POPULATION AGEING IN BANGLADESH AND ITS IMPLICATION ON HEALTH CARE

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Abstract

In Bangladesh as in other regions of the world, the population ages 60 years and older is growing faster than the total population. Growth in the elderly population relative to other age groups challenges existing health services, family relationships and social security. With continued population ageing, the loss of cognitive function will potentially cause enormous social and economic burden on families, communities and, to the country. Using the census and secondary data, the paper investigates that increasing longevity and declining fertility are combining to convert the population age structure from young to old. This combination is resulting implications on the family health care and unmet need of health care services in the public sector. The support index shows that there will be fewer persons to support elderly population in future with implications in traditional family care. The care index shows the cost of burden for long term care associated with the shift in the population age structure. As a consequence Bangladeshi societies will confront population aging without traditional kin support.

Keywords: Aging, Health care, Family care, Bangladesh

Introduction

It is widely known that population ageing is a demographically inevitable process, since it is linked to the demographic transition and therefore to the fall of births and in mortality rates, mostly at older ages. Depending upon on the set, speed and intensity of the demographic transition, the ageing process will vary both in speed and in extent on a geographical basis. The pace of population ageing is much faster in

developing countries compared to developed countries (Khan and Leeson, 2006; Glass and Balfour, 2003; Prakash, 1999). The ageing process is wide spread and involves individual, households and sub populations the elderly and the working age population in particular. Bangladesh is one of the twenty developing countries with largest number of elderly population. By 2025 along with other four Asian countries, Bangladesh will account about half of the world's total elderly population (Chaklader et al, 2003). The growth of the aged population will continue and that has laid down several issues related to their status and roles, care and living, health, social support and overall wellbeing (Khan, 2006). The elderly people require a combination of physical and material supports which they can receive properly from their family members.

The cultural and religious tradition of Bangladesh is expected that families and communities will care for their own elderly members but rapid socioeconomic and demographic transitions, mass poverty, changing social and religious values, influence of western culture and other factors have broken down the community care system (Islam and Nath, 2012). Kabir (1992) stated that Bangladesh is expected have a rapid increase in their aged population.

In Bangladesh also because of increasing life expectancy elderly population will increase. Depending upon the achievement of replacement fertility by 2050 one in 10 will be elderly and by 2050 one in 5 will be elderly in Bangladesh. Bangladesh will face many difficulties in managing the many challenges for large elderly population. This includes factors such as changing family structure, poverty, social and cultural norms, and inadequate health care facilities for the elderly population.

Research Objectives

The broad objective of the paper is to assess the situation of elderly population in Bangladesh.

The specific objectives are:
- To find out the effects of mortality on ageing.
- To investigate type of health problems faced by the elderly.
- To address policy implications for the elderly health care in the future.

Data and Methods

Data for the study were from population projection, which was conducted by using the 2001 population census of Bangladesh as the base data by age and sex. The projection used fertility and mortality data, which were from BDHS and South Asian Model Life Table. The projected population shows that by 2025 one in ten persons will be elderly and one in

five persons will be elderly by 2050. Population ageing index will increase suggesting high elderly dependency ratio. The demographic changes leading to population aging have significant implications on social and economic conditions. Undoubtedly, the policy responses will influence economic growth and the prevalence of poverty, intergenerational equity and social welfare. The rapid growth in the elderly population will challenge existing health services, family relationships on social security. Because of change in the family structure there will be implications on health care of elderly from the family and unmet need of health care services in the public sector will increase.

Findings
Comparative Situation of Elderly in Some Selected Asian Countries

The following table 1.1 shows the ageing situation in some selected countries of South Asia. In future South Asia including China will share the largest number of elderly population.   By 2025 Bangladesh along with four other Asian countries (China, India, Indonesia and Pakistan) will account for about half of the world's total elderly population. Among the selected Asian countries Sri Lanka has already over 12% of its population are elderly followed by Indonesia 8.9%, India 7.5% and Bangladesh 6.3% in 2010. However, the growth elderly population in Bangladesh, Pakistan and Nepal are the more or less the same. Fertility Transition and mortality transition occurred early and as a result the percentage of elderly population is also high in Sri Lanka.

Table 1.1: Elderly Situation in some selected Asian Counties, 2010.

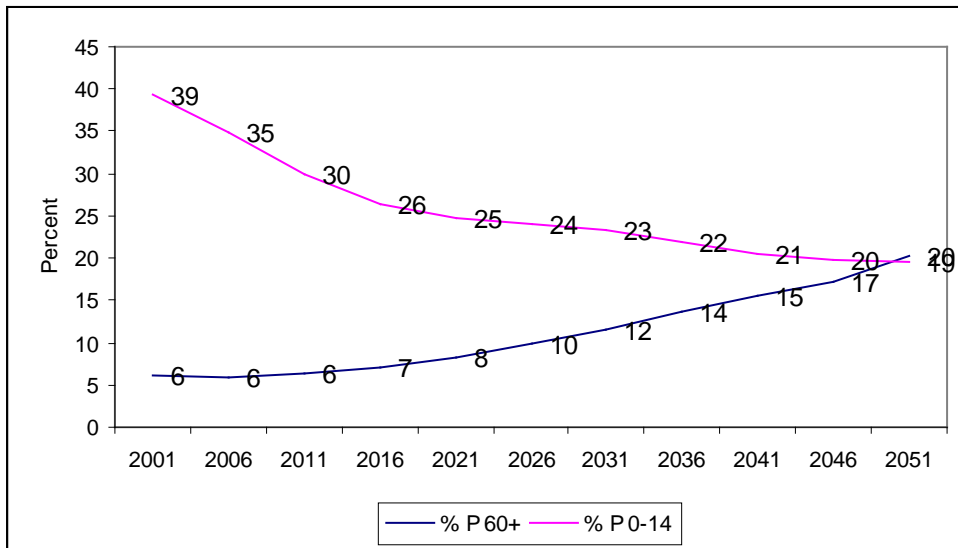| Age group	Bangladesh	India	Pakistan	Nepal	Sri Lanka	Indonesia
60-64	2.22	2.63	2.12	2.08	4.55	2.86
65-69	1.65	1.95	1.68	1.74	2.85	2.38
70-74	1.15	1.42	1.13	1.20	2.09	1.81
75-79	0.68	0.87	0.69	0.71	1.37	1.13
80+	0.57	0.67	0.58	0.46	1.42	0.76
Total	**6.28**	**7.55**	**6.20**	**6.18**	**12.29**	**8.94**

(United Nations, 2009)

Trends in Ageing in Bangladesh

The following Table 1.2 shows the elderly population size in middle of this century in Bangladesh. As evident from table 2 and figure 2 elderly population will be increasing from about 8 million in 2001 to 44 million in 2050. In terms of percentage it will increase from little over 6 % in 2001 to 20 % by 2051 on the assumption that replacement fertility will be achieved by 2011.

Table 1.2: Trends in Population Ageing in Bangladesh (2001-2050)

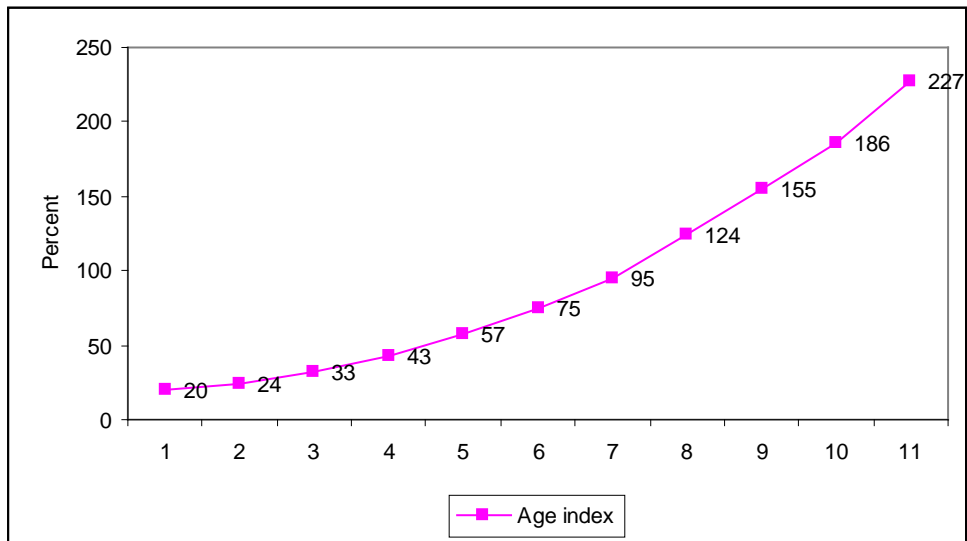| Projection year	TFR= 2.1 in 2011 P60+ (Pop in million)	% of elderly Population
2001	7.9	6.1
2006	8.3	5.9
2011	9.8	6.5
2016	11.3	7.0
2021	14.0	8.2
2026	18.0	9.9
2031	22.1	11.6
2036	27.3	13.7
2041	31.9	15.5
2046	36.6	17.2
2051	44.1	20.2

Figure 1.1 Population Ageing situation in Bangladesh (2001 to 2050)

Ageing Index

The decline of fertility and population aging due the demographic transition will affect Bangladesh. The effects of these changes, however, would be even more enormous and serious in the future. The increase of the proportion of elderly will increase dependency ratio and the ageing index. Figure 1.2 shows the ageing index, which is calculated as the ratio of population 60+ divided by the population under 15 years. Because of falling fertility and increase in ageing population the ageing index of population aged 60 years and above will increase more than eleven times in 2050 than the population aged under fifteen years.

Figure 1.2: Ageing Index Ratio of Population 60+ and Population 0-14 under assumption NRR=2.1 by 2011

Age structure of the population 2001 and 2050

Achievement of the replacement fertility in time will bring the change in the demographic transition and the age structure of the population. Figure 1.3 shows the population pyramid between 2001 and 2021. In 2001 pyramid shows younger population that is under 15 years dominated because of high fertility in the past. On the other hand 2021 population age pyramid shows declining in the population under 15 years but increase in the population aged 15 to 34 years because of the high cohort fertility in the past and falling fertility in the recent years. Similarly figure 6 shows population pyramid for 2001 and 2050. A close investigation of the two pyramids show they are quite different.

The 2001 was for the high fertility situation as against achievement of replacement fertility assumption by 2011. If Bangladesh can achieve replacement fertility by 2011 than the proportion of population in the age groups will remain more or less the same by 2050, however, with the exception of rapid increase of population aged 60 years and above shown in Figure 1.4. Besides falling fertility life expectancy at birth has been increasing. Change in population age structure might affect the composition of investment demand for more hospitals, demand for more family care.

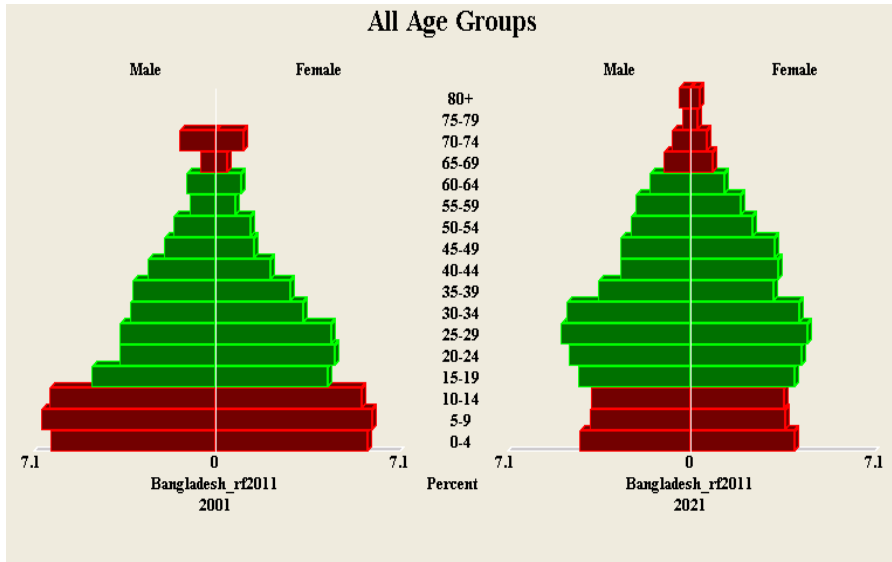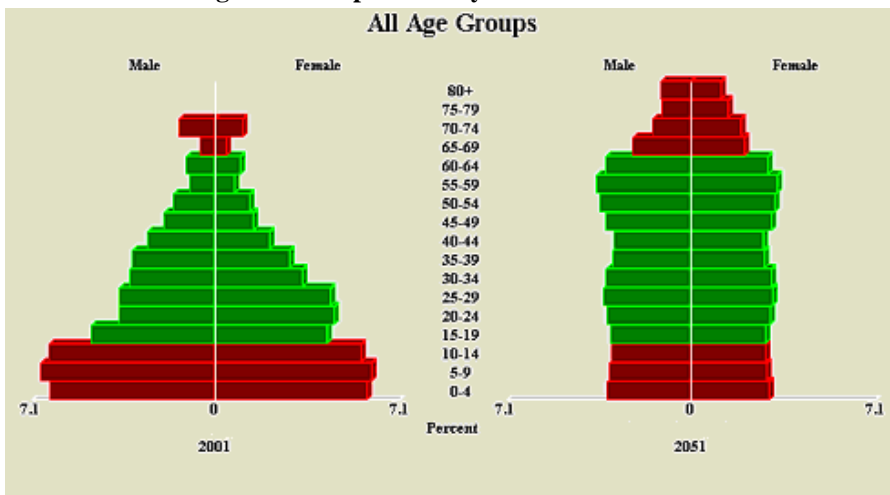**Figure 1.3: Population Pyramid 2001 and 2021**

Figure 1.4: Population Pyramid 2001 and 2051

Effects of Mortality on Ageing

Table 1.3 shows the effects of mortality on ageing at selected ages. A person now aged 60 years with a life expectancy of 61 years would expect to survive another 16 years as against 18.5 years with a life expectancy of 70 years indicating that improvement in survival status will increase the population ageing. Similarly, a person aged now 80 years would expect to survive 12 years according to the life expectancy of 61 years as opposed to about 14 years if life expectancy increased to 70 years. The improvement in life expectancy is also supported by the information given in table 4 which

shows percentage of population aged 80 years and above between 2001 and 2050. In the 2001 census, very few were recorded as 80 years and above as opposed to about 13% in 2050. The table 1.4 also suggests there is a fluctuation in the percentage of population 80 years and above. This is mainly attributed to the age misreporting in the census. For instance, population aged 55 to 59 is possibly less enumerated compare to the population aged 50 to 54 years. Thus age misreporting has caused fluctuations in the population 80 years and above. This also suggest despite age reporting problem ageing population i.e. population 80 years and above will be increasing in future years because of increase in life expectancy. This is also supported by the increase in the number of centurions. For instance in 2030 there will be 1000 centurions and this will increase to 4000 in 2050.

However, lower mortality does not necessarily imply more years of life in good health at old ages; it may be the case that the improved life expectancy will lead to greater unmet need for old-age health care services. The increased years of life expectancy means that more elderly will spend more years in poor health.

Table 1.3: Remaining Years Survived at Selected Life Expectancy at Birth

Selected Age	Life Expectancy: 61 Years	Life Expectancy: 65 Years	Life Expectancy: 70 Years
60	16.1	17.1	18.5
65	13.1	13.1	15.1
70	10.5	11.1	12.1
75	8.4	8.9	9.6
80+	12.1	12.6	13.5

Table 1.4: Percentage of Population aged 80 years and above between 2001 and 2050.

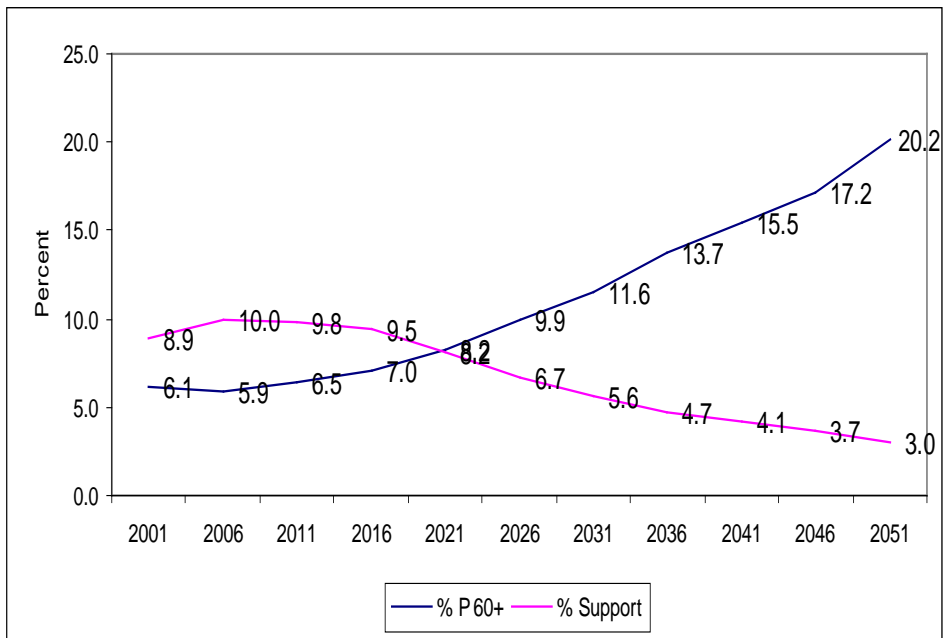| Year	Pop 80+ (in million)	P60+ (Pop in million)	% of Pop (80 and above)
2001	0.00	7.9	0.0
2006	0.03	8.3	0.4
2011	1.45	9.8	14.8
2016	1.23	11.3	10.9
2021	1.53	14.0	10.9
2026	1.51	18.0	8.4
2031	2.00	22.1	9.0
2036	2.48	27.3	9.1
2041	3.32	31.9	10.4
2046	4.48	36.6	12.2
2051	5.55	44.1	12.6

Support Index

The ageing process is best understood if the proportions among different segments of the population are better understood on the basis of

potential support ratio that is ratio of the population age 15-59 years to the population 60 years and above.

The support index is shown in figure 1.5 and indicates that initially population aging will be increasing from 6.1 percent to 20.2 percent between 2001 and 2050. But support index will be declining from about 9 in 2001 to 3 in 2050 that is 3 persons in the working age group will have to support one person in old age compared to 9 persons in 2001. Both support index and percentage of ageing population cut at 2021 indicating that support index and percentage of working population and the ageing will be the same.

If "population ageing" is defined as increase in the average age of the population, all populations are ageing. However, when "population aging' is defined as the transition from a high support ratio usually defined as the population aged 15-59 divided by the population aged 60+ to a low support ratio then the population will fall into two groups. The support index shows that there will be fewer persons to look after the elderly population in future. The elderly population will increase from little over 6% in 2001 to over 20% by 2050 while support index will decline from about 9 persons per elderly in 2001 to only 3 persons per elderly in 2050.
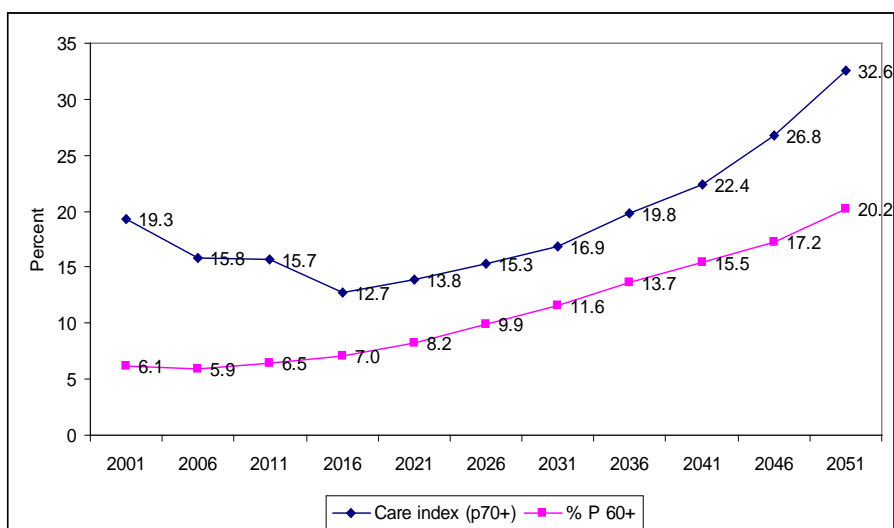
Figure 1.5: Population aging and support index

This clearly suggests fewer persons will be available to look after the elderly in future. The differences -- that the majority of those who are being supported have become elderly and the number of those who support is not increasing but decline as they move one cohort to another cohort.

Care Index

The demographic senior citizens' care index used here consists of the number of people of advanced old age (70 years where the need for care is most prevalent) per 100 people in the age group 40-59 younger than they are, who normally take responsibility for caring for the elderly. The care index for persons aged 70 years or over relative to 100 people in the age group 40-59 will be about double from 15.8 in 2006 to 33.8 in 2050. This demonstrates one person in every two aged 40-59 years will be matched by a person aged 70 years or over with much higher likelihood of requiring care. The care index measures only the direct, demographically determined increase in the cost of burden for long-term care associated with the shift in the aging of population.

Figure 1.6: Ratio of Population aged 70+ and Population aged 40-59

The care index showed above measures only the direct demographically determined increase in the cost burden for long term care associated with the shift in the population's age structure. By far, the major part of the care for the elderly is still provided by members of their family .In future, the number of people requiring care to obtain their care outside family will increase.

Old Age Health Problem

In a recent survey conducted by an NGO indicates that elderly suffer from multiple of heath problems. These include weakness, dementia, loneliness, tiredness, tooth problem, hearing problem, vision problem, body ache, lower backache, rheumatic pain and stiffness in joint, prolonged cough, breathlessness, bronchial, asthma, shortness of breath and high blood

pressure, chest pain. Besides hernia, disability, leg swollen, allergy, social isolation are also problems of the elderly population.

Table 1.5 shows the percentage of elderly population by number of health problems. Health problems at old ages are universal. According information shown in table 5 about 60% suffer from 5 diseases at any point in time.

Table 1.5: Percentage of elderly population by health problems

Number of Health problem	Percent of elderly
1	99.8
2	98.5
3	93.4
4	81
5	59.7
6	39.3
7	21.6
8	12.2
9	6
10	2.7

Discussions

There is a great concern as the proportion of older people grows and family size declines, the family support system may be in jeopardy. One would expect that there will be fewer persons in the younger generations to support and care for the growing number of the elderly in the family. The elderly in Bangladesh will face many problems such as insolvency, loss of authority, social insecurity, insufficient recreational facilities, lack of overall physical and mental care, problems associated with the living arrangements etc. Kabir (1991) shows that the support system for older people in Bangladesh is not good and due to deteriorating economic conditions, the support system is further weakening.

Married older couples almost always live alone and almost always count on each other for help. Husbands care for wives with Alzheimer's disease; wives help husbands who need help for bathing and dressing. At older ages, women are less likely to be currently married and more likely to be widowed than are men, not only because they survive on average to higher ages, but also because most women marry men several years older than themselves. The situation faced by the older men is substantially better on this dimension than faced by the older women, because most men remain married until they die, while most women experience the death of their husbands and end their lives as widows. Khan and Leeson (2006) has found marital status as one of the important determinant of survival of spouses and there is clear sex differential observed among older Bangladeshi people and

more women are widowed in later ages. In Thailand, Assantachai and Maranetra (2003) reported that living without a spouse and having poor economic status were the two main predictors of quality of life for the elderly.

The potential support ratios, which measure the number of persons in the working ages per every elderly person, will decline in future from about 9 persons per older person to 3 persons per elderly. This demonstrates that there will be fewer persons in future to support elderly population if present demographic transition continues. More or less, similar kind of results were obtained from Tamil Nadu, India by Audinarayana and Kavitha (2003). The study results suggested that the number of elderly who are going to live alone or with spouse may increase because of the wider acceptance of small family size norm and taboo against staying with daughter and these in turn could lead to less family support. Though some studies indicated that the proportions of the elderly living alone in Asian countries are low (Knodel and Debavalya, 1992; Martin and Kinsella,1994).

The care index demonstrates that there will be more elderly persons per each care person aged 40-60 years. The above information demonstrates that there will be an important and significant demographic shift in the age structure of the Bangladesh population if replacement fertility can be achieved as targeted. The aging of the population of Bangladesh and its size have implications for the support of older population. Because of physical and life-course changes that tend to occur at older ages, such as decreases in functional ability, older persons require various kinds of support, including financial assistance when they can no longer work and instrumental assistance (that is, assistance in conducting daily activities) if physical functioning begins to fail. The increasing burdens on support and healthcare aggravated by the absolute and proporationate increases in the number of older people is a major concern (World Bank, 1994).

Traditionally, Bangladeshi society has looked after its elderly population through family and community support system. Today, the traditional family support system is under pressure from demographic, social and economic change. The traditional form of family support for older people is weakening due to formation of more and more nuclear families and migration due to poverty and increased landlessness. Cain (1991) and Jones (1993) stated that smaller family sizes are seen beneficial from developmental point of view but soon they will pose a greater challenge for the ageing population.

Implications on the Health Care of Elderly
There is no doubt that the number of the elderly will increase in absolute size of the total population. However, change in the size and

structure specifically population ageing will demand health care services for the elderly population.   As people live longer, there will be growing demand for elderly care. In the sphere of care for the elderly, the problem is likely to be acute for older women, who will constitute the majority of the elderly because of greater longevity among women and the tendency for men to marry women younger than themselves, women are more likely than men to end their lives as widowed.

Mental health of the elderly is another important area in understanding their overall health situation. Worries among the elderly poor are probably due to inadequate economic support, poor health, inadequate living space, unfinished familial tasks, lack of recreational facilities and the problems of spending time. In the context of social and economic situation, we need to consider that the increase in the number of elderly population will make it more difficult to face the cost of providing adequate health services to the elderly population. This will be particularly the case if a large proportion of the added years of life expectancy is spent in poor health.

Population aging will place an increasing burden on national health care systems. Because of migration and poverty the family will not support most of the elderly in future. How much the burden of caring for elderly population can be transferred from the family to the community or to the government depends on the importance of caring for the elderly, economic situation and policy for the elderly population of Bangladesh. The trend in the size and growth rate of the elderly population in Bangladesh reveals that aging will become a major social challenge in the future when considerable resources will need to be directed towards the support, care and treatment of the elderly population. It is assumed that the increased number of elderly people will pose a difficult challenge for the care of elderly in Bangladesh in future. Elderly people are now living longer, which means that they are more susceptible to chronic health problems, which may demand long term treatment, hospitalization and nursing care. Because of large increase in the ageing population the Biosko Bhata system will come under increasing pressure in the future decades. The cost of ageing will very much depend on the lasticity of the old age threshold.

Lower mortality does not necessarily imply more years of life in good health; it may be the case that the improved life expectancy will lead to greater unmet need for general health care services. The possible policy options may be the programme that enhances traditional support, systems of family support; encouraging the elderly population to participate income-earning activities that are physically capable of doing work. Because of rapid growth of aging population the Boisko Bhata scheme will come under pressure for increase coverage with increased amount. In future years older people will be the major users of health services and the burden of ill health

is increasingly deferred to later life. This means that knowledge about aging process, planning and delivering health services is essential for those working in, or planning health and social care sectors. The current levels and patterns of the prevalence of disability among the elderly need to be assessed for providing appropriate care.

The current situation demonstrates that there will be a trade off between instrumental and financial support whereby those who live with parents are able to help in instrumental ways, whereas   those who do not live with parents, because they are less able to assist physically, opt instead to assist financially. The growth in the number of elderly people will pose a difficult challenge for the care of elderly in Bangladesh. Elderly people are now living longer, which means that they are more susceptible to chronic health problems, which may demand long term treatment, hospitalization and nursing care. As people live longer, there will be a growing demand for care related to conditions such as cardiovascular disease, cancer, chronic obstructive pulmonary disease, arthritis, vision impairment and disability.

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