get out and about	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
Social relationship						
9	My family, friends or neighbors would help me if needed	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
10	I would like more companionship or contact with other people	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
11	I have someone who gives me love and affection	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
12	I'd like more people to enjoy life with	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
13	I have my children around which is important	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
Independence, control over life, freedom						
14	I am healthy enough to have my independence	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
15	I can please myself what I do	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)

16	The cost of things compared to my pension/income restricts my life	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
17	I have a lot of control over the important things in my life	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
Home and neighborhood						
18	I feel safe where I live	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
19	The local shops, services and facilities are good overall	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
20	I get pleasure from my home	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
21	I find my neighborhood friendly	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
Psychological and emotional wellbeing						
22	I take life as it comes and make the best of things	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
23	I feel lucky compared to most people	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
24	I tend to look on the bright side	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
25	If my health limits social/ leisure activities, then I will compensate	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)

	and find something else I can do					
Financial circumstances						
26	I have enough money to pay for household bills	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
27	I have enough money to pay for household repairs or help needed in the house	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
28	I can afford to buy what I want to	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
29	I cannot afford to do things I would enjoy	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
Leisure and activities						
30	I have social or leisure activities/hobbies that I enjoy doing	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
31	I try to stay involved with things	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
32	I do paid or unpaid work or activities that gives me a role in life	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
33	I have responsibilities to others that restrict my social or leisure activities	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)
34	Religious, belief or philosophy is important to my quality of life	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)

35	Cultural/religious events/festivals are important to my quality of life	Strongly agree (1)	Agree (2)	Neither agree or disagree (3)	Disagree (4)	Strongly disagree (5)

Thank you for your help

APPENDIX 4 Bengali Questionnaire

Participant ID No: Date:

উত্তরদাতার নাম:

ঠিকানা:

Section 1- আর্থসামাজিক বিষয়:

ক্রমিক নং	প্রশ্ন	প্রতিক্রিয়া	কোড নং.
1	আপনার বয়স কত?	_____বছর	
2	লিঙ্গ	□ পুরুষ □ মহিলা	0 1
3	আপনার বৈবাহিক অবস্থা কি?	□ বিবাহিত □ অবিবাহিত □ বিধবা □ বিপত্নীক □ তালাকপ্রাপ্ত	0 1 2 3 4
4	আপনার শিক্ষাগত যোগ্যতা?	□ প্রাতিষ্ঠানিক কোন শিক্ষা নেই □ প্রাথমিক শিক্ষা □ মাধ্যমিক শিক্ষা □ উচ্চ মাধ্যমিক □ স্নাতক □ স্নাতকোত্তর	0 1 2 3 4 5
5	আপনার পেশা কি?	□ অবসরপ্রাপ্ত □ কৃষক □ ব্যবসায়ী □ চাকরিজীবী □ বেকার □ গৃহিণী □ অন্যান্য	0 1 2 3

			4 5 6
6	ধর্ম	□ ইসলাম □ হিন্দু □ খ্রিষ্টান □ বৌদ্ধ □ অন্যান্য	0 1 2 3 4
7	আপনার মাসিক পারিবারিক আয় কত?	_____টাকা	
8	আপনি কোথায় বসবাস করেন?	□ শহর □ উপশহর □ গ্রাম	0 1 2

Section 2- শারীরিক স্বাস্থ্য সম্পর্কিত বিষয়:

ক্রমিক নং	**প্রশ্ন**	**প্রতিক্রিয়া**	**কোড নং.**
9	উচ্চতা	_____ইঞ্চি	
10	ওজন	_____কেজি	
11	বিএমআই	_____কেজি/মি^{2}	
13	আপনি কি যথেষ্ট পরিমাণ শাকসবজি গ্রহণ করতে পারছেন?	□ হ্যাঁ, প্রতিদিন □ হ্যাঁ, প্রায়ই □ হ্যাঁ, মাঝে মাঝে □ না	0 1 2 3
14	আপনি কি যথেষ্ট পরিমাণ ফল গ্রহণ করতে পারছেন?	□ হ্যাঁ, প্রতিদিন □ হ্যাঁ, প্রায়ই □ হ্যাঁ, মাঝে মাঝে	0 1

		□ না	2 3
15	আপনি কি যথেষ্ট পরিমাণ মাছ অথবা মাংস অথবা ডিম অথবা ডাল গ্রহণ করতে পারছেন?	□ হ্যাঁ, প্রতিদিন □ হ্যাঁ, প্রায়ই □ হ্যাঁ, মাঝে মাঝে □ না	0 1 2 3
16	আপনি কি যথেষ্ট পরিমাণ দুধ এবং দুধ জাতীয় পণ্য গ্রহণ করতে পারছেন?	□ হ্যাঁ, প্রতিদিন □ হ্যাঁ, প্রায়ই □ হ্যাঁ, মাঝে মাঝে □ না	0 1 2 3
17	আপনি দৈনিক কত গ্লাস পানি পান করেন?	_____বার	
18	আপনি প্রতিদিন কত ঘণ্টা ঘুমান?	_____ঘণ্টা	

Section 3- রোগ সম্পর্কিত বিষয়:

ক্রমিক নং	**প্রশ্ন**	**প্রতিক্রিয়া**	**কোড নং.**
19	ডায়াবেটিক জনিত সমস্যা আছে কি?	□ হ্যাঁ □ না	0 1
20	যদি ২২ হ্যাঁ হয়, তবে কতদিন যাবত ডায়াবেটিসে ভুগছেন?	_____বছর	
21	থাইরয়েড সমস্যা আছে কি?	□ হ্যাঁ □ না	0 1
22	কখনো স্ট্রোক হয়েছিল কি?	□ হ্যাঁ □ না	0 1
23	কখনো হৃদরোগ হয়েছিল কি?	□ হ্যাঁ □ না	0 1

24	কখনো মুত্র জনিত সমস্যা হয়েছিল কি?	□ হ্যাঁ □ না	0 1
25	কখনো দাত জনিত সমস্যা হয়েছিল কি?	□ হ্যাঁ □ না	0 1
26	কখনো চর্ম রোগ হয়েছিল কি?	□ হ্যাঁ □ না	0 1
27	কখনো স্ট্রোক হয়েছিল কি?	□ হ্যাঁ □ না	0 1
28	কোন বাত/হাড়ের জোড়ায় ব্যথা আছে কি?	□ হ্যাঁ □ না	0 1
29	কোন প্রকার দৃষ্টি সমস্যা আছে কি?	□ হ্যাঁ □ না	0 1
30	আপনি কি উচ্চ রক্তচাপে ভুগছেন?	□ হ্যাঁ □ না	
31	কোন প্রকার শ্বাসপ্রশ্বাসের সমস্যা আছে কি?	□ হ্যাঁ □ না	0 1
32	কোন প্রকার কোমর ব্যথার সমস্যা আছে কি?	□ হ্যাঁ □ না	0 1

গোপনীয় ক্রমিক নম্বর

প্রবীণ ব্যাক্তিদের জীবনের মান সম্পর্কিত প্রশ্নাবলী

আমরা আপনার জীবনযাএার মান সম্পর্কিত প্রশ্ন করতে যাচ্ছি

অনুগ্রহপূর্বক প্রতিটি সারির একটি বাক্সে টিক চিহ্ন দিন এখানে ভুল বা সঠিক উত্তর বলে কিছু নেই । অনুগ্রহ করে আপনার নিজের সাথে সম্পর্কিত উপযুক্ত উত্তরটি বাছাই করুন।

আপনার জীবনযাএার মান নির্ভর করে এমন ভালো ও খারাপ বিষয় গুলোকে বিবেচনা করে আপনি সামগ্রিকভাবে আপনার জীবনযাত্রার মানকে কিভাবে মূল্যায়ন করবেন?						
সামগ্রিকভাবে আপনার জীবনের মান		অত্যন্ত ভালো (1)	ভালো (2)	গ্রহণযোগ্য (3)	খারাপ (4)	খুব খারাপ (5)
2. Please indicates the extent to which you agree or disagree with each of the following statements. (Tick one box in each row)						
সামগ্রিক জীবন বিষয়ক						
1	আমি সার্বিকভাবে আমার জীবনকে উপভোগ করি	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
2	আমি অধিকাংশ সময় খুশি থাকি	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
3	আমি ভবিষ্যতের উপর আশাবাদী	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
4	আমার জীবন বিষন্ন	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
স্বাস্থ্য						

5	I have a lot of physical energy (আমার যথেষ্ঠ পরিমাণ শারীরিক শক্তি আছে)	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
6	Pain affects my wellbeing (ব্যাথা আমার সুস্থতাকে প্রভাবিত করে)	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
7	My health restricts me looking after myself or my home (আমার স্বাস্থ্য আমার বা আমার পরিবারের দেখাশুনা করতে বাধা তৈরি করে)	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
8	I am healthy enough to get out and about (বাহিরে চলাচলের জন্য আমি যথেষ্ট সুস্থ)	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
সামাজিক সম্পর্ক						
9	My family, friends or neighbors would help me if needed (আমার পরিবার, বন্ধুবান্ধব অথবা প্রতিবেশীরা প্রয়োজনের সময় আমাকে সাহায্য করে)	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
10	আমি আরও মানুষের সান্নিধ্য বা যোগাযোগে আগ্রহী	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)

11	আমাকে ভালোবাসার বা যত্ন নেয়ার মতো একজন আছে	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
12	আমি আমার জীবনকে উপভোগ করার জন্য আরও মানুষের সাথে মিশতে চাই	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
13	আমার সন্তানরা আমার সাথে থাকা আমার জন্য গুরুত্বপূর্ণ	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
স্বাধীনতা,জীবনের প্রতি নিয়ন্ত্রন, স্বাতন্ত্র্য						
14	আমি স্বাধীনভাবে বাচার জন্য যথেষ্ট সুস্থ	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
15	আমি আমার কাজের প্রতি সন্তুষ্ট	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
16	আমার অবসর ভাতা বা আয় তুলনায় দ্রব্যমূল্য আমার জীবনযাত্রাকে সীমিত করে	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
17	আমার জীবনের গুরুত্বপূর্ণ জিনিষগুলির উপর আমার নিয়ন্ত্রণ আছে	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
বাসস্থান এবং প্রতিবেশী						

18	আমার বাসস্থান আমার জন্য নিরাপদ	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
19	স্থানীয় দোকান, সেবা এবং বিভিন্ন পরিষেবাগুলো সামগ্রিকভাবে ভালো	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
20	আমি আমার বাড়ি থেকে আনন্দ পাই	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
21	আমার প্রতিবেশীরা বন্ধুত্বপূর্ণ	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
মানসিক এবং আবেগ সংক্রান্ত সুস্থতা						
22	জীবনের যেকোন পরিস্থিতির সাথে মানিয়ে নিতে পারি এবং এর সর্বোত্তম ব্যাবহার করি	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
23	আমি নিজেকে অন্যদের তুলনায় ভাগ্যবান মনে করি	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
24	আমি সব সময় ভালো দিকটি বিবেচনা করি	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
25	যদি আমার স্বাস্থ্য আমর সামাজিক বা অবসর কার্যক্রমকে বাধাগ্রস্থ করে তবে	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)

	আমি অন্য কিছু করার মাধ্যমে ভারসাম্য করে নেই					
আর্থিক অবস্থা						
26	বাড়ির খরচ মেটানোর জন্য আমার কাছে পর্যাপ্ত টাকা আছে	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
27	বাড়ির মেরামত বা বাড়িতে সাহায্য করার জন্য আমার কাছে যথেষ্ট টাকা আছে	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
28	আমি যা চাই তা কেনার সামর্থ্য আছে	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
29	আমি যে জিনিষগুলো উপভোগ করি তা বহন করার সামর্থ্য আমার নেই	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
অবসর এবং কাজকর্ম						
30	আমি সামাজিক অথবা অবসরকালীন শখবসত যেসব কাজ করে থাকি তা আমি উপভোগ করি	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
31	আমি বিভিন্ন কাজের সাথে জড়িত থাকার চেষ্টা করি	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)

32	জীবনের অনন্য মাত্রা যুক্ত করে এমন কাজ আমি অর্থের বিনিময়ে অথবা স্বেচ্ছায় করে থাকি	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
33	আমার দায়িত্ব যা আমার সামাজিক বা অবসর কার্যক্রমকে বাধাগ্রস্থ করে	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
34	আমার জীবনযাত্রার মানের জন্য ধর্ম, বিশ্বাস অথবা দর্শন গুরুত্বপূর্ণ	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)
35	আমার জীবনযাত্রার মানের জন্য সংস্কৃতি/ধর্মীয় কার্যক্রম/অনুষ্ঠান গুরুত্বপূর্ণ	সম্পূর্ণ একমত (1)	একমত (2)	একমত বা দ্বিমত কোনটি নয় (3)	দ্বিমত (4)	সম্পুর্ণ দ্বিমত (5)

Thank you for your help

APPENDIX 5

Forward translation of OPQOL-35

প্রবীণ জনগোষ্ঠীর জীবনযাত্রার মান সম্পর্কিত জরিপ (OPQOL-35)

আমরা আপন জীবনযাত্রার মান সম্পর্কে জানতে চাই:
দয়া করে প্রত্যকটি সারির একটি ঘরে টিক রিহ্ন রদন। এখানে ভুল কিংবা শুদ্ধ বলে কিছু নেই। অনুগ্রহপূর্বক আপনার সাথে সম্পর্কযুক্ত উপযুক্ত উত্তর বাছাই করুন।

১.আপনার জীবন যাত্রার মান নির্ভর করে এমন ভালো এবং খারাপ বিষয়ের কথা বিবেচনা করে আপনি সামগ্রিক ভাবে আপনার জীবনযাত্রার মানকে কিভাবে মুল্যায়ন করবেন?

ক) অত্যন্ত ভালো

খ) ভালো

গ) মোটামুটি

ঘ) খারাপ

ঙ) খুব খারাপ

২. দয়া করে প্রতিটি বিবৃতি অনুসারে আপনার মতামত প্রদান করুন; প্রতিটি সারির একটি ঘরের টিক চিহ্ন দিনঃ

বিষয়বস্তু	সম্পুর্ন একমত	একমত	একমত বা দ্বিমত কোনটিই নয়	দ্বিমত	সম্পুর্ন দ্বিমত
সামগ্রিক জীবন					
১) আমি সার্বিকভাবে আমার জীবনকে উপভোগ করি					
২) আনু অধিকাংশ সময়ে খুশি থাকি					
৩) আমি ভবিষ্যৎ কাজকর্মের প্রতি আগ্রহী					
৪) আমার জীবন হতাশাগ্রস্থ					

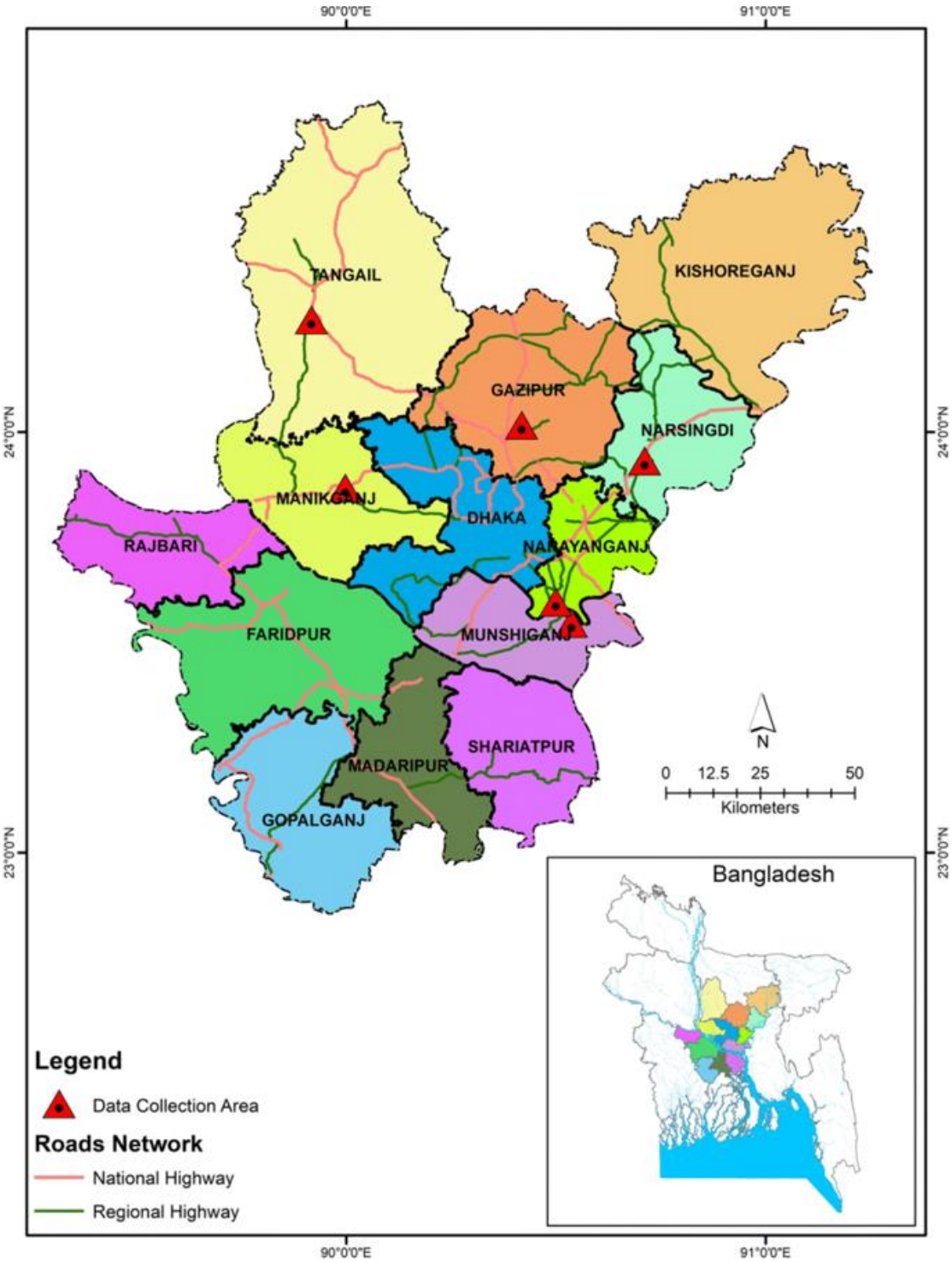
স্বাস্থ্য					
৫) আমার যথেষ্ট পরিমাণ শারীরিক শক্তি আছে					
৬) ব্যথা আমার সুস্থতাকে প্রভাবিত করে					
৭) আমার স্বাস্থ্য আমার ও আমার পরিবারকে খেয়াল রাখতে প্রতিবন্ধকতার সৃষ্টি করে					
৮) বাহিরে চলাচলের জন্য আমি যথেষ্ট সামর্থ্যবান					
সামাজিক সম্পর্ক					
৯) প্রয়োজনের স্ময় আমার পরিবার, প্রতিবেশি বা বন্ধুরা আমাকে সাহায্য করে					
১০) আমি অন্যান্য মানুষের সাথে সান্নিধ্য বা যোগাযোগের আগ্রহী					
১১) আমাকে ভালোবাসা বা যত্ন নেওয়ার মত একজন আছে					
১২) আমি আরো বেশি লোকজনের সাথে জীবন উপভোগ করতে চাই					
১৩) আমার সন্তানেরা আমার জন্য গুরুত্বপুর্ণ					
স্বাধীনতা, জীবনের প্রতি নিয়ন্ত্রণ, স্বাতন্ত্র্য					

১৪) স্বাধীন ভাবে চলাচলের জন্য আমি যথেষ্ট সুস্থ					
১৫) আমি আমার নিজের কাজের প্রতি সন্তুষ্ট					
১৬) বয়স্ক ভাতা কিংবা আয়ের তুলনায় দ্রব্যমুল্যের অতিরিক্ত দাম আমার জীবন যাত্রার মান কে সীমাবদ্ধ করে					
১৭) আমার জীবনের গুরুত্ব পুর্ণ বিষয়ে আমার নিয়ন্ত্রন আছে					
বাড়ী ও প্রতিবেশী					
১৮) আমার বাসস্থান আমার জন্য নিরাপদ					
১৯) স্থানীয় দোকান সেবা এবং সুবিধাগুলো সামগ্রিকভাবে ভালো					
২০) আমি বাড়িতে আনন্দে থাকি					
২১) আমার প্রতিবেশীরা বন্ধু সুলভ					
মনস্তাত্ত্বিক সুস্থতা					
২২) জীবন যেমন আমি তেমন গ্রহন করি এবং এটি সর্বোত্তম ব্যবহার করি					

২৩) আমি নিজেকে অন্যদের তুলনায় ভাগ্যবান মনে করি					
২৪) আমি সবসময় ভালো দিকটি বিবেচনা করি					
২৫) শারীরিক অবস্থার কারণে যদি আমার সামাজিক কিংবা অবসর যাপনে প্রতিবন্ধকতার সৃষ্টি হয়, আমি সেটির ভারসাম্য রক্ষা করি এবং আমি করতে পারব এমন কিছু খুজে বের করি					
আর্থিক অবস্থা					
২৬) গৃহস্থালির সংক্রান্ত খরচ মেটানোর জন্য আমার পর্যাপ্ত অর্থ রয়েছে					
২৭) বাড়ির কোন প্রয়োজনীয় কাজে সাহায্য করার জন্য আমার কাছে যথেষ্ট পরিমাণ অর্থ রয়েছে					
২৮) কাঙ্ক্ষিত বস্তু কেনার আমার সামর্থ্য রয়েছে					
২৯) আমি যা উপভোগ করি তা কেনার আমার সামার্থ্য নেই					
অবসরের কাজকর্ম					
৩০) আমার সামাজিক অথবা অবসর সময়ের					

কাজকর্ম রয়েছে যা আমি করতে পছন্দ করি					
৩১) আমি সব বিষয়ের সাথে যুক্ত থাকতে পছন্দ করি					
৩২) জীবনের অনন্য মাত্রা যুক্ত করে এমন কাজ আমি অর্থের বিনিময়ে বা অর্থহীন করে থাকি					
৩৩) অন্যদের প্রতি আমার কিছু দায়িত্ব আছে যা আমার সামাজিক অথবা অবসর কাজে বাধার সৃষ্টি করে					
৩৪) আমার জীবনযাত্রার মানের জন্য ধর্ম, বিশ্বাস অথবা দর্শন খুবই গুরুত্বপূর্ণ					
৩৫) আমার জীবনের যাত্রা মানের জন্য সংস্কৃতি, ধর্মীয় উৎসব, এবং পার্বন অত্যন্ত গুরুত্বপূর্ণ					

APPENDIX 6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TANGAIL
KISHOREGANJ
GAZIPUR
NARSINGDI
MANIKGANJ
DHAKA
NARAYANGANJ
RAJBARI
FARIDPUR
MUNSHIGANJ
SHARIATPUR
MADARIPUR
GOPALGANJ
N
0 12.5 25 50
Kilometers
Bangladesh
Legend
Data Collection Area
Roads Network
National Highway
Regional Highway

APPENDIX 7

Work plan for thesis

Activities	Months	October		November		December		January		February		March	
	Weeks	1st – 2nd	3rd – 4th	1st – 2nd	3rd – 4th	1st – 2nd	3rd – 4th	1st – 2nd	3rd – 4th	1st – 2nd	3rd – 4th	1st – 2nd	3rd – 4th
Proposal writing													
Literature review													
Proposal defense													
Development of questionnaire													
Data collection													
Data entry													
Data analysis													
Report writing													
Draft submission/ Thesis defense													
Final report submission													

APPENDIX 8 Moments during data collection

Figure. 12.1: Apon Bhubon old home

Figure. 12.2: Apon Bhubon old home

Figure. 13.1: Old rehabilitation center, Gazipur

Figure. 13.2: Old rehabilitation center, Gazipur

Figure. 14: BAAIGM, Agargaon, Dhaka

Figure. 15.1: Subarta trust, Manikganj

Figure. 15.2: Subarta trust, Manikganj