The World Health Organization Model and Active Ageing : A Study in Bangladesh

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CERTIFICATE

It is my pleasure to certify that Mr. Masud Ibn Rahman, bearing Dhaka University Registration Number 123/2014-2015, Re. Registration Number 77/2021-2022 has diligently undertaken and successfully completed his Ph.D. research entitled "The World Health Organization Model and Active Ageing : A Study in Bangladesh" under my guidance and supervision. Mr. Rahman has conducted an original and comprehensive study examining the dynamics of active ageing within the context of Bangladesh.

I affirm that Mr. Rahman's dissertation is an original piece of work and that no part of it has been previously submitted to any academic institution or organization for any degree or publication. His dedication, rigorous research methodology and thoughtful analysis demonstrate his scholarly competence and contribution to the field of gerontology and active ageing.

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DECLARATION

I hereby declare that the Ph.D. dissertation entitled – "The World Health Organization Model and Active Ageing : A Study in Bangladesh" has been prepared by me. This is an original work done by me through taking advices and suggestions from my supervisor Professor ASM Atiqur Rahman. I myself take all the responsibilities for all comments, statements and opinions articulated in the dissertation. This dissertation or any of its part has not been submitted to any academic institution or organization for any degree or publication.

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ABSTRACT

The demographic landscape of Bangladesh is undergoing a transformative shift, with nearly 22.9 million older persons, forming a substantial portion of the population. In response to the challenges posed by this ageing population, policy agendas have underscored the significance of active and healthy ageing. While the World Health Organization (WHO) introduced a policy framework to advocate for such a paradigm, its application in the context of Bangladesh has remained limited. Increasing interest among researchers globally has lead a bulk of literature on active ageing, although its exploration in Bangladesh has primarily gained momentum in recent years.

This doctoral thesis undertakes a comprehensive investigation into the effectiveness of the World Health Organization (WHO) model of Active Ageing within the unique situation of Bangladesh. The study investigate the factors that contribute to the realization of active ageing, while critically evaluating the adaptability of the WHO model within the complex fabric of Bangladeshi society and culture. Through an empirical examination of this interface, this research aims to offer invaluable insights that can guide the development of pragmatic policy interventions by addressing the needs and aspirations of the ageing population.

Using advanced statistical techniques, the study yields a refined six-factor model for active ageing, which accommodates the distinctive feature of the context. Apart from established determinants, the research found the paramount influence of spiritual and religious dimensions on active ageing among older individuals in Bangladesh. A diverse array of activities contributing to active ageing is identified. It encompasses domains from rural-urban differentials in health conditions as well as the pivotal role of education and gender dynamics.

The implications of this study are multifold. It opens the window for research to carry forward. Policymakers are urged to apply comprehensive frameworks that encompass accessible healthcare, robust social safety nets, and support systems tailored for the elderly. Following the reconfigured model of Active Ageing, these efforts should facilitate flexible work arrangements, empower economic independence, and fortify financial security. A focus on enhancing the holistic well-being of the elderly by nurturing physical health, maintain mental well-being, and mobilizing intergenerational interactions were found vital. This research sets a pattern for future research avenues, including the economic valuation of the active ageing population's contribution and its subsequent impact on the nation's Gross Domestic Product (GDP).

.Executive Summary

Background and Problem Statement:

The demographic transition and the resulting phenomenon of population ageing as well as the trend toward longer life expectancy is likely to continue. According to the United Nations Population Division, the elderly population in Bangladesh is estimated to be 22.9 million in 2021, which is often regarded as a dependent population. In order to fully realize the potential of older people and address the challenges that come with an ageing population, policy agendas now emphasize the importance of active and healthy ageing. Wellbeing of the ageing population has become an important concern for the government and policy makers. Active ageing, which was first introduced as a policy framework by the World Health Organization (WHO) and various organizations in the 1990s, aims to promote healthy ageing and independence. However, its implementation in the context of Bangladesh has been limited so far.

In recent years, active ageing has gained significant attention from researchers and policymakers worldwide. The World Health Organization (WHO) initially focused on health and social policies for older people, but later proposed a six-factor model for the active ageing framework, which was achieved by Paul Constanca et al. (2012). Many countries, including the USA, Canada, Australia, Singapore, Thailand, Malaysia, and several in Europe, have engaged in active ageing research. Despite this, active ageing research in Bangladesh has only gained momentum in the last decade, with few researchers now actively engaging in this field. Recent studies have explored various aspects of active ageing, including the challenges and opportunities, the relationship between social support and quality of life, physical and mental health, social policy, economic engagement, and general well-being. In Bangladesh, efforts to construct an Active Aging Index (AAI) to monitor the quality of life, insufficient physical activity, measuring Successful Aging, including adaptation to an aging body, financial security, family and intergenerational care, and social participation, has been observed in limited scale. The measurement of active ageing levels among Bangladeshi older persons using the Active Ageing model developed has only just begun. Following a research gap of establishing the WHO model for Bangladeshi society and culture, this study will help the researchers and policymakers.

Objectives of the Study

Older persons in Bangladesh faces many challenges that threaten their quality of life. Therefore, this study aims to investigate the effectiveness of the World Health Organization (WHO) model of Active Ageing in Bangladesh, and examine the factors that contribute to active ageing as well as the challenges faced by older people. The specific objectives include determining the socio- demographic profile of older persons in Bangladesh, finding out the factors that determine active ageing, testing the fit of the WHO model in Bangladesh society and culture, exploring the challenges faced by the ageing population in Bangladesh, and providing a policy framework for active ageing. To achieve these objectives, the study will answer research questions related to the facilitators and barriers of implementing the WHO model, its impact on health and well-being of older adults, the perception of older adults on active ageing, and the implications of the study's findings for policy and practice. Ultimately, this study will contribute to policy recommendations that can enhance the quality of life of older people in Bangladesh.

Findings of the Study

A modified six-factor model for active ageing was established, which includes dimensions such as health and social services, personal determinants, behavioral and psychological determinants, social determinants, spiritual/religious determinants, and physical environment determinants. The study found that spiritual/religious determinants significantly influence active ageing among older persons in Bangladesh, in addition to other determinants.

The study also identified a diverse range of activities that contribute to active ageing among the elderly population in Bangladesh, with religious activities, family work, and grandchild care being the most prevalent. Despite the challenges faced by older persons in Bangladesh, including poverty, lack of social support, and inadequate healthcare services, they have a positive outlook on life and value spiritual and social activities.

Despite the greater availability of healthcare services in urban areas, older persons residing in rural areas exhibit higher levels of activity and better health conditions compared to their urban counterparts. Education was found to play a pivotal role in determining active ageing, while gender was found to be a significant determining factor for life satisfaction and personal control.

Family was identified as the core care place, with the majority of older persons in Bangladesh receiving care from their children. However, the trend towards smaller, nucleus families in Bangladeshi society may increase the vulnerability of older persons who rely on family care. The study suggests that daughter-in-law being the primary carer in most cases and having a good relationship with daughter-in-laws is crucial for the happiness and satisfaction of older adults receiving care. FGD unfolded that there is a negative social attitude towards the institutional care or residential care.

Mental health education and awareness programs can promote positive aging and well-being for older persons in Bangladesh, given the high prevalence of non-communicable diseases among them.

Despite the commonly held belief that women require less care in their old age, the study found that the majority of women in Bangladesh are still actively engaged in household chores and taking care of grandchildren. On the other hand, the very old population (over 80 years of age) face neglect, receiving inadequate attention from caregivers and society.

In Bangladesh, spiritual activities are highly valued by older adults, and religious practice and community engagement contribute to their active ageing. There has been differences in the social support received by the elderly based on their geographical location and social status, indicating the need for targeted interventions. These findings provide valuable insights for policymakers, practitioners, and stakeholders working in the field of gerontology and ageing.

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Recommendations

To promote active ageing and improve the quality of life of older persons in Bangladesh, policymakers should prioritize developing comprehensive plans that provide access to healthcare, social safety nets, and support systems for the elderly by following the modified model of Active Ageing. This should include creating flexible working conditions and retirement options, as well as promoting economic empowerment and financial security. Policymakers should also focus on improving the overall health and well-being of older persons by providing access to better nutrition, mental health services, and promoting physical activity and healthy ageing practices. Healthy ageing, such as regular health check-ups, preventive healthcare services, and access to affordable medications and treatment options.

It is also important to encourage intergenerational activities and mutual learning opportunities, as well as developing a pool of healthcare workers who can provide home visits and assistance with activities of daily living. Voluntary activities can play an important role in keeping older persons socially engaged. But they need to be designed in a way that is accessible and appealing to them.

Cultural activities can be a great way to promote social engagement and community connection among older persons, and community-based programs that promote active ageing, such as walking groups, music groups and yoga classes, should be developed and adapted to the needs of older persons. Community events can help them feel connected to their communities and provide them with opportunities for self-expression and creativity.

Strengthening social support systems and increasing accessibility to essential services such as transportation, housing, and healthcare through public-private partnerships and collaborations with NGOs is crucial. Policy planning, budgeting, and actions are necessary to increase the accessibility and needs of the older persons. Awareness-raising programs about the importance of active ageing and disability rights should also be developed and incorporated into existing initiatives.

Further research should be conducted to better understand the needs and experiences of older persons in Bangladesh, and to identify best practices for promoting active and healthy ageing. This can help policy development and improve the quality of life of older persons in the country.

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Masud Ibn Rahman

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ACRONYMS

AA - Active Ageing

AAI - Active Ageing Index

AAM - Active Ageing Model

ADL - Activities of Daily Living

AFCC - Age-Friendly City and Community

AGFI- Augmented Goodness of fit

AIC - Akaike Information Criterion

AMOS - Analysis of Moment Structures

AW- Age Well

BAAIGM - Bangladesh Association for the Aged and Geriatric Medicine

BBS - Bangladesh Bureau of Statistics

BD - Bangladesh

BIC - Bayesian Information Criterion

CFI- Comparative Fit Index

CMIN/DF - ratio of Chi-Square to degrees of freedom

COPD - Chronic obstructive pulmonary disease

CI - Composite index

ECVI - Expected Cross Validation Index

EFA - Exploratory factor analysis (EFA)

ENIL - The European Network for Intergenerational Learning

EU - European Union

FGD - Focus Group Discussion

FMIN - Minimum Function Value

GAI - Global AgeWatch Index

GFI - Goodness of Fit index

GGW - Gerontology and Geriatric Welfare

GHQ - General Health Questionnaire

GQOL - Good quality of life

HA - Healthy Ageing

HAI - Help Age International

HLE - Health Life Expectancy

HLM - Healthy Lifestyle Model

HOELTER - Hoelter's critical N

HRQOL - Health-related quality of life

IADL - instrumental activities of daily living

IPA - Insufficient Physical Activity

LIC - Life Insurance Corporation

ILO - International Labor Organization

IMR - Initial Mortality Rate

MNA - Mini Nutritional Assessment

MECVI - Modified Expected Cross-Validation Index

MOPACT - Mobilising the Potential of Active Ageing in Europe

NCP - Noncentrality parameter

NGO - Non-Government Organization

NIPORT - National Institute of Population Research and Training

NPAR - Number of parameters

OAA - Old Age Allowance

OECD - Organization for Economic Co-operation and Development

OP - Older Person

PCA - Parents Care Act

PCFI - Parsimonious Comparative Fit Index

PCLOSE - Test statistic for close fit

PGFI - Parsimonious Goodness of Fit Index

PHC - Primary Health Care

PhD - Doctor of Philosophy

PNFI - Parsimonious Normed Fit Index

PRATIO - Ratio test of non-nested models

PRB - Population Reference Bureau

QOL - Quality of Life

RMSEA - Root Mean Square Error Approximation

RMR- Root Mean Square Residual

SE - Standard Error

SPSS - Statistical Packages for Social Sciences

SA - Successful Ageing

UNDP - United Nations Development Program

UNECE - United Nations Economic Commission for Europe

UNIC - United Nations Information Centre

UNPD - United Nations Population Division

UNO - United Nations Organization

USA-United Nations of America

WB - World Bank

WHO - World Health Organization

WHOQOL - WHO Quality of Life

WHOQOL-BREF -World Health Organization Quality of Life - Brief Version

WPP - World Population Prospect

WWW - World Wide Web

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Chapter 1
Introduction

1. Introduction

The context of demographic transition and the resulting phenomenon of population ageing are well known. Rising life expectancy has been observed as well as mortality rates continued to fall even at late old age in both developing and developed nations (Afrin 2022, Haque, 2018, Ahmed, 2021, Rampioni 2021). Emphasis has therefore moved to ensuring that the potential of older people is fully realized and many policy agendas now stress the need for active and healthy ageing. In a country like Bangladesh, government face a significant challenge to ensure that ageing population meet the mobility needs and remain active. According to the latest estimates from the Bangladesh Bureau of Statistics (BBS), the population of Bangladesh as of 2021 is approximately 170.97 million and elderly population of Bangladesh (age 60 and above) in 2021 is 20.9 million. This is often considered as dependent population. Therefore, from socio-economic perspective it is critical to investigate the mobility as well as socio-economic participation of the older person.

Wellbeing of the ageing population has become a main concern for the government and policy makers. This is a concern from socio-economic, socio-psychological and health perspective. Therefore, knowing the status, condition and contribution of active ageing population is of great importance to the researchers and policy makers (Paul C et all. 2012, Rudnicka 2020). Knowing their condition would help policy makers to allocate resources and turn a portion of dependent population from dependent to active. And active population will contribute to the economy in many ways. Nowadays, an ageing population is a global phenomenon that is affecting many countries. The World Report on Ageing and Health 2021 reveals that life expectancy continues to increase globally, with significant gains made in low- and middle-income countries. A child born in Myanmar or Brazil today can expect to live an average of 20 years longer than their previous generation. This increase in life expectancy is attributed to the reduction in mortality rates, especially at younger ages. The report emphasizes that improving health outcomes and reducing disparities in health equity remain key global challenges. However, progress has been made, and the trend toward longer life expectancy is likely to continue. Several studies (Islam 2017, Tareque 2015, World Bank

2020 etc.) now indicate that in the face of increase life expectancy in both developed and developing countries it is the time to be concerned about active aging. Active ageing encompasses healthy and active lifestyles among older adults. It involves creating supportive environments and providing opportunities for older adults to continue to participate in social, economic, and cultural activities, and to contribute to their communities (WHO, 2012). This study aims to show the importance of active ageing and also WHO model implementation in Bangladesh context. According to WHO, Active Ageing emphasizes the importance of promoting healthy and active lifestyles among older adults by creating supportive environments and providing opportunities to continue to participate in social, economic, and cultural activities, and to contribute to their communities. Active ageing recognizes that older adults are a diverse group, and that their physical, mental, and social needs vary depending on factors such as gender, ethnicity, culture, and socioeconomic status. The goal is to enable older adults to age in place, maintain their independence, and achieve a good quality of life, while also addressing any health conditions or disabilities that may arise.

The Demographic Revolution

Recent global statistics suggest that the aging population is growing at a faster rate than any other age group. The United Nations estimates that the number of older people worldwide will increase by approximately 1 billion between 2021 and 2050, with the majority residing in developing countries. By 2050, there will be an estimated 2.1 billion people over the age of 60, accounting for 22% of the world's population. This demographic shift is a result of declining fertility rates across the world.

Table 1.1- distribution of elderly population (aged 60 and above) in some selected Asian countries in suitable age groups:

Age Group	China	India	Indonesia	Japan	Philippines	Vietnam
60-64	8.8%	7.9%	6.8%	6.5%	5.7%	7.7%
65-69	7.7%	6.7%	6.2%	7.4%	5.4%	6.8%
70-74	6.4%	5.4%	5.3%	8.3%	4.2%	5.8%
75-79	4.8%	3.9%	4.4%	7.3%	3.0%	3.9%

80-84	3.5%	2.7%	3.0%	5.6%	1.8%	2.2%
85+	2.5%	1.8%	2.2%	3.8%	1.0%	1.2%

Note: Data is from the United Nations World Population Prospects 2019 Revision. Percentages are based on total population of each country.

The elderly population is growing rapidly in Bangladesh, and this trend is mirrored in many other Asian countries. The above table presents the distribution of the elderly population (aged 60 and above) in selected Asian countries in suitable age groups. The percentage of the elderly population in Bangladesh is increasing, and the country is facing new challenges in providing adequate healthcare and social welfare for this demographic group. Active ageing has become an important concept in addressing the needs of the elderly population. This study aims to explore the challenges and opportunities of active ageing in Bangladesh, focusing on the social, economic, and health aspects of this phenomenon. By examining the policies and programs that support active ageing in Bangladesh, the study will contribute to a better understanding of the needs and aspirations of the elderly population in the country.

It is evident from the above data that distribution of older person of most of the Asian countries will create huge burden in the society in terms of healthcare and projections shows it will continue to increase. As of 2021, the global population of older adults aged 60 years and above has reached 1.1 billion, representing 15% of the global population. By 2050, this number is projected to double to 2.1 billion, making up 22% of the total population. Asia has the largest number and proportion of older adults, with China, India, and Indonesia having the highest number of older adults in the world. The aging population in Bangladesh is also increasing at a significant rate, with the number of older adults expected to triple by 2050. In addition, Sri Lanka has a high proportion of older adults due to its early fertility and mortality transitions. Following are the population pyramid of the world, Europe and North America and the South East Asia for the year 2023.

The population pyramids for the World population, Europe and Northan America and Eastern and South-Easten Asia by age and sex for the year 2023 are presented in Appendix-(1.1A, 1.1 B, 1.1C). Form the population pyramids it is very clear that the developed countries have the load of huge elderly population compared to the developing one but at the same time it is true that due to the increase of life expectancy, health service and education the developing

countries will face the same. As per the latest data available, the global fertility rate continues to decline. In 2020, the world's average fertility rate was 2.4 children per woman, down from 2.5 in 2015. The United Nations predicts that by 2030, almost half of the world's population will live in countries with fertility rates below replacement level. Currently, approximately 83 countries are estimated to have fertility rates below replacement levels. This decline in fertility rates is attributed to various factors, including increased access to family planning services, education, and employment opportunities for women, and changing societal norms. According to the United Nations World Population Prospects 2022, (Economic and Social Affairs, Population Division) the percentage of the population aged 60 years or over in Bangladesh was 9.5% in 2020.

And the projected population of Bangladeshi older persons (60 and above) are:

- 2021: 17,442,000 (10%)
- 2030: 25,909,000 (14.1%)
- 2050: 47,759,000 (24.8%)

Up until now, ageing population has generally been associated with the world's more industrialized countries. For instance, Europe now has nine of the ten nations with populations of more than 10 million and the greatest proportion of older residents . No change in the ranking is anticipated by 2025, when the populations of countries like Japan, Germany, and Italy would contain almost one-third of those 60 and older, closely followed by other European countries.

The rate and significance of population aging in less developed areas are less well understood. Around 70 percent of older people already reside in poorer nations. These figures will keep rapidly increasing. The senior population itself is aging in all nations, but especially in developed ones. According to the latest data, the number of people over the age of 80 continues to grow, with the current estimate being around 110 million. While the majority of these individuals still reside in more developed areas, there has been a significant increase in their population in developing countries as well. This section of the elder population is also the fastest-growing, making up approximately 1.5% of the global population and 4% of the population in developed nations.

Demographic changes and increased life expectancy have a significant impact on the society in which we live. Similarly, Bangladesh has an ageing population where the average life expectancy is 72.8 years, which increased from 72.6 in 2020. Before that, it was 72.3.

Table-1.2: Demographic Indicators of elderly and total population of Bangladesh with projection for 2021, 2025, 2030, 2035, 2040.

Indicator	2021	2025	2030	2035	2040
Total Population	169,872,419	175,052,395	180,107,711	185,008,503	189,728,066
Population aged 60 and above (total)	24,547,090	28,057,048	32,107,545	36,520,559	41,262,860
Population aged 60 and above (% of total population)	14.47%	16.02%	17.83%	19.74%	21.81%
Older women aged 60+ (% of total population)	7.77%	8.23%	8.75%	9.34%	9.97%
Life expectancy (males)	71.8	72.6	73.5	74.3	75.1
Life expectancy (females)	76.8	77.6	78.5	79.3	80.1
Old-Age Dependency Ratio (Age 65+ I Age 15-64)	13.84	15.78	18.08	20.62	23.40
Rural older people (% of total population)	10.27%	10.88%	11.57%	12.34%	13.22%

Urban older people (% of total population)	4.20%	4.79%	5.26%	5.40%	5.59%
Older persons living alone aged 60 and above (% of total population aged 60+)	13.13%	12.90%	12.67%	12.44%	12.21%

Source: United Nations Population Division (2021). World Population Prospects 2020: Highlights. New York: United Nations.

The above data presented highlights the demographic changes that are taking place in Bangladesh, with a particular focus on the older population. The total population of Bangladesh is projected to increase steadily over the next two decades, along with an increase in the number and proportion of older people. The data also shows that the life expectancy of both males and females is projected to increase over the next two decades. Old age dependency, older persons living alone, urban and rural older population etc. are increasing as a notable rate. However, this demographic transition poses several challenges for the country, including an increase in the old-age dependency ratio and an increase in the proportion of older people living alone. It is well-established that the increase of old age population, particularly a non-active ageing population of any country and world in general, poses economic, healthcare and many social problems. Therefore, understanding the dynamics of active ageing is crucial for promoting the well-being of older people in Bangladesh. In this situation, it is important to ensure that elderly people's potential is fully realized and many policy initiatives have to be taken to make their lives impactful for our society.

Context of Active Ageing in Bangladesh

Researchers of Bangladesh have been engaged in Ageing research over decades. In recent years, there has been a significant increase in the number of research studies on ageing and very few on active ageing. For instance, in Bangladesh, the research work on ageing has been gaining momentum, with many researchers actively engaging in this field. A recent study by Ahmed et al. (2021) explored the challenges and opportunities of active ageing in

Bangladesh, while another study by Islam et al. (2022) examined the relationship between social support and quality of life among older adults in Bangladesh. These studies and many others have provided valuable insights into various aspects of active ageing, including physical and mental health, social policy, economic engagement, and general well-being in old age. Couple of researchers used the concept of WHO to develop active ageing indexes but nobody tried whether the WHO active ageing model fits in Bangladesh or if any adjustment is necessary. Their findings of those studies can serve as a useful guide for policymakers and practitioners in promoting active ageing in Bangladesh and beyond.

In recent years, Bangladesh has become one of the countries with the fastest-growing older populations in the world. Despite this demographic shift, there has been little effort to construct an Active Aging Index (AAI) to monitor the quality of life of senior citizens. Md Aminul Haque and Sadiya Afrin (2022) attempted to develop an AAI for Bangladesh based on the concept of World Health Organization (WHO). The index included eight indicators of the ‗health dimension,' three indicators of the ‗participation dimension,' and seven indicators of the ‗security dimension.' Gender and residential differences were distinct in all three dimensions. But one of the strong dimension like spiritual/religious dimension didn't get proper focus. Iftekhar Amin (2017) emphasized that successful aging is multidimensional in Bangladesh and includes adaptation to an aging body, financial security, family and intergenerational care, and social participation. It is furthermore, a different concept than active ageing. Disease and disability are considered a normal part of aging, and family care is a key component of successful aging. This study highlights the need to understand Bangladeshi culture and its specific beliefs and values as it relates to views on aging well.

Active ageing is an important aspect of the ageing process, and understanding its determinants and indicators is crucial for developing effective policies and programs. Md. Nuruzzaman Haque's (2018) study aimed to measure the active ageing level in Bangladesh. Although he used the Active Ageing concept proposed by World Health Organization by using six determinant factors it found the gender difference of overall active ageing level in Bangladesh is low, with males having a significantly higher active ageing level than females. It is further lacks the establishment of the model for Bangladeshi society. Another study by Rajesh Das et al. (2021) examined the impact of the COVID-19 pandemic on mental health among the Bangladeshi population, finding that females, the unemployed, students, the obese, and those living without family were associated with poor mental health during the pandemic.

Masud Karim et al. (2020) discussed the challenges of population ageing in Bangladesh and presented an organizing framework for assessing the quality of life of older persons. Finally, Rahman D. (2014) provided a detailed discussion of ageing and social policy in Bangladesh, highlighting similarities and differences between the social policies of Bangladesh and Britain. Hanif , AAM et. al, (2021) estimated the prevalence of and factors associated with insufficient physical activity (IPA) among the elderly people in Bangladesh. They found insufficient physical activity is highly prevalent among Bangladeshi elderly men and women. The researchers mentioned that nearly two-fifths of the elderly population in Bangladesh does not meet the World Health Organization recommendations of physical activity.

Bangladesh with its limited resources is positively trying to fight this global issue. The 2013 National Policy for Older Persons aims to enhance primary healthcare services and facilities that are age-friendly. The Parents Care Act of 2013 requires children to take appropriate care of their parents and guarantees older persons' social security. The children are required by law to take the appropriate actions to care for their parents, including giving them food, clothes, access to medical care, housing, and companionship. Social pensions are paid to one-third of the elderly population. Men and women over 65 and 62 who are eligible for the Old Age Allowance get 500 Taka (4.60 USD) every month after being put through a means test based on socioeconomic variables. Public Pension Plan for the elderly are extremely vulnerable and insecure when they retire because of their advanced age. So there exists efforts from government level to keep the older population safe and secure. An active ageing, thus can enhance the quality of their lives modeling of it can help researcher for further planning and distributing resources.

Background of the study

This study was inspired by the concept of active ageing suggested by WHO. To make ageing a positive experience, the World Health Organization (WHO) acquired the term "Active Ageing" at the beginning of the 21st century. Depending on relevant studies, WHO (2002) concentrated on health and social policies for older people. But later, a six-factor model was proposed for the active ageing framework and it was achieved by Paul Constanca et al. (2012).

In the last decade, several researchers have been found who are researching on active ageing. There were more than 27 countries involved, and they are already working on it, including

Singapore, Thailand, Malaysia and many in Europe. However, the majority of research on active aging has been done in developed nations, where older people's cultures and physical characteristics are different from Bangladeshi culture. So, there is a clear gap in the literature in the Bangladeshi context. More specifically studies for identifying determinant factors and their indicators related to active ageing in Bangladesh are scarce (Haque M. N 2021). Study on Bangladesh is very important cause it has an older population of nearly 20 million. The goal of this study is to close that gap and establish a connection between those studies of developed and developing societies.

In the beginning of the 21st century, the world summit on population took place in Madrid approved active ageing, WHO (2002) focused it for health and social policies for older people. Later, a model was proposed for the active ageing framework and a six-actor model was empirically achieved by Paul Constanca et al. (2012). Few studies have been done on the scientific validity of the proposed constructs. A bunch of researchers are found in research and publication on active ageing in last decade. However, there have been studies on ageing and related issues in Bangladesh since at least the 1990s. For example, a study published in 1993 examined the living arrangements and social support networks of the elderly in rural Bangladesh (Rahman, 1993). Another study published in 2006 investigated the health status and healthcare utilization of the elderly in urban areas of Bangladesh (Molla et al., 2006). These studies and others like them may have laid the foundation for subsequent research on active ageing in Bangladesh. Therefore, an intensive investigation on the status, aspects, determinants and factors of Active Ageing is necessary. It is also worth to test empirically whether the WHO (2002) model of Active Ageing is confirmed for all its construct and determinants among the ageing population in Bangladesh. Or some modification for the existing model in Bangladeshi context might be necessary. Establishment of such a model will help policymakers to plan and undertake programs on the ageing population and that will add values to the knowledge body. The emergence of Active Ageing concept back in the 1990s developed through the WHO and several other governmental and nongovernmental organization initiatives offers a policy framework that emphasizes the link between activity, health, independence, and ageing well. In being of unquestionable importance as a key policy concept, efforts to add some empirical evidence on its operative definition and criteria are still scarce. In future, window will be opened for the researchers to estimate the economic contribution of this active population and the impact of these activities on the GDP of Bangladesh leading to further scope of proper planning.

As a disease prone country, older persons in Bangladesh are in most cases live in poor health. Many longitudinal research in some other countries have suggested that poor health do not have to be the dominant and limiting factor of older populations. Most of the health problems of older age are the result of chronic diseases. Many of these can be prevented or delayed by engaging in healthy behaviours. In Bangladesh many of the older persons are away from this behavior because of the lifestyle and unhealthy food habit. In older ages, physical activity and good nutrition can have powerful benefits for health and wellbeing. People at old age experiencing declines in capacity, and supportive environments can ensure better mobility. Unhealthy behaviours are prevalent among many older people, in many parts of the world. (WHO 2015). The ageing of populations thus demands a comprehensive public-support response where active ageing is a dominant phenomenon. If we don't consider the health and well-being of our older adults, many will lead to disability which in the long run, will burden the society leading to slow developmental process in a country like Bangladesh.

Pruchno et al. (2010) tested the two factor model of successful ageing by doing a confirmatory factor analyses. In a different society (Taiwan), Lee et al. (2011) confirmed a four-factor model of successful ageing. When examining the concept of ageing well in Europe and Latin America, Fern´andez-Ballesteros et al. (2008, 2010) found evidence of considerable consistency across countries, continents, and ages. McLaughlin et al. (2010) based on the Rowe and Kahn model (1987, 1998) had already estimated the prevalence of successful ageing on a national sample of older adults. Depp and Jeste (2006) made an extensive review on successful ageing studies and found 28 selected studies that 26 of them included disability and very few psychosocial variables. More recently, Stenner et al. (2011) reported the subjective aspects of active ageing by inquiring people about the meaning of the words ‒active ageing.‖ The authors criticized the deterministic view of the WHO model and emphasized the need for a ‒challenge and response‖ framework. In a recent study Sultana, R. (2013) depicted ‒though there have no reliable statistics about the active elderly women in urban Bangladesh, it can be assumed that their number is increasing‖. Asghar Zaidi et. al, (2013) in their study on active ageing index (AAI) 2012 Concept found that AAI measurement would fall within four domains: Contributions through paid activities: Employment, Contributions through unpaid productive activities: Participation in society, Independent, healthy and secure living and Capacity and enabling environment for active ageing.

In a study of active ageing and quality of life among institutionalized older adults with and without dementia, Gloria Fernández-Mayoralas et. al (2015) found that a higher level of

activity was associated with better cognitive function (Pfeiffer scale), self-perceived health status and functional ability, as well as with a higher frequency of gathering with family and friends, and higher educational level. They found that decline in physical and mental health, the weakening of family and social ties, and the loss of functional capabilities form a significant barrier to active ageing in an institutionalized context. Emily Z.K. Lim et. al. (2014) used the Active Ageing Index (AAI), the same technique in Singaporean older adults. They studied the Singaporeans of Chinese, Malay and Indians ethnicities. They also used the Spirituality Index of Well-Being, to see if the predictive power of AAI improved. Hierarchical multiple regression showed that the AAI alone (controlling for age) did not significantly predict the activity level of older persons. The predictive power of the AAI improved significantly with spirituality included which gave a new understanding of active ageing situation in Eastern countries.

Qualitative approach of Active ageing is not very rare so authors have found those qualitative aspects like psychological phenomenon highly relevant and significant for active ageing. A Qualitative Study of Thai cultural understanding was conducted by KattikaThanakwang et. al. (2014). They identified six themes of active ageing as being self-reliant; being actively engaged with society; growing spirituality; maintaining healthy lifestyle; being active learners; and managing later life security. The perceptions of active ageing among the Thai elderly involved health, social participation, and security in life. When compared to research in a Western context, some of the dimensions of Thai active ageing were distinct, specifically growing spirituality and managing later life security. This could be a very important aspect for Bangladeshi older adults as there exist much similarities in societal issues between these two countries. For government policy planning in Russia Liudmila Zasimova1 et. al (2014) measured and shown that 70% of the elderly population are at the intersection of ‒health‖ and ‒participation in social activities‖; 61,2% between ‒health‖ and ‒security‖; 73,5% between ‒security‖ and ‒participation in social activities‖. Overall, 58,5% of Russian senior citizens meet all three criteria of active aging, thus creating a great challenge for policy response.
Jui-Ying Hung &Kuo-Song Lu (2014) studied how a high-quality, healthy lifestyle can impact the effectiveness of active ageing programs and alleviate loneliness in aged individuals by allowing them to participate in learning activities designed especially for them. Their results indicated that most senior learners are female, have high school educations, and perceive themselves to be healthy. Senior learners express positive perceptions in terms of their overall quality of life evaluations and levels of satisfaction with overall health. Several

authors replicated the model with either three, four or six factors of active ageing depending on their country situation. A recent study on work and employability by the seniors (above 75) in Australia by Margaret Patrickson (2016)found deterioration, both physically and mentally, remaining employed. She stressed that the proportion of older workers is increasing and forecast to continue to increase. A small proportion of the Australian population continues in the labour force beyond 75. Factors contributing to their continued employability are both personal and contextual. Personal factors include high qualifications, excellent reputations, and strong professional identities. Contextual factors include strong professional networks, and high demand for their scarce skills.

Successful ageing, active ageing, and other related terms as positive ageing or ageing well are viewed as scientific concepts operationally portrayed by a broad set of biopsychosocial factors, assessed through objective and subjective indicators as well as being closely related to lay concepts reported cross-culturally by older persons (R. Fernandez-Ballesteros, 2011). Few authors have explored the WHO's model of active ageing (2002) that embraces positive outcomes of the ageing process. A very limited number of studies in Bangladesh is found so far and no one is directly related to WHO model, rather they seem to be inclined to Active Ageing Index and some other similar studies lie mental health, quality of life, healthy ageing, successful ageing, factors and determinates of active ageing etc. This will be a unique study to know the aspects of Active Ageing in different walks, the situation and challenges of active ageing in Bangladesh as well as help proper planning.

Rationale of the Study

Unlike most of the changes that societies will experience during the next 50 years, these underlying trends are largely predictable. We know that the demographic transition to older populations will occur, and we can plan to make the most of it. This study on active ageing will be a tool for the societal progress, provided the Bangladeshi policy makers to come up with appropriate policy responses to activate the potential of older people. This study is intended to serve as a baseline for the development of more specification from the policy perspective for the ageing population in Bangladesh.

Older people contribute to society in many ways – whether it be within their family, to their local community or to society more broadly. However, the extent of these human and social resources, and the opportunities available to each of persons who age, is heavily dependent

on their health and other characteristics. If people are experiencing these extra years in good health, their ability to do the things they value will have few limits. If these added years are dominated by declines in physical and mental capacities, the implications for older people and for society may be much more negative.

Although it is often assumed that increasing longevity is being accompanied by an extended period of good health, the evidence that older people today are experiencing better health than their parents is less encouraging. A bunch of researchers are found in research and publicationon active ageing in last decade. As most of the studies related to active ageing are focused on the developed societies where the culture and physical construction of the older persons are far more different than Bangladeshi societies, there has been a clear GAP in the literature. Also most of the authors are from Europe and some countries of Asia, but study on Bangladeshi society is seldom found, specially on the WHO model. Now as there exist a scope of testing the model as well as suggesting necessary modification in the existing model, this study aims to address that gap and make a link between those studies of developed and developing societies.

Intensive research is necessary for every country to know the status, aspects, determinants, and factors of active ageing, there has been few research reported in Bangladesh on active aging. But just now, testing of the WHO (2002) active aging model in Bangladesh is necessary. Alternatively, we may make certain adjustments to the current model in the Bangladeshi context, which would increase the value of the knowledge body. Additionally, there is always a chance for researchers to calculate the economic impact of this active population on Bangladesh's GDP, thus expanding the potential for sound planning. So, it is also worth to test empirically whether the WHO (2002) model of Active Ageing is confirmed for all its construct and determinants among the ageing population in Bangladesh. Or some modification for the existing model in Bangladeshi context might be necessary that will add values to the knowledge body. Moreover the model was proposed in 2002, the context might have change in 2023 after a global pandemic and it might be necessary to redesigned the factors and determinants. In future, window will be opened for the researchers to estimate the economic contribution of this active population and the impact of these activities on the GDP of Bangladesh leading to further scope of proper planning.

Problem Statement

In Bangladesh, the population of older adults is increasing rapidly, and this demographic shift presents significant challenges for policymakers and healthcare providers. While the World Health Organization (WHO) has developed a model of Active Ageing to promote healthy ageing and independence, its implementation in the context of Bangladesh has been limited. also there exists scarce of studies for identifying determinant factors and their indicators related to active ageing in Bangladesh (Haque M. N 2021).Pin-pointing the indicators of active ageing in Bangladesh can help policy makers and relevant development organizations to formulate more customized policies for the targeted people. Despite the potential benefits of adopting the WHO model of Active Ageing, little is known about its effectiveness in Bangladesh. Thus, this study aims to investigate the application and effectiveness of the WHO model of Active Ageing in Bangladesh.

Objectives of the Study

The objective of this thesis is to explore ways to help older people in Bangladesh stay active, healthy and engaged as they age, given the increasing life expectancy. The study will examine the different factors that contribute to active aging and the challenges faced by older people in Bangladesh. By doing so, this study will provide valuable insights for policymakers to develop effective policy solutions for the aging population. Additionally, this research aims to establish a baseline for future policy recommendations that can enhance the quality of life of older people in Bangladesh. Ultimately, this study aims to be a tool for the advancement of society by promoting active aging among older populations. The policymakers can establish strategies for older population in order to keep them engaged as they age because the demographic shift occurring in most of the counties including Bangladesh.

To have more focused study, there will be some specific objective:

1. To update the socio-demographic profile of older persons in Bangladesh.
2. To find out the factors that determine whether or not ageing populations will enjoy apositive quality of life in Bangladesh through active ageing.
3. To test whether the WHO model on Active Ageing fits in Bangladesh society and culture.
4. To explore the challenges for the active ageing population to the governments,the nongovernment, academic, and private sectors in Bangladesh.

The research questions

To understand the concept of active ageing and to evaluate the effectiveness of this model in promoting the health, well-being, and quality of life of older adults, this study may seek the answer of few questions. The aim of a study on the WHO Model of Active Ageing in Bangladesh would be to assess the feasibility and effectiveness of implementing this model in the specific cultural, social, and economic context of Bangladesh.

Specifically, the study seek to the answer of questions such as:

1. What is the current status of active ageing in Bangladesh, and what are the major challenges and opportunities? How do older adults in Bangladesh perceive the Active Ageing and its effectiveness in promoting healthy ageing and independence?
2. How does the WHO Model of Active Ageing align with the cultural and social values of older adults in Bangladesh, and what modifications may be needed to make it more effective? How does the model impact the quality of life of older adults, including their social, economic, and environmental circumstances
3. What are the barriers and facilitators to implementing the model in Bangladesh, including factors related to policy, infrastructure, and resources? How effective is the model in promoting the health, well-being, and quality of life of older adults in Bangladesh, and what are the key outcomes?
4. What are the policy implications of the model for Bangladesh, and how can it be used to guide the development of programs and services for older adults? How to provide a policy framework for active ageing and concrete suggestions for key policy proposals.
5. How the WHO model of Active Ageing could be implemented in Bangladesh? What are the factors that facilitate or hinder the implementation of the WHO model of Active Ageing in Bangladesh?

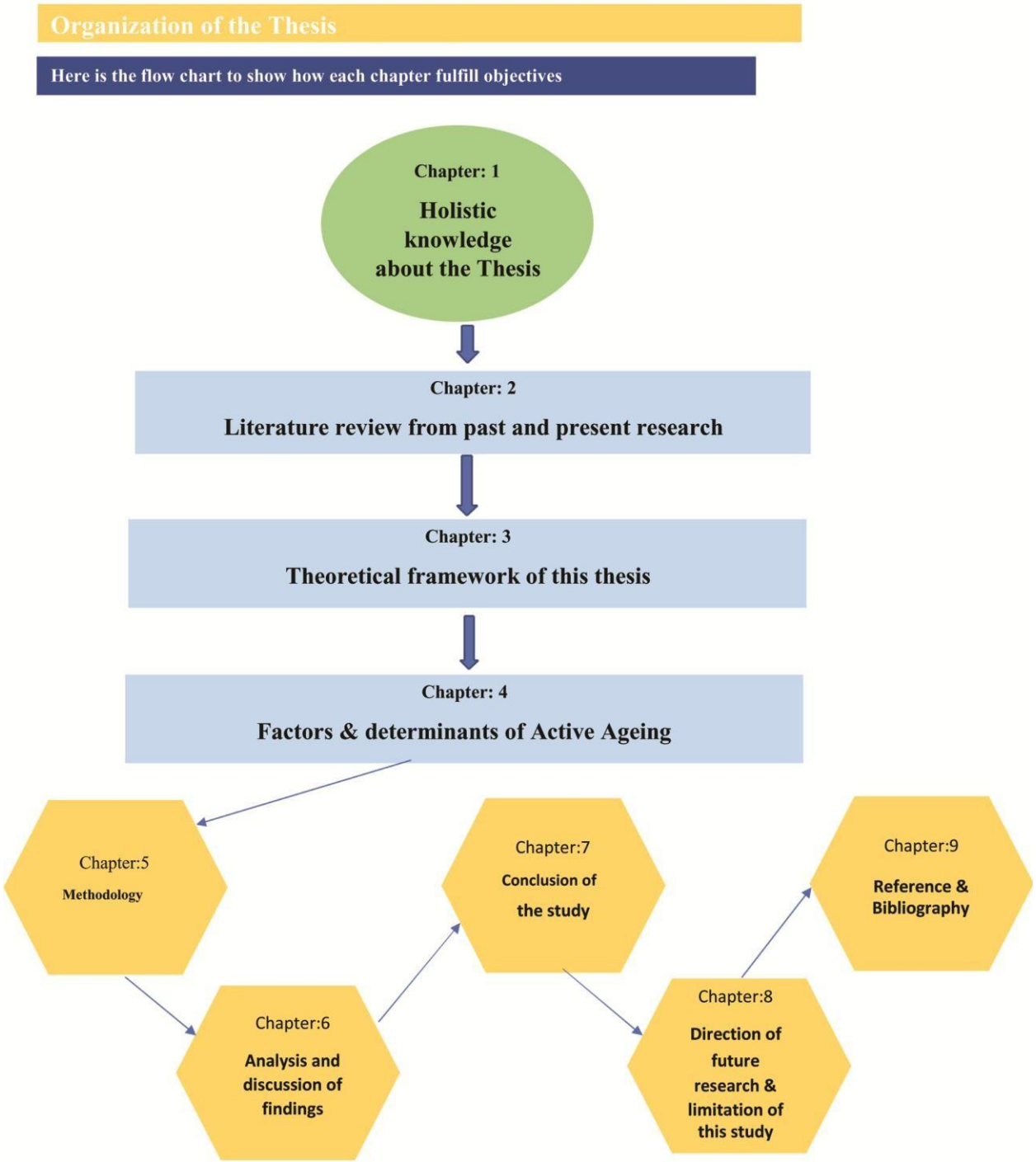
The study would provide evidence-based recommendations for policymakers, healthcare providers, and other stakeholders in Bangladesh on how to promote healthy ageing and improve the well-being of older adults in the country.

Hypotheses of the Study

The hypothesis is a more precise statement about the expected outcome of the research question. However, following are some hypothesis to be tested through the research:

- There has been a significant difference between the Active Ageing situation in rural and urban areas of Bangladesh.
- There exists a significant difference between the active ageing of male and female older persons in Bangladesh
- Active ageing is associated with educational qualification in Bangladesh.
- The WHO model of Active Ageing is applicable in Bangladesh.

Organization of the Thesis



Chapter Description of the Thesis

The WHO model, background information, and a holistic view of active aging are presented in ***Chapter one.*** The literature is reviewed to show the related gaps in the literature and, thus, the rationale for this study is presented following the objective, mentioning the preliminary hypothesis. We can also call this chapter the summary of this Thesis.

Chapter two is composed of a detailed literature review of past and present research publications. The definition and concepts of the component of Active ageing is discussed, and the WHO model and other contemporary models along with their applications are presented in this chapter. It also addressed the studies from both the developed and developing world. Both qualitative and quantitative studies are reviewed following the different models proposed by three researchers in this area from all over the world to justify why the researcher chose the WHO model even though other models are also available. It also focused on the studies in Bangladesh related to ageing as well as active ageing if any, to draw a clear picture of the existing situation of this type of study. The gaps in WHO model are discussed through an extensive review of the WHO's and other models to explore the relevant variables of the study. So a conceptual and theoretical framework for the study of WHO model related to Bangladesh is established in this chapter.

Chapter Three is all about the theoretical framework. The factors, variables, models, and other relevant issues are discussed in this chapter. Along with the theoretical concept, the demography of Bangladeshi older persons as well as their socio-economic conditions is discussed following relevant statistics. Special attention to south Asian and developing countries is presented in this chapter. A critical evaluation of the existing literature is done to justify the study to minimize the several existing gaps.

Chapter Four discussed the Factors and Determinants of Active Ageing. the cross-cutting determinants following culture and gender, the determinants related to health and social service systems, the behavioral determinants, determinants related to personal factors, physical environment, social environment, and other factors are discussed in detail in this chapter.

Chapter Five discussed the methodology of the study. The measurement of major variables, the questionnaire preparation, and purifications, pilot studies to test the validity of the instruments, the location selection process, and the sampling procedure in a thorough manner. The sampling methods, sample profile, data collection procedure as well as statistical techniques are presented in chapter five. It finally discussed the justification for using the proposed statistical tool to establish the relationship between the variables.

Chapter Six discussed the analysis and discussion of the findings. A detailed analysis of the data is presented to reach the research objective. A talk about the proposed modified model of active ageing in Bangladesh is presented here following the statistical pieces of evidence. It also demonstrates the differences between the proposed model and the existing model. Qualitative study finding is also followed by quantitative analysis. And the final model of active ageing is constructed.

Chapter Seven summarizes the recommendation and conclusion of the study. A possible suggestion for the decision-makers and planners is presented by summarizing the methodology and the results. This chapter also talks about the implication of the Active Ageing model of Bangladesh.

Chapter Eight is composed of the direction of future research and the limitation of this study. It discussed how far was possible for the researcher, are there any regional factors, and whether this model will vary over time.

Chapter Nine is the reference and bibliography. The references is presented in APA format and ascending order of the researcher's name.

Rest of the things like questionnaire, some data analysis tables, acronyms etc. are presented in the Appendix part.

Chapter 2

Review of Literature:

Introduction

The researcher did an extensive review of literature of articles, reports, books, thesis etc. about Active Ageing. It is found that most of the research is from Europe and is mostly based on WHO framework. Some research from the US, Canada, and Australia was also found. Recently, interest in Active Ageing has grown in Asia, especially in countries like Singapore, Thailand, India, and Malaysia. Africa, Latin America and the Middle East have also started doing research on Active Ageing, and places like Mexico, Persia, and Russia have also done some research.

The researcher has divided the literature review into different categories. Those are:

1. Active Ageing research in Europe
2. Active Ageing research in the US, Canada, and Australia
3.Active Ageing research in Asia (except Bangladesh)and
4. Active Ageing research in other areas.
5. Active ageing research in Bangladesh

While writing the review for each category, three subcategories followed: i) Active Ageing, and Active Ageing Index and WHO framework ii) Successful Ageing, Healthy Ageing, Age-Well and iii) Quality of Life, Life-long learning, Employability, Retirement, and Disability.

Since there were fewer articles based on qualitative research, the researcher presented them as a separate category. The review is started with an introduction to provide a brief understanding and then move on to each category to find gaps in the research related to Bangladesh.

Active ageing is a policy framework developed in the 1990s by the WHO and various governmental and non-governmental organizations. It emphasizes the link between activity, health, independence, and ageing well. However, empirical evidence on its operative definition and criteria is still scarce. Various studies have been conducted to add empirical evidence to the concept of active ageing. Constanca Paul et al. (2012) have proposed a six-factor model for Portugal where psychological variables contribute significantly to the model construct.

Pruchnoet al. (2010) tested the two-factor model of successful ageing, while Lee et al. (2011) confirmed a four-factor model of successful ageing in Taiwan. Fernández-Ballesteros et al. (2008, 2010) found evidence of considerable consistency across countries, continents, and ages when examining the concept of ageing well in Europe and Latin America. McLaughlin et al. (2010) estimated the prevalence of successful ageing on a national sample of older adults based on the Rowe and Kahn model (1987, 1998). Depp and Jeste (2006) found that disability and very few psychosocial variables were included in most successful ageing studies. Stenner et al. (2011) reported the subjective aspects of active ageing and criticized the deterministic view of the WHO model while emphasizing the need for a challenge and response framework. Sultana (2013) assumed that the number of active elderly women in urban Bangladesh is increasing, although there are no reliable statistics available. In their book "Delaying Retirement - Progress and Challenges of Active Ageing in Europe, the United States, and Japan," Dirk Hofäcker, Moritz Hess, and Stefanie König Editors (2016) thoroughly discussed the trends and determinants of Retirement Transition in Europe, the USA, and Japan. Asghar Zaidi et al. (2013) proposed that the AAI measurement would fall within four domains: Contributions through paid activities, contributions through unpaid productive activities, independent, healthy and secure living, and capacity and enabling environment for active ageing. Emily Z.K. Lim et al. (2014) used the Active Ageing Index (AAI) technique in Singaporean older adults of different ethnicities and found that spirituality significantly improved the predictive power of AAI, giving a new understanding of the active ageing situation in Eastern countries.

Various empirical studies have demonstrated that mixed functional trends coexist across Western societies in recent decades. Australia, the United Kingdom, Canada, and the Netherlands showed increasing IADL disability prevalence, while the trend was reversed in the United States. United Kingdom, Finland, Switzerland, and France showed declines in ADL disability similar to those in the United States, whereas in Australia and Japan, ADL disability prevalence increased over the same period. The impacts of compositional changes in populations on disability trends for the entire elderly population have also been highlighted. Higher socioeconomic conditions are closely linked to a lower prevalence or incidence rate of disability. Greater social support and absence of cognitive impairment or depression contribute to better physical function. Loke, Y. J. (2020) found that active seniors in Malaysia were more likely to have positive self-rated health,

positive health responsibility and health promotion beliefs but were less likely to undergo medical treatments. In a study of Active ageing and quality of life among institutionalized older adults, with and without dementia, Gloria Fernández-Mayoralas et al. (2015) found that a higher level of activity was associated with better cognitive function, self-perceived health status and functional ability, as well as with a higher frequency of gathering with family and friends, and higher educational level. The above trend of research attracted Bangladeshi researchers too. Haque M. N (2021),Haque, M A and Afrin, S. (2022),and Amin, I. (2017) were found in Active Ageing research which is discussed in detail later in this chapter.

Active Ageing: European Experience

The article by Asghar Zaidi et al. (2017) aimed to measure active and healthy ageing in Europe using data from multiple surveys in 28 European Union countries. They developed the Active Ageing Index (AAI) using four domains: employment, participation in society, independent, healthy, and secure living, and capacity and enabling environments for active ageing. The AAI presented a quantitative measure of active and healthy ageing and showed that countries differ in their capacity and enabling environments for active and healthy ageing. Sweden was ranked the highest, followed by Denmark, the United Kingdom, Finland, the Netherlands, and Ireland. The study also found that in most countries, women had worse situations than men in terms of active and healthy ageing. As a result, the study identified the need for addressing gender disparities. The AAI tool has since been used by many researchers. It is to be noted that the qualitative aspect was totally absent in those research, which later was incorporated by some researchers in other countries.

In another study by Asghar Zaidi et al. (2011), the authors presented a detailed analysis of active ageing in Europe using data from three groups of countries: laggards, average performers, and high performers. They analyzed time allocation and patterns of paid and unpaid activities, patterns of unpaid work among older Europeans, employment status, voluntary work by people aged 50+, labour market engagement in older age, and gender differences. The study found that there were trends in labour market engagement and gender differences, and it drew policy conclusions. Constanca Paul et al. (2012) proposed a six-factor model for Portugal, where psychological variables (Life Orientation (Optimism) Loneliness and Happiness) were found to

contribute significantly to the model construct. Again, in this study the spiritual factor didn't have any role which is considered very important in society like Bangladesh.

Feliciano Villar et al. (2016) studied the participation of Spanish older people in educational courses and found that gender, age, location, volunteering, leisure activities, and political activity were the main predictors of participation in educational courses. Socio-demographic variables showed lower prediction value than leisure and productive activities in those courses. This study is conducted in a country where most of the people are educated and there is a social awareness of continuing education as a tool to stay active at later age. But in a society like Bangladesh where education level is low and the attitude toward education at old age is totally different. so study on active ageing focusing education at later life may have a new perspective in a country like Bangladesh.

Nurmela et al. (2014) conducted a comparative analysis of active ageing policies for the Baltic countries and found that as the population got older, they had a higher chance of being excluded from training in the workplace. However, by 2012, those countries had the highest old-age employment rates in the European Union and higher educational levels than many countries.

Lien Van Malderen et al. (2016) conducted a participatory action research on active ageing in nursing homes in Belgium and found that quality of life could be enhanced by focusing on the participation of older persons. The study introduced a weekly activity in nursing homes where residents observed the nursing home operation, identified problems, and made suggestions for improvement. The study found that participation can bring added value to residents‘ living conditions. In Bangladesh old age stay in not nursing home base, rather it is family based. So the perspective here will be totally different compared to the European countries.

Cécile Collinet et al. (2017) established a frame of reference regarding physical and sports activities, and healthy and active ageing. They examined guidelines on physical activity and the perception of active ageing in France and explored how French public policies related to active ageing developed in accordance with international directives. They explained how healthy and active ageing are defined in the context of physical activity. Physical activities of older person in Bangladesh are heavily influenced by spiritual/religious participation. Direct physical exercise

seems to be lower due to the lack of parks and gardens and playgrounds. therefore, physical movement at old age in Bangladesh might have a new meaning.

European Network for Intergenerational Learning (2012) has done many notable work on active ageing. In a study Intergenerational Learning and Active Ageing it mentioned that Intergenerational Learning is extremely complex and scattered. It further stresses that data in terms of policy and projects implemented across the EU are very limited. Their findings include of case studies found that Intergenerational Learning has indirect economic impact. Finally, as stated in the above paragraphs, that active ageing in Bangladesh is far different with respect to social participation, family orientation, ADLs and many more. So, research on active ageing should consider those differences as well.

Ann Bowling (2008, 2009) conducted studies on the perceptions of older people themselves regarding active ageing, with respondents identifying physical health and functioning, leisure and social activities, mental functioning and activity, and social relationships as the most common perceptions of active ageing. Another study by Bowling (2009) focused on the perceptions of active ageing in Britain, revealing divergences between minority ethnic and whole population respondents, with both groups emphasizing the importance of health, fitness, exercise, social roles and activities, and independence.

Longitudinal studies on active ageing are scarce in the literature. Martin J. Tomasik and Rainer K. Silberiesten (2014) conducted a study based on longitudinal data in Germany on Negotiating the Demands of Active Ageing. They found that people preferred engagement with these demands and had a low preference for disengagement. A higher load of demands of active ageing was associated with an increase in engagement with these demands. However, people who perceived their everyday discusses improving the employability of older people, such as by improving workplace health and providing more flexible working conditions and retirement options. The report recommends providing opportunities for older people to share and develop their knowledge and skills and remain socially engaged. It also highlights the need to provide life-long learning opportunities and to develop services such as transport, housing, and health. Addressing the isolation of older people through home visits and health promotion activities specifically designed for their needs is also recommended. The study presents excellent recommendations on healthy and active ageing.

The European Network for Intergenerational Learning (2012) has done notable work on active ageing. In a study on Intergenerational Learning and Active Ageing, the network mentions that intergenerational learning is extremely complex and scattered. The study further stresses that data in terms of policy and projects implemented across the EU are limited. Their findings include case studies showing that intergenerational learning has indirect economic impact.

The literature review discusses various studies and reports on active ageing, successful ageing, and related topics. One study by Martin J. Tomasik and Rainer K. Silberiesten analyzed longitudinal data in Germany and found that individuals had a strong preference for engagement with demands of active ageing and a low preference for disengagement. Tine Buffel et al. published a book on age-friendly cities and communities, which discussed the link between an age-friendly environment and an ageing-friendly perspective. Another report by Euro Health Net recommended improving employability and social engagement among older people, as well as providing lifelong learning opportunities and addressing isolation.

Active Ageing research in the US, Canada, and Australia

In the study conducted by Margaret Patrickson (2016) on working and employability of older Australians, she found that ageing was associated with perceptions of physical and mental deterioration, and that personal and contextual factors contributed to employability. Similarly, Stenner, Paul et al. (2011) identified subjective aspects of ageing such as mental, physical, and social activity, independence, coping with challenges, and staying active. In Bangladesh, study on psycho-social aspect of older persons is available but employability focusing the employability of older person was not found.

Eleni Koutsogeorgou et al. (2013) explored the role of social capital in promoting healthy and active ageing, and found that supporting long-term social capital building within communities can improve public health and well-being for ageing populations.

In another study by Elisabeth Zeitler et al. (2012), the authors examined the impact of suburban environments on the mobility and travel behavior of older Australians, and how it relates to active ageing. Their findings shed light on the importance of environment modification and transport options for older adults.

Finally, Dirk Hofäcker et al. (2016) published a book that provides a comprehensive analysis of retirement transitions in Europe, the United States, and Japan. The book presents a comparative overview of retirement transitions in these countries and discusses the determinants and trends of active ageing. These researchers were designated as part of the European Year for Active Ageing (2012) and Solidarity between Generations, which aimed to raise awareness of older people's position and encourage their active role in society.

There are many similarities and dissimilarities among the active situation of older person living in Bangladesh and the above mentioned countries that are developed. The retirement transition, mobility, suburban environments and follow up on health are very different than counties like US, Australia and Japan. Those must be considered to establish an active ageing model in Bangladeshi society.

Active Ageing research in Asia (except Bangladesh)

In a study conducted by Emily Z.K. Lim and Claire L. Thompson (2016) in Singapore, the authors used the Active Ageing Index (AAI) to measure active ageing among older adults of different ethnicities. The study aimed to examine whether the level of active ageing predicted the actual activity level of Singaporeans aged 55-64 years old or 65 years and above. The authors added the Spirituality Index of Well-Being to the AAI to see if the predictive power of AAI improved. Hierarchical multiple regression showed that the AAI alone did not significantly predict the activity level of older adults, but the predictive power of the AAI improved significantly with spirituality included. Two-way between-groups Analysis of Variance revealed main effects of age and ethnicity, with higher AAI in those aged 55-64 and in Indian-Singaporeans. The authors suggested that the theoretical construct of Active Ageing needs further examination to identify the domains that distinguish it from chronological age and recommended including spirituality in Active Ageing. It is clear that the researchers of Asia region have felt the necessity of including the spirituality index as they have accepted that there are differences between Asian culture than that of western cultures. So this issue must be addressed properly when we consider the active ageing in Bangladesh.

In another study conducted by EviNurvidya Arifin et al. (2012) in Indonesia, the authors examined the contemporary situation of active ageing and put forward recommendations for

older persons to remain active. The authors used the World Health Organization's Active Ageing framework and organized their findings according to the three pillars of health, participation, and security. The study found that good functional ability and self-rated health status were common among older persons, but they predominantly participated in home-centered leisure activities rather than physical exercise. Economic security varied by gender, and there was great variation across Indonesia's provinces in the status of the three pillars of active ageing. The authors recommended that policymakers take these variations into account when planning for the betterment of older persons in Indonesia.

Both studies highlight the importance of examining the constructs of active ageing and suggest that factors such as spirituality and economic security should be considered. They also emphasize the need for policymakers to take regional variations into account when planning interventions for the betterment of older persons.

A journal published in 2005 called _A Model for Community Participation and Active Ageing in Malaysia‘. The experience of PJCC shows that volunteers are motivated by a sense of belonging, achievement, and satisfaction, which has sustained their active participation. The volunteers of PJCC have gained knowledge on healthcare and environmental protection while contributing to the well-being of others. The PJCC model has been adopted by 15 other community centres in Malaysia.

In Thailand, researchers developed a scale containing seven factors that older people themselves initiate to promote their own well-being. The factors include being self-reliant, actively engaged with society, developing spiritual wisdom, building up financial security, maintaining a healthy lifestyle, engaging in active learning, and strengthening family ties. Jyvaskyla's scale has a similar idea to the Thai-scale. Their goal was to develop a quantitative scale for assessing active ageing among older people that can be used in research and practice.

Tan Poo Chang &TeyNaiPeng (2005) developed a model for Active Ageing focusing on Community Participation in Malaysia. The model has been found to be common in some other Asian countries like Singapore, India, and Indonesia.

Jui-Ying Hung &Kuo-Song Lu (2014) studied the Healthy Lifestyle Model, Active Ageing, and Loneliness of Senior Learners in Taiwan. High-quality, healthy lifestyles can impact the effectiveness of active ageing programs and alleviate loneliness in aged individuals. Most senior

learners are female, have high school educations, and perceive themselves to be healthy.

A qualitative study in Thailand in 2014 revealed that social contribution, intrapersonal strength, and calmness were significant for active ageing. Elders in Thailand viewed financial security as important for active ageing. Strengthening family ties is perceived as an important aspect of active ageing to ensure that the elderly will be cared for in later life.

Chan YY, Lim KK, Omar MA et al. (2020) attribute this reduced participation to poor health conditions and disabilities, while NotthoffN et al. (2017) suggest that education is another factor affecting participation in physical activity, although the direction of association varies by country.

Maureen Tam (2013) established a Model of Active Ageing for the Elder Academy Network in Hong Kong. The model includes domains such as physical health, psychological well-being, social relationships, and environment.

Qiushi Feng et. al. (2013) examined disability trends in Shanghai, China, from 1998 to 2008. The purpose of the study was to expand understanding of disability trends and their social and medical correlates in a non-Western, developing society. A journal published in 2005 called ‗A Model for Community Participation and Active Ageing in Malaysia'. The experience of PJCC shows that volunteers are motivated by a sense of belonging, achievement, and satisfaction, which has sustained their active participation. The volunteers of PJCC have gained knowledge on healthcare and environmental protection while contributing to the well-being of others. The PJCC model has been adopted by 15 other community centers in Malaysia.

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Few qualitative4 studies were found related to active ageing. Kattika Thanakwang et al. (2014) conducted a qualitative study on Thai cultural understandings of active ageing, identifying six themes: being self-reliant, actively engaging with society, growing spirituality, maintaining a healthy lifestyle, being active learners, and managing later life security. The study found that health, social participation, and security in life were key factors of active ageing among Thai older adults, with a unique finding that active ageing in Thailand was influenced by growing spirituality and managing later life security.

Longitudinal studies are few in numbers in the area of active afeing. Another impressive longitudinal study from Japan examined the effects of activity limitations on healthy life expectancy over 6 years. In 2001 and 2004. A large sample of 7,905 respondents aged 65 and up from Tama City, Tokyo, completed surveys, and additional data were collected from a health registry until 2007 (Yang, Hoshi, Wang, Nakayama, & Kong, 2014).

Considering the above studies, it is very clear that there are some dissimilarities and similarities between some Asian countries and Bangladesh. Therefore, factors might be necessary to deduct or add to develop a model for Bangladesh.

Active Ageing research in Africa, Latin America other areas.

Active ageing has been studied in different countries to identify its determinants and measure its impact on the population. Christopher C. Mapoma (2014) studied active ageing in Zambia and found that income accessibility, functional limitations, loneliness, low family and peer interactions, and HIV/AIDS are significant factors that determine active ageing in African countries. In Russia, Liudmila Zasimova and Maria Sheluntcova (2014) measured active ageing for government policy and planning and found that 58.5% of Russian senior citizens met all three criteria of active ageing, which poses a challenge for policy response. The Active Aging Index is an example of how active ageing is assessed at the societal level. In Mexico, adherence to active ageing programs has been found to improve health-related quality of life and occupational functioning, but potential barriers must be identified and strategies implemented to improve recruitment and retention rates during the intervention (Ricardo Perez-Cuevas et al., 2015). It is important to consider the determinants of active ageing and measure its impact to develop effective policies and programs that promote active ageing and improve the quality of life for older adults.

Mostly quantitative studies are being done on active ageing including some mixed models. However, few qualitative studies are also available related to active ageing. Patric Cools et al. (2010) conducted a qualitative study to document the perception of older persons in six Caribbean countries regarding active ageing. The study employed a comparative analysis approach based on three components of active ageing: access to health and social services, use of social support, and economic circumstances. The authors concluded that a multi-sectoral comprehensive approach should be implemented using the active ageing framework to ensure healthy ageing. Gloria Fernández-Mayoralas et al. (2015) conducted a similar study on quality of life, specifically factors associated with participation in leisure activities among older adults in institutional settings with and without dementia. The study clustered the sample into three groups: active, moderately active, and inactive older adults. A regression model showed that a higher level of activity was associated with better cognitive function, as measured by the Pfeiffer scale, self-perceived health status, and functional ability. Higher frequency of gatherings with family and friends and higher educational level were also associated with better cognitive function. However, the study was conducted in an institutional context, leaving a gap on how the results would apply to non-institutional settings. The study supports the findings of Menne et al.

(2012) and highlights the significant barriers to active ageing, such as decline in physical and mental health, weakening of family and social ties, and loss of functional capabilities.

Clemens Tesch-Roemer (2012) conducted a study on active ageing and quality of life in old age, which focused on investment and policy recommendations using the active ageing framework. The study concluded that investments should be inclusive and embrace all ageing persons, regardless of their health status. Additionally, education, security, and images of ageing were identified as important for quality of life in old age.

Longitudinal studies, Books and reports on Active Ageing are few in numbers. Tine Buffel, et al. (2018) published a book entitled Age-Friendly Cities and Communities, which discusses efforts to create comfortable ageing societies by modifying cities in some countries of the world. This book presents the discussions of the World Health Organization's "Age-Friendly City and Community" (AFCC) model and links the "age-friendly" perspective to the environmental perspective. The book is the first of its kind and is a valuable contribution to the knowledge on age-friendly environments.

The World report on ageing and health presented a more comprehensive concept of active ageing, which considers psychological, social, and economic factors. The Active Ageing Model is based on three pillars - participation, health, and security - and includes six groups of determinants. The report also discusses successful ageing, which is a multidimensional construct that includes objective and subjective characteristics. A four-factor model of successful ageing was proposed in Taiwan. The concept of active ageing is less deterministic and difficult to measure, but a protocol was developed for the Active Ageing Model.

The literature review also highlights the importance of environment modification, community environment, mobility, accessibility, and affordable services for older persons. The World report on ageing and health provides a comprehensive discussion of ageing, life expectancy, care, health services, global health, population dynamics, and delivery of healthcare. Cross-cultural studies were conducted to explore bio-psychosocial factors related to active and successful ageing. Overall, these studies and reports contribute to our understanding of active ageing and successful ageing and provide recommendations for improving the quality of life of older persons.

Active ageing research in Bangladesh and some gaps

According to a recent study by Md Aminul Haque and Sadiya Afrin (2022), Bangladesh has one of the fastest-growing elderly populations in the world, yet there has been little effort to customize and construct an Active Aging Index (AAI) to monitor the quality of life of senior citizens. the researchers identified eight indicators of the health dimension, three indicators of the participation dimension, and seven indicators of the security dimension for the AAI. The overall AAI score revealed that 48.1% of the health, 28.9% of the participation, and 48.5% of the security dimensions score fell in the lower active category. Gender and residential differences were apparent in all three dimensions, with urban older adults scoring higher than rural older adults. The researchers suggest that addressing these differences in all three dimensions of the AAI is crucial.

In a study by Md. Nuruzzaman Haque (2018) on active aging in Bangladesh, it was found that there is a lack of research on determining factors and indicators related to active aging. The study aimed to measure the level of active aging with its determinants and gender differences using the Active Aging model developed by the World Health Organization. The study identified six determinant factors and found that overall active aging levels were low. The study also revealed that the level of active aging for male older persons is significantly higher than that of females.

The previous research studies focused on constructing the Active Aging Index (AAI) for Bangladesh, assuming that the existing WHO model would be applicable without modifications. However, this study takes a different approach by examining the applicability of the WHO model to the Bangladeshi context and assessing whether any modifications are necessary.

The WHO model of active aging was proposed several years ago, and since then, the global socio-economic landscape has undergone significant changes. The emergence of the pandemic has brought about unprecedented shifts in various aspects of life, including life satisfaction, health, and overall well-being. Given these transformations, it becomes essential to critically evaluate whether the same model can be applied to the specific circumstances of Bangladeshi society.

This study recognizes the need to examine the validity and relevance of the WHO model in light of the evolving socio-economic conditions, including the impact of the pandemic. By conducting an in-depth analysis and considering the specific challenges and nuances of the Bangladeshi

context, this research aims to provide valuable insights on the applicability of the WHO model and the potential need for modifications to better address the unique needs and circumstances of older adults in Bangladesh.

Through a comprehensive examination of the WHO model and its alignment with the current socio-economic realities, this study aims to contribute to the existing literature and inform policymakers and practitioners on the suitability and effectiveness of the model in the Bangladeshi context. By doing so, it seeks to enhance the understanding of active aging in Bangladesh and provide valuable insights for the development of targeted policies and interventions to promote the well-being and quality of life of older adults in the country.

Following research works are ageing or active ageing related, but not straightway associated with the WHO model. Md. Zakiul Alam (2021) mentioned that women in Bangladesh have higher rates of disabilities and morbidities than men, resulting in lower healthy life expectancy. About 53% of women can perform daily activities, while this figure is 8% higher for men. Depression and loneliness are also higher among women than men. The value of the active aging index and quality of life are also lower for women than men. Increasing life expectancies have resulted in extra years of chronic illness, economic insolvency, more anxiety and depression, and increasing misery for women.

Iftekhar Amin (2017) highlights that successful aging is multidimensional in Bangladesh, encompassing adaptation to an aging body, financial security, family and intergenerational care, and social participation. Bangladeshi older adults' views of successful aging differ from those in western societies, with less emphasis on freedom from disease or longevity and more emphasis on family care and adaptation to changing bodies. The study suggests that cross-cultural understanding of aging is necessary for health professionals to provide appropriate care for elderly individuals in Bangladesh.

Rahman D. (2014) presented a comparative analysis of ageing and social policy between Britain and Bangladesh. He concluded that those countries (European) are different in health care structure, different in attitudes towards health care policies for aged people and finally different in financial capabilities to carry out health care programs.

According to Uddin et al. (2018), the global population of older adults aged 60 and above is expected to increase by 39% from 2012 to 2050, with the majority of them living in rural areas of developing countries. This is particularly concerning for Bangladesh, which has a large population and is expected to face significant challenges related to aging (Md Aminul Haque and Sadiya Afrin, 2022). The older population in Bangladesh faces numerous challenges including inadequate health care facilities, mistreatment by family members, unsafe living conditions, poor sanitary systems, loneliness and isolation, insufficient transportation and leisure facilities, and sleep problems (Khan, 2014; Gardner, 2012; Hossain, 2006; Rahman, 2017; M. A. Uddin, 2017).

There are shortages of different services, including health care, and a lack of good social security measures that exacerbate these challenges (Hamiduzzaman, 2018; Islam, 2012; Rahman, 2017). However, there is a lack of information regarding the Active Aging Index for the older adults of Bangladesh, and without a proper understanding of the active aging situation in the country, policy measures adopted to support the older population may not be effective in the future (Aminul Haque and Sadiya Afrin, 2022). It is crucial to address these challenges and improve the quality of life for the older population in Bangladesh, especially as their numbers continue to increase.

As emphasized by Masud Karim et al. (2020), Bangladesh is currently in the third stage of demographic transition and experiencing a rapid increase in its ageing population, with the proportion of those aged 60 years or over expected to reach 17.0% in 2050. This is supported by the study of Uddin M T, et al 2012, Khanam A M a al 2011, Hossain M R (2005). This trend is alarming for a developing country like Bangladesh, where health and medical facilities, as well as awareness of chronic diseases, are crucial in addressing this situation. Karim et al. (2020) also presented an organizing framework that assists researchers in designing and validating measurement models for assessing the quality of life (QOL) of older persons, suggesting that a reflective measurement model may be more appropriate. These results highlight the importance of justifying the choice of measurement model both theoretically and empirically when measuring subjective QOL.

The elderly population in Bangladesh has been steadily increasing and is projected to continue to do so in the coming years. According to the Bangladesh Bureau of Statistics (BBS) Population and Housing Census in 2011, the elderly population in Bangladesh was 7.7 percent, or 11.09

million, and is expected to rise to almost 14 million in 2020 and 17.2 million in 2025. HelpAge International's projection shows that the elderly population was 13.0 million (8.0%) in 2019 and is expected to double to 36.0 million (21.9%) in 2050. The rise in the aging population is expected to impact various aspects of society, including health status, the healthcare system, economic growth, labour markets, consumption, savings, investment, pension, and intergenerational transfers.

In most developing countries, demographic transitions are taking place in the context of changing socio-economic conditions. Bangladesh needs to be prepared for providing the necessary support for the older person in the face of future surge. Older people living in rural areas often receive poor healthcare services and have limited access to economic opportunities, including formal jobs. As urbanization is rapidly increasing in Bangladesh, a large number of elderly people are expected to live in slums in the near future. Without proper plans and programs, Bangladesh may face major challenges in providing support and care for the older population.

Loneliness is a common issue for the elderly population in Bangladesh, (Mistry SK 2022) with situations such as the death of spouses and living a single life contributing to the problem. Health issues are also prevalent among the elderly, with 95.0% reporting having health problems, including multiple health complications. The increase in the elderly population in Bangladesh is expected to be significant in both absolute and relative terms, making it one of the emerging issues of population aging.

In their extensive literature review, Abu Abdullah Md Hanif et al. (2021) found that in Bangladesh, a large proportion of elderly individuals are either malnourished or at risk of malnutrition, with approximately 9 out of 10 affected. A significant number of elderly individuals, particularly women in rural areas, report multiple health problems such as eye diseases, high blood pressure, heart diseases, digestive diseases, and rheumatic pain. Insufficient physical activity is also prevalent among elderly individuals in Bangladesh, with certain groups such as women, adolescents, people with disabilities, and the elderly being less likely to engage in physical activity.

Rajesh Das et al. (2021) investigated the impact of the COVID-19 pandemic on mental health in the Bangladeshi population using four measures: UCLA Loneliness Scale-8, Patient Health Questionnaire-9, Generalized Anxiety Disorder 7-Item Scale, and Pittsburgh Sleep Quality Index. The study revealed that in Bangladesh, female sex, unemployment, being a student, obesity, and living without a family were the major factors associated with poor mental health during COVID-19. Additionally, a significant proportion of respondents reported experiencing mental health problems during the pandemic in Bangladesh.

It is clearly notable form the above discussion starting from global perspective to Bangladesh that few studies related to active ageing concepts and active ageing index (AAI) are done so far. There is clearly a scope to studying the WHO Model of Active ageing in Bangladesh which is not yet been done.

Overall Gaps in the Literature:

Based on the above discussions it could be concluded that research on the application and relevance of the World Health Organization's (WHO) model of active aging in South Asian countries are still limited. There is a need for research that adapts the model to the cultural, social, and economic contexts of South Asian countries.

There is limited research on the application and relevance of the World Health Organization's (WHO) model of active aging in South Asian countries. Some of the gaps in the literature regarding the WHO model in South Asian countries include:

Lack of cultural adaptation: The WHO model of active aging was developed based on research from Western countries and may not fully capture the experiences and priorities of older adults in South Asian countries. There is a need for research that adapts the model to the cultural, social, and economic contexts of South Asian countries.

Limited research on the social determinants of health: The WHO model of active aging recognizes the importance of social and environmental factors in promoting active aging, but there is limited research on the specific social determinants of health that impact aging outcomes in South Asian countries.

Limited research on interventions to promote active aging: While the WHO model of active aging provides a framework for understanding the factors that contribute to active aging, there is limited research on the effectiveness of interventions to promote active aging in South Asian countries.

Limited focus on rural areas: Much of the research on aging in South Asian countries focuses on urban areas, but there is a need for research that examines the experiences and challenges of older adults in rural areas.

Limited focus on marginalized groups: There is a need for research that examines the experiences and challenges of marginalized groups of older adults, such as those living in poverty or with disabilities, in South Asian countries.

As far as Active Ageing is concern, the above literature review shows that the following issues have been covered by Bangladeshi researchers (First two topics are very close to the present research, although there exist a clear gap).

	Research Topics	**Subcategories**
1	Active Aging Index (AAI)	Active Ageing Index, Quality of life of senior citizens. Indicators of different dimension of AAI using the World Health Organization (WHO) model.
	Active Ageing (AA)	Level of Active Aging. Determinants and gender differences of Active Aging following WHO model. Overall Active Ageing level.
	Quality of Life (QOL)	Choice. of measurement model for QOL. Measuring subjective QOL and Challenges of QOL in Bangladesh. measurement models for assessing the quality of life (QOL) for older persons
	Successful Aging (SA)	Successful Ageing in Bangladesh. Adaptation to an aging body. Financial security. Family and Intergenerational care. Social Participation. Cross-cultural understanding of aging

	Insufficient physical activity (IPA)	Insufficient Physical Activity (IPA). Impact of IPA. Measurement of IPA
	Demographic Transition	Demographic transition and population projection. Health and Health problems at old age. Demographic transition resulting from fertility and mortality variations. Life expectancy at older ages
	Disability Morbidity, nutrition	Medical Facilities. Awareness of Chronic diseases. Health problems. Disabilities and Morbidities. Challenges of Disabilities in Bangladeshi society
	Social Policy on Ageing	Old Age allowances, Social and family Support, Comparison with some developed countries.
	Healthcare services and Social Security of OP	Health care facilities, Living conditions, Sanitary Systems, Transportation and leisure facilities, Economic opportunities. Family Support, Social Support and Care
	Gender Difference in Active Ageing	Age distribution by gender, Gender difference in Activity level.
	Loneliness and social isolation	Loneliness and Isolation. Family members attitude towards OP, Social Isolation, Social Support, Grief and Vulnerability
	Mental Health	Depression. Isolation. Impact of the COVID-19 pandemic on mental health. Other mental health issues.

Table-2.1 Research topics related or close to Active Ageing along with subcategories done by Bangladeshi researchers

Although a number of topics and subtopics related to active ageing is covered by the Bangladeshi researchers, there is a gap of testing the WHO model fit and its fitness in Bangladeshi society. Also the standard set of questionnaire (by WHQOL) is not yet followed by any researchers. It is found that a good number of researches have been interested on Active Ageing and related research after 2016. The research close to the present study is mainly focused on the indexes and the data is collected from a rural setting of only six villages and six wards of two different locations. It just followed the WHO definition of AA but hasn't tested the

applicability or the model fit. The responses for each of the indicators (ranges from 0, 1, 2, or 3) in each dimension were added to create a composite index (CI) whereas the present researcher followed WHQOL standard set of questionnaire with very little modifications. One of the researcher did the research based on secondary data and focused on the indexes determining the factors and indicators related to active aging. Another study which is very similar to present study is done by a Bangladeshi researcher but the research is based on regional disparity of ageing in Thailand. Though it measured active ageing level but didn't test the model. Another research was done based on a particular area of Bangladesh. They followed Exploratory factor analysis (EFA) and the weighted index formula to study the Active ageing situation. Therefore, it is yet to test the WHO model or propose a modified model for Bangladesh. The WHO model of active aging was proposed several years ago, and since then, the global socio-economic landscape has undergone significant changes. The emergence of the pandemic has brought about unprecedented shifts in various aspects of life, including life satisfaction, health, and overall well-being. Given these transformations, it becomes essential to critically evaluate whether the same model can be applied to the specific circumstances of Bangladeshi society.

Considering the above literature review, the researcher choose to study the impact of the WHO model for its wide-spread acceptability and inclusion and expansion of the Active Ageing ideas in both developed and developing societies. It is also very clear that Bangladeshi researchers have done significant studies on the multifaceted aspects of Ageing, including, demographic, health and psychological studies, and of course, on Active Ageing Index following the WHO definition, but studies on Active ageing following an established model was not found. There exist a gap in Bangladesh to fit the model itself or established a concrete model that will be applicable in Bangladesh. So there exist a clear gap in the knowledge body. At the same time, a study of this kind surely will have applicability among the researchers and policy makers.

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Chapter3

Concepts and Theoretical Framework

Definition, concepts and its components

Ageing

Ageing is a natural process that occurs as a person grows older. It is a result of various molecular and cellular damage that develops over time, leading to a decline in physical and mental abilities and an increased risk of illness and death. This process is not linear and does not occur predictably. Age-related changes are not random but affect everyone. Along with biological changes, ageing also involves other life transitions, such as retirement, moving to a new home, and losing friends, which can impact a person's well-being. To develop a comprehensive public health response to ageing, policies need to focus on reducing the negative effects of ageing and promoting recovery, adaptability, and psychological growth. Such skills can help individuals navigate health systems and access resources to address health issues that typically arise in old age. According to Wikipedia, ageing refers to the process of becoming older in humans, animals, and fungi, while certain organisms such as bacteria, perennial plants, and some simple animals have the potential for immortality.

Active Ageing:

Active ageing is a concept introduced by the World Health Organization (WHO) that emphasizes the importance of promoting healthy and active lifestyles among older adults. It involves creating supportive environments and providing opportunities for older adults to continue to participate in social, economic, and cultural activities, and to contribute to their communities.

Active ageing recognizes that older adults are a diverse group, and that their physical, mental, and social needs vary depending on factors such as gender, ethnicity, culture, and socioeconomic status. The goal is to enable older adults to age in place, maintain their independence, and achieve a good quality of life, while also addressing any health conditions or disabilities that may arise.

The WHO Model of Active Ageing provides a framework for promoting active ageing through policies, programs, and services that support healthy ageing across the life course. It emphasizes

the importance of promoting healthy behaviours, including physical activity, healthy eating, and social engagement, as well as providing access to health care and other support services.

Active ageing is increasingly recognized as an important public health issue, given the rapidly ageing population in many countries around the world. It is seen as a key strategy for promoting healthy ageing and improving the well-being of older adults, as well as reducing the burden on health care systems and society as a whole.

It is a contemporary theoretical concept introduced by the World Health Organization (WHO, 2002) and derived based on the Activity Theory of Ageing (Lemon, Bengtson and Peterson 1972). The term ‗Active Ageing' is often used interchangeably with similar definitive terms regarding ageing well, but Active Ageing may be conceptually distinct from these terms (Boudiny 2013; Paul, Ribeiro and Teixeira 2012).

Active ageing is defined as the process of optimizing opportunities for health, participation and security in order to enhance quality of life for older people. It applies to both individuals and population groups. Active ageing allows people to realize their potential for physical, social, and mental well-being throughout the life course and to participate in society, while providing them with adequate protection, security and care when they need. The word ―active‖ refers to continuing participation in social, economic, cultural, spiritual and civic affairs, not just the ability to be physically active or to participate in the labour force. Older people who retire from work, ill or live with disabilities can remain active contributors to their families, peers, communities and nations. Active ageing aims to extend healthy life expectancy and quality of life for all people as they age. ―Health‖ refers to physical, mental and social well being as expressed in the WHO definition of health. Maintaining autonomy and independence for the older people is a key goal in the policy framework for active ageing (www.who.int/ageing/active_ageing/).

Age Well (AW):

Ageing well, or ageing successfully, is the process of promoting optimal physical, mental, and social well-being as individuals age. It involves strategies to maintain health and independence, prevent or manage chronic diseases and disabilities, and promote engagement in activities that provide a sense of purpose and meaning in life. It recognizes that ageing is a natural part of life

and that each individual's experience of ageing is unique. It emphasizes the importance of maintaining physical health and function, cognitive health and mental acuity, emotional well-being, social connectedness, and a sense of purpose and meaning in life throughout the lifespan. When people says someone has aged well, it means that the person has become an old person and yet has maintained physical health and charisma. It is a cliché that people look in regard with physical appearance in order with ageing well.

Dr. Anjali Joseph, director of research at the Center for Health Design, defines aging well as having three components:

1. A low risk of disease and disease-related disability
2. High mental and physical engagement
3. An active engagement with life

Medical science gives us various ‗aging well' standards. Some standards emphasize physical ability. Others emphasize social activity. And still others emphasize cognitive strength.

Healthy Ageing:

Healthy ageing is the process of optimizing physical, mental, and social well-being as people age, in order to maximize their quality of life and maintain their independence. It involves strategies to prevent and manage chronic diseases and disabilities, as well as promoting healthy behaviours, social engagement, and community involvement.

It recognizes that ageing is a natural part of life, and that older adults are a diverse group with different needs and abilities. It emphasizes the importance of addressing the physical, mental, and social determinants of health throughout the life course, in order to support healthy ageing and prevent or delay the onset of age-related diseases and disabilities.

It is the development and maintenance of optimal mental, social and physical well-being and function in older adults. This is most likely to be achieved when communities are safe, promote health and well-being, and use health services and community programs to prevent or minimize disease.

Successful Ageing:

Successful ageing is the process of ageing in a way that promotes optimal physical, mental, and social well-being, and enables individuals to maintain their independence and quality of life as

they age. The concept of successful ageing emphasizes the importance of promoting healthy behaviours, social engagement, and community involvement throughout the lifespan, in order to optimize the chances of ageing well.

Successful ageing is often defined by a combination of factors, like physical health, cognitive function, emotional well being, social connectedness independence etc. Successful ageing refers to physical, mental and social well-being in older age. The concept of successful aging can be traced back to the 1950s, and was popularized in the 1980s. It reflects changing view on aging in Western countries, where a stigma associated with old age has led to considering older people as a burden on society. Consequently, in the past most of the scientists have been focusing on negative aspects of aging or preventing the decline of youth.

Research on successful aging, however, acknowledges the fact that there is a growing number of older adults functioning at a high level and contributing to the society. Scientists working in this area seek to define what differentiates successful from usual aging in order to design effective strategies and medical interventions to protect health and well-being from aging. Some researchers in aging studies are critical of the very term "successful aging" as it implies failure on the part of those who do not meet arbitrary criteria derived from neoliberal and/or biomedical definitions. Successful aging, often known as "healthy," "productive," "optimum," or "positive" ageing, are a reflection of the enormous variety in aging processes, which Rowe and Khan (1987, 1997) divided into three categories: "normal," "pathological," and "successful."

Functional ability and physical functioning, cognitive functioning, life satisfaction and well-being, social participation and productivity, the presence or absence of illness, longevity, self-assessment of health, personality traits, environment and income, self-assessment of successful aging etc. are related to ageing research. Successful and active aging measurement. there is still no consensus about its definition and measurement. ageing outcomes may be changed by present activities and that effective aging is a multidimensional concept that contains both objective and subjective qualities.

Productive Ageing

Productive aging is an approach that emphasizes the positive aspects of growing older and how individuals can make important contributions to their own lives, their communities and

organizations, and society as a whole. In the context of work, productive aging involves providing a safe and healthy work environment for everyone through comprehensive strategies that allow workers to function optimally at all ages.

Optimal Ageing

Optimal ageing is the process of aging in a way that promotes physical, mental, and social well-being, and enables individuals to maintain their independence and quality of life as they age. The concept of optimal ageing emphasizes the importance of promoting healthy behaviors, social engagement, and community involvement throughout the lifespan in order to optimize the chances of aging well. It emphasizes the importance of adapting to changes that occur with aging, such as changes in physical function, social roles, and lifestyle. This may involve making adjustments to daily routines or seeking support from family, friends, or healthcare provider. y promoting healthy behaviors, social engagement, and community involvement, and addressing the physical, mental, and social determinants of health, one can support individuals in aging optimally.

Positive Ageing

Making the best of becoming older and maintaining a happy outlook on life are central to the idea of positive aging. It involves maintaining a growth-oriented attitude throughout old age, just like every other stage of life, regardless of obstacles or chances. In times of loss or transition, keeping a positive outlook may make those experiences easier and life more enjoyable overall. The Office for Seniors claims that the complete range of experiences, including health, independence, financial stability, self-fulfillment, personal safety, and housing conditions, are all part of good aging. Positive ageing can be influenced by attitudes and qualities. Some examples of good key attitudes to keep a positive mindset while ageing include:

- Being adaptable and embracing change
- Having a sense of humour
- Being determined
- Staying optimistic
- Wanting to maintain social relationships
- Learning to live with limitations
- Being aware of the need to make the most of what you have

- A desire to live a quality life

As people age, they go through a variety of changes that might be difficult to embrace. They could struggle with moving out of employment, needing new living arrangements, modifications to your social circle, bereavements, and changes in health and ability. Instead of concentrating on the drawbacks, being flexible and accepting of these adjustments will enable them to benefit from life.

Independence, Quality of Life and HLE

Independence is commonly understood as the ability to perform functions related to daily living – i.e., the capacity to live independently in the community with no and/or little help from others. Quality of life is ‒an individual‘s perception of his or her position in life in the context of the culture and value system where they live, and in relation to their goals, expectations, standards, and concerns." It is a broad ranging concept, incorporating in a complex way a person‘s physical health, psychological state, level of independence, social relationships, personal beliefs, and relationship to salient features in the environment.‖ (WHO, 1994). As people age, their quality of life is largely determined by their ability to maintain autonomy and independence.

Healthy life expectancy (HLE) is commonly used as a synonym for ‒disability-free life expectancy‖. While life expectancy at birth remains an important measure of population ageing, how long people can expect to live without disabilities is especially important to an ageing population. With the exception of autonomy which is notoriously difficult to measure, all of the above concepts have been elaborated by attempts to measure the degree of difficulty an older person has in performing activities related to daily living (ADLs) and instrumental activities of daily living (IADLs). ADLs include, for example, bathing, eating, using the toilet and walking across the room. IADLs include activities such as shopping, housework and meal preparation. Recently, a number of validated, more holistic measures of health-related quality of life have been developed. These indices need to be shared and adapted for use in a variety of cultures and settings.

Active Ageing Index (AAI)

Active Ageing Index (AAI) is a composite index developed by the European Union in collaboration with the United Nations Economic Commission for Europe. The index is designed

to measure the level of active ageing in different countries and regions by taking into account various dimensions of ageing, including employment, participation in social activities, independent living, and health.

The AAI is calculated based on four main domains: employment, participation in society, independent and healthy living, and capacity and enabling environment for active ageing. Within these domains, specific indicators are used to assess the level of active ageing in a particular country or region. The indicators include things like employment rates for older people, educational attainment, social participation, access to healthcare, and life expectancy.

The AAI is considered an important tool for policymakers and researchers to understand the needs and challenges of older people and to develop policies and programs to promote active ageing. By comparing the AAI scores across countries and regions, policymakers can identify areas where improvements can be made to support older people to remain active and engaged members of society.

The WHO's comprehensive definition of active ageing is used to calculate the Active Ageing Index (AAI) (Zaidi et al. 2013). The Active Ageing Index (2015) states that it "aims to take a complete look at the activity and independence of older people" and that it "shows what is (at the national level) older adults' quality of life in this way." It outlines the place of older people in society and offers a framework for analysis to assess the possibilities of an aging society. It aims to depict how older people' potential is utilized in various nations and how much they can contribute to society (Vidoviová and PetrovaKafková, 2016).The underlying premise is that older persons would participate more actively, which will lead to increased wealth for the entire community and ensure ageing societies have sustainable prosperity despite the prospect of rising health and social security costs.

The Ageing Theories:

There are several theories of ageing that attempt to explain why and how we age. Here are a few of the most well-known ageing theories:

Wear and tear theory: This theory suggests that the body simply wears out over time, as a result of the accumulation of damage caused by environmental factors such as exposure to toxins, radiation, and stress.

Free radical theory: This theory suggests that ageing is caused by damage to cells and tissues caused by free radicals, highly reactive molecules that can damage DNA, proteins, and other cellular structures.

Programmed ageing theory: This theory suggests that ageing is a genetically determined process that is programmed into our cells, and that the process is triggered by the accumulation of damage to our DNA over time.

Telomere theory: This theory suggests that ageing is caused by the shortening of telomeres, the protective caps on the ends of our chromosomes. As telomeres shorten over time, our cells become less able to divide and repair themselves, leading to cellular ageing and eventually to the ageing of the organism as a whole.

Mitochondrial theory: This theory suggests that ageing is caused by damage to the mitochondria, the cellular structures that produce energy. As mitochondrial function declines over time, the cells become less able to generate the energy needed to carry out their functions, leading to cellular ageing and eventually to the ageing of the organism as a whole.

These theories are not mutually exclusive, and it is likely that a combination of factors contributes to the ageing process. Understanding the underlying mechanisms of ageing is an important area of research, as it could lead to the development of interventions and treatments to improve health and extend lifespan

Among many theories of ageing a total number of three broad domains are accepted. Those are Biological Theories of Ageing, Social Theories of Ageing and Psychological Theories of Ageing. This study is very much relevant with Activity Theory, Some Biological Theories, and Socio-Cultural engagement theory.

Discussion on Active Ageing:

Numerous elements influence the aging process. On the one hand, there are biological preconditions that contribute to good health over the course of a person's life and consequently in old age. On the other hand, significant elements that affect health and well-being include socioeconomic conditions and way of life.

The idea of active aging makes an effort to integrate aging policies from many political spheres, including employment, social inclusion, and health. The creation of flexible retirement plans, the creation of a work environment that is specific to the needs of all generations, ongoing education

and training, the promotion of positive stereotypes of older workers, and anti-discrimination laws can all help to support active labor market participation. When older people discover mechanisms for volunteering, such as in intergenerational settings, they can integrate more successfully into society. The components can be broadly categorized as Labour market participation, Work-life balance throughout the life course, Flexible careers through education and training, Adapting working environments to the needs of all generations and Images of older employees and anti-discrimination policies.

Participation, health, and security are the three pillars on which the idea of active aging is built. This model includes six categories of determinants, each of which has a number of components:
(1) Health and social services (promoting health and preventing disease; health services; continuous care; mental health care);
(2) Behavioral (smoking, physical activity, food consumption, oral health, alcohol use, and medication);
(3) Personal (biology, genetics, and psychological factors);
(4) Physical Environment (friendly environment, safety houses, falls, lack of pollution);
(5) Social (social support, violence and abuse, education); and
(6) Economic (wage, social security, work),

Active aging and quality of life are connected concepts. Researchers have found that there are five dimensions of quality of life feelings, perceived autonomy, perceived safety, bodily functions, and psychological/social functions—are individual subjective assessments (Holtkamp, Kerkstra, Ribbe, Campen, &Ooms, 2000). Health-related quality of life (HRQOL) and Good quality of life (GQOL) are two categories of quality of life.
This implies that the following five dimensions are biological functions, social functions, role functions, psychological health, and general health. These are now considered to be significant components of life that are influenced by health in terms of how satisfied an individual is with them (Sousa, 1999). The WHOQOL-100 is one of them and is designed to assess lifestyles by emphasizing total quality of life rather than only the effects of diseases or the loss of functions (The WHOQOL Group, 1994, 1998; The WHOQOL-Taiwan Group, 2000).

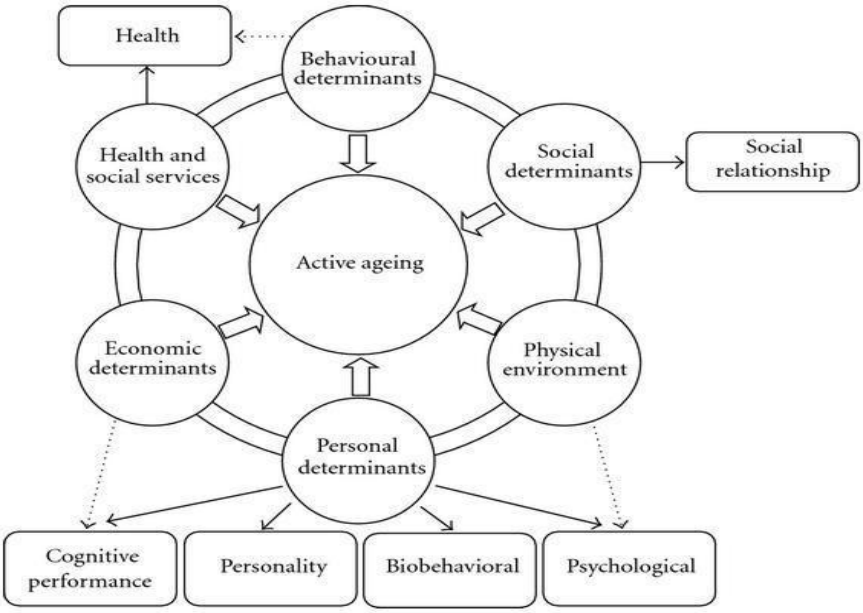
The economic, behavioral, personal, social, health and social services, and physical environment are the six main factors of active aging identified by the WHO policy framework.

WHO Model on Active Ageing and other contemporary Model

The World Health Organization (WHO) has created a policy framework to promote healthy and active ageing. This framework aims to reduce disabilities, chronic diseases, and premature mortality. It also intends to minimize risk factors linked to non-communicable diseases and functional decline associated with ageing, while increasing factors that promote good health. The WHO advocates for policies and strategies that offer a continuum of care for those with chronic illness or disabilities. It also provides training and education to formal and informal caregivers, ensures ageing individuals are safe and treated with dignity, and empowers them to maintain their participation in economic development, formal and informal sectors, and their communities and families.

Figure-2: Framework of WHO model of Active ageing

The World Health Organization (WHO) has proposed a six-factor model that prioritizes the health, participation, and security of older individuals. This model has gained acceptance from researchers worldwide for promoting well-being and greater societal participation, thereby fostering policies and planning that lead to significant social and economic benefits.



The World Health Organization (WHO) has a policy framework that prioritizes the health, participation, and security of older individuals. This model has been accepted by researchers worldwide as it promotes well-being and greater societal participation, leading to significant social and economic benefits. The six-factor model includes economic determinants, physical environment, health and social services relevance, personal needs, resources, and outcomes. Subjective and objective health and functionality constitute the main component of active ageing, followed by the psychological component, including positive or pathological characteristics of individuals. Income and education levels contribute to cognitive performance and are closely associated with active ageing.

In a recent study by Stefan White and Mark Hammond (2018), a community-engaged urban design model is discussed, which focuses on intergenerational possibilities for social integration and engagement between older and younger people. Social inclusion is a major subject in the literature on intergenerational contact. The physical environment and its benefits for elderly people and other age groups are also being changed to promote active ageing.

Research has demonstrated how crucial social connections are to the health of people of all ages. According to a study by Ng, Nyunt, Chiam, and Kua (2011) of senior Singaporeans, religious beliefs may influence the usage of mental health services and health attitudes. Elderly people who identified as religious had greater rates of mental health issues than those who did not, but they also reported receiving medical attention less frequently.

Apart from the World Health Organization's (WHO) model of active aging, there are several contemporary models that have been developed to promote and support active aging. Some of these models include:

Rowe and Kahn's Successful Aging model: This model emphasizes the importance of three components for successful aging - avoiding disease and disability, maintaining high cognitive and physical function, and engaging in active social and productive activities.

The Active Aging Framework by the United Nations: This framework emphasizes the importance of enabling and empowering older adults to participate in society in all aspects of life, including social, economic, cultural, and political spheres.

The Continuum of Care model: This model promotes active aging through a comprehensive approach to care that includes preventive measures, early detection and treatment of health problems, rehabilitation, and long-term care.

The Socio-Ecological model: This model emphasizes the importance of social and environmental factors in promoting active aging, including supportive social networks, access to healthcare and community services, and age-friendly built environments.

The Life Course Model: This model emphasizes the importance of taking a lifespan approach to active aging, recognizing the impact of early life experiences, and emphasizing the need for continued engagement and participation in later life.

Each of these models offers a unique perspective on active aging and provides valuable insights into the strategies and interventions that can support older adults in maintaining health, independence, and quality of life.

Numerous studies have been conducted on active aging in different countries. Six-factor model of WHO reveals the major contributions of the active ageing constructs and goes beyond the successful ageing model that establishes a strict by considering that different profiles of old people in different contexts may be classified as active with areas in debt being compensated by more advantaged ones. The World Health Organization's (WHO) model of active aging is a comprehensive and widely recognized model that can be a useful framework for research on aging. The cause of recognition might be it provides a holistic perspective which is evidence-based.

Conceptual and Theoretical framework

The conceptual and theoretical framework of active aging is a multidimensional approach that considers physical, social, and mental health aspects of aging, as well as the environmental and contextual factors that impact aging outcomes. Some of the key concepts and theories that underpin the framework of active aging include:

Life Course Perspective: The life course perspective recognizes that the experience of aging is shaped by early life experiences, as well as social and environmental factors throughout the lifespan. This perspective emphasizes the importance of taking a comprehensive approach to

understanding the aging process, including the impact of early life experiences, and promoting health and well-being across the lifespan.

Socio-Ecological Model: The socio-ecological model emphasizes the importance of social and environmental factors in promoting active aging. This model recognizes that individual health outcomes are influenced by social and environmental factors at multiple levels, including the individual, community, and society.

Rowe and Kahn's Successful Aging Model: The successful aging model developed by Rowe and Kahn emphasizes the importance of avoiding disease and disability, maintaining high cognitive and physical function, and engaging in active social and productive activities for successful aging.

Self-Efficacy Theory: Self-efficacy theory emphasizes the importance of an individual's belief in their ability to perform a specific behavior or task. This theory suggests that individuals who have a strong sense of self-efficacy are more likely to engage in behaviors that promote active aging.

Active Aging Policy Framework: The active aging policy framework developed by the World Health Organization (WHO) recognizes the importance of enabling and empowering older adults to participate in society in all aspects of life, including social, economic, cultural, and political spheres.

Overall, the conceptual and theoretical framework of active aging is a multidimensional approach that considers the impact of social, environmental, and contextual factors on aging outcomes. It emphasizes the importance of promoting health and well-being across the lifespan and enabling and empowering older adults to participate in society in meaningful ways. Here is the conceptual framework of the Active Ageing. where factors are determinants will be shown in figure-

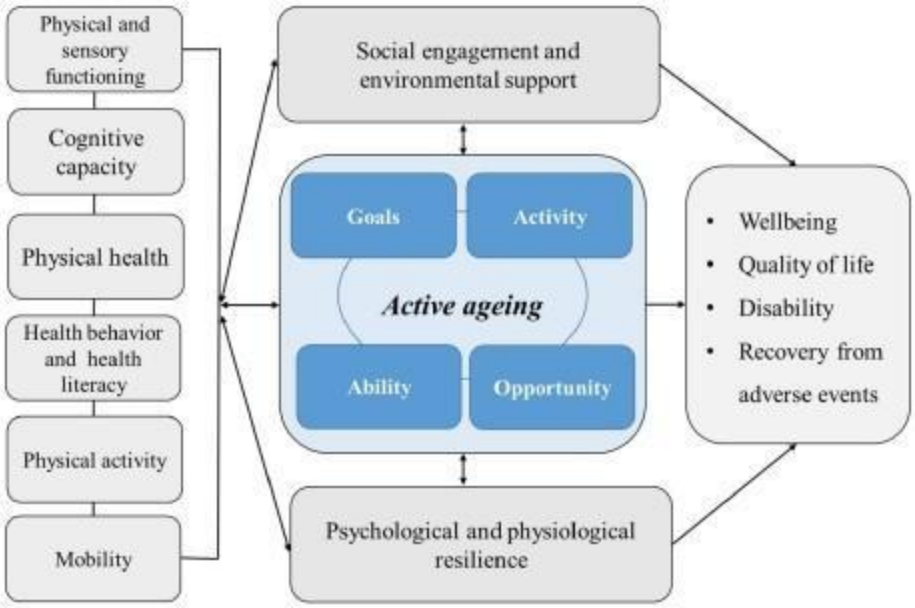


Figure-3 Conceptual and Theoretical framework

Six-factor model proposed by WHO following the focusing basically the health, participation and security of older persons. Many researchers across the globe have accepted the model for the wellbeing and more article participation in the society fostering the policy and planning for greater social and economic benefit.

Source: WHO 2001, Active Ageing a Policy Framework

Fig. 2: Determinants of ageing.

Figure-4: Six-factor model of Acitve Ageing proposed by WHO

The empirically achieved model of Paul C. et al. (2012)

The number of factors to consider when modeling active ageing in Bangladesh may depend on various factors such as the research objective, available data, and the scope of the study. However, based on the WHO Model on Active Ageing, which is a comprehensive framework for modelling active ageing, multiple dimensions of ageing were considered, including physical health, mental health, social relationships, economic status, environmental factors, and personal factors, religious factors etc. Therefore, it may be beneficial to consider all six dimensions when modeling active ageing giving an addition of religious factors in Bangladesh. Most of the Bangladeshi older persons inclined to religious activities at their retired or later life. It acts as a connection for them to the society. Religious activities requires regular physical movement as well as mental exercise and satisfaction of the population of this region. However, the specific factors to consider may vary depending on the research context and the specific population being studied.

From Active ageing to the Decade of Healthy Ageing

The paradigm shift from Active Ageing to the Decade of Healthy Ageing signifies a holistic approach in addressing the challenges of an aging population (WHO 2022). While the World Health Organization (WHO) initially highlighted Active Ageing as a means of optimizing opportunities for health, participation, and security in later life, the concept has since evolved into the Decade of Healthy Ageing, embracing a broader scope that encompasses not only physical well-being but also mental health, social inclusion, and overall quality of life. This transformation recognizes that older individuals' health and well-being are influenced by countless interrelated factors. Despite this evolution, the significance of Active Ageing endures, as it remains integral to the larger framework. The emphasis on continued engagement, social participation, and autonomy among older individuals remains central to the pursuit of healthy and fulfilling aging. This transition underscores the enduring importance of Active Ageing principles within the comprehensive vision of the Decade of Healthy Ageing (WHO, 2022; Beard et al., 2016).

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Chapter 4
Factors and Determinants of Active Ageing

Introduction:

The Active Ageing Framework proposes that there are various determinants that impact active ageing, which differ among individuals, families, and nations. The WHO model of active ageing includes six determinants, each with multiple subfactors. However, it is still unclear whether the determinants proposed by the framework apply to developing countries like Bangladesh. In this chapter, the researcher will discuss the determinants of the WHO model of active ageing, focusing on their applicability in Bangladesh and the need for further research to clarify the role of each determinant and its interactions in the active ageing process.

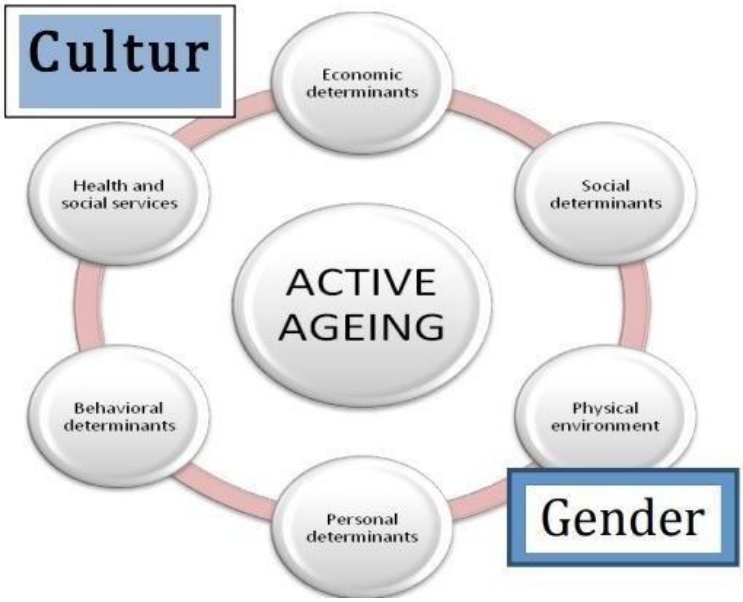

Figure 5.Original WHO Active Ageing Framework.

Determinants of Active Ageing:

The World Health Organization's (WHO) model of active ageing identifies six determinants that contribute to a person's ability to age actively. These determinants are:

1. Health: Good physical and mental health are essential for active ageing. Chronic health conditions, disabilities, and cognitive decline can limit an individual's ability to participate in social, economic, and cultural activities.

2. Participation: Participation in social, economic, and cultural activities is an important determinant of active ageing. It provides opportunities for older adults to maintain social connections, contribute to their communities, and continue learning.
3. Security: Financial security, as well as protection from physical and emotional harm, are essential for active ageing. Poverty, social isolation, and abuse can negatively impact an individual's well-being and limit their ability to participate in activities.
4. Learning: Lifelong learning is an important determinant of active ageing. It helps older adults to maintain cognitive function and adapt to changes in life circumstances. Access to educational opportunities, as well as opportunities for skill-building and personal development, are important for promoting active ageing.
5. Personal fulfillment: Having a sense of purpose and meaning in life is essential for active ageing. This can be achieved through activities that provide a sense of accomplishment, such as volunteering, hobbies, or creative pursuits.
6. Intergenerational solidarity: Building positive relationships between generations is an important determinant of active ageing. It promotes social cohesion and helps to reduce ageism and negative stereotypes.

Subfactors of the Determinants:

This model has considered six determinants including many subfactors. Every subcategory will be designed with different variables. Behavioral Determinants includes, smoking, alcohol, exercise, diet, and drugs. The Environmental determinants includes pollution, home safety, rural/urban etc. The socioeconomic determinants includes family, community, income, literacy etc. The Personal determinants has biology, genetics, coping mechanisms etc.

It is important to note that although the WHO model has been adapted to suit the context of Bangladesh, there may still be limitations to its application. One potential limitation is the lack of inclusivity of all religions and cultural context in the study, which could impact the generalizability of the findings. Additionally, the sample size and data collection methods used in the study may not fully capture the diverse experiences and perceptions of older adults in Bangladesh. However, despite these potential limitations, the study aims to provide valuable insights into the perceptions and experiences of active ageing in Bangladesh and contribute to the

ongoing discourse on promoting healthy ageing in developing countries. Following is the determinants, contents and subcategories of influential determinants for Bangladesh:

Table: 4.1 Contents and determinants of Active Ageing with subcategories

Sl No	Determinants	Contents	Subcategories
1	Personal Determinants	Physical/ Biological Factor	General Health -**GHQ**)
		Psychological Factor	**Life Orientation** (Optimism)
			Loneliness
			Happiness
2	Behavioral Determinants	Strength	
		Physical activity	Health and Lifestyle (Social Relation- well being)
		Medication	
		ADL and IADL	
3	Determinants of Social Environment	Social Support Education socio-demographic Socio-Economic)	Social network (Friends and Family) Education Lubben scale
4	Determinants of Health and Social Services	Health and disease, continuous care, mental health care	Life satisfaction
5	Determinants of Physical Environment Domain-1 Domin-2 Domain-3 Domain-4	Friendly Environment, safety houses, falls, absence of pollutions	Environment domain of quality of life (Domain1-4) Satisfaction about various aspects of life 38-40)
6	Determinants of Religious /spiritual Activities	Physical aspect	Health and activity
		Psycho-social	Psychological impact
			Social attachment
		Priority-Perception	Priority activity
			Importance/priority
			Perception on relationship
7	Determinants of Social Contribution	Own satisfaction	
		Willingness of contribution	
8	Economic Determinants	Wage	
		Social Security	Income (socio-economic Status)
		Work	

Physical Environment Determinants domain:

Domain-1: Physical Health Activities of Daily Living

Domain-2: Psychological and Bodily image and appearance

Domain-3: social Relationship, Personal Relationships

Domain-4: Environment Financial Resources

The questionnaire for this study is designed by following the main concept of the above determinants and variables.

Note: Social Contribution (own satisfaction and willingness of contribution) is interlinked with Life Satisfaction (determinate 4), Social Relation-Well being (Determinant 2), Life orientation-happiness (Determinant 1) Social network (Determinant 3). So it was considered and tested as a different determinants. Also as it was observed that Spiritual/Religious factors plays an important role in determining active ageing in Bangladesh, as a cultural adaption it was considered as a different determinants.

Discussion on each Determinants:

Determinant 1: Personal Determinant

Personal determinants play an important role in promoting active and healthy ageing. Personal determinants refer to individual factors such as lifestyle choices, health behaviors, and attitudes that can influence an older person's health and well-being. Some potential personal determinants related to active ageing in the WHO model may include:

Health behaviors: Behaviors such as physical activity, healthy eating, and avoiding smoking and excessive alcohol consumption can promote good health and prevent chronic disease.

Mental health: Maintaining good mental health and resilience can promote overall well-being and help older adults to cope with the challenges of ageing.

Positive attitudes: Adopting a positive attitude towards ageing and a sense of self-efficacy can promote engagement in meaningful activities and promote well-being.

Lifelong learning: Engaging in learning and new experiences can promote cognitive health and well-being.

Determinant 2: Behavioral Determinant

It refer to individual behaviors and habits that can influence an older person's health and well-being. Some potential behavioral determinants related to active ageing in the WHO model may include:

Physical activity: Regular physical activity can promote physical health, reduce the risk of chronic disease, and improve cognitive function.

Healthy eating: A healthy diet that includes a variety of nutritious foods can promote good health and reduce the risk of chronic disease.

Avoiding harmful behaviors: Avoiding behaviors such as smoking and excessive alcohol consumption can promote good health and reduce the risk of chronic disease.

Sleep habits: Adequate sleep and good sleep habits can promote good health and well-being.

Determinant 3: Social Environment Determinant

Some potential social environment determinants related to active ageing in the WHO model may include:

Social support: Access to social support from family, friends, and community networks can promote well-being and protect against social isolation.

Social inclusion: Opportunities for social participation and engagement in meaningful activities can promote a sense of purpose and well-being.

Age-friendly environments: Access to age-friendly environments that are inclusive, accessible, and supportive can promote independence and quality of life in older age.

Intergenerational interactions: Positive interactions and relationships with younger generations can promote social connectedness and intergenerational solidarity

Determinant 4: Health and Social Service Determinant

Access to health services: Older adults need access to affordable and high-quality health services to maintain their physical and mental health. This includes preventive services, such as immunizations and screenings, as well as treatments for acute and chronic conditions.

Availability of social services: Access to social services, such as transportation, housing, and caregiving support, can help older adults to maintain their independence and quality of life.

Social networks and support: Social connections and support from family, friends, and community organizations can help older adults to maintain their mental and emotional health.
Age-friendly environments: Environments that are designed to meet the needs of older adults, such as accessible housing and transportation, can help to promote physical and social activity and prevent isolation.
Health literacy: Older adults need access to accurate and understandable health information in order to make informed decisions about their health

Determinant 5: Physical Environment Determinant

Accessibility: The physical environment should be accessible to all, including older adults with mobility or sensory impairments. This includes accessible transportation, buildings, and public spaces.
Safety: The physical environment should be safe and free from hazards, such as uneven surfaces, poorly lit areas, or crime.
Comfort: The physical environment should be comfortable and conducive to physical activity and social interaction. This includes features such as seating, lighting, and public amenities.
Aesthetics: The physical environment should be visually appealing and promote a sense of well-being and enjoyment. This includes the design of buildings, public spaces, and natural areas.
Functionality: The physical environment should be designed to meet the needs of older adults, including access to amenities such as health services, social activities, and public transportation.

Determinant 6: Religious/Spiritual Determinant

Religious activities are one potential determinant of active and healthy ageing. While the model does not specifically mention religion as a determinant, it does acknowledge the importance of participation in cultural activities, which may include religious practices for some individuals. Participation in religious activities may contribute to active ageing by providing opportunities for social interaction, spiritual fulfillment, and a sense of purpose and meaning. Some potential determinants related to religious activities in the WHO model of active ageing may include:
Cultural participation: This determinant includes engagement with the arts, cultural events, and traditions, which may include religious practices.

Social participation: Religious activities often provide opportunities for social interaction and community involvement, which can promote social connectedness and support.

Personal fulfillment: Participation in religious activities may contribute to a sense of purpose and meaning, which can promote well-being and life satisfaction.

Mental health: For some individuals, religious practices may provide a source of emotional and spiritual support, which can help to promote mental health and resilience.

While the role of religious activities in active ageing may vary depending on individual beliefs and practices, they can be an important determinant of overall health and well-being for some older adults.

Determinant 7: Social Contribution Determinant

Social contribution refers to the ways in which older adults can contribute to their communities and society as a whole, through volunteering, civic engagement, and other forms of participation. Some potential determinants related to social contribution in the WHO model of active ageing may include:

Social participation: Active engagement in social activities, such as volunteering or participating in community groups, can promote social connectedness and support.

Personal fulfillment: Contributing to society through social activities can provide a sense of purpose and meaning, which can promote well-being and life satisfaction.

Cognitive health: Social contribution may help to maintain cognitive function and prevent age-related decline.

Physical health: Social contribution can also promote physical activity and overall health, by encouraging older adults to remain active and engaged in their communities

Determinant 8: Economic Determinants

Economic determinants are an important factor in promoting active and healthy ageing. Economic determinants refer to the factors that influence an older person's economic security and well-being. Some potential determinants related to economic security and active ageing in the WHO model may include:

Employment: Opportunities for work and employment can contribute to an older adult's sense of purpose and financial security.

Income: Sufficient income and access to financial resources can promote economic security and provide access to resources needed for health and well-being.

Social protection: Access to social protection systems, such as social security, pensions, and health insurance, can promote financial security and protect against poverty.

Access to services: Access to services such as health care, transportation, and housing can promote independence and quality of life in older age.

By addressing these economic determinants, communities can create supportive environments that promote economic security and well-being for older adults, and enable them to participate actively in society. This can include policies and programs that promote access to employment opportunities, income support, social protection systems, and services that meet the needs of older adults.

Cross-Cutting Determinants: Culture and Gender

Culture: Cultural factors can influence an older person's experiences of ageing and the social norms and values that shape their lives. Culture can also affect older people's access to health care, social services, and community resources. For example, some cultures may value intergenerational living and caregiving, while others may prioritize independence and autonomy. Bangladesh has a rich cultural heritage that includes strong family ties and intergenerational living arrangements, which can promote social support and wellbeing in older age.

However, there are also cultural factors that can present barriers to active ageing. For example, cultural norms around gender roles may limit opportunities for women to engage in meaningful activities and participate in decision-making. Additionally, cultural stigma around ageing and disability may lead to social isolation and exclusion.

To promote active ageing in Bangladesh, it is important to address both the cultural strengths and challenges facing older adults. This may include promoting intergenerational living arrangements and social support networks, while also working to promote gender equality and reduce stigma and discrimination around ageing and disability. Additionally, it may involve supporting cultural activities and traditions that promote wellbeing and social inclusion for older adults.

Gender: Gender is also an important determinant of active ageing. Women may experience different health outcomes and face unique challenges in older age, including gender-based

discrimination and inequalities in access to resources and services. Gender can also affect older adults' experiences of caregiving and intergenerational relationships.

For example, women may have less access to education, health care, and economic opportunities, which can limit their ability to engage in meaningful activities and maintain their independence. Additionally, cultural norms around gender roles may limit women's participation in decision-making and social activities.

To promote active ageing in Bangladesh, it is important to address these gender-based challenges and promote gender equality. This may include promoting women's access to education, health care, and economic opportunities, as well as empowering women to participate in decision-making and social activities. Additionally, it may involve raising awareness about the importance of gender equality and addressing cultural norms and attitudes that perpetuate gender-based discrimination and inequality. By addressing these issues, communities and health systems can promote inclusive and equitable opportunities for active ageing in Bangladesh.

Men often pass away earlier than women, although elderly women tend to have more chronic illnesses and disabilities. The psychological facets of later life, which may affect how well people age as a result of their experiences in earlier stages of life, are still little understood.

The social structure of older age groups is dominated by older women, the majority of whom are widowed or divorced and live alone, which may raise the possibility of a lower quality of life. The interest in the aging process for both men and women has also significantly increased over the past few decades.

Psychological Aspects for active ageing

Most research on active ageing emphasizes the significance of mental and cognitive determinants. Psychological factors play a critical role in determining healthy ageing. Among these factors, self-awareness, outlook/attitude, lifelong learning, and faith are considered crucial for mental/cognitive well-being. Self-esteem, self-achievement, resiliency, body awareness, and feeling of purpose are key determinants of self-awareness. Resilience, which focuses on one's lifestyle decisions, is similar to the definition of body awareness. Having a hopeful outlook on the future, rather than "waiting for death," was found to have a positive impact on ageing.

Lifelong learning activities such as reading, picking up a new activity, or learning a new language have been found to have a strong relationship with viewpoint and attitude. According to Thanakwang et al (2014)., continuous learning has a positive influence on active ageing.

End note:

By addressing these factors or determinants, individuals and communities can work towards promoting active and healthy ageing for all. The determinants of active ageing identified by the WHO model are interconnected and mutually reinforcing. Addressing these determinants requires a comprehensive and coordinated approach that involves individuals, communities, and policymakers. It is further complicated in a country like Bangladesh. By promoting healthy aging and addressing the determinants of active ageing, individuals and communities can work towards a more inclusive and equitable society for all ages.

Moreover, it should be remembered that Active Aging is a complicated notion that cannot be measured with a single variable. According to the concept's own definition, active aging should encompass the following characteristics: independence, participation, self-fulfillment, dignity, and care. Four of these—independence, involvement, self-fulfillment, and dignity—were recorded during the data gathering procedure. For instance, the degree of independence was determined by asking respondents if they were allowed to make their own decisions without interference or coercion. The degree of participation was determined by asking respondents if they were free to take part in social events like marriage ceremony gatherings and community meetings. Any "Yes" response indicate partially satisfying the active ageing process requirements.

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Chapter 5

Research Design and Methodology

Problem Statement

The number of older adults in Bangladesh is growing at an alarming rate, posing significant challenges for policymakers and healthcare service providers (Islam 2021). In an effort to promote healthy ageing and independence, the World Health Organization (WHO) has developed a model of Active Ageing. However, the implementation of this model in Bangladesh has been insufficient, despite its potential benefits. Thus, there is a need to investigate the implementation and effectiveness of the WHO model of Active Ageing in Bangladesh. If the elder population remain active, the economic implication in the country will be positive in terms of healthcare cost, income generation and may other factors This study aims to address this gap in knowledge by examining the effectiveness of the WHO model in promoting active ageing in the context of Bangladesh.

Research Design

Variable purification and questionnaire design.

A cross-sectional survey design was used to collect primary data to investigate the active ageing scenario as well as the applicability of the WHO model in Bangladesh. Both quantitative and qualitative data were collected on the factors relevant to active and healthy ageing. The data were collected from the older population (60 years or above, United Nations, 2012) of both urban and rural areas of Bangladesh so that the disparity in the ageing scenario with respect to geographic location of the respondents can be captured. Both primary and secondary data were used for this study. Primary data was collected through a structured questionnaire administrated through a one-shot interview. The questionnaire was designed following the extensive assessment protocol to measure WHO‘s determinants (personal determinants/factors, behavior determinants, social determinants, health and social service determinants, determinants of physical environment, economic determinants of active ageing (www.projectodia.com).Under different determinants both subjective objective variables related to research objectives were

incorporated in the questionnaire. The questionnaire was purified considering the Bangladeshi context as there are variables which are applicable for developed nations and not for a developing country like BD. In addition, a few open-ended questions were asked to get insight about those issues which can‘t be expressed in a quantitative manner.

The questionnaire was designed with a focus to the extensive assessment protocol to measure WHO‘s determinants (Behavioral Determinants, Determinants of Social Environment, Determinants of Health and Social Services, Determinants of Physical Environment (Domain-1, Domin-2, Domain-3, Domain-4), Determinants of Religious/spiritual Activities, Determinants of Social Contribution, Economic Determinants) of active ageing. Following WHO Standardize Questionnaire, it has Two Sections. The first part is labeled as Socio Demographic part where the demographic, Economic, health and Activity status are collected. This section has 29 variables. The Section-B are all statements in a scale of 5 to 1 where 5-Strongly agree, 4- Agree, 3-Neutral, 2- Disagree and 1- Strongly disagree. Those statements are categorized accordingly to General Health Questions (GHQ), Life Orientation (It again includes two part- Health and LifeStyle-Social Relations and Health and LifeStyle-Well Being), Social Environment (Social support), Determinants of Health and Social service-Satisfaction with life scale, Determinants of Physical Environment -WHOQOL-BREF Domains, and Spiritual Determinants (Spirituality / Religion / Personal beliefs. A total number of 89 items were taken in consideration while designing the questionnaire. Section-A has 29 variables that has 5 multiple choice questions and Section-B (Statements in Likert's scale) has 48 variables. The survey collected the Demographic information (age, sex, marital status, education level, income, etc., active ageing indicators (e.g., physical activity, social participation, etc.), WHO model of Active Ageing indicators (e.g., age-friendly environment, health services, etc.), and Perceived health and well-being of the participants. Although Mixed methods was followed, the study was mostly quantitative in nature. A detail discussion of the factors and determinants of the questionnaire are presented in Chanper-4.

Section B of the questionnaire aims to assess the various determinants that contribute to active ageing, as described by the WHO model. These determinants are further divided into subfactors to capture a comprehensive understanding of the ageing experience in Bangladesh.

In the General Health Questions section, participants are asked about their physical and

psychological well-being, including factors such as concentration. This section provides insights into the overall health status of older adults and sheds light on potential challenges they may face in maintaining optimal health.

The Life Orientation Test explores participants' feelings of optimism, happiness, companionship, and isolation. It delves into the emotional well-being of older adults and their outlook on life, providing valuable insights into their overall quality of life.

The Social Isolation section focuses on the relationships and care received from family members and relatives. It examines the level of social support available to older adults in their immediate social network and explores the extent of their social connections. This section helps to uncover the impact of social interactions on active ageing.

The Health and Lifestyle section delves into the overall well-being of older adults, including their sense of well-being, freedom of opinion, and personal control. It examines how older adults perceive their own health and lifestyle choices, providing insights into their autonomy and decision-making abilities.

The Social Environment section investigates the social support provided by family and friends, as well as the frequency of interactions with them. It explores the role of social networks in promoting active ageing and assesses the extent of social engagement among older adults.

The Life Satisfaction part measures the level of satisfaction with one's life during old age. It provides an understanding of how older adults perceive their own life satisfaction and evaluates their overall contentment with the ageing process.

The Physical Environment section comprises four domains that capture different aspects of the physical environment. The first domain focuses on physical health and activities of daily living, providing insights into the functional abilities of older adults. The second domain examines psychological well-being and bodily image, encompassing feelings of safety, enjoyment, and overall health perceptions. The third domain explores energy levels, bodily appearance, financial security, access to information, and engagement in leisure activities. The fourth domain assesses factors such as work capacity, sexual life, and access to healthcare services, shedding light on the availability and adequacy of resources and services for older adults.

The Religious or Spiritual Determinants section investigates the role of religious activities in active ageing. It explores the impact of religious beliefs and practices on older adults' peace of

mind, social connections, and sense of satisfaction. This section recognizes the significance of spirituality in the ageing experience.

At last, the Social Contribution section examines the capacity of older adults to serve and contribute to society. It assesses their sense of purpose and fulfillment derived from their social contributions, highlighting their continued relevance and value within the community.

By covering these comprehensive areas, the questionnaire aims to capture the multidimensional nature of active ageing, as outlined by the WHO model. It provides valuable insights into the determinants that influence the ageing experience in Bangladesh, enabling policymakers and researchers to develop targeted interventions and policies to promote active and healthy ageing among older adults.

The survey was conducted by trained interviewers who also collected qualitative opinion of the respondents through observation techniques. There were two versions of survey questionnaire. The main questionnaire was developed in English. Later it was translated in Bengali language for better understanding of the survey participants. Specially many participates were from rural areas with no or very little education. Therefore, questionnaire with Bengali language help better understand and respond to the data collectors. In order to ensure the quality of data collection, a pilot study was conducted prior to the main data collection. The pilot study involved interviewing 20 households in a different area Kasiani, Gopalgonj) of Bangladesh to test the questionnaire and identify any issues or problems with the data collection process. Based on the results of the pilot study, minor modifications were made to the questionnaire and data collection process.

Sources of data:

Primary data was collected from older adults in Bangladesh. Secondary data were collected from various sources, such as reports, books, and newspapers, from various organizations including the Ministry of Planning, Ministry of Social Welfare, WHO websites and office in Bangladesh, HelpAge International, and ISWR, University of Dhaka. Tertiary sources of data were also used, including archived materials from the GGW course program University of Dhaka. The final report presents a description of the total scenario, including the socio-demographic

characteristics of active and healthy ageing, based on a slightly modified model.

Sample collection area and the personnel

For this study, a list of all the districts in Bangladesh was obtained from the publication of Bangladesh Bureau of Statistics. The City Corporation and District Paurashava area were considered as urban and rest of the area was considered as rural part. It was decided to collect primary data from those districts, sub-urban and rural areas where a good number of total populations falls under our proposed sample selection criterion (60+ years). Also, it was decided to collect data from those districts which are more distant from the capital city of Bangladesh. Considering the stated criteria, primary quantitative data were collected from 55 districts[1] of Bangladesh such that all seven divisions could be covered.

Primary data were collected following Random Sampling Procedure by using a pool of trained young personnel. These data collectors are well versed with Research Methodology. They were familiar with the data collection procedure and field survey techniques. Data collectors were from both urban and rural area of different districts. A training session was organized for the selected data collectors where objective and techniques of the study were elaborately described. Then they were given a structured questionnaire to collect data from their local area.

Qualitative data were collected through Focus Group Study (FGD) with the assistance of two groups - the Social worker group and the data collector group - who have expertise in qualitative data collection. A total number of five FGDs were conducted for the study by two groups. The social worker group includes experts and social workers of Ageing sector of Bangladesh who have fairly sound knowledge about research as well as the socio-economic condition of Bangladesh. The data collectors were already trained about research methods and had prior experience of FGDs. The FGDs were conducted at Savar Hemayetpur Dhaka, Bajitpur Tangail, Kasiani Gopalgonj, Tongibari area Munshiganj and Kalma Bazar Baligaon Dhaka.

[1]B Baria, Bagerhat, Bogura, Barishal, Chandpur, Chapai Nawabganj, Chuadanga, Comilla, Cox's Bazar, Dhaka, Dinajpur, Faridpur, Feni, Fodirpur, Gazipur, Ghaibanda, Gopalgonj, Habiganj, Jalokhati, Jamalpur, Jaypurhat,Jessore, Khagracori, Khulna, Kishorgonj, Kurigram, Kustia, Lalmonirhat, Laxmipur, Madaripur, Manikgonj, Moulovibazar, Mymensing, Munshigonj, Narayanganj, Natore, Nawgaon, Nilphamari, Noakhali, Norshingdi, Pabna, Patuakhali, Ponchogar, Rajbari, Rajshahi, Rangamati, Rongpur, Satkhira, Shariatpur, Sherpur, Shirajganj, Shylet, Tangail and Vola.

Sample selection and data collection method

Following the power and sample size determination (Sulivan, L 2020 Boston University) the researcher used the following formula to determine the sample size:

$$N = \frac{z^2 pq}{d^2} = \ = \frac{(1.96)^2 \times 0.69 \times 0.31}{(0.05)^2} = 398.17 \cong 400$$

Where, **N =** Desired sample size

Z = Standard normal deviation usually set as 1.96 which corresponds to the 95% confidence interval

p= Proportion in the target population. Here, it is 0.69 (as per the earlier study)

Such that ;**p+q=1,**

d = Degree of error consideration is 5%

The Sample Size (Formula= design error 1.1)

[Since the individual respondents cannot be fraction, the total respondents is approximated to **400**]

Data were collected using face-to-face interviews. The interviews were conducted in the local language and lasted for approximately an hour.

Overall, the data collection process was designed to ensure a representative sample of the population of interest and to collect high-quality data using trained data collectors and a well-tested questionnaire.

The number of samples collected by each data collectors ranged from 1 to 20, resulting in a total of 415 samples. The researcher determined that 400 samples were required based on statistical calculations as mentioned above. Out of 415 samples, the researcher discarded 15 samples due to faulty/missing data. Therefore, the team was able to collect these 400 samples.. Following table explains the profile of the respondents of the study:

Table-5.1 Sample Profile Table

Gender	Num	Education	Num	Area	Num	Location (Division)	Num
Male	252	Illiterate	149	Urban	235	Dhaka	175
Female	148	up to class Eight	124	Rural	159	Chattagram	80
		SSC	45			Barishal	25
		HSC	37			Sylhet	20
		Graduate	28			Khulna	35
		Post-graduate	12			Rajshahi	35
						Rangpur	30
Total							400

Missing system: Eucation-5

Data Analysis Methods

Respondents were surveyed from diverse backgrounds, including varying levels of education, gender, and race, to investigate the activity level and socio-economic status of seniors in Bangladesh. Following the six factors of active ageing proposed by the WHO model, the study aimed to assess the applicability of the model to Bangladeshi society. Specifically, the study sought to determine whether the active ageing situation in Bangladesh can be characterized by these six factors, or whether modifications are necessary to tailor the model to the lifestyle of Bangladeshi seniors. As the primary focus of the study was to test the model and understand the active ageing situation in Bangladesh, author decided to apply structural equation modeling approach because of its strength in developing and testing multidimensional model. Also, SEM approach can test the convergent and discriminant validity of the model which are the additional benefit of the method. Moreover, reliability tested through different indictors of SEM is noteworthy.

After the data collection, data coding, entry, debugging and compiling was conducted into SPSS 21.0 frame and analysis. Later, it was converted to IBM@SPSS AMOS 23.0 to have the structural equation model. The analysis involved descriptive statistics such as mean, standard deviation, and inferential statistics such as correlation and chi-square. Descriptive statistical tools were used to see the proportion of the categories as well as the deviation among the variables. An

exploratory factor analysis followed by a confirmatory factor analysis was used to cross-check the WHO model. The data analysis software IBM@SPSS AMOS 23.0. was used for confirmatory factor analysis as well as Structural Equation Model. This process calculates the standardized estimates and determines their significance. Covariance and squared multiple correlation R2, as well as measures such as the Goodness of Fit index (GFI), Augmented Goodness of fit (AGFI), and Root Mean Square Error Approximation (RMSEA), were then used to assess the model's fit.

The qualitative analysis: FGD

Qualitative data were collected from both male and female participants through FGDs. The locations of the FGDs were chosen based on the accessibility of the participants, and the moderators and reporters were qualified and experienced in conducting qualitative research. Each FGD consisted of 8-10 participants and lasted approximately 60 minutes. The FGDs were conducted in the participants' preferred language, and an experienced facilitator guided the discussions using a semi-structured interview guide.

A total of 5 FGDs were performed from selected districts. The following basic areas of discussion were chosen for the Focus Group Discussion (FGD):

- Perceptions of active ageing and the WHO model
- Experiences with active ageing intervention
- Barriers and facilitators to active ageing
- Suggestions for improving active ageing interventions

Also, the following basic areas were discussed in the FGD sessions:

- The familial, health, and psycho-social condition of older person
- Present working condition/work status
- Way of managing self-active level
- Some general information regarding health issues
- The relationship status with friends and family
- The social relation (like family, relatives)
- About self-satisfaction, sufferings & sorrows, happiness health
- The economic condition of the older person
- Leisure or rests and entertainment of the respondent

- About conjugal life of the respondent
- Religious views: involvement in religious activities.

The FGDs were audio-recorded and transcribed verbatim. Thematic analysis was used to identify recurring themes and patterns in the data. The analysis was conducted manually, and codes and categories were generated based on the research questions and emergent themes.

To enhance the credibility and trustworthiness of the study, member checking was conducted to ensure that the interpretations of the data were accurate. Triangulation was also used to compare and contrast the findings from the FGDs with other sources of data, such as the survey data.

Qualitative data were analyzed following NVivo analytical tool. This data analysis has two parts. The first part focuses on the results of the Focus Group Discussions (FGDs), while the second part involves a thematic analysis aimed at gaining a better understanding of the relationship between the qualitative and quantitative findings. The results of this analysis highlight similarities and dissimilarities between the qualitative and quantitative research findings and are discussed in the following chapters.

Ethical Consideration:

The study raised several ethical considerations. Firstly, the privacy of the participants was maintained by ensuring that their personal information would be kept confidential (mentioned in the beginning of the questionnaire). Participants' consent was taken before including them in the study, and they were informed about the purpose and procedures of the research.

Secondly, the study ensured that participants were not harmed physically, psychologically, or emotionally. The data collected from the participants was kept secure and was only accessible to the research team. The researchers were trained to conduct the study ethically and with sensitivity. Lastly, the study also ensured that the results were presented accurately and transparently, and the research team acknowledged all sources of funding and support. As an Ethical consideration, very trustworthy social workers were involved in data collection process. Overall, the ethical considerations of the study were taken seriously to ensure that the participants were treated with respect, dignity, and fairness.

Limitations of the Study:

This study may have some limitations, such as the potential for response bias, selection bias, and budget constraints. Although the researcher intended to collect data equally from rural and urban areas, due to differences in the distribution of data collectors, 60% of the data came from urban areas and only 40% came from rural areas. Additionally, the COVID-19 pandemic started in the middle of the study, which had to be conducted twice, potentially affecting the results. Furthermore, the data collection process involved young personnel (mostly tertiary level students) and a few social workers due to budget constraints. And the main researcher was located abroad for a certain period of time, with limited access to local materials. But he could access the libraries and databases of Monash University Melbourne and The Monash Ageing Research Centre (MONARC), Cheltenham (Victoria), Australia.

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Chapter 6

Results, Discussion and Practical Implications

Introduction

The Results of the Study Chapter of this PhD thesis on "Active Ageing and WHO Model: The case of Bangladesh" presents the key findings obtained from a multistage sampling process that collected 400 samples responses from both urban and rural areas of Bangladesh. The study aimed to assess the active ageing situation in Bangladesh through the WHO model, considering a total of 88 variables under six factors. The analysis involved descriptive statistics such as mean, standard deviation, and inferential statistics such as correlation and chi-square. Furthermore, a structural equation model was fitted through AMOS using 27 items under six dimensions.

Results indicate that a new factor named "Spiritual Factor" is very significant and should be considered in a modified model for Bangladesh. The 25-item six-dimensional model provides valuable insights into the active ageing situation in Bangladesh, highlighting the importance of factors such as psychological, social, and environmental conditions, among others. These results have important implications for policymakers and practitioners who are working to promote active ageing and improve the quality of life of older adults in Bangladesh. Overall, the study provides a comprehensive understanding of the active ageing situation in Bangladesh and highlights the need for further research in this area.

The researcher surveyed respondents from diverse backgrounds, including varying levels of education, gender, and race, to investigate the activity level and socio-economic status of seniors in Bangladesh. Following the six factors of active ageing proposed by the WHO model, the study aimed to assess the applicability of the model to Bangladeshi society. Specifically, the study sought to determine whether the active ageing situation in Bangladesh can be characterized by these six factors, or whether modifications are necessary to tailor the model to the lifestyle of Bangladeshi seniors. The primary focus of the study was on testing the model and understanding the active ageing situation in Bangladesh. The results are presented below in three steps.

The results of the quantitative analysis are divided into two parts: descriptive statistical findings and inferential statistical findings. The descriptive statistics include measures such as mean, median, rates, ratios, percentages, and standard deviation. On the other hand, the inferential statistics include measures such as correlation, regression estimates, covariances, and chi-square tests

The last quantitative part involves fitting the model. This process calculates the standardized estimates and determines their significance. Covariance and squared multiple correlation R2, as well as measures such as the Goodness of Fit index (GFI), Augmented Goodness of fit (AGFI), and Root Mean Square Error Approximation (RMSEA), were then used to assess the model's fit.

The study also presents qualitative results, which are divided into two parts. The first part focuses on the results of the Focus Group Discussions (FGDs), while the second part involves a thematic analysis aimed at gaining a better understanding of the relationship between the qualitative and quantitative findings. The results of this analysis highlight similarities and dissimilarities between the qualitative and quantitative research findings and are discussed in the following chapters.

The core findings are discussed in Chapter 7 with valuable insights and possible recommendation.

Quantitative Analysis findings

This section presents the descriptive analysis of the data collected for the study "Active Ageing and WHO Model: The Case of Bangladesh." The data was collected using a structured questionnaire from 400 participants residing in both urban and rural areas of Bangladesh. The variables like gender, location, education, marital status, living arrangements, past and present occupations, and own source of work, housing, health status, activity level, how they remain active, family member's behaviour etc. were analyzed. The analysis provides insights into the socio-economic conditions of the elderly in Bangladesh, considering the poor safety net and social discrimination that they are vulnerable to.

Frequency Distribution:

Gender and location: The frequency distribution tables generated using SPSS 21.0 show that 63% of the respondents were male and 37% were female. Although female has more mortality worldwide, this proportion is fairly good representation in the social context of Bangladesh. In terms of location, 29.2% of the respondents were from Dhaka, 7% were from Comilla, and 6% were from Chadpur. The rest of the respondents were from other locations with less than 5% representation. A majority of the respondents (59.6%) were from urban areas, while the rest (40.4%) were from rural areas.

Education: In terms of education, 37.7% of the respondents were illiterate, while 31.4% had up to class eight education. Only 10% of the respondents had graduate or postgraduate degrees. Cumulatively, 89% of the respondents had education levels lower than HSC. This indicates a need for more education opportunities for the elderly in Bangladesh.

Marital Status and Living Arrangements: 70.4% of the respondents were married, while 15.5% were widowed. Only 3.5% were divorced, and 2.2% were unmarried. In terms of living arrangements, 60.6% of the respondents lived with their sons, while 8.8% lived with their daughters. 14.8% lived with their spouses, and the remaining 15.8% lived with other family members.

Past and Present Occupations: The analysis shows that the elderly in Bangladesh have diverse occupational backgrounds. 12.9% of the respondents were in government service, 6.3% were in non-governmental service, 24.4% were in business, and 18.3% were engaged in agricultural work. The remaining 38.1% of respondents had other occupations. In terms of present occupations, 33.4% were engaged in agricultural work, 18.8% had full-time jobs, and 18.3% had part-time jobs. 15.2% of the respondents were unable to work due to various reasons.

Source of Income: The analysis reveals that 59.2% of the respondents had their own source of income, while 40.8% did not. This highlights the need for more employment/work opportunities for the elderly in Bangladesh.

The sources of income for the elderly population are diverse, with the highest percentage (21.5%) coming from land, followed by business (18.2%), and pension (11.5%). However, 42.8% of the respondents reported that their income is not enough to cover their basic needs such as food and treatment. Furthermore, only 16.8% of the respondents receive any benefit or allowance, with the majority (82.5%) not receiving any assistance. The types of allowances received by the respondents include old age allowance, freedom fighter allowance, VGD, and other types.

Behavior of family members: The perception of family members' behavior towards the elderly population is generally positive, with 75% of the respondents reporting good or very good behavior. However, there are still some cases of unfair treatment towards the elderly population, as reported by 1.5% of the respondents.

Health Issues: Regarding health, 43.5% of the respondents reported the need for regular health check-ups. It is crucial to note that the elderly population in Bangladesh is vulnerable to poor safety net and social discrimination, which underscores the importance of regular health check-ups. As a considerable number of respondents (43.5%) reported needing regular health check-ups, highlighting the need for adequate healthcare facilities and services to support the elderly population. Additionally, only 16.8% of the respondents reported receiving any kind of benefit or allowance, while 5.8% received support from an NGO. This underscores the lack of social safety nets and support systems for the elderly in Bangladesh, making them more vulnerable to poverty and social discrimination.

The tables of these frequency distribution will be found in Appendix.

Based on the data presented, it can be seen that a significant portion of the elderly population in Bangladesh experience health problems. Among the health problems mentioned in the survey, the most common ones are constipation and diabetes, with 9.2% and 33.5% of the respondents reporting to have these conditions, respectively. This is followed by high blood pressure (33.0%) and pain (46.2%), while heart disease and peptic ulcer were reported by 19.5% and 4.0% of the respondents, respectively.

It is worth noting that a substantial proportion of the respondents reported having other health problems (34.8%), which were not specified in the survey. This suggests that there may be a

range of health issues that are affecting the elderly population in Bangladesh, which need to be further explored and addressed.

In terms of regular health check-up, it is found that a majority of the respondents reported not needing regular health check-up for all the health problems except rheumatic pain. Specifically, for diabetes, heart disease, high blood pressure, constipation, peptic ulcer, and other health problems, the proportions of respondents who reported not needing regular health check-up were 66.4%, 80.5%, 67%, 90%, 96%, and 71%, respectively.

The findings suggest that there is a need for health education and awareness programs targeting older persons in Bangladesh to emphasize the importance of regular health check-ups, particularly for those with rheumatic pain.

Family supports: In terms of family support, the majority of the respondents reported having good to very good relationships with their family members, with only 1.5% reporting unfair behavior. This suggests that family support can be an important factor in promoting active ageing and improving the quality of life for the elderly population in Bangladesh.

Here is a compiled table for the responses to the question "How do you remain active?" for older persons living in Bangladesh:

Activities	Frequency	Percent
Job	33	8.2
Business	314	78.5
Family works	179	44.8
Look after grandchildren	166	41.5
Prayer	260	65.0
Walk around and meet people	215	53.8
Look after land and assets	95	23.8
Doing nothing at all- not active	41	10.2

Table-6.1 Type of work older persons do to remain Active

Active Ageing: The data suggest that the majority of older persons in Bangladesh remain active through business activities (78.5%), followed by prayer (65.0%) and walking around and meeting people (53.8%). A smaller proportion reported remaining active through family works (44.8%) and looking after grandchildren (41.5%). Only a minority reported remaining active through job (8.2%) or doing nothing at all (10.2%).

It is important to note that the socio-economic and socio-demographic conditions of these older persons likely play a significant role in the activities they are able to engage in to remain active. For example, the high proportion of older persons engaging in business activities may be reflective of the limited opportunities for formal employment and the need for income generation in a country with a relatively high poverty rate. Additionally, the importance of religious practice and community engagement in Bangladeshi culture may contribute to the high proportion of older persons reporting prayer and socialization as means of remaining active. Further research may be needed to better understand the factors that influence the activity patterns of older persons in Bangladesh and their implications for health and well-being.

Table -6.2: Health Problems of Bangladeshi Older Persons.

Health Problem	Yes	No
Diabetes	134	266
Heart Disease	78	322
High Blood Pressure	134	266
Rheumatic Pain	185	215
Constipation	40	360
Peptic Ulcer	16	384
Others	116	284

The above table shows the proportion of Bangladeshi older persons who reported having various health problems and whether they need regular health check-up. Among the 400 respondents, 33.5% reported having diabetes, 19.5% reported having heart disease, 33% reported having high blood pressure, 46.2% reported having rheumatic pain, 10% reported having constipation, 4% reported having peptic ulcer, and 29% reported having other health problems.

Descriptive results:

Descriptive statistics provide information about the central tendency and variability of a dataset. Based on the given data, we can see that the sample size for each variable is different, ranging from 390 to 400. Following is the table presenting the mean and standard deviation of 400 respondents.

Table 6.3 Descriptive estimates of the statement scores

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Age of the respondent	400	32	100	67.04	8.143
Education of the respondent	395	1	6	2.26	1.389
Family member- total number including you	391	0	27	5.99	2.804
Monthly personal expenditure	392	0	40000	4992.86	5766.572
Monthly total family expenditure	393	0	100000	20344.81	14770.621
Monthly income range	391	1	7	3.32	1.992
I have been able to concentrate	400	1	5	3.53	1.167
I felt capable of making decisions	400	1	5	3.67	1.213
I have been able to enjoy normal activities	398	1	5	3.75	1.150
I have been feeling unhappy and depressed	400	1	5	2.87	1.136
I remain anxious and tensed	396	1	5	3.24	1.199
I feel my mind green and live	399	1	5	3.45	1.078
I can do my activities in an organized way	399	1	5	3.61	1.131
I am always optimistic about my future	398	1	5	3.08	1.206
I hardly ever expect things to go on my way.	399	1	5	3.30	1.078
I have been feeling reasonably happy	400	1	5	3.57	1.120
I lack companionship	400	1	5	2.80	1.270
I feel left out by the family and society	399	1	5	2.56	1.288

I feel isolation from others	399	1	5	2.73	1.285
People are around me but not with me	400	1	5	2.70	1.307
I am happy with the relationship I have with my family members and relatives	400	1	5	3.72	1.050
My near and dear ones are intimate and take proper care of mine	400	1	5	3.79	1.088
My present life gives me a sense of well being	399	1	5	3.77	1.094
I can speak openly; no one gives me barrier on my opinion	399	1	5	3.59	1.139
I have good personal control (internal and external control)	390	1	5	3.77	1.053
How many relatives do you see or hear from at least once a month?	400	0	5	2.72	1.364
How many relatives/friends come to see you from at least once a month?	400	0	5	2.72	1.409
How many friends/relatives you can talk about private matters?	400	0	5	2.37	1.322
How many relatives/friends you could call on them for help?	400	0	5	2.94	1.414
In most ways of my life is close to my ideal	399	1	5	3.34	1.149
I am satisfied with my life	397	1	5	3.49	1.149
I am satisfied with my health status	398	1	5	3.20	1.213
physical pain prevents me from doing what i need to do	397	1	5	3.17	1.210
I enjoy my life	398	1	5	3.30	1.119
feel my life to be meaningful	398	1	5	3.34	1.140
I feel safe in my daily life	399	1	5	3.52	1.053
I fell healthy inmyphysical environment	397	1	5	3.51	1.252
I have enough energy for everyday life	399	1	5	3.45	1.189
I am able to accept my bodily appearance	399	1	5	3.71	1.066

I have enough money to meet my needs	400	1	5	3.43	1.224
I get available information in day-to-day life	400	1	5	3.31	1.174
I have the opportunity for leisure activities	400	1	5	3.54	1.171
I am able to get around	398	1	5	3.60	1.237
I am satisfied with my capacity for work	400	1	5	3.55	1.149
I am satisfied with my sex life	393	1	5	3.96	.999
I am satisfied with my access to health service	395	1	5	3.71	1.130
The spiritual activities (Prayers, offerings etc.) is good for health, these indeed keeps an older person active.	396	1	5	4.39	.875
The spiritual activities (Prayers, offerings etc.) generates peace in mind.	395	1	5	4.36	.953
The spiritual activities (Prayers, offerings etc.) keeps me socially active and increases respect	396	1	5	4.35	.966
Spiritual activities is most important to me. I don‘t think other activities except payers offerings etc.	396	1	5	3.79	1.172
If spiritual activities were not obvious, I would have been comfortable to other actities	395	1	5	2.56	1.435
My active ageing and spiritual activities are related	394	1	5	4.13	.945
I feel I have given my best to the society	396	1	5	3.50	.987
I cant give the society to my capability	392	1	5	3.16	1.042

Age of the Respondents: The mean age of the respondents is 67.04 years, with a minimum of 32 years and a maximum of 100 years. The standard deviation of age is 8.143, indicating that the

ages of the respondents are fairly tightly distributed around the mean. It also shows that the respondents are mostly from the young-aged group.

Education of the Respondents: The education level of the respondents is measured on a scale from 1 to 6, with a mean of 2.26 and a standard deviation of 1.389. This suggests that the majority of the respondents have a low level of education. So less education of no education are a good amount of representation of this data.

Family size: The total number of family members, including the respondent, has a mean of 5.99 and a standard deviation of 2.804. The distribution appears to be positively skewed, with a maximum of 27. It indicates that Bangladeshi older persons are living in big families. It sometimes make their living harder in terms of resource distribution among the family members.

Income and expenditure: The monthly personal expenditure of the respondents has a mean of 4992.86 and a standard deviation of 5766.572. The distribution is also positively skewed, with a maximum expenditure of 40000. The monthly total family expenditure has a mean of 20344.81 and a standard deviation of 14770.621. The distribution is positively skewed, with a maximum expenditure of 100000. This indicates the very poor condition of older persons as 4992 taka per month income is not a good amount for living life. there might be some response bias here because Bangladeshi people have some tendency of hiding financial information. This is also applicable for total family income. Although Bangladesh claims to be lower middle income country, the rural part or the illiterate part looks are still in poor health and income.

The monthly income range is measured on a scale from 1 to 7, with a mean of 3.32 and a standard deviation of 1.992. This suggests that the majority of the respondents have a moderate income range.

Quality of life and Family care: The data were analyzed using a scale of 1 to 5, where 5 denotes "strongly agree" and 1 denotes "strongly disagree," to evaluate their attitudes towards different factors. The mean score and standard deviation (s.d.) were calculated for each factor. The analysis revealed that older persons in Bangladesh generally enjoy their normal daily

activities (mean=3.75), indicating a satisfactory quality of life despite socio-economic and family limitations. While they disagree with the statement that they have been left out by their family and friends (mean=2.56), a deviation of 1.288 suggests that many older persons do feel neglected. Similarly, the average score for family care (My near and dear ones are intimate and take proper care of mine) was 3.79, indicating that they agree that their family members take care of them. This may be due to the social and family structure in Bangladesh, where older persons have low expectations and a positive outlook towards living with their family, regardless of the level of care they receive. Moreover, older persons in Bangladesh are generally satisfied with their sex life (mean=3.96, s.d.=.999), indicating a high level of happiness in this aspect of their life.

Spiritual/Religious Activities and perception: After analysing the data from 388 respondents in Bangladesh (2 missing values) , it was found that the society places great importance on spiritual activities such as prayers and offerings. The "Spiritual Factor" was measured using a scale of 5 to 1, where 5 indicated strong agreement and 1 indicated strong disagreement. The respondents were asked to rate their level of agreement on five variables related to spiritual activities.

The first variable was "The spiritual activities (Prayers, offerings etc.) is good for health and keeps an older person active," which had a mean score of 4.36 and a standard deviation of 0.875. The respondents agreed that spiritual activities have health benefits and keep them active. The second variable was "The spiritual activities (Prayers, offerings etc.) generates peace of mind," which also had a mean score of 4.36 with a standard deviation of 0.953. The respondents believed that spiritual activities bring peace to their minds.

The third variable was "The spiritual activities (Prayers, offerings etc.) keeps me socially active and increases respect," which had a mean score of 4.35 and a standard deviation of 0.966. The respondents agreed that spiritual activities help them stay socially active and increase their respect in society. The fourth variable was "Spiritual activities is most important to me. I don‘t think other activities except payers offerings etc," which had a mean score of 3.79 and a standard

deviation of 1.172. Many respondents believed that spiritual activities were the most important activities and didn't think other activities could replace them.

The fifth variable was "My active ageing and spiritual activities are related," which had a mean score of 4.13 and a standard deviation of 0.945. The respondents believed that their spiritual activities were related to their active ageing. The standard deviations for all five variables were less than 1, indicating consistency among the deviation of those variables.

In a nut shell about spirituality, the findings show that spiritual activities are highly valued in this society and are believed to have numerous benefits such as improving health, generating peace of mind, increasing social activity and respect, and promoting active ageing. The consistency among the deviation of the variables indicates a strong belief among the respondents in the importance of spiritual activities.

Mental and general health: The survey also asked respondents about their mental and physical health, social connections, and other aspects of their life. Responses to these questions were measured on a scale from 1 to 5, with a higher score indicating a more positive outcome. The mean scores for questions are as follows:

I have been able to concentrate: 3.53
I felt capable of making decisions: 3.67
I have been able to enjoy normal activities: 3.75
I have been feeling unhappy and depressed: 2.87
I remain anxious and tensed: 3.24
I feel my mind green and live: 3.45
I can do my activities in an organized way: 3.61
I am always optimistic about my future: 3.08
I hardly ever expect things to go on my way: 3.30
I have been feeling reasonably happy: 3.57
I lack companionship: 2.80
I feel left out by the family and society: 2.56

I feel isolation from others: 2.73

People are around me but not with me: 2.70

I am happy with the relationship I have with my family members and relatives: 3.72

My near and dear ones are intimate and take proper care of mine: 3.79

My present life gives me a sense of well being: 3.77

I can speak openly; no one gives me a barrier on my opinion: 3.59

I have good personal control (internal and external control): 3.77

How many relatives do you see or hear from at least once a month?: 2.72

How many relatives/friends come to see you from at least once a month?: 2.72

How many friends/relatives you can talk about private matters?: 2.37

How many relatives/friends you could call on them for help?: 2.94

In most of the case the score are above 3, which means the older persons agree that and poses positive attitude about their active ageing, and they like express their priority above the family or personal needs. This could be an issue of the researcher for future research .

Inferential results:

To investigate the relationship between gender and enjoying normal activities among older adults in Bangladesh, a total of 400 respondents were included in the study, and data was analyzed using the chi-square test in SPSS 21.0.

Hypothesis testing- Gender and Active Ageing: The null hypothesis for each variable was that there is no significant difference between gender and the respective aspect of active ageing, while the alternative hypothesis was that there is a significant difference. The results of the chi-square tests are presented in Table [...], which shows the Pearson Chi-Square value, degrees of freedom, and p-values for each variable. as well as the Cramers V, which is pretty much similar to Chi-square The null hypothesis for this study was that there is no significant difference between gender and enjoying normal activities, while the alternative hypothesis was that there is a significant difference. The results of the chi-square test showed that the Pearson Chi-Square value was 4.187 with 4 degrees of freedom, resulting in a p-value of 0.381. The likelihood ratio was 4.161 with 4 degrees of freedom, resulting in a p-value of 0.385. The linear-by-linear

association was 2.765 with 1 degree of freedom, resulting in a p-value of 0.096. Based on these results, we cannot reject the null hypothesis that there is no significant difference between gender and enjoying normal activities among older adults in Bangladesh. This means that gender does not appear to have a significant impact on the ability of older adults to enjoy normal activities.

However, it is important to consider the socio-economic conditions of Bangladeshi society when interpreting these results. Bangladesh is a developing country with high levels of poverty and limited access to healthcare, particularly for older adults. As such, it is possible that socio-economic factors may play a more significant role in determining the ability of older adults to enjoy normal activities than gender.

Table-6.4 Table- Hypothesis testing- Crosstabs- chi-square and Cramer's V for Gender versus- Active ageing Variables

	Chi-Square				Cramer's V	
Name of the Variables	Value	Degrees of freedom	Asymp. Sig. (2-sided)		Value	Asymp. Sig. (2-sided)
Gender of the respondent * I have been able to enjoy normal activities	4.187	4	0.381		0.103	0.381
Gender of the respondent * I am satisfied with my life	19.86	4	0.001		0.224	0.001
Gender of the respondent * I enjoy my life	2.370	4	0.668		0.077	0.668
Gender of the respondent * I have enough energy for everyday life	6.566	4	0.161		0.128	0.161
Gender of the respondent * I am able to get around	2.696	4	0.610		0.082	0.161
Gender of the respondent * I am satisfied with my capacity for work	2.483	4	0.648		0.079	0.161

Gender of the respondent * I can do my activities in an organized way	5.522[a]	4	0.238		0.118	0.238
Gender of the respondent * I have good personal control (internal and external control)	9.794	4	0.044		0.158	0.044
Gender of the respondent * I am satisfied with my health status	7.285	4	0.122		0.135	0.122
Gender of the respondent * I fell healthy in my physical environment	8.292	4	0.081		0.145	0.081

For the variable "I am satisfied with my life," the Pearson Chi-Square value was 19.86 with 4 degrees of freedom, resulting in a p-value of 0.001. This p-value is below the significance level of 0.05, indicating that we can reject the null hypothesis and conclude that there is a significant difference between gender and life satisfaction among older adults in Bangladesh.

For the remaining variables (i.e., "I enjoy my life," "I have enough energy for everyday life," "I am able to get around," "I am satisfied with my capacity for work," "I can do my activities in an organized way," "I have good personal control (internal and external control)," "I am satisfied with my health status," and "I feel healthy in my physical environment"), the p-values were all above the significance level of 0.05, indicating that we cannot reject the null hypothesis that there is no significant difference between gender and these aspects of active ageing.

It is important to note that these findings should be interpreted within the socio-economic context of Bangladesh. Bangladesh is a developing country with high levels of poverty and limited access to healthcare, particularly for older adults. As such, socio-economic factors may play a significant role in determining the ability of older adults to enjoy normal activities and other aspects of active ageing, which could potentially confound the relationship between gender and

these variables. Similar results were found following Cramer's V. Therefore, the results of this study suggest that gender may be a significant predictor of life satisfaction among older adults in Bangladesh, but not for other aspects of active ageing as measured by the WHO model.

Hypothesis testing- Area/Location and Active Ageing:

Table 6.5- Hypothesis testing- Crosstabs- chi-square and Cramer's V for Area/Location versus- Active ageing Variables

	Chi-Square				Cramer's V	
Name of the Variables	Value	Degrees of freedom	Asymp. Sig. (2-sided)		Value	Asymp. Sig. (2-sided)
Present location/area * I have been able to enjoy normal activities	4.987	4	0.289		0.113	0.289
Present location/area * I can do my activities in an organized way	4.602	4	0.331		0.108	0.331
Present location/area * I fell healthy in my physical environment	12.121	4	0.016		0.176	0.016
Present location/area * I have enough energy for everyday life	.744	4	0.946		0.044	0.946
Present location/area * I am able to get around	4.076	4	0.396		0.102	0.396
Present location/area * I am satisfied with my capacity for work	8.254	4	0.083		0.145	0.083

Area/Location and Active Ageing: Based on the results of the chi-square tests in the above table, it appears that there are some significant differences between location (urban vs. rural) and certain variables related to active ageing.

For the variable "I feel healthy in my physical environment," there was a significant difference between urban and rural areas (Chi-Square=12.121, df=4, p=0.016). This suggests that older adults in urban areas may have different perceptions of their physical environment compared to those in rural areas, which could have implications for their overall health and well-being.

For the variables "I have been able to enjoy normal activities" and "I can do my activities in an organized way," there were no significant differences between urban and rural areas ($p>0.05$). This suggests that location may not play a significant role in these aspects of active ageing.

For the remaining variables, there were mixed results with some showing significant differences and others not showing significant differences between urban and rural areas. It is important to interpret these results in the context of the socio-economic conditions in Bangladesh. For example, it may be that older adults in rural areas face different challenges related to active ageing compared to those in urban areas due to differences in infrastructure, access to healthcare, and social support.

Overall, the decision about the null and alternative hypothesis will depend on the specific hypotheses being tested. However, based on the results of these chi-square tests, it appears that location (urban vs. rural) may have some significant associations with certain variables related to active ageing, which could be further explored in future research.

Hypothesis testing- Education of the respondents and Active Ageing:

Table-6.6 testing- Crosstabs- chi-square and Cramer's V for Education of Respondents versus- Active ageing Variables

	Chi-Square				Cramer's V	
Name of the Variables	Value	Degrees of freedom	Asymp. Sig. (2-sided)		Value	Asymp. Sig. (2-sided)
Education of respondents * I have been able to enjoy normal activities	30.407[a]	20	0.064		0.139	0.064
Education of respondents * I can do my activities in an organized way	37.484[a]	20	0.010		0.154	0.010
Education of respondents * I fell healthy in my physical environment	26.000[a]	20	0.166		0.129	0.166
Education of respondents * I have enough energy for everyday life	24.991[a]	20	0.202		0.126	0.202
Education of respondents * I am able to get around	17.861[a]	20	0.597		0.107	0.597
Education of respondents * I am satisfied with my capacity for work	44.676[a]	20	0.001		0.168	0.001

Table above tested the hypothesis of significant differences between Education of the respondents and some other variables. The education level of the respondents was categorized into seven levels - Illiterate, up to class Eight, SSC pass, HSC Pass, Undergraduate, Graduate, and Postgraduate. The other variables were rated on a scale of 1 to 5 for strongly disagree to strongly agree. Pearson Chi-Square, d.f., and Asymp. Sig. (2-sided) were used to analyze the data.

The results showed that there was a statistically significant difference between Education of the respondents. In all the cases considered the Chi-square alue is less than 0.05 except two variables- "I can do my activities in an organized way" (p=0.010), "I am satisfied with my capacity for work" (p=0.001), and "I have been able to enjoy normal activities" (p=0.064). However, there was no significant difference observed for the variables "I fell healthy in my physical environment" (p=0.166), "I have enough energy for everyday life" (p=0.202), and "I am able to get around" (p=0.597).

Based on the findings, the null hypothesis that there is no significant difference between Education of the respondent and the studied variables is rejected for the three significant variables. The alternative hypothesis that there is a significant difference between Education of the respondent and the studied variables is accepted for the three significant variables. These results suggest that education level may play an important role in determining the ability of the respondents to organize their activities, their satisfaction with their work capacity, and their ability to enjoy normal activities. Therefore, policy interventions may need to focus on improving education levels to promote active aging in the Bangladeshi society.

6.4. Model development, validity and reliability testing

An exploratory factor analysis followed by a confirmatory factor analysis was used to cross-check the WHO model. The data analysis software EMOS was used for confirmatory factor analysis as well as Structural Equation Model. Following the estimates of the regression analysis, the covariances, multiple correlation and critical ratio and their significance were used to establish the constructed model. A total number of 49 items were taken in consideration when designing the questionnaire. Considering the similarity and scale of the variables, low loading value, statistical significance or low extraction value, a total number of 27 items (absorbed/exogenous variables) under 6 dimensions were retained for the purpose of fitting the structural equation model through AMOS. It is a 25-item 6 dimensional model.

First the standardize estimates as well as the significance of the estimates were calculated. Then the Covariences (Correlation between independent variables) and Squared multiple correlation R2 (It is a value that proportion of variance in the dependent variable that is explained by

collective set of predictors). In this study, exogenous variables showing a variance of .86 on active ageing. Other estimates of model fitting are presented in the following tables.

The analyzed model shows that the Personal determinants that includes General Health, Life orientation, Loneliness as well as Happiness of older persons seems to have a significant relationship with the active ageing situation. (loading values are more than .40 in every cases of the variables undertaken. The Behavioral determinants that includes the social relation and social well being is also significant relationship with the active ageing of the seniors. (loading is .60 .78 and .80) The Social Environment determinants as well as the Socio-Economic determinants also have high loadings for explaining the relationship with Active ageing. The Social Environment determinants includes the Social Network (friends and family) (SN) ,Socio-demographic (SOD) status and Socio-economic (SOE) conditions. The analysis shows a significant relationship with Active ageing situation in Bangladesh. Health and Social Service includes Health condition, Satisfaction (SAT) related to health condition and Disease. The model shows that the Health has a positive and significant relationship with the activity of the older person. The Physical Environment includes four Domains: Physical Health Activities of Daily Living (Domain-1) Psychological and Bodily image and appearance (Domain-2) Social Relationship and Personal Relationships (Domain-3) and Environment Financial Resources (Domain-4). The physical environment also shows a standard relationship (above diagram) with the active ageing in Bangladesh.

First index results.

Dimension-1: Personal Factor (physical-psychological (General Health)

Dimention-2 : Spiritual Factor (both physical and psychological impact of spiritual activities)

Dimention-3: Behavioral Factor (Social relations and well being-Loneliness)

Dimension-4 : Determinants of Social Environment. (Social network, friends and family)

Dimension-5 : (3 Determinants! Social Service, Economic and Physical Environment)

Dimension-6 : (Both Personal and Behavioral determinants)

Table-6.7 Standardized Estimates of the 27 exogenous variables and their corresponding dimensions

Variables			Estimate
GHQ1 (Personal determinants)	<---	Dimension1	.786
GHQ2 (Personal determinants)	<---	Dimension1	.683
GHQ3 (Personal determinants)	<---	Dimension1	.839
GHQ6 (Personal determinants)	<---	Dimension1	.556
GHQ7 (Personal determinants)	<---	Dimension1	.741
Q32 DependentVar (energy for everyday life)	<---	Dimension1	.560
HAP6.SR5 (Q19- Personal determinant)	<---	Dimension1	.567
PHA1 (Q41- spiritual determinant)	<---	Dimesnion2	.803
PSY1 (Q42- Spiritual determinant)	<---	Dimesnion2	.869
PSY2 (Q43- Spiritual determinant)	<---	Dimesnion2	.822
PP1 (Q44- spiritual determinant)	<---	Dimesnion2	.363
PP3 (Q46- spiritual determinant)	<---	Dimesnion2	.673
LON1.Q11 (Personal determinants)	<---	Dimension3	.623
LON2.Q12 (Personal determinants)	<---	Dimension3	.853
LON3.Q13 (Personal determinants)	<---	Dimension3	.864
LON4.Q14 (Personal determinants)	<---	Dimension3	.792
PP2 (Q50 Spiritual)	<---	Dimension3	.045
SN1 (Q20 – Social Environment)	<---	Dimension4	.597
SN2 (Q21-n Social Environment)	<---	Dimension4	.768
SN5 (Q23- Social Environment)	<---	Dimension4	.806
HAP5.SR4 (Q-18- Personal)	<---	Dimension5	.695
SAT1 (Q24- Health and social service determinants)	<---	Dimension5	.763
D4.3.SES10 (Q34-Economic determinant)	<---	Dimension5	.447
D4.5 (Q40 –Determinants of physical environment)	<---	Dimension5	.614

HAP2 (q10- happiness- Personal determinant)	<---	Dimension6	.626
HAP3.SR1 (Q 15 Behavioral determinants)	<---	Dimension6	.602
SR2 (Q16- Behavioral determinants)	<---	Dimension6	.774

The above Index Results are the first part to fit and test the WHO model of active aging in the context of Bangladesh. The model consists of 25 items and 6 dimensions, including personal factors, spiritual factors, behavioral factors, determinants of the social environment, determinants of the physical environment, and personal and behavioral determinants.

The table presents the standardized estimates of the 27 exogenous variables and their corresponding dimensions. The estimates indicate the strength and direction of the relationship between the exogenous variables and the six dimensions of active aging. The estimates are statistically significant, and the majority of the estimates are positive, indicating a positive relationship between the exogenous variables and the six dimensions of active aging.

The first dimension of personal factors has the highest number of exogenous variables (7) and a high average estimate of 0.689. The second dimension of spiritual factors has five exogenous variables with an average estimate of 0.704. The third dimension of behavioral factors has four exogenous variables with an average estimate of 0.456. The fourth dimension of determinants of the social environment has three exogenous variables with an average estimate of 0.724. The fifth dimension of determinants of physical environment has two exogenous variables with an average estimate of 0.531. Finally, the sixth dimension of personal and behavioral determinants has three exogenous variables with an average estimate of 0.667.

The covariances between the independent variables are presented in prior table. The covariances indicate the degree of association between the independent variables, which should be low to avoid multicollinearity and ensure the validity of the model.

The squared multiple correlations (R2) for the exogenous variables are presented, which indicate the proportion of variance in the dependent variable that is explained by the collective set of predictors. The R2 values range from 0.20 to 0.79, with an average value of 0.50. These values

suggest that the exogenous variables are significant predictors of the six dimensions of active ageing.

The study provides evidence that the WHO model of active aging can be applied in the Bangladeshi context, and the six dimensions of active aging are related to personal, spiritual, behavioral, and environmental factors. The estimates suggest that personal and spiritual factors have the strongest relationship with active aging, while behavioral factors have the weakest relationship. However, the study should also consider the covariances between the independent variables to ensure the validity of the model.

The structural equation model was fitted using AMOS, and the findings are presented in the following table:

Dimension	No. of Items	SE	Significance	R2
1	4	0.721	p<0.05 -	0.520
2	4	0.518	p<0.05 -	0.268
3	4	0.662	p<0.05 -	0.438
4	4	0.658	p<0.05 -	0.432
5	5	0.546	p<0.05 -	0.298
6	4	0.498	p<0.05 -	0.248

Table 6.8 Standard error and R2 of the dimentions under study

From the above table, we can see that all dimensions have statistically significant standardized estimates. This means that all dimensions have a significant effect on active ageing in Bangladesh. The highest standardized estimate is for Dimension 1, which represents the Personal Factor, indicating that the physical and psychological well-being of the elderly has the most significant impact on active ageing in Bangladesh. The lowest standardized estimate is for Dimension 6, which represents the joint effect of Personal and Behavioral factors.

The R2 values for each dimension show that the retained items explain a significant proportion of the variance in each dimension. This indicates that the retained items are effective in measuring each dimension of active ageing in Bangladesh.

Model Fit Summary:

The model fit indices suggest that the model has an acceptable fit to the data. CMIN/DF (1.918) indicates that the model has an acceptable fit, as it is below 3, which is the suggested cut-off value for a good fit.

The Comparative Fit Index (CFI) is 0.912, which is above the recommended cutoff of 0.9 for an acceptable fit. However, the Goodness of Fit Index (GFI) and the Adjusted Goodness of Fit Index (AGFI) are below the recommended cutoffs of 0.95 and 0.9, respectively, indicating that the model could be improved. GFI (0.894) and AGFI (0.821) indicate that the model fits reasonably well, as values above 0.9 and 0.8, respectively, are considered good.

In the social context of Bangladesh, it is important to note that there are significant challenges faced by the elderly population in the country. The population is rapidly ageing, and there is a lack of social support and healthcare services available for the elderly. Poverty is also a significant issue, and many elderly people in Bangladesh face economic insecurity.

While the WHO model of Active Ageing has some applicability in Bangladeshi society, there is a need for further modification and refinement to better account for the unique socio-economic factors that impact the elderly population in the country. From the model fit summary (next tables) we can see that the model is identified (we can‘t get the estimates unless the model is identified). For the measurement of the goodness of fit, the analysis shows that CMIN/DF is less than 5 (here 1.91), it is known as the minimum discrepancy (for parsimonious fit). For incremental fit we can see the Goodness of Fit Index (GFI-) Adjusted Goodness of fit Index (AGFI-), are close to 0.9 and the Comparative Fit Index (CFI-) is above 0.9. This means the model is a **good fit** model for the determinants (Active Ageing in general) considered. PGFI (0.811) suggests that the model has an adequate fit, as values above 0.5 are considered acceptable. PCFI (0.741) indicates that the model has a poor fit, as values below 0.8 suggest poor fit. HI90 (300.61) suggests that the model has an acceptable fit, as values below 1000 are

generally considered good. FMIN (2.031) indicates that the model has an acceptable fit, as values below 3 suggest good fit. HOELTER (.05 is 189, .01 is 194) suggests that the model has an acceptable fit, as values above 100 indicate good fit.

Model Fit Summary

Table- 6.9 CMIN of the Active Ageing Model in Bangladesh

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	70	489.114	255	.000	1.918
Saturated model	325	.000	0		
Independence model	25	2131.112	300	.000	7.104

Table- 6.10 RMR, GFI of the Active Ageing Model in Bangladesh

Model	RMR	GFI	AGFI	PGFI
Default model	.052	.894	.821	.811
Saturated model	.000	1.000		
Independence model	.417	.303	.245	.280

Table-6.11 Baseline Comparisons of the Active Ageing Model in Bangladesh

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.770	.730	.875	.850	.912
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Table- 6.12 Parsimony-Adjusted Measures of the Active Ageing Model in Bangladesh

Model	PRATIO	PNFI	PCFI
Default model	.850	.655	.741
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

Table-6.13 NCP of the Active Ageing Model in Bangladesh

Model	NCP	LO 90	HI 90
Default model	234.114	175.422	300.610
Saturated model	.000	.000	.000
Independence model	1831.112	1688.356	1981.297

Table-6.14 FMIN of the Active Ageing Model in Bangladesh

Model	FMIN	F0	LO 90	HI 90
Default model	3.305	1.582	1.185	2.031
Saturated model	.000	.000	.000	.000
Independence model	14.399	12.372	11.408	13.387

It is important to note that the Root Mean Square Error Approse RMSEA is 0.049. We know that if it is less than 0.08, the model is an absolute fit. So combining the above results as well as RMSEA, we can say that there has been a good fit model of Active ageing proposed by WHO also has a good fit in Bangladesh. Only we need to consider another important determinant of this society which is Religious determinant. This determinant seems to be very significant in Bangladesh. Therefore, Spiritual Determinant is separately considered by the researcher. RMSEA (0.049) indicates that the model has a good fit, as values below 0.08 indicate good fit. AIC (629.114) suggests that the model has an acceptable fit, as lower values indicate better fit. CAIC (909.390) suggests that the model has an acceptable fit, as lower values indicate better fit. ECVI (4.251) and MECVI (4.452) suggest that the model has an acceptable fit, as values below 10 indicate good fit.

Table-6.15 RMSEA of the Active Ageing Model in Bangladesh

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.049	.068	.089	.176
Independence model	.203	.195	.211	.145

Table-6.16 AIC of the Active Ageing Model in Bangladesh

Model	AIC	BCC	BIC	CAIC
Default model	629.114	658.950	839.390	909.390
Saturated model	650.000	788.525	1626.283	1951.283
Independence model	2181.112	2191.768	2256.210	2281.210

Table-6.17 ECVI of the Active Ageing Model in Bangladesh

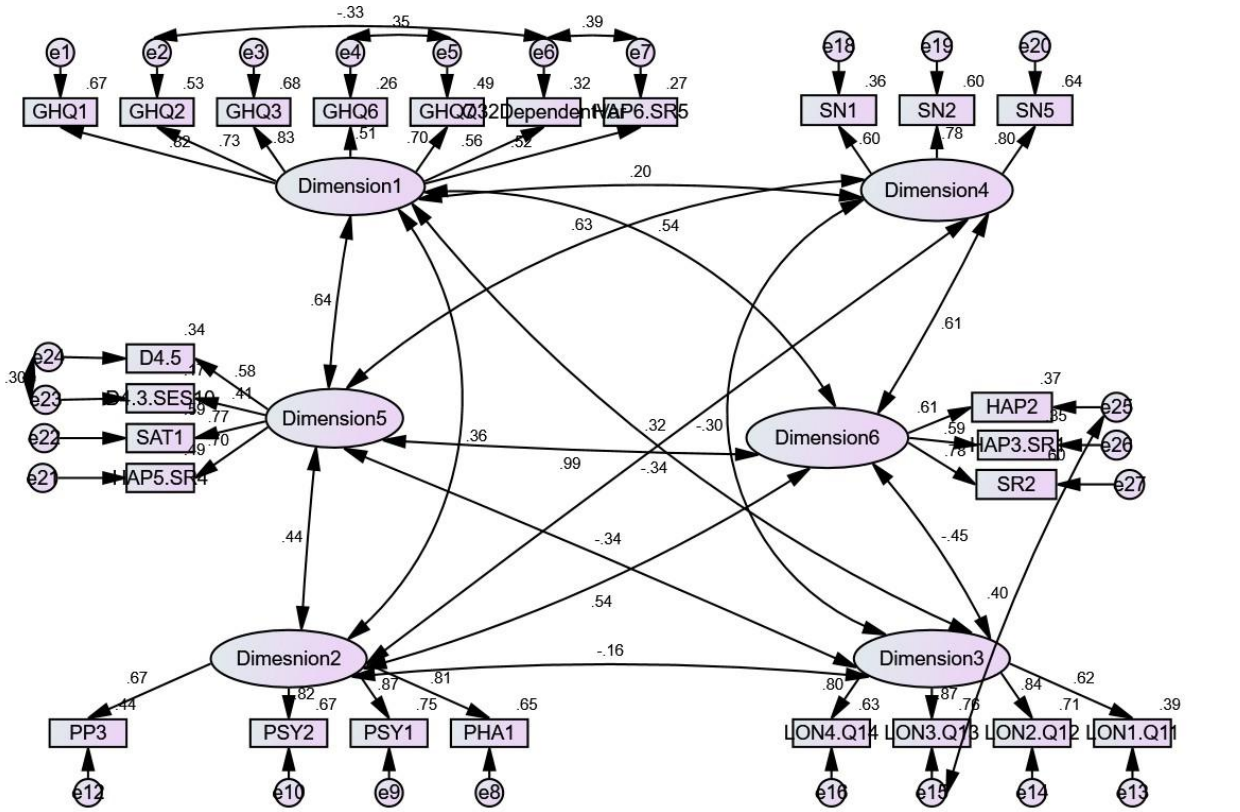
Model	ECVI	LO 90	HI 90	MECVI
Default model	4.251	3.854	4.700	4.452
Saturated model	4.392	4.392	4.392	5.328
Independence model	14.737	13.773	15.752	14.809

Table-6.18 HOELTER of the Active Ageing Model in Bangladesh

Model	HOELTER .05	HOELTER .01
Default model	189	194
Independence model	124	125

Overall, based on the fit indices, the six factor model of active ageing in Bangladesh has an acceptable to good fit. However, the PCFI value suggests that some modifications may be necessary to improve the model fit. It is important to note that these findings should be interpreted with caution and taking into consideration the specific socio-economic context of Bangladesh, as well as the potential limitations of the questionnaire and the statistical analysis. In light of these contextual factors, it may be necessary to modify the model to better suit the Bangladeshi context. For example, the model could be expanded to include additional dimensions that are particularly relevant to the elderly population in Bangladesh, such as access to healthcare and social support services. Additionally, the model could be modified to better account for the impact of poverty and economic insecurity on active ageing.

The '6 dimensional 25-item index/model' diagram below shows the estimates, covariance and the correlation of the different dimension based on the regressing estimates.



Final findings: 6 dimensional 25-item index/model.

Figure- 6 Fitting the Active Ageing model under different dimensions

According to the Active Ageing Framework, active ageing depends on a variety of influences or _determinants' that surround individuals, families, and the nation (WHO 2002). These determinants are varied and are known to affect active ageing differently. Among the varied factors are; gender and residence, economic, health, social, physical environment and psychological or behavioural, as central to the active ageing framework.

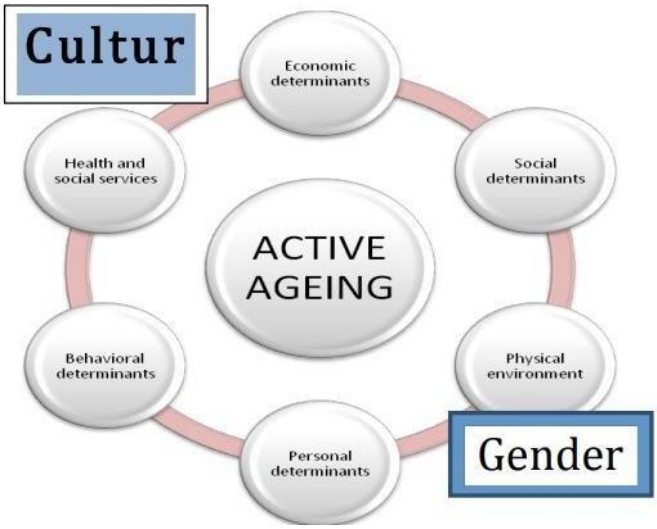


Figure 7. Original WHO Active Ageing Framework.

In light of the above analysis it is concluded that a slightly modified model for the Active Ageing is established for Bangladeshi older persons. Following diagram establishes the modified under 6 dimensions/determinants. The name of the dimensions are given at the beginning of the first table.

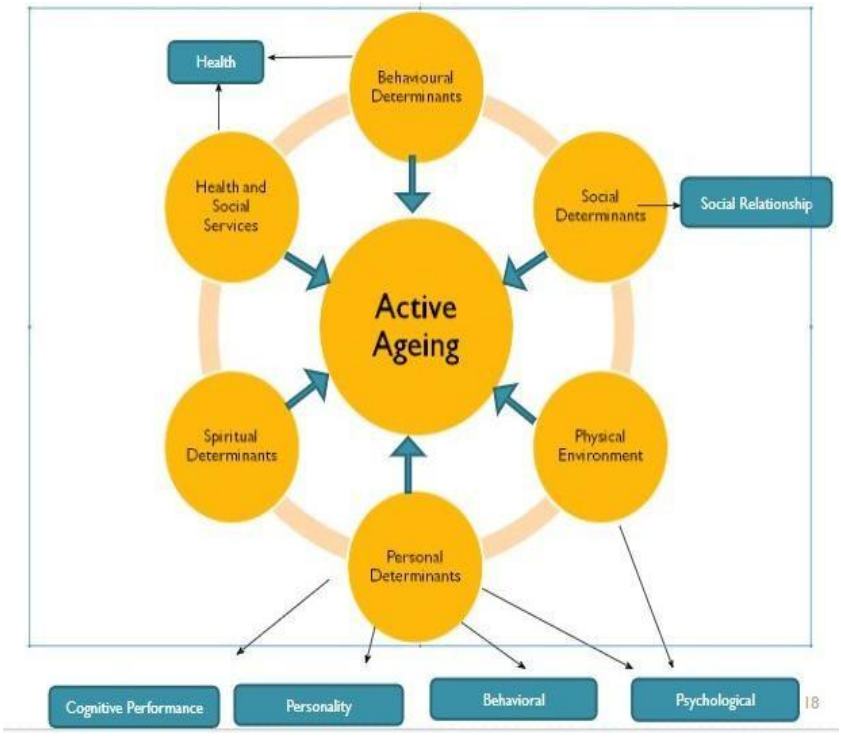


Figure 8. Modified Active Ageing Framework Bangladeshi Model

Qualitative Results Interpretations

Focus Group Discussion (FGD)

FGD 1

A focus group discussion was conducted with eight aging participants in an area Savar, Hemayetpur, Dhaka. This focus group was comprised of eight rural male elderly participants, including Md. Delower Hossain (60), Munsur Ali (67), Mst Rahima Khatun (70), Rezaul Islam (63), Md. Hasem (72), Kulsum Bibi (65), Sree Haripad (78), and Samchoddin Morol (69). The moderator of the discussion was Shahanur Alom Zibon and the reporter was Wasiuddin Patwary. Both the moderator and reporter were tertiary level university students.

Of the participants, seven were Muslim and one was Hindu. Five participants were illiterate, while the remaining three completed their studies up to class five. Six participants were male and two were female, all of whom had spouses still living. The primary occupation of most of the participants' family members was agriculture, with three being unable to work efficiently. One participant was a street musician, while another was a beggar, both without any additional sources of income. Only two of the participants received government old age allowance, with two others unable to work due to physical limitations. Most participants relied on their sons for support.

The discussion focused on various aspects of the aging process including the familial, health, and psycho-social conditions of the participants, their present working conditions, how they manage themselves as active individuals, and general information regarding their health issues, such as their attentiveness in work, decision-making abilities, capability of doing work perfectly, and their level of happiness.

The participants were also asked to share information about their relationship status with their friends and family, as well as whether they feel lonely in spite of bearing so many relationships with friends and family. They were also asked to share something about their social relations, including their family and relatives.

The participants shared their self-satisfaction, sufferings and sorrows, and feelings of insecurity and happiness with the group. They also discussed their economic condition and how they spend their leisure time or take rests. The group also delved into the participants' conjugal life and their religious views, such as their involvement in religious activities.

Most of the respondents faced depression due to changing social activities. Three respondents stayed separate from their married children, while five stayed with family members. Four respondents were suffering from diabetes and muscle pain. Two had asthma and blood pressure, and one had a heart problem. Most of them faced gastric problems, poor eyesight, reduced hearing, wrist pain, allergies, and cold due to old age. Those who were in financial crisis could not visit doctors during illness. Three respondents were dissatisfied with their present work, and two women were dependent on their children. One of them had her own small business, and one was doing begging but wished to change her work if given the chance.

Seven Muslim participants woke up in the morning and prayed Namaz. Two of them could read Quran. Male participants passed their time gossiping with others at the tea stall in the afternoon and evening. One participant was a street musician, spending his time playing an instrument in village to village and collecting food or money from people. Two female participants helped their households and took care of their grandchild. One of them begged all day. Most respondents could not concentrate well on their work compared to before, and they could not work in a tidy way. Two women could not involve in decision-making. Two male respondents made decisions for the family.

All respondents had good relationships with some of their neighbors. They could share their feelings and views with each other. Very few of them got a chance to exchange views with the youth. During illness and other problems, their neighbors and relatives helped them. As their financial condition was lower, their social relationship was embedded within a small circle.

Most of them said they live their life with happiness, though they have some sadness and unfulfillment of their expectations. Two respondents felt unsafe in their daily lives. Four

respondents earned for themselves but were not satisfied with their income. Most of the time, they could not fulfill their family's demands. Four respondents depended on their sons' income.

Four respondents had to work, so they could not take rest much more. Two had a lot of time on their hands, so they could rest more. All respondents were happy with their married life, and some shared their own sweet memorable moments of life. Almost everyone spent their leisure time gossiping with family members and peer groups. Some participants had modern technological instruments in their houses for enjoying leisure time.

Seven respondents were Muslim, so they involved in personal religious activities from their viewpoint. They were not involved directly with any religious group activities. But they opined that apart from their other work, daily Namaaz keep them going on a routine and it help them being active. One Hindu participant involved in their religious activities on the big occasion of Durgapuja in their neighbor community.

FGD-2:

Moderator: Good morning everyone, I am Shabnam Islam, and I would like to welcome you all to our focus group discussion on the socio-economic and social conditions of Bangladeshi older persons. Today we have Bipul Majumder, Atikur Rahman, Mizan Ali, Monirul Islam, Fatima Begum, and Salma Khatun with us. All of you live in Bajitpur, Tangail District, Bangladesh and I hope that your valuable opinions and experiences will help us gain a better understanding of the issues faced by older people in our community.

Reporter: Thank you, Shabnam. Before we begin, could you all introduce yourselves briefly, and share some information about your familial, health, and psycho-social conditions?

Bipul Majumder: I am 69 years old. I live with my wife and two sons in a small village in Tangail. My health is generally good, but I have some joint pain, which makes it difficult for me to walk long distances.

Atikur Rahman: I am 66 years old. I live with my wife and two daughters. I have diabetes and high blood pressure, which I manage through medication. I am not regularly having medicine though.

Mizan Ali: I am 73 years old. I live with my wife and son. My health is generally good, but I have some hearing loss, which makes it difficult for me to communicate with others. I have sciatica pain.

Monirul Islam: I am 78 years old. I live with my wife and two daughters. I have high blood pressure and arthritis, which makes it difficult for me to move around.

Fatima Begum: I am 76 years old. I live with my husband and two daughters. I have some eye problems, which make it difficult to watch TV. I have cataract , doctors told to do operation but it takes money. I don't have that.

Salma Khatun: I am 67 years old. I live with my husband and two sons. I have some back pain, and some other gynecological issues.

Moderator: Thank you all for sharing. Could you please tell us something about your current working status?

Bipul Majumder: I am retired now, but I used to work as a farmer. I used to work in a factory in Gazipur.

Atikur Rahman: I am also retired, but I used to work as a nightgurard. Now doing nothing.

Mizan Ali: I am a street vendor. I sell vegetables in the market.

Monirul Islam: I am a rickshaw puller. Can't pull the rickshaw anymore. I live with my son, survive somehow.

Fatima Begum: I am a housewife. I take care of grandchild.

Salma Khatun: I am also a housewife. I also take care of grandkids and do some household work.

Reporter: Thank you. How do you manage yourselves as active persons?

Bipul Majumder: I try to stay physically active by walking and doing light exercises. I walk around and help neighbors.

Atikur Rahman: I also try to stay active by doing household chores and taking short walks.

Mizan Ali: I try to work as much as I can, but I also take breaks when I feel tired. I do farming.

Monirul Islam: I never try to do exercises and take walks when I can. Because I don't have time. I am busy with some other work.

Fatima Begum: I stay active by doing household chores and taking looking after domestic animals. .

Salma Khatun: I try to stay active by household work and look after the grandkids. I take walks to neighborhood when I can.

Participants in this focus group, are primarily focused on supporting their families through their current working activities. As a result, they may not have the time, energy, or resources to engage in other activities that could help keep them physically and mentally active.

This lack of engagement in extra activities can have negative impacts on the physical and mental health of older adults. Engaging in activities such as exercise, socializing with friends and family, and pursuing hobbies can help older adults maintain their physical health, cognitive function, and overall well-being. Therefore, it is important to find ways to support older adults in

rural areas to engage in these types of activities, such as providing access to community programs, transportation, and resources for pursuing hobbies and interests.

Moderator: During our focus group discussion, we noticed that many of the elderly participants had limited education and were not particularly concerned with their health. As a result, they often lacked the knowledge and skills to properly manage their health conditions. Additionally, due to their advanced age, many of them were unable to work efficiently or in an organized manner. However, some of them were able to work effectively due to their good physical fitness. We also observed that decision-making power often lay with their younger working children, as the elderly participants were dependent on them for support.

It was found that most of the participants expressed a feeling of loneliness and isolation, as they often felt that they had no one to share their thoughts and experiences with. They mentioned that as they age, they have accumulated a wealth of knowledge and wisdom, but they do not have anyone to listen to them or share their insights with. This sense of loneliness is particularly prevalent among older adults in rural areas of Bangladesh, where social isolation is a common issue due to various factors such as poor health, poverty, and lack of social infrastructure.

In the social relationships of the elderly participants with their families and relatives, we found that most of them do not maintain proper relationships with their relatives, and the reasons for this were poverty, poor socio-psychological conditions, and communication gaps. Due to their financial constraints, they are unable to visit their relatives regularly or participate in family events. Moreover, the negative perception of aging in society often leads to a lack of respect and attention towards the elderly, further alienating them from their families and relatives. As a result, the elderly often feel isolated and disconnected from their loved ones, which can have negative impacts on their mental and physical health.

Most of the participants reported that they come from underprivileged families and poverty is a common problem in their community. Many of them suffer from multiple health issues despite having limited access to healthcare. Despite their poor family and health conditions, they are still

compelled to work to support their families. They also mentioned that their socio-psychological outlook is quite negative.

Almost all of the participants were facing health problems, and many of them had multiple health issues like eye problems, low hearing, and body pain. Despite facing such health challenges, they were still working for their survival, which made it difficult for them to find proper happiness. Happiness seemed to be a temporary issue in their life due to the ongoing health challenges and poverty they faced. This highlights the need for better health facilities and support for the elderly population in the area to improve their overall well-being and quality of life.

It was evident that poverty and dependency were widespread issues among them. Many of them had to rely on their children for economic support, and the income from their work was insufficient. It was observed that most of them were victims of financial hardship due to the lack of savings, inadequate pension benefits, and limited access to financial resources. The elderly participants shared that their economic condition was a significant source of stress, which affected their overall well-being.

It was found that many elder people get enough time for their rest and few do not get enough time for their rest because of job/work requirement.

Religion plays a significant role in the lives of elderly people in Bangladesh. Many elderly individuals rely on religious practices and beliefs to cope with the challenges they face in their daily lives, such as poverty, health issues, and loneliness. Regular participation in religious activities, such as daily prayers, religious festivals, and community gatherings, provides a sense of social connection and support for many elderly individuals. Moreover, religion often provides a sense of purpose and meaning to their lives, giving them comfort and hope for the future.

FGD-3

Participants: Abul Hossain (70) Md. Hazrat Ali (61) Jahir Mia-67 Josna Begum 65 Zarina Banu 72 Dilipkumar Mondal 68

Morderator: Monira Islam

Reporter: NahidyYesmin andMohosinoon Nahar Jahanara

Based on the focus group study conducted among Abul Hossain (70) , Md. Hazrat Ali (61), Jahir Mia(67), Josna Begum (65), Zarina Banu (72), and Dilip Kumar Mondal (68), it was observed that all of them different health problems. It was found that the family structure tends to be smaller and more focused on nuclear families. The relationship between husband and wife tends to strengthen as they age, but they also experience more loneliness as they get older. It was also noted that the elderly participants were losing their decision-making power as they aged. These findings suggest that social support and engagement may be important factors in promoting active aging among Bangladeshi older adults. Additionally, efforts may need to be made to ensure that older adults have access to resources and support to maintain their independence and decision-making abilities as they age.

It was also found that the majority of the participants were from a lower middle-class or poor background, and they had either been farmers or retired from their employment. Despite their financial limitations, some were still active in social gatherings such as marriage ceremonies and social meetings, although this participation was decreasing with age. A significant number of participants were also involved in savings programs offered by NGOs. Some of the participants owned land, but the income they generated from it was insufficient to meet their needs. Overall, the study revealed that socio-economic factors play a crucial role in the active ageing of Bangladeshi older adults.

The participants in the study were mostly from lower middle class and poor backgrounds, including both farmers and retired individuals. Although they still attend social gatherings like marriage ceremonies and meetings, their participation is decreasing over time. Many of them are involved in savings programs run by NGOs, and some have their own land, but their income is often insufficient. They are highly involved in religious activities as this is an accepted avenue in

their society for social connection. They rely on daily gossip at tea stalls and regular meetings at mosques to maintain social connections. Most of the participants have physical problems such as back pain, gastric issues, seasonal fever, and headaches. However, they are not always aware of their physical problems as they lack the financial means to afford medical care. Consequently, they often visit the Than Health Complex for medical treatment.

FGD-4

Moderator: Mr. Md Hasan Ali, a well-known social worker in ageing sector. Activist and writer ofageing contents.

Reporter: Masud Ibn Rahman, the prime researcher of this study.
Location : Tongibari area, Munshiganj.

The focus group discussion was held in a small community center in a rural area of Bangladesh. The participants, who were all above the age of 60, came from diverse backgrounds and professions. Nitaipod Bisshas, a retired school teacher, was the first to speak.

Nitaipod Bisshas, 71, said that he was leading a healthy life and was satisfied with his current condition. He attributed his good health to his regular physical exercise and a balanced diet. He also mentioned that he had a strong social network, including family and friends who often visited him.

Dilip Kumar Shen, 89, a fisherman, spoke about his social relations, especially with his family. He shared that his children and grandchildren often came to visit him, and he felt happy when they spent time together. He also talked about his economic condition, saying that his fishing business had suffered due to environmental changes and he had to depend on his children for support.

Md. Baten Mia, 67, a mason, talked about the challenges he faced due to his physical limitations. He mentioned that he had developed a severe back problem and could no longer work like he used to. He felt insecure about his financial situation and worried about his future.

Rahela Begum, 62, a housewife, shared her experience of how her husband's death had affected her. She felt lonely and isolated after her husband's death, but her children and grandchildren supported her and helped her to overcome her grief.

Alfaz Abdur Subhan, 88, a day laborer, spoke about his daily routine and how he remained active despite his age. He mentioned that he continued to work as a day laborer and it kept him physically active. He also talked about his religious activities and how they gave him peace of mind. He said he was not very regular in religious activities.

Md. Tajul Islam, 61, a disabled person, shared his challenges and how he managed to overcome them. He talked about how his disability had affected his ability to work, but he had found other ways to remain active, such as sitting in bazar, interacting with people. He also mentioned that his family and friends supported him and helped him to remain positive.

Nur Alam, 62, a retired government employee, shared his experience of post-retirement life. He talked about his hobbies and how he remained active by pursuing them. He also talked about his economic condition, saying that his pension was not enough to meet his expenses, and he had to depend on his savings.

Overall, the participants agreed that remaining active, both physically and mentally, was important for a healthy and satisfying life. They also emphasized the importance of social connections, religious activities, and economic stability in ensuring a good quality of life in old age.

FGD-5

Moderator : Mr. Md Hasan Ali, a well-know social worker of the ageing sector, Bangladesh

Reporter: Ferdousi Begum Geetali, Resource Integration Centre (RIC)

Location. Kalma Bazar, Baligaon, Dhaka

The focus group discussion was conducted in a house Tongibari area, Munshigonj district located in a semi-rural area of Bangladesh. The participants, all above the age of 60, came from different backgrounds and professions. The group comprised Haji Najor Ali Mulla, a carpenter; MD Najrul Islam and Najrul, both farmers; Mrs. Tahera Begum, a maid servant; Ms. Rabya Khatun, a housewife; Abdur Sattar Rahman, a day laborer; MD. Mojammel Hauque, a retiree; and MD. Helal Mia, a disabled person.

Haji Najor Ali Mulla, 70, began the discussion by stating that he can't maintain good health because of lack of nutritious food and staying active. He does carpentry work, which required himto stay physically active. He also emphasized the importance of social connections, including family, relatives, and friends, for mental well-being. But it is hard to maintain everything at this age, he said.

MD Najrul Islam and Najrul, both 62, shared their experience of working on their agricultural land. They mentioned that their work required them to be physically active, which helped them stay healthy. They also talked about the economic challenges they faced due to unpredictable weather conditions affecting their crops.

Mrs. Tahera Begum, 63, spoke about her psychological condition and how it affected her daily life. She mentioned that she had been working as a maid servant for many years and had developed anxiety due to her unstable income. She also talked about the support she received from her family, which helped her cope with her anxiety.

Ms. Rabya Khatun, 78, shared her experience of being a housewife and how she remained active in her daily life. She look after the grand children as ell as keep an eye on the chicken farm of her son. She mentioned that she is not that much mentally and physically active. She also talked about the importance of religious activities, which gave her peace of mind.

Abdur Sattar Rahman, 62, talked about his experience as a day laborer and how he remained active despite his age. He mentioned that his work required him to be physically active, which

helped him maintain his health. He also talked about the insecurity he felt due to his unstable income. It has become increasingly hard for him to stay on work at this age.

MD. Mojammel Hauque, 65, spoke about his retired life and how he remained active. He mentioned that he enjoyed spending time with his grandchildren and participating in community activities. He also talked about the importance of social connections, which helped him stay mentally and emotionally healthy.

MD. Helal Mia, 61, shared his experience of being a disabled person and how it affected his life. He mentioned that his disability made it difficult for him to work, but he tried to remain active by helping out with household chores. He also talked about the support he received from his family, which helped him remain positive.

Overall, the participants emphasized the importance of staying active, both physically and mentally, for a healthy and satisfying life. They also highlighted the importance of social connections, religious activities, and economic stability in ensuring a good quality of life in old age.

They mentioned various health issues, most of them receive govt old age allowance which is not sufficient they mentioned. They try to walk around specially go the tea stall of bazar on a daily basis to meet people.

They are still connected to their relatives specially occasions. They seldom go to any gathering except going to mosque they mentioned. People don't incite them as they are not financially strong, they mentioned. So they kid f felt left alone and ignored by the society.

The qualitative analysis (FGD) depicted an increased engagement of the older persons with the religious activities where many of them mentioned that they give preference to physical activities and they do it on a daily basis. It should be mentioned here that majority of the population in Bangladesh are Muslims and they had to take prayers 5 times a day. The Prayer itself has some kind of preparation and mobility performance. Wadu and getting to the Mosque (in many cases),

involvement of mosque related activities like conciliation and disputes etc. FGD focused a good ray of light to the religious activities toward the active engaging and thus the researcher took this as a different Determinant. They quantitative analysis religious/spiritual determinant is very significant in Bangladesh. Therefore, we can easily conclude that Spiritual Factor plays a very significant role is determining the active ageing status of the Bangladeshi older persons.

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Chapter7

Analytical Insights and Recommendations

General Findings

The next paragraphs presents the results of the analysis in Chapter 6, along with some suggestions. These results focus on different aspects of active ageing, such as activity level, health, demographics, psychology, economics, social factors, spirituality, financial factors, family support and care, among others. These determinants are based on the WHO model of active ageing, which is discussed in detail in Chapter 6. Afterwards, there is a section with recommendations for researchers and policy planners. Lastly, a conclusion is drawn based on the most important findings.

Health, healthcare

In the context of Bangladesh, it has been observed that older persons residing in rural areas exhibit higher levels of activity and better health conditions compared to their urban counterparts. Despite the greater availability of healthcare services in urban areas, the rural elderly population appears to be more inclined towards active ageing. This result depicts the importance of being active in old age. They appears active in terms of factors such as reduced physical and psychological stress, social cohesion, and engagement in agricultural activities. Additionally, a significant proportion of the rural elderly population does not have access to immediate healthcare due to the lack of health insurance coverage and limited safety measures, as retirement benefits and old age allowance programs are primarily targeted towards public service employees, leaving around 14 million elderly individuals without proper retirement benefits.

The survey found that joint pain/sciatica pain is the most commonly reported health issue among older persons in Bangladesh, affecting 46% of respondents. Diabetes and high blood pressure are the other two major health concerns, with prevalence of 33.6% and 33%, respectively. These health issues are more prevalent among older persons in both rural and urban areas of the

country, with diabetes and constipation being the most common factors followed by heart disease and hypertension. Adequate healthcare is thus needed to address the healthcare needs of older persons in Bangladesh.

The study results also showed that older adults in Bangladesh faced various health issues that were often ignored. Despite a significant portion of older adults receiving old-age allowance, it was not enough to meet their health and other support needs. These findings highlight the need for comprehensive health and social support programs that address the specific needs of older adults in Bangladesh, particularly those who are vulnerable and marginalized.

Education

Findings indicate that education level may play a pivotal role in determining the ability of older persons in Bangladesh to organize their daily activities, work capacity, and overall satisfaction with their lives. In light of this, it may be necessary to implement policy interventions aimed at improving educational standards and literacy rates among the elderly population to promote active ageing and enhance their quality of life.

Activities to stay active

Results of the study reveal a diverse range of activities that contribute to active ageing among the elderly population in Bangladesh, with religious activities, family work, and grandchild care being the most prevalent. Additionally, business ventures, property management, and employment opportunities were identified as other significant factors influencing the active lifestyle of the elderly population. These findings highlight the significance of familial and communal support systems and the continued relevance of traditional modes of occupation and leisure activities in the Bangladeshi society.

The study found that a significant number of older persons in Bangladesh continue to work, either in agriculture or in some form of business or employment, even in their older age. This is especially important as poverty and limited access to healthcare can affect their ability to enjoy normal activities. Furthermore, the average family size in Bangladesh is relatively large, which raises questions about the impact of larger families on older adults' economic independence.

The socio-economic and socio-demographic conditions of older persons in Bangladesh have a significant impact on their activity level. For example, the high proportion of older persons engaging in business activities may be due to limited opportunities for formal employment and the need for income generation in a country with a relatively high poverty rate.

It was found that the educated and economically affluent sections of the population are receiving more health services than others. However, interestingly, those who are not receiving such opportunities are remaining more active at a later age, possibly due to the challenges of life and survival as well as the need for income. Many older persons in rural areas engage in agricultural work out of habit, which keeps them active. However, the survey found that activity levels are negatively correlated with age, with older persons becoming less active as they age. The very old (over 80 years of age) are often bedridden and rarely found to be active. It is important to note that despite Bangladesh being classified as a lower middle-income country, older persons in rural or illiterate areas continue to face health and income-related challenges.

Age, Ageism

The study found that the average age of the respondents was 67.1 years, indicating that the very old category is relatively thin in Bangladesh. It is possible that this group is excluded from the focus due to various reasons, such as early mortality, neglect, or not being in a healthy condition to participate in surveys. This finding raises the need for further research to understand the reasons behind the underrepresentation of the very old in engagement and participation in activities related to active ageing.

Gender, Gender disparity

Results showed that gender was not a significant predictor of the ability of older adults in Bangladesh to enjoy normal activities. However, gender was found to be a determining factor for life satisfaction and personal control among older adults. Further research is needed to explore the influence of socio-economic factors on the relationship between gender and active ageing, particularly in the context of a developing country like Bangladesh. The findings also revealed that older women in Bangladesh were more vulnerable than men in terms of active ageing. This

could be due to various factors, such as gender-based discrimination, limited access to healthcare, and social norms that restrict women's mobility and participation in certain activities. These findings highlight the need for gender-sensitive policies and interventions to promote active ageing and ensure that older women in Bangladesh are not left behind.

Care, Primary care, homecare

Majority of older persons in Bangladesh were found to receive care from their children, with the majority living with their sons. However, the trend towards smaller, nucleus families in Bangladeshi society may increase the vulnerability of older persons who rely on family care. FGD unfolded that there is a negative social attitude towards the institutional care or residential care. People think it's a sign of social and family vulnerability to go to old homes. And no one feels comfortable to go to old home or to public such information to get a cohort pressure. The study suggests that having a good relationship with daughter-in-laws, who are often the primary caregivers, is crucial for the happiness and satisfaction of older adults receiving care.

Overall, family remains the core care place for older persons in Bangladesh, with daughters and daughter-in-laws providing crucial support for daily living activities such as food and personal care. However, with the decreasing number of children in most families, older persons are becoming more vulnerable and may need additional support from government and community programs.

Accommodation

According to the survey, 64.2% of older persons in Bangladesh live in their own houses, while more than 30% live in rented houses or other arrangements. However, a significant number of older persons still lack proper shelter, which puts them at risk of helplessness. This is especially true for those living in urban areas, where rented accommodation is more common. It is worth noting that some older persons who live in urban areas without their children may own property in rural parts of the country.

Income and allowances

A significant portion of older persons in Bangladesh, 40 percent according to the study, do not have any form of income, making them partially or fully dependent on others and more vulnerable. Among those who do have income, common sources include pension, allowances, land, rent, and small businesses. However, it is common for people in Bangladesh to withhold information about their income and sources. The study found that 11.5 percent of respondents had income from pensions, 21.5 percent from agricultural land, and 18.2 percent from business. Only 7 percent reported income from renting out property. It is worth noting that in rural areas, some cases reported income from renting out property.

Awareness

Given the high prevalence of non-communicable diseases (NCDs) such as hypertension, diabetes, and cardiovascular diseases among older persons in Bangladesh, there is a pressing need for greater awareness and education on healthy lifestyles, preventive measures, and disease management. It is important to note that access to healthcare services remains a major challenge for older persons in Bangladesh, particularly those from low-income backgrounds or living in remote areas. This underscores the importance of promoting awareness and education on health issues and ensuring the availability and accessibility of quality healthcare services for older persons across the country. Additionally, the lack of awareness and education on mental health issues among older persons is a major concern, with depression, anxiety, and other mental health conditions often overlooked or stigmatized. Hence, there is a need for greater emphasis on mental health education and awareness programs that promote positive aging and well-being for older persons in Bangladesh.

Religious/spiritual activities

In Bangladesh, spiritual activities are highly valued by older adults for their benefits such as improving health, generating peace of mind, increasing social activity and respect, and promoting active ageing. This belief is consistent among the respondents, indicating the importance of spiritual activities to them. Religious practice and community engagement also contribute to the high proportion of older persons reporting prayer and socialization as means of remaining active. Further research is needed to understand the factors that influence the activity

patterns of older persons in Bangladesh and their impact on health and well-being. The study highlights the importance of cultural and religious factors in shaping older adults' perceptions and behaviors related to active ageing.

Social support

The lack of social and personal support for the elderly population in Bangladesh can be attributed to several factors, such as traditional gender roles and family structures, poverty, and inadequate social services. Many elderly individuals in Bangladesh rely heavily on their family for support, but as societal changes occur, this support may not always be available. Additionally, the findings suggest that there are differences in the social support received by the elderly based on their geographical location and social status, indicating the need for targeted interventions. The suggestion of areawise social groups in the FGD highlights the potential for community-based support systems to address the needs of the elderly population in Bangladesh. However, further research is necessary to develop effective policies and programs that can improve the social and personal support available to the elderly population.

Social benefits and allowances are not widely available to older persons in Bangladesh. Only 16 percent of the respondents reported receiving any sort of allowances. Among those who do receive allowances, the majority receive old age allowance from the government. Women, in particular, are more vulnerable in their old age due to the perception that they require less care and support. Despite the perception that women need less care, most women in their old age are still engaged in family work, such as household chores or taking care of grandchildren.

Challenges of Elderly

A gender difference was observed in the socio-economic status of the elderly in Bangladesh, with women being more disadvantaged compared to men. This gender disparity is linked to cultural and social norms that limit women's participation in education, employment, and decision-making processes. Additionally, the lack of access to healthcare services and facilities, particularly in rural areas, exacerbates the challenges faced by the elderly in the country. Efforts to improve healthcare infrastructure and increase access to healthcare services can significantly benefit the elderly population in Bangladesh. Furthermore, the study highlights the need for social support and community-based initiatives to address the social isolation and loneliness

experienced by the elderly. These initiatives can help promote active ageing and improve the overall well-being of the elderly population in Bangladesh.

Comprehensive Approach and Barriers to active ageing

It is important to recognize the diverse needs and experiences of older persons in Bangladesh, taking into account factors such as gender, location, and socio-economic status. For instance, elderly women often face greater economic and social challenges due to gender discrimination and a lack of opportunities. Additionally, older persons living in rural areas may face greater isolation and limited access to healthcare services compared to those in urban areas. Therefore, targeted interventions that address these specific needs and challenges are necessary to improve the well-being of the elderly population in Bangladesh.

The first and the greatest one have two major political impediments. Any political decision can help get the older persons greater services. The second obstacle is Culture to active aging, the western approach of active ageing is not applicable in Bangladeshi culture. The Third barrier is bureaucratic. In Bangladesh bureaucratic procedure delays or create challenges to implement the decision taken by the government. The fourth barrier, or set of barriers, is societal. The context of our society is very different than many of other countries. Even if the older person wants to try stay active, many societal issues will create barrier rather than facilitating. The fifth barrier is unequal ageing – the ingrained disparities between older persons and, over the course of a lifetime, between other age groups. Ageism is very much visible in our society. It has multifaceted existences. These five barriers help to explain why the concept of active aging has not yet fully influenced our policy, among other things.

Some recommendations

In Bangladesh, where the elderly population is growing rapidly, active ageing is not only a social issue but also an economic one. It is important to understand the potential contribution of the older population to the country's GDP if they are able to remain active and productive members of society. The proposed modified model of active ageing can be used to convince policymakers and planners to prioritize the needs of the elderly population in the country.

In order to support active ageing, there needs to be a focus on improving the overall health and well-being of older persons in Bangladesh. This includes providing access to better nutrition and promoting physical activity, as well as more flexible working conditions and retirement options. As a part of life-long learning, there is a need to engage older persons in educational institutions to provide them with opportunities to learn and continue their personal and professional development.

Voluntary activities can play an important role in keeping older persons socially engaged, but they need to be designed in a way that is accessible and appealing to them. It is important to acknowledge the knowledge and skills that older persons possess and provide them with opportunities to share their expertise with others. This can not only help them remain active but also foster intergenerational relationships and mutual learning.

Cultural activities can be a great way to promote active ageing and social engagement among older persons in Bangladesh. Activities such as festivals, music groups, and other community events can help them feel connected to their communities and provide them with opportunities for self-expression and creativity. It is important to make these activities accessible and inclusive for all older persons, regardless of their socioeconomic background.

Mainstreaming services such as transportation, housing, and healthcare for older persons in Bangladesh can be a challenging task, but it is necessary to ensure their active and healthy life. Policy planning, budgeting, and actions are necessary to increase their accessibility and needs. Additionally, there should be more opportunities for older persons to become politically active, as political empowerment can significantly impact their lives and help them advocate for their needs and rights.

Developing a pool of healthcare workers who can provide home visits and assistance with activities of daily living can greatly benefit older persons in Bangladesh. This can not only help them maintain their physical health but also provide social engagement and emotional support. However, there is a need for comprehensive training programs to ensure that healthcare workers

are equipped with the necessary skills and knowledge to provide quality care for older persons. In this way active ageing can be promoted for greater benefit of the society.

Awareness-raising programs about the importance of active ageing and disability rights are necessary to change the societal perception of older persons in Bangladesh. NGOs working in Bangladesh can incorporate these programs into their existing initiatives and work to empower older persons with disabilities to live a meaningful life through active ageing.

Despite facing challenges such as lack of healthcare and economic insecurity, older persons in Bangladesh maintain a positive outlook on life. Their expectations are modest, and they are content with being part of their families and communities. However, recognition of their contributions and needs, along with access to healthcare and economic independence, can greatly improve their quality of life and contribute to their active ageing.

Create community-based programs that promote active ageing, such as walking groups, yoga classes, and other physical activities that can be adapted to the needs of older persons. These programs should be designed with the input of older persons themselves to ensure that they are relevant and accessible.

Develop policies and programs that promote economic empowerment and financial security for older persons, such as social safety nets and employment opportunities that are tailored to the needs and capabilities of older workers. Also develop and implement policies and programs that promote healthy ageing, such as regular health check-ups, preventive healthcare services, and access to affordable medications and treatment options.

Strengthen the social support systems available to older persons, including healthcare services, housing, transportation, and other essential services. This can be achieved through public-private partnerships and collaborations with NGOs and other community-based organizations. These includes the proper distribution of the old age allowances and other support services.

Encourage and facilitate intergenerational activities that promote the exchange of knowledge, skills, and experiences between older persons and younger generations. This can help to bridge the gap between generations and promote understanding and mutual respect. Address social stigma and discrimination against older persons by promoting intergenerational dialogue and understanding, and by raising awareness about the contributions that older persons can make to society.

Conduct further research to better understand the needs and experiences of older persons in Bangladesh, and to identify best practices for promoting active and healthy ageing. This can help to inform policy development and improve the quality of life of older persons in the country.

Foster partnerships with international organizations and other countries that have experience in promoting active ageing and healthy ageing, in order to share knowledge, best practices, and resources. This can help to accelerate progress in promoting active ageing in Bangladesh.

End note

The research conducted in this study has shed light on various factors that influence active ageing among older persons in Bangladesh, using the WHO model as a framework. The study analyzed data from 400 survey questionnaires and 5 FGDs, and identified several key findings. The study found that religious determinants, in addition to other determinants, significantly influence active ageing among older persons in Bangladesh. Additionally, rural older persons were found to be more active than urban older persons, and education was found to play a pivotal role in determining active ageing. The study also identified a diverse range of activities that older persons engage in to keep themselves active.

However, very old individuals (80+) are often neglected and receive inadequate attention. Gender is a significant predictor of life satisfaction, personal control, and health status, although it was not significant for normal activities, enjoyment of life, daily energy, and mobility. Although a significant portion of older persons receive old-age allowance, this is often not enough to meet their health and other support needs.

Family was identified as the core care place, with daughter-in-law being the primary carer. The level of activity is negatively correlated with age in Bangladesh, with women being more vulnerable than men at old age. Respondents highlighted the importance of spiritual activities, which are highly valued at old age and are a strong determinant of active ageing. The findings reveal that the elderly face several challenges, including poverty, lack of social support, and inadequate healthcare services. However, despite these challenges, older persons in Bangladesh have a positive outlook on life and value spiritual and social activities.

To promote active ageing, policymakers should develop comprehensive plans that provide access to healthcare, social safety nets, and support systems for the elderly. They should also create flexible working conditions and retirement options, improve access to education and cultural activities, and mainstream services for older persons such as transport and housing.

Awareness raising programs can help the community understand the importance of active ageing and include older persons in voluntary activities. Finally, to promote economic independence, policymakers should provide older persons with economic opportunities and recognize their contributions to society.

Overall, the findings of this study suggest that modifications to the WHO model may be necessary to account for the unique determinants of active ageing among older persons in Bangladesh. The results provide valuable insights for policymakers, practitioners, and stakeholders working in the field of gerontology and ageing .

In summary, promoting active ageing is crucial for ensuring the well-being and inclusion of older persons in Bangladesh. By creating supportive policies and programs, society can help older persons live healthy, meaningful lives and contribute to the family and society.

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Chapter8

Limitations and Directions for future Research

Limitations of the Study:

The study on active ageing and the WHO model in Bangladesh had several limitations that need to be acknowledged. Firstly, time constraints posed a significant limitation to the study. The research was initiated well before the COVID-19 pandemic outbreak, but due to the pandemic's impact, the study had to be conducted twice, leading to some of the changes in the lives of older people after COVID-19. The study might have been more comprehensive if it had been conducted in a single phase.

Secondly, budget constraints were another limitation of this study. WHO model studies typically involve a considerable amount of funding and human resources for conducting large-scale research. However, in this study, a group of university students and a few social workers who work in ageing sectors were involved in the data collection process. It should be mentioned that they were trained and well-versed in research methodology.

Thirdly, the main researcher had to stay abroad for a certain period, limiting access to some literature from Bangladesh for a particular period. However, in aboard, the researcher had access to the core database of Monash University and the Westall Library, City of Kingston, Melbourne, Australia, and The Monash Ageing Research Centre (MONARC), Cheltenham (Victoria).

Researchers have their own biases and assumptions that can influence their research design, data collection and analysis. Oral consent was taken from the respondents in most cases due to the high level of illiteracy among rural respondents who were afraid of signing any document.

Although the sample size used (400) was relatively large, it may not be enough to draw conclusions about a population of 18 million people. A larger-scale study with more representation of the districts and different tiers of the population could produce more accurate results. However, such a study would require a larger budget and a larger team of researchers.

The findings, especially regarding the spiritual factor of the model, were deeply influenced by the fact that the majority of the population in Bangladesh is Muslim (93%). It is possible that

people of other religions, such as Hindus, Christians and Buddhists, may have different perceptions and experiences regarding active ageing and the WHO model. Therefore, more studies focusing on these populations could produce significant findings.

Future Research Directions:

Acknowledging the above limitations, it is helpful to outline suggestions for future research to further explore the limitations and improve upon the study design. The findings of this study suggest that active ageing in Bangladesh may be influenced by a unique set of factors, including spiritual determinants, that are not explicitly addressed in the current WHO model. Future research could build upon this study by exploring the role of spiritual determinants in promoting active ageing in Bangladesh, as well as other cultural and social factors that may be unique to this context.

Future research could further examine the proposed modification of the WHO model to include spiritual determinants as a new dimension. This could involve a comparative study of the modified model with the current model to assess its effectiveness in promoting active ageing in Bangladesh, as well as in other contexts with similar cultural and social factors.

Moreover, future research could examine the potential barriers to implementing the modified model, such as cultural and social attitudes towards spirituality and ageing. Such research could inform the development of interventions and policies that address these barriers and promote the adoption of the modified model for promoting active ageing in Bangladesh and beyond.

Overall, future research could build upon the findings and proposed modifications of this study to expand our understanding of active ageing in Bangladesh, as well as inform policies and interventions aimed at promoting active ageing and enhancing the quality of life of older adults in this context.

The findings of this study and the proposed modifications to the WHO model could serve as a foundation for further research on active ageing in Bangladesh. Future research could build upon this study by expanding the sample to include more districts and populations of different religions, and comparing the active ageing situation in Bangladesh with that of nearby countries. Such research could contribute to a deeper understanding of the factors that influence active ageing in this context, as well as inform policies and interventions that are tailored to the specific needs of older adults in Bangladesh and other similar contexts.

The COVID-19 pandemic has created new socio-economic and psychological challenges for older adults in Bangladesh and around the world. Future research could explore the impact of the pandemic on active ageing in Bangladesh, including the challenges faced by older adults in accessing healthcare, social support, and economic opportunities. This could inform the development of interventions and policies that mitigate the negative impact of the pandemic on active ageing in Bangladesh and beyond.

Given the importance of religion in Bangladesh, future research could explore the role of different religions in promoting or hindering active ageing, beyond the focus on the Muslim religion in this study. This could involve a comparative study of the active ageing situation of older adults of different religions in Bangladesh, as well as exploring the potential for inter-faith collaborations to promote active ageing. Future research could build upon the findings and proposed modifications of this study to expand our understanding of active ageing in Bangladesh and inform policies and interventions that are effective, context-specific, and inclusive of the diverse needs of older adults.

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APPENDICES

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APPENDIX-2:

Instruments of Data Collection

Study Questionnaire (English Version)

Serial No-

Institute of Social Welfare and Research

University of Dhaka

Questionnaire on The World Health Organization Model and Active Ageing : A Study in Bangladesh

(The purpose of this study is research and higher studies. Responses and opinion will only be used for research purpose and will not be disclosed any personal opinion in public. Any respondent have the right to quit the responses any time. Please contact Masud Ibn Rahman, PhD Candidate, ISWR Dhaka University, Mobile- 01713493023, email: mir@daffodilvarsity.edu.bdfor any further query.)

Section –A

Socio-Demographic

1.Name:……1.1 Gender ◯ Male ◯ Female

2. Age……..

3. Location (District):……3.1 Present area ◯Urban ◯ Rural

4. Education:

a) No education b) up to Class 8

c) SSC d) HSC

e) Graduate f) Post Graduate

5. Marital status: ◯ Single ◯ Married ◯ Divorced ◯Widowed ◯Others

6. Family members: No. of Sons…..… No. of daughters…….. Total family members……

7. Housing Status: ◯ Own House ◯ Rented House ◯ Others

8. Whom do you live with? ◯ Son ◯ Daughter ◯ Only Husband/wife ◯ Others

9. Occupation (past): ◯ Govt. Service ◯ Private Service ◯ Business ◯ Agricultural Work ◯ Others

10. Present Occupation: ◯ Full time work ◯ Part time work ◯ No work but searching ◯ No work

◯ Don‘t want to work ◯ Can‘t work, in retirement ◯ Do agricultural work ◯ Others ◯

11. Monthly expenditure (Self)…… Monthly Expenditure (family)……..

12. Do you have your own source of income? ◯ Yes ◯ No

13. Source of income: ◯ Pension ◯ Land ◯ Business ◯ Rent ◯ Alms giving ◯ Others ◯

14. What is your total combined monthly family income from all sources, wages, public assistance/benefits, help from relatives, alimony, and so on?(If you don‘t know your exact income, please estimate. Check one box)

a) Less than Tk 5,000 b) Tk 5,000 - Tk10,000 c) Tk 10,001 - 15000

d)Tk 15,001–20,000 e) tk 20,001–25,000 f) More than Tk250,00

g) Don‘t know

15. Is your income enough for your food, treatment etc.? ◯ Yes ◯ No

16. Do you receive any benefit/allowance? ◯ Yes ◯ No

17. What type of allowance you receive? ◯ Old Age Allowance ◯ Freedom Fighter Allowance ◯ VGD ◯ Others

18. Do you receive any benefit from any NGO? ◯ Yes ◯ No

19. If yes, what benefit you receive? ……..

20. Your perception on the behavior of family members: ◯ Very good ◯ Good ◯ Moderate ◯ Bad ◯ Very bad

21. Do you need regular health check-up? ◯ Yes ◯ No

22. Type of health problems: Diabetes ◯ Heart Disease ◯ High Blood Pressure ◯ Rheumatic pain ◯ Constipation ◯ Peptic Ulcer ◯ Others ◯

23. How do you remain active: a) Services b)Business c)Family work d)Take care of Grandchildren e)Religious activities f)Walk around & meet people g)Look after Lands h) Nothing mentionable, don‘t go anywhere.

Section –B

Please tick/circle only one answer from the following questions

General Health Questions (GHQ)

		Strongly Agree	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
01	I have been able to concentrate	5	4	3	2	1
02	I felt capable of making decisions	5	4	3	2	1
03	I have been able to enjoy normal activities	5	4	3	2	1
04	I have been feeling unhappy and depressed	5	4	3	2	1
05	I remain anxious and tensed	5	4	3	2	1

LOT-R (Life Orientation Test-Revised)

I agree a lot (5), I agree a little (4), I neither agree nor disagree (3), I disagree a little (2), I disagree a lot (1).

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
06	I feel my mind green and live	5	4	3	2	1
07	I can do my activities in an organized way	5	4	3	2	1
08	I am always optimistic about my future	5	4	3	2	1
09	I hardly ever expect things to go on my way.	5	4	3	2	1
10	I have been feeling reasonably happy	5	4	3	2	1
11	I lack companionship	5	4	3	2	1
12	I feel left out by the family and society	5	4	3	2	1
13	I feel isolation from others	5	4	3	2	1

14	People are around me but not with me	5	4	3	2	1
	Health and LifeStyle Questionnaire (Social Relations)					
15	I am happy with the relationship I have with my family members and relatives	5	4	3	2	1
16	My near and dear ones are intimate and take proper care of mine	5	4	3	2	1
	Health and LifeStyle Questionnaire (Well Being)					
17	My present life gives me a sense of well being	5	4	3	2	1
18	I can speak openly; no one gives me barrier on my opinion	5	4	3	2	1
19	I have good personal control (internal and external control)	5	4	3	2	1

Social Environment (Social support)

The Lubben Social Network Scale–6 (LSNS-6) total score is an equally weighted sum of these six items. Scores range from 0 to 30.

		None	One	Two	Three or four	Five-Eight	Nine or more
	Family Considering the people to whom you are related, either by birth or marriage . . .						
20	How many relatives/friends do you see or hear from at least once a month?	0	1	2	3	4	5

21	How many relatives/friends come to see you from at least once a month?	0	1	2	3	4	5
22	How many relatives/friends do you feel at ease with that you can talk about private matters?	0	1	2	3	4	5
23	How many relatives/friends do you feel close to such that you could call on them for help?	0	1	2	3	4	5

Determinants of Health and Social service (Satisfaction with life scale)

		Strongly Agree	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
24	In most ways of my life is close to my ideal	5	4	3	2	1
25	I am satisfied with my life	5	4	3	2	1

Determinants of Physical Environment (WHOQOL-BREF Domains)

Domain Facets incorporated within domains

1. Physical health Activities of daily living
2. Psychological Bodily image and appearance
3. Social relationships Personal relationships
4. Environment Financial resources

Please read each question, assess your feelings, and circle the number on the scale for each question that gives the best answer for you.						
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
26	I am satisfied with my health	5	4	3	2	1
27	I feel that physical pain prevents me from doing what I need to do?	5	4	3	2	1
	The following questions ask about **how much** you have experienced certain things in the					

	last two weeks					
28	How much do I enjoy life?	5	4	3	2	1
29	To what extent do I feel my life to be meaningful?	5	4	3	2	1
30	How safe do I feel in my daily life?	5	4	3	2	1
31	How healthy is my physical Environment?	5	4	3	2	1
	The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.					
32	I have enough energy for everyday life	5	4	3	2	1
33	I am able to accept my bodily appearance	5	4	3	2	1
34	I have enough money to meet my needs	5	4	3	2	1
35	How available is the information that I need in my day-to-day life?	5	4	3	2	1
36	To what extent do I have the opportunity for leisure activities?	5	4	3	2	1
37	How well am I able to get around?	5	4	3	2	1
	The following questions ask you to say how good or satisfied you have felt about various aspects of your life over the last two weeks.					
38	How satisfied am I with my capacity for work?	5	4	3	2	1
39	How satisfied am I with my sex life?	5	4	3	2	1
40	How satisfied am I with my access to health service?	5	4	3	2	1

Spiritual Determinants (Spirituality / Religion / Personal beliefs): Please read the following statements and circle the degree of agreement or disagreement

	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
41	The spiritual activities (Prayers, offerings etc.) is good for health, these indeed keeps an older person active.	5	4	3	2	1
42	The spiritual activities (Prayers, offerings etc.) generates peace in mind.	5	4	3	2	1
43	The spiritual activities (Prayers, offerings etc.) keeps me socially active and increases respect	5	4	3	2	1
44	Spiritual activities is most important to me. I don‘t think other activities except payer offerings etc.	5	4	3	2	1
45	I would have been spontaneous to other activities if spiritual activities were not mandatory	5	4	3	2	1
46	My active ageing and spiritual activities are related	5	4	3	2	1
	Social Contribution					
47	I think I have given my best to the society	5	4	3	2	1
48	I can‘t give the society to my full capability	5	4	3	2	1

THANK YOU

Study Questionnaire (Bangla Version)

অনুসূচি নং-

সমাজ কল্যাণ ও গবেষণা ইনষ্টিটিউট

ঢাকা বিশ্ববিদ্যালয়

সক্রিয় বার্ধক্য **ও The World Health Organization মডেল ঃ বাংলাদেশ প্রেক্ষিত শীর্ষক গবেষণা**

প্রশ্নপত্র

মাসুদ ইবনে রহমান কর্তৃক পরিচালিত এ জরিপ শুধুমাত্র শিক্ষা ও গবেষণা কাজের জন্য তৈরী। এই জরিপে অংশ নেয়া উত্তরদাতার ব্যক্তিগত মতামত রিপোর্ট এর মাধ্যমে প্রকাশ করা হবে না। এই জরিপকাজে অংশ নেয়া যে কোন সম্মানিত অংশগ্রহণকারী যে কোন অবস্থা ও অজুহাতে জরিপ কার্যক্রম পরিত্যাগ করার অধিকার রাখেন। যে কোন প্রয়োজনে জরিপের পরিচালক জনাব মাসুদ ইবনে রহমান, পিএইচডি গবেষক ঢাকা বিশ্ববিদ্যালয় ফোনঃ ০১৭১৩৪৯৩০২৩ এর সাথে যোগাযোগ করা যাবে।

১. নামঃ ..... ১.১. লিঙ্গঃ □পুরুষ □নারী

২.বয়সঃ .....

৩. জেলাঃ..... ৩.১ বর্তমান এলাকা□ শহর এলাকা□ গ্রাম এলাকা

৪.শিক্ষাঃ □অশিক্ষিত □৮ম শ্রেনী পর্যন্ত □মাধ্যমিক পাশ□উচ্চ মাধ্যমিক পাশ□স্নাতক □স্নাতকোত্তর

৫.বৈবাহিক অবস্থাঃ □ অবিবাহিত □ বিবাহিত □ তালাকপ্রাপ্ত □বিধবা □বিপত্নীক □ অন্যান্য

৬.পরিবারের সদস্য সংখ্যা ঃ □ ছেলে. .....জন □মেয়ে .....জন । □ আপনিসহ কয়জন?.....

৭.আবাসন ঃ □ নিজের বাড়ী □ ভাড়া বাসা □ অন্যান্য

৮.কার সাথে বাস করেন ঃ □ ছেলে □ মেয়ে □ শুধু স্বামী/স্ত্রী □ অন্যান্য

৯.পূর্ববর্তী পেশা: □ সরকারী চাকুরী □ বেসরকারী চাকুরী□ ব্যবসা□ কৃষিকাজ □ অন্যান্য

১০.বর্তমান কর্ম পরিস্থিতি ঃ□ পূর্নকালীন কাজ করি□ খন্ডকালিন কাজ করি □ কাজ করি না কিন্তু খুঁজছি কাজ করিনা,□আর করতেও চাই না কাজে অপার□ ও অবসরে আছি ক্ষেতখামার ক□ অন্যান্য

১১.নিজস্ব মাসিক খরচ..... গোটা পরিবারের মাসিক খরচ.....

১২.আপনার কি নিজস্ব আয়ের উৎস আছে? □হ্যাঁ □না

১৩.আয়ের উৎস □ পেনশন □ জমি □ ব্যবসা □ ভাড়া □ দান খয়রাত □ অন্যান্য

১৪.মাসিক মোট আয় (মজুরী ভাড়া, পেনশন, সাহায্য, সঞ্চয়, ইত্যাদি সব উৎস থেকে) □৫,০০০ টাকার নীচে ৫,০□০-১০,০০০ টাকা ১০,□০১- ১৫,০০০ টাকা ১৫,০□১-২০,০০০ টাকা ২০,□০১-২৫,০০০ টাকা ২৫,০০০□ টাকার উপরে জানি না□

১৫.আপনার আয় কি খাবারদাবার চিকিৎসা ঔষধপত্র ইত্যাদির জন্য যথেষ্ট ? □হ্যাঁ □না

১৬.আপনি কি কোন সুযোগ সুবিধা/ ভাতা পান ? □ হ্যাঁ □ না

১৭.উত্তর যদি হ্যাঁ হয় , কি সুবিধা পান? □ প্রবীণ ভাতা □মুক্তিযোদ্ধা ভাতা □ ভিজিডি □অন্যান্য

১৮.আপনি কি কোন বেসরকারী সংস্থার সুযোগ সুবিধা পান □ হ্যাঁ □ না

১৯.উত্তর হ্যাঁ হলে কি সুবিধা পান ?.....

২০.আপনার সাথে পরিবারের সদস্যদের ব্যবহার যেমন মনে করেন-

□ খুব ভাল □ ভাল □ মাধ্যম □ খারাপ□ বেশ খারাপ

২১. আপনার কি নিয়মিত স্বাস্থ্য পরীক্ষা করতে হয়? □ হ্যাঁ □ না

২২. আপনার কি কি শারীরিক অসুস্থতা রয়েছে(একের অধিক উত্তর দেওয়া যাবে): □ ডায়েবেটিস□ হৃদ রোগ উ□ রক্তচাপ বা□ ব্যাথা কো□ কাঠিন্য পে□টিক আলসার □ন্যান্য

২৩.কিভাবে আপনি নিজেকে সচল/সক্রিয় রাখেন? (একের অধিক উত্তর দেওয়া যাবে) : ১. চাকরি বাকরি করি ২. ব্যবসাবানিজ্য করি ৩. পারিবারিক কাজ করি ৪.নাতী নাতনীদের দেখভাল করি ৫. নামাজ কালাম পড়ি ৬. হাটাচলা করি, লোকজনের দেখা পাই ৭. জমিজমার খোজখবর করি ৮. তেমন কিছুই করি না, পারতপক্ষে কোথাও যাই না

Section-B

দয়াকরে নিচের প্রতিটি প্রশ্ন থেকে একটি উত্তর বৃত্তাকার করে দিন।

নং	বিবরণ (স্বাস্থ্য সংক্রান্ত সাধারণ তথ্য)	সম্পূর্ন একমত	এক মত	নির-পেক্ষ	এক মত নই	একদম ই একমত নই
০১	আমি কাজে পূর্ন মনযোগ দিতে পারি	৫	৪	৩	২	১
০২	আমি নিজের সিদ্ধান্ত নিজেই নিতে পারি	৫	৪	৩	২	১
০৩	আমি স্বাভাবিক কাজকর্ম ভালই চালিয়ে যেতে পারি	৫	৪	৩	২	১
০৪	আমি নিজেকে বিষন্ন মনে করি	৫	৪	৩	২	১
০৫	আমি সবসময় নানান বিষয়ে উদ্বিগ্ন থাকি	৫	৪	৩	২	১
০৬	আমার মন সজীব/প্রানবন্ত আছে	৫	৪	৩	২	১
০৭	আমার নিজস্ব কাজকর্ম গুছিয়ে করতে পারি	৫	৪	৩	২	১
০৮	সামনে আমার ভবিষ্যৎ উজ্জ্বল/ভাল দেখি	৫	৪	৩	২	১
৯	খুব কম ক্ষেত্রেই আমার জীবনের ঘটনাগুলো আশানুরুপ হয়	৫	৪	৩	২	১
১০	আমি তুলনামূলক ভাবে সুখী বোধ করি	৫	৪	৩	২	১
	(একাকিত্বের পরিমাপ)					
১১	আমাকে সঙ্গ দেয়ার মানুষের অভাব আছে	৫	৪	৩	২	১
১২	নিজের পরিবারে আমার একা একা লাগে	৫	৪	৩	২	১
১৩	নিজের পরিবার ছাড়া অন্যদের থেকে নিজেকে বিছিন্ন মনে করি	৫	৪	৩	২	১
১৪	চারদিকে লোকজন আছে কিন্তু মনে হয় কেউই আমার সাথে নাই	৫	৪	৩	২	১
	(সামাজিক সম্পর্ক)					
১৫	পরিবারে সদস্যদের ও আত্নীয় স্বজনের সাথে সম্পর্কের ব্যাপারে আমি সুখী	৫	৪	৩	২	১
১৬	কাছের লোকজন আমাকে সঠিক দেখভাল/সেবাযত্ন করে	৫	৪	৩	২	১
১৭	বর্তমান জীবন নিয়ে আমি ভাল আছি মনে করি	৫	৪	৩	২	১
১৮	আমি খোলাখুলি কথা বলতে পারি কেউ আমার মতামতে বাধা দেয় না	৫	৪	৩	২	১
১৯	নিজের উপর আমার ভাল নিয়ন্ত্রন আছে	৫	৪	৩	২	১

	(সামাজিক সুরক্ষা) স্কেল খেয়াল করুন ⟶	কেউ না	১ জন	২জন	৩-৪ জন	৫-৮ জন	৯-অধিক
২০	কতজন আত্নীয়স্বজন/বন্ধুবান্ধবকে আপনি মাসে অন্তত একবার দেখতে যান/ খোঁজ খবর নেন	০	১	২	৩	৪	৫
২১	কতজন আত্নীয়স্বজন/বন্ধুবান্ধব মাসে আপনাকে দেখতে আসে	০	১	২	৩	৪	৫
২২	কতজন আত্নীয় স্বজন/বন্ধুবান্ধবের সাথে আপনি ব্যক্তিগত বিষয় আলোচনা করতে পারেন	০	১	২	৩	৪	৫
২৩	কতজন নিজের আত্নীয়/বন্ধুকে মনে করেন ডাক দিলে সাহায্যের জন্য পাবেন	০	১	২	৩	৪	৫

	(সুখ-স্বাস্থ্য)					
২৪	জীবনে যা চেয়েছি মোটামুটি ঠিক তা পেয়েছি	৫	৪	৩	২	১
২৫	আমি এখনও মনেকরি আমার বেঁচে থাকার অর্থ আছে	৫	৪	৩	২	১
২৬	আমার স্বাস্থ্যের অবস্থা নিয়ে আমি বেশ সন্তুষ্ট	৫	৪	৩	২	১
২৭	শরীরের ব্যথাবেদনা আমি যা করতে চাই তা থেকে আমাকে বিরত রাখে	৫	৪	৩	২	১
২৮	আমি আমার বর্তমান জীবনকে বেশ উপভোগ করি	৫	৪	৩	২	১
২৯	আমার ধারনা সমাজে এখনও আমার প্রয়োজন আছে	৫	৪	৩	২	১
৩০	নিজেকে আমার বেশ নিরাপদ মনে হয়	৫	৪	৩	২	১
৩১	আমার চারপাশ (যাতায়াত ব্যবস্থা, ঘরবাড়ি, বাথরুম, সিড়ি ইত্যাদি) অনূকুল মনে হয়	৫	৪	৩	২	১
	(নানাবিধ)					
৩২	প্রতিদিনের কাজ কর্মের শক্তিসামর্থ আছে	৫	৪	৩	২	১
৩৩	বয়সের কারনে নিজের চেহারার যে পরিবর্তন তা আমি গ্রহন করতে পেরেছি	৫	৪	৩	২	১
৩৪	নিজের প্রয়োজন মেটার মত যথেষ্ট অর্থ আমার আছে	৫	৪	৩	২	১
৩৫	যে খবরাখবর (তথ্য) আমার দরকার, তা হাতের নাগালে পেয়ে যাই	৫	৪	৩	২	১
৩৬	আমার পর্যাপ্ত বিশ্রামের সুযোগ আছে	৫	৪	৩	২	১
৩৭	মন চাইলেই আমি আশপাশে ঘুরাফেরা করতে পারি	৫	৪	৩	২	১
৩৮	আমার কাজের সামর্থ এখনও অটুট আছে, এটা	৫	৪	৩	২	১

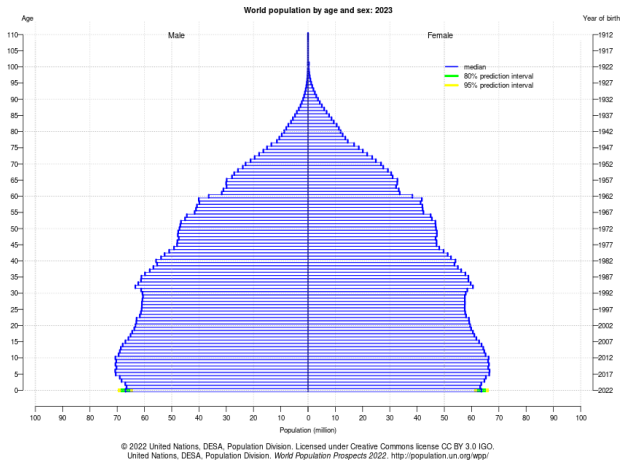
	নিয়ে আমি সন্তুষ্ট					
৩৯	আমার যৌন জীবন ভাল কেটেছে এটা নিয়ে আমি সন্তুষ্ট	৫	৪	৩	২	১
৪০	অসুখে বিসুখে সহজে স্বাস্থ্যসেবা (হাসপাতাল, ক্লিনিক) পাই	৫	৪	৩	২	১
	(ধর্ম বিষয়ক)					
৪১	ধর্মীয় কাজকর্ম (নামাজ, রোজা, পূজা/প্রার্থনা ইত্যাদি) স্বাস্থ্যের জন্য ভাল, এটি মূলত একজন প্রবীণকে শারিরীকভাবে সচল রাখে।	৫	৪	৩	২	১
৪২	ধর্মীয় কাজকর্ম মনে শান্তি দেয়। অন্যান্য কষ্ট ভুলিয়ে দেয়।	৫	৪	৩	২	১
৪৩	ধর্মীয় কাজকর্ম (নামাজ, রোজা, পূজো/প্রার্থনা ইত্যাদি) আমাকে সামাজিকভাবে সচল রাখে ও সম্মান বাড়ায়।	৫	৪	৩	২	১
৪৪	ধর্মীয় কাজ এখন আমার কাছে সবচেয়ে গুরুত্বপূর্ণ। এখন আমার চিন্তা শুধু নামাজ রোজা নিয়ে, অন্য কাজের কথা ভাবিনা।	৫	৪	৩	২	১
৫০	যদি ধর্মীয় কাজ (নামাজ, রোজা, পূজো/প্রার্থনা ইত্যাদি) বাধ্যতামূলক না হত, অন্য কাজগুলোতেও সাচ্ছন্দ বোধ করতাম।	৫	৪	৩	২	১
৪৫	আমার সচল/সক্রিয় থাকা এবং ধর্মীয় কাজ (নামাজ, রোজা ইত্যাদি) এর মধ্যে একটা সম্পর্ক আছে।	৫	৪	৩	২	১
	(সামাজিক অবদান)					
৪৬	আমি মনেকরি সমাজকে আমার সাধ্যমত দিয়েছি এবং দিয়ে যাচ্ছি।	৫	৪	৩	২	১
৪৭	আমি সমাজকে যতটা দিতে চাই ততটা দিতে পারছি না।	৫	৪	৩	২	১

তথ্য সংগ্রহকারীর স্বাক্ষর.....

APPENDIX-B:

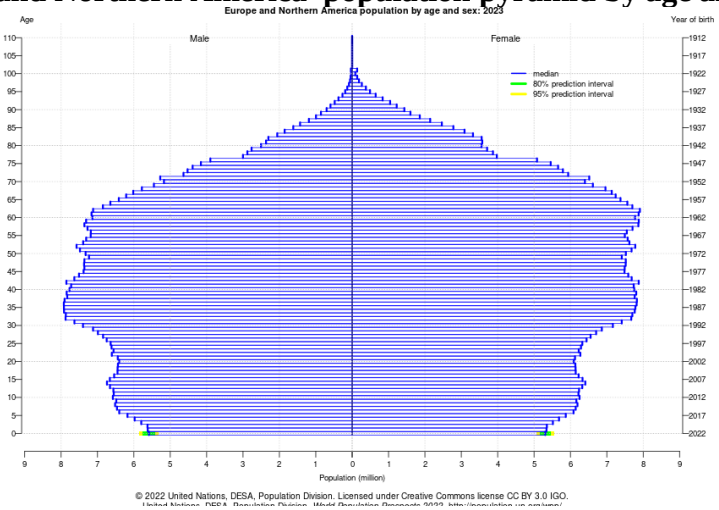
Supplement Figures, Graphs, Tables etc.

Figure 3.1 A : World population pyramid by age and sex 2023



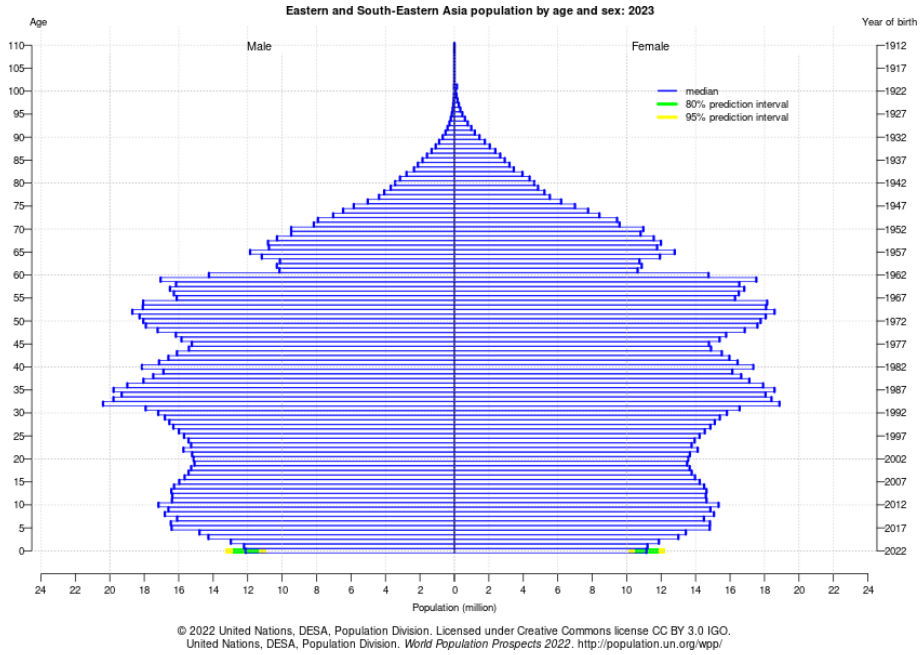
Source: United Nations, DESA, Population Division, World population projection 2022. http//population.un.org/wpp

Figure 3.2B : Europe and Northern America population pyramid by age and sex 2023



Source: United Nations, DESA, Population Division, World population projection 2022. http//population.un.org/wpp

Figure 3.3C : Eastern and South-Eastern Asia population pyramid by age and sex 2023



Source: United Nations, DESA, Population Division, World population projection 2022. http//population.un.org/wpp

APPENDIX-C

Sections, Variables and Districts

First section - Socio Demographic- 29 variables/questions

Second section- The rest of the variables: General Health Questions- 5, LOT-R (Life Orientation Test-Revised), -9, Health and LifeStyle Questionnaire (Social Relations)-2, Health and LifeStyle Questionnaire (Well Being)-3, Social Environment (Social support)-4, Determinants of Health and Social service (Satisfaction with life scale)-2, Determinants of Physical Environment (WHOQOL-BREF Domains)-15, (Physical health Activities of daily living-2 Psychological Bodily image and appearance-4 Social relationships Personal relationships-6 Environment Financial resources-). Spiritual Determinants-6, Social Contribution-2.

Total variables -88

List of Districts

B Baria, Bagerhat, Bogura, Barishal, Chandpur, Chapai Nawabganj, Chuadanga, Comilla, Cox's Bazar, Demra, Dhaka, Dhamrai, Dinajpur, Faridpur, Feni, Fodirpur, Gazipur, Ghaibanda, Gopalgonj, Habiganj, Jalokhati, Jamalpur, Jaypurhat, Jessore, Khagracori, Khulna, Kishorgonj, Kurigram, Kustia, Lalmonirhat, Laxmipur, Madaripur, Manikgonj, Moulovibazar, Mymensing, Munshigonj, Narayanganj, Nator, Nawgaon, Nilphamari, Noakhali, Norshingdi, Pabna, Patuakhali, Ponchogar, Rajbari, Rajshahi, Rangamati, Rongpur, Satkhira, Shariatpur, Sherpur, Shirajganj, Shylet, Tangail and Vola.

Section A

4. Frequency distributions of the socio-demographic variables

Table 4.1 Gender of the respondent

Gender of the respondent					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	252	63.0	63.0	63.0
	Female	148	37.0	37.0	100.0
	Total	400	100.0	100.0	

Table 4.2 Location/District of the respondent

Location (Division)	**Num**	**Percentage**
Dhaka	175	43.75
Chattagram	80	20
Barishal	25	6.25
Sylhet	20	5
Khulna	35	8.75
Rajshahi	35	8.75
Rangpur	30	7.5
	400	100

Table: 4.3:Present location/area of the respondents

Present location/area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Urban area	235	58.8	59.6	59.6
	Rural area	159	39.8	40.4	100.0
	Total	394	98.5	100.0	
Missing	System	6	1.5		
Total		400	100.0		

Table 4.4 Education of the respondent

Education of the respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Illiterate	149	37.2	37.7	37.7
	up to class Eight	124	31.0	31.4	69.1
	SSC	45	11.2	11.4	80.5
	HSC	37	9.2	9.4	89.9
	Graduate	28	7.0	7.1	97.0
	Post-graduate	12	3.0	3.0	100.0
	Total	395	98.8	100.0	
Missing	System	5	1.2		
Total		400	100.0		

Table 4.5 Marital Status of the respondent

Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unmarried	9	2.2	2.2	2.2
	Married	282	70.5	70.5	72.8
	Divorced	14	3.5	3.5	76.2
	Widowed	62	15.5	15.5	91.8
	Bipotnik	30	7.5	7.5	99.2
	Others	3	.8	.8	100.0
	Total	400	100.0	100.0	

Table 4.6 Living condition (whom do they live with) of the respondent

Whom do you live with?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Son	241	60.2	60.6	60.6
	Daughter	35	8.8	8.8	69.3
	Only hosband/wife	59	14.8	14.8	84.2
	Others	63	15.8	15.8	100.0
	Total	398	99.5	100.0	
Missing	System	2	.5		
Total		400	100.0		

Table 4.7 Past occupation of the respondent

Past occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Government service	51	12.8	12.9	12.9
	Non-government service	25	6.2	6.3	19.3
	Business	96	24.0	24.4	43.7
	Agricultural work	72	18.0	18.3	61.9
	Others	150	37.5	38.1	100.0
	Total	394	98.5	100.0	
Missing	System	6	1.5		
Total		400	100.0		

Table 4.8 Present occupation of the respondent

Present Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full time work	73	18.2	18.8	18.8
	Part-time work	71	17.8	18.3	37.0
	Not in work but looking for it	34	8.5	8.7	45.8
	Unable to work and in retirement	59	14.8	15.2	60.9
	Do agricultural work	130	32.5	33.4	94.3
	others	22	5.5	5.7	100.0
	Total	389	97.2	100.0	
Missing	System	11	2.8		
Total		400	100.0		

Table 4.9 Source of income of the respondent

Do you have your own source of income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	235	58.8	59.2	59.2
	no	162	40.5	40.8	100.0
	Total	397	99.2	100.0	
Missing	System	3	.8		
Total		400	100.0		

Table 4.10 Main Source of income of the respondent

Sources of income (main)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Pension	46	11.5	12.1	12.1
	Land	86	21.5	22.6	34.6
	Business	73	18.2	19.2	53.8
	House rent	29	7.2	7.6	61.4
	Alms	18	4.5	4.7	66.1
	Others	129	32.2	33.9	100.0
	Total	381	95.2	100.0	
Missing	System	19	4.8		
Total		400	100.0		

Table 4.11 Monthlyincome of the respondent

Monthly income range

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 5000 taka	100	25.0	25.6	25.6
	5000-10000 taka	83	20.8	21.2	46.8
	10001-15000 taka	41	10.2	10.5	57.3
	15001-20000 taka	32	8.0	8.2	65.5
	20001-25000 taka	30	7.5	7.7	73.1
	above 25000 taka	104	26.0	26.6	99.7
	I dont know	1	.2	.3	100.0
	Total	391	97.8	100.0	
Missing	System	9	2.2		
Total		400	100.0		

Table 4.12 Whether receive any benefit/allowance

Do you receive any benefit/allowance?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	67	16.8	16.9	16.9
	no	330	82.5	83.1	100.0
	Total	397	99.2	100.0	
Missing	System	3	.8		
Total		400	100.0		

Table 4.13 Type of benefit/allowance received by respondents

What type of allownce you receive?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Old Age Allowance	29	7.2	35.4	35.4
	Freedom Fighter Allowance	22	5.5	26.8	62.2
	VGD	8	2.0	9.8	72.0
	Others	23	5.8	28.0	100.0
	Total	82	20.5	100.0	
Missing	System	318	79.5		
Total		400	100.0		

Table 4.14 Benefit from NGOs received by the respondents

Do you receive any benefit from any NGO?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	23	5.8	5.8	5.8
	no	376	94.0	94.2	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		
Total		400	100.0		

Table 4.15 Type of Benefit from NGOs

What benefit you receive?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		377	94.2	94.2	94.2
	cow	2	.5	.5	94.8
	loan	11	2.8	2.8	97.5
	Loan	1	.2	.2	97.8
	Micro Credit	4	1.0	1.0	98.8
	Microcredit	2	.5	.5	99.2
	Residence	1	.2	.2	99.5
	sanitation	1	.2	.2	99.8
	Sanitation	1	.2	.2	100.0
	Total	400	100.0	100.0	

Table 4.16 perception on the behavior of family members

Your perception on the behavior of family members

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very good	124	31.0	31.3	31.3
	Good	176	44.0	44.4	75.8
	Fair	80	20.0	20.2	96.0
	Unfair	6	1.5	1.5	97.5
	Very bad	10	2.5	2.5	100.0
	Total	396	99.0	100.0	
Missing	System	4	1.0		
Total		400	100.0		

Table 4.17 Regular Health Check-up need of the respondents

Do you need regular health check-up?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	174	43.5	43.9	43.9
	no	222	55.5	56.1	100.0
	Total	396	99.0	100.0	
Missing	System	4	1.0		
Total		400	100.0		

4.18 Table: Percentage of Health issues / Health problems reported by the older persons under study.

	Health issues/problems	**Percentage of Yes responses**
1.	Diabetes	33.6%
2.	Heart-disease	19.5%
3.	High blood pressure	33.0%
4.	pain (Sciatica)	46.2%
5.	Constipation	9.3%
6.	Peptic ulcer	4.0%
7.	Others	29%

APPENDIX-D

Section- B

Table-5 Frequency and percentage of the statements by respondents

Table: 5.1

I have been able to concentrate					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	27	6.8	6.8	6.8
	Disagree	59	14.8	14.8	21.5
	Neither Agree nor Disagree	71	17.8	17.8	39.2
	Agree	161	40.2	40.2	79.5
	Fully Agree	82	20.5	20.5	100.0
	Total	400	100.0	100.0	

Table: 5.2

I felt capable of making decisions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	25	6.2	6.2	6.2
	Disagree	54	13.5	13.5	19.8
	Neither Agree nor Disagree	70	17.5	17.5	37.2
	Agree	131	32.8	32.8	70.0
	Fully agree	120	30.0	30.0	100.0
	Total	400	100.0	100.0	

Table: 5.3

I have been able to enjoy normal activities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	18	4.5	4.5	4.5
	Disagree	53	13.2	13.3	17.8
	Neither Agree nor Disagree	59	14.8	14.8	32.7
	Agree	150	37.5	37.7	70.4
	Fully Agree	118	29.5	29.6	100.0
	Total	398	99.5	100.0	
Missing	System	2	.5		
Total		400	100.0		

Table: 5.4

I have been feeling unhappy and depressed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	41	10.2	10.2	10.2
	Disagree	132	33.0	33.0	43.2
	Neither Agreee nor Disagree	95	23.8	23.8	67.0
	Agree	101	25.2	25.2	92.2
	Fully Agree	31	7.8	7.8	100.0
	Total	400	100.0	100.0	

Table: 5.5

I remain anxious and tensed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	37	9.2	9.3	9.3
	Disagree	82	20.5	20.7	30.1
	Neither Agree nor Disagree	81	20.2	20.5	50.5
	Agree	141	35.2	35.6	86.1
	Fully Agree	55	13.8	13.9	100.0
	Total	396	99.0	100.0	
Missing	System	4	1.0		
Total		400	100.0		

Table: 5.6

I feel my mind green and live

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	19	4.8	4.8	4.8
	Disagree	61	15.2	15.3	20.1
	Neither Agree nor Disagree	105	26.2	26.3	46.4
	Disagree	150	37.5	37.6	84.0
	Fully Agree	64	16.0	16.0	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		
Total		400	100.0		

Table: 5.7

I can do my activities in an organized way

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	19	4.8	4.8	4.8
	Disagree	56	14.0	14.0	18.8
	Neither Agree nor Disagree	81	20.2	20.3	39.1
	Agree	149	37.2	37.3	76.4
	Fully Agree	94	23.5	23.6	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		
Total		400	100.0		

Table: 5.8

I am always optimistic about my future

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	44	11.0	11.1	11.1
	Disagree	82	20.5	20.6	31.7
	Neither Agree nor Disagree	130	32.5	32.7	64.3
	Agree	82	20.5	20.6	84.9
	Fully Agree	60	15.0	15.1	100.0
	Total	398	99.5	100.0	
Missing	System	2	.5		
Total		400	100.0		

Table: 5.9

I hardly ever expect things to go on my way.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	18	4.5	4.5	4.5
	Disagree	80	20.0	20.1	24.6
	Neither Agree nor Disagree	119	29.8	29.8	54.4
	Agree	127	31.8	31.8	86.2
	Fully Agree	55	13.8	13.8	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		
Total		400	100.0		

Table: 5.10

I have been feeling reasonably happy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	19	4.8	4.8	4.8
	Disagree	58	14.5	14.5	19.2
	Neither Agree nor Disagree	86	21.5	21.5	40.8
	Agree	151	37.8	37.8	78.5
	Fully Agree	86	21.5	21.5	100.0
	Total	400	100.0	100.0	

Table: 5.11

I lack companionship

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	69	17.2	17.2	17.2
	Disagree	120	30.0	30.0	47.2
	Neither Agree nor Disagree	74	18.5	18.5	65.8
	Agree	95	23.8	23.8	89.5
	Fully Agree	42	10.5	10.5	100.0
	Total	400	100.0	100.0	

Table: 5.12

I feel left out by the family and society

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	99	24.8	24.8	24.8
	Disagree	124	31.0	31.1	55.9
	Neither Agree nor Disagree	62	15.5	15.5	71.4
	Agree	80	20.0	20.1	91.5
	Fully Agree	34	8.5	8.5	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		

I feel left out by the family and society

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	99	24.8	24.8	24.8
	Disagree	124	31.0	31.1	55.9
	Neither Agree nor Disagree	62	15.5	15.5	71.4
	Agree	80	20.0	20.1	91.5
	Fully Agree	34	8.5	8.5	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		
Total		400	100.0		

Table: 5.13

I feel isolation from others

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	74	18.5	18.5	18.5
	Disagree	136	34.0	34.1	52.6
	Neither Agree nor Disagree	52	13.0	13.0	65.7
	Agree	98	24.5	24.6	90.2
	Fully Agree	39	9.8	9.8	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		
Total		400	100.0		

Table: 5.14

People are around me but not with me

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	87	21.8	21.8	21.8
	Disagree	116	29.0	29.0	50.8
	Neither Agree nor Disagree	69	17.2	17.2	68.0
	Agree	86	21.5	21.5	89.5
	Fully Agree	42	10.5	10.5	100.0
	Total	400	100.0	100.0	

Table: 5.15

I am happy with the relationship I have with my family members and relatives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	6	1.5	1.5	1.5
	Disagree	62	15.5	15.5	17.0
	Neither Agree nor Disagree	71	17.8	17.8	34.8
	Agree	162	40.5	40.5	75.2
	Fully Agree	99	24.8	24.8	100.0
	Total	400	100.0	100.0	

Table: 5.16

My near and dear ones are intimate and take proper care of mine

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	17	4.2	4.2	4.2
	Disagree	35	8.8	8.8	13.0
	Neither Agree nor Disagree	80	20.0	20.0	33.0
	Agree	151	37.8	37.8	70.8
	Fully Agree	117	29.2	29.2	100.0
	Total	400	100.0	100.0	

Table: 5.17

My present life gives me a sense of well being

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	16	4.0	4.0	4.0
	Disagree	42	10.5	10.5	14.5
	Neither agree nor disagree	72	18.0	18.0	32.6
	Agree	156	39.0	39.1	71.7
	Fully Agree	113	28.2	28.3	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		
Total		400	100.0		

Table: 5.18

I can speak openly; no one gives me barrier on my opinion

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	18	4.5	4.5	4.5
	Disagree	60	15.0	15.0	19.5
	Neither agree nor Disagree	84	21.0	21.1	40.6
	Agree	141	35.2	35.3	75.9
	Fully Agree	96	24.0	24.1	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		
Total		400	100.0		

Table: 5.19

I have good personal control (internal and external control)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	12	3.0	3.1	3.1
	Disagree	42	10.5	10.8	13.8
	Neither Agree nor Disagree	73	18.2	18.7	32.6
	Agree	160	40.0	41.0	73.6
	Fully Agree	103	25.8	26.4	100.0
	Total	390	97.5	100.0	
Missing	System	10	2.5		

I have good personal control (internal and external control)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	12	3.0	3.1	3.1
	Disagree	42	10.5	10.8	13.8
	Neither Agree nor Disagree	73	18.2	18.7	32.6
	Agree	160	40.0	41.0	73.6
	Fully Agree	103	25.8	26.4	100.0
	Total	390	97.5	100.0	
Missing	System	10	2.5		
Total		400	100.0		

Table: 5.20

How many relatives do you see or hear from at least once a month?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no one	34	8.5	8.5	8.5
	1 person	37	9.2	9.2	17.8
	2 person	88	22.0	22.0	39.8
	3-4 person	129	32.2	32.2	72.0
	5-8 person	72	18.0	18.0	90.0
	above 9	40	10.0	10.0	100.0
	Total	400	100.0	100.0	

Table: 5.21

How many relatives/friends come to see you from at least once a month?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no one	38	9.5	9.5	9.5
	1 person	40	10.0	10.0	19.5
	2 person	72	18.0	18.0	37.5
	3-4 person	140	35.0	35.0	72.5
	5-8 person	64	16.0	16.0	88.5
	above 9	46	11.5	11.5	100.0
	Total	400	100.0	100.0	

Table: 5.22

How many friends/relatives you can talk about private matters?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no one	44	11.0	11.0	11.0
	1 person	50	12.5	12.5	23.5
	2 person	115	28.8	28.8	52.2
	3-4 person	119	29.8	29.8	82.0
	5-8 person	48	12.0	12.0	94.0
	above 9	24	6.0	6.0	100.0
	Total	400	100.0	100.0	

Table: 5.23

How many relatives/friends you could call on them for help?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no one	26	6.5	6.5	6.5
	1 person	37	9.2	9.2	15.8
	2 person	79	19.8	19.8	35.5
	3-4 person	115	28.8	28.8	64.2
	5-8 person	78	19.5	19.5	83.8
	above 9	65	16.2	16.2	100.0
	Total	400	100.0	100.0	

Table: 5.24

In most ways of my life is close to my ideal

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	27	6.8	6.8	6.8
	Disagree	74	18.5	18.5	25.3
	Neither Agree nor Disagree	98	24.5	24.6	49.9
	Agree	137	34.2	34.3	84.2
	Fully Agree	63	15.8	15.8	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		

In most ways of my life is close to my ideal

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	27	6.8	6.8	6.8
	Disagree	74	18.5	18.5	25.3
	Neither Agree nor Disagree	98	24.5	24.6	49.9
	Agree	137	34.2	34.3	84.2
	Fully Agree	63	15.8	15.8	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		
Total		400	100.0		

Table: 5.25

I am satisfied with my life

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	25	6.2	6.3	6.3
	Disagree	55	13.8	13.9	20.2
	Neither Agree nor Disagree	99	24.8	24.9	45.1
	Agree	136	34.0	34.3	79.3
	Fully Agree	82	20.5	20.7	100.0
	Total	397	99.2	100.0	
Missing	System	3	.8		
Total		400	100.0		

Table: 5.26

I am satisfied with my health status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	35	8.8	8.8	8.8
	Disagree	94	23.5	23.6	32.4
	Neither Agree nor Disagree	85	21.2	21.4	53.8
	Agree	123	30.8	30.9	84.7
	Fully Agree	61	15.2	15.3	100.0
	Total	398	99.5	100.0	
Missing	System	2	.5		
Total		400	100.0		

Table: 5.27

physical pain prevents me from doing what i need to do

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	41	10.2	10.3	10.3
	Disagree	87	21.8	21.9	32.2
	Neither Agree nor Disagree	85	21.2	21.4	53.7
	Agree	132	33.0	33.2	86.9
	Fully Agree	52	13.0	13.1	100.0
	Total	397	99.2	100.0	
Missing	System	3	.8		
Total		400	100.0		

Table: 5.28

I enjoy my life

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	19	4.8	4.8	4.8
	Disagree	92	23.0	23.1	27.9
	Neither Agree nor Disagree	96	24.0	24.1	52.0
	Agree	133	33.2	33.4	85.4
	Fully Agree	58	14.5	14.6	100.0
	Total	398	99.5	100.0	
Missing	System	2	.5		
Total		400	100.0		

Table: 5.29

feel my life to be meaningful

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	25	6.2	6.3	6.3
	Disagree	70	17.5	17.6	23.9
	Neither Agree nor Disagree	114	28.5	28.6	52.5
	Agree	121	30.2	30.4	82.9
	Fully Agree	68	17.0	17.1	100.0
	Total	398	99.5	100.0	
Missing	System	2	.5		
Total		400	100.0		

Table: 5.30

I feel safe in my daily life

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	13	3.2	3.3	3.3
	Disagree	61	15.2	15.3	18.5
	Neither Agree nor Disagree	100	25.0	25.1	43.6
	Agree	154	38.5	38.6	82.2
	Fully Agree	71	17.8	17.8	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		
Total		400	100.0		

Table: 5.31

I fell healthy inmyphysical environment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	27	6.8	6.8	6.8
	Disagree	77	19.2	19.4	26.2
	Neither Agree nor Disagree	63	15.8	15.9	42.1
	Agree	127	31.8	32.0	74.1
	Fully Agree	103	25.8	25.9	100.0
	Total	397	99.2	100.0	
Missing	System	3	.8		
Total		400	100.0		

Table: 5.32

I have enough energy for everyday life

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	27	6.8	6.8	6.8
	Disagree	71	17.8	17.8	24.6
	Neither Agree nor Disagree	75	18.8	18.8	43.4
	Agree	146	36.5	36.6	79.9
	Fully Agree	80	20.0	20.1	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		
Total		400	100.0		

Table: 5.33

I am able to accept my bodily appearance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	14	3.5	3.5	3.5
	Disagree	46	11.5	11.5	15.0
	Neither Agree nor Disagree	79	19.8	19.8	34.8
	Agree	163	40.8	40.9	75.7
	Fully Agree	97	24.2	24.3	100.0
	Total	399	99.8	100.0	
Missing	System	1	.2		
Total		400	100.0		

Table: 5.34

I have enough money to meet my needs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	26	6.5	6.5	6.5
	Disagree	82	20.5	20.5	27.0
	Neither Agree nor Disagree	77	19.2	19.2	46.2
	Agree	125	31.2	31.2	77.5
	Fully Agree	90	22.5	22.5	100.0
	Total	400	100.0	100.0	

Table: 5.35

I get available information in day-to-day life

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	34	8.5	8.5	8.5
	Disagre	65	16.2	16.2	24.8
	Neither Agree nor Disagree	108	27.0	27.0	51.8
	Agree	128	32.0	32.0	83.8
	Fully Agree	65	16.2	16.2	100.0
	Total	400	100.0	100.0	

Table: 5.36

I have the opportunity for leisure activities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	21	5.2	5.2	5.2
	Disgree	67	16.8	16.8	22.0
	Neither Agree nor Disagree	82	20.5	20.5	42.5
	Agree	136	34.0	34.0	76.5
	Fully Agree	94	23.5	23.5	100.0
	Total	400	100.0	100.0	

Table: 5.37

I am able to get around

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	28	7.0	7.0	7.0
	Disagree	62	15.5	15.6	22.6
	Neither Agree nor Disagree	60	15.0	15.1	37.7
	Agree	138	34.5	34.7	72.4
	Fully Agree	110	27.5	27.6	100.0
	Total	398	99.5	100.0	
Missing	System	2	.5		
Total		400	100.0		

Table: 5.38

I am satisfied with my capacity for work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	19	4.8	4.8	4.8
	Disagree	70	17.5	17.5	22.2
	Neither Agree nor Disagree	71	17.8	17.8	40.0
	Agree	153	38.2	38.2	78.2
	Fully Agree	87	21.8	21.8	100.0
	Total	400	100.0	100.0	

Table: 5.39

I am satisfied with my sex life

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	6	1.5	1.5	1.5
	Disagree	31	7.8	7.9	9.4
	Neither Agree nor Disagree	75	18.8	19.1	28.5
	Agree	142	35.5	36.1	64.6
	Fully Agree	139	34.8	35.4	100.0
	Total	393	98.2	100.0	
Missing	System	7	1.8		
Total		400	100.0		

Table: 5.40

I am satisfied with my access to health service

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	16	4.0	4.1	4.1
	Disagree	52	13.0	13.2	17.2
	Neither Agree nor Disagree	74	18.5	18.7	35.9
	Agree	142	35.5	35.9	71.9
	Fully Agree	111	27.8	28.1	100.0
	Total	395	98.8	100.0	
Missing	System	5	1.2		
Total		400	100.0		

Table: 5.41

The spiritual activities (Prayers, offerings etc.) is good for health, these indeed keeps an older person active.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	6	1.5	1.5	1.5
	Disagree	15	3.8	3.8	5.3
	Neither Agree nor Disagree	23	5.8	5.8	11.1
	Agree	127	31.8	32.1	43.2
	Fully Agree	225	56.2	56.8	100.0
	Total	396	99.0	100.0	
Missing	System	4	1.0		
Total		400	100.0		

Table: 5.42

The spiritual activities (Prayers, offerings etc.) generates peace in mind.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	9	2.2	2.3	2.3
	Disagree	18	4.5	4.6	6.8
	Neither Agree nor Disagree	25	6.2	6.3	13.2
	Agree	111	27.8	28.1	41.3
	Fully Agree	232	58.0	58.7	100.0
	Total	395	98.8	100.0	
Missing	System	5	1.2		
Total		400	100.0		

Table: 5.43

The spiritual activities (Prayers, offerings etc.) keeps me socially active and increases respect

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	10	2.5	2.5	2.5
	Disagree	15	3.8	3.8	6.3
	Neither Agree nor Disagree	34	8.5	8.6	14.9
	Agree	103	25.8	26.0	40.9
	Fully Agree	234	58.5	59.1	100.0
	Total	396	99.0	100.0	
Missing	System	4	1.0		
Total		400	100.0		

Table: 5.44

Spiritual activities is most important to me. I don't think other activities except payers offerings etc.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	17	4.2	4.3	4.3
	Disagree	42	10.5	10.6	14.9
	Neither Agree nor Disagree	93	23.2	23.5	38.4
	Agree	98	24.5	24.7	63.1
	Fully Agree	146	36.5	36.9	100.0
	Total	396	99.0	100.0	
Missing	System	4	1.0		
Total		400	100.0		

Table: 5.45

If spritual activities were not obvious, I would have been comfortable to other acuities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	127	31.8	32.2	32.2
	Disagree	85	21.2	21.5	53.7
	Neither Agree nor Disagree	79	19.8	20.0	73.7
	Agree	41	10.2	10.4	84.1
	Fully Agree	63	15.8	15.9	100.0
	Total	395	98.8	100.0	
Missing	System	5	1.2		
Total		400	100.0		

Table: 5.46

My active ageing and spiritual activities are related

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	9	2.2	2.3	2.3
	Disagree	16	4.0	4.1	6.3
	Neither Agree nor Disagree	51	12.8	12.9	19.3
	Agree	156	39.0	39.6	58.9
	Fully Agree	162	40.5	41.1	100.0
	Total	394	98.5	100.0	
Missing	System	6	1.5		
Total		400	100.0		

Table: 5.47

I feel I have given my best to the society

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	8	2.0	2.0	2.0
	Disagree	53	13.2	13.4	15.4
	Neither Agree nor Disagree	135	33.8	34.1	49.5
	Agree	134	33.5	33.8	83.3
	Fully Agree	66	16.5	16.7	100.0
	Total	396	99.0	100.0	
Missing	System	4	1.0		
Total		400	100.0		

Table: 5.48

I can't give the society to my capability

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fully Disagree	22	5.5	5.6	5.6
	Disagree	82	20.5	20.9	26.5
	Neither Agree nor Disagree	137	34.2	34.9	61.5
	Agree	113	28.2	28.8	90.3
	Fully Agree	38	9.5	9.7	100.0
	Total	392	98.0	100.0	
Missing	System	8	2.0		
Total		400	100.0		

Note: Results of above tables are discussed in Chapter-6:Results, Discussions, and Practical Implications.