Ageing Population: A Public Health Implications

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Abstract

Population ageing is worldwide phenomenon experienced by developed and developing countries. Population ageing is a phenomenon that occur when the median age of a country’s rises and shifts the distribution of a country’s population towards elder ages; this as results of rising life expectancy and/or declining birth rates. Increasing in elderly population will inevitably see changing population burdens of disease. Diseases such as cardiovascular diseases, cancer, mental disorders, rheumatism, arthritis, Alzheimer’s disease, permanent disability and decreased mobility thought to be the domain of higher-income countries are now significant causes of morbidity and mortality in a developing countries. This will increase pressure on health resources, public and private.

Background

Population ageing is a phenomenon that occur when the median age of a country’s rises and shifts the distribution of a country’s population towards elder ages; this as results of rising life expectancy and/or declining birth rates. Most developed countries have accepted the chronological age of 65 years as a definition of elderly or older person, but like many westernized concepts, this does not adapt well to the situation in developing and less developed countries. While this definition is somewhat arbitrary, it is many times associated with the age at which one can begin to receive pension benefits. At the moment, there is no United Nations standard numerical criterion (United Nations, 2013), but cut off age of 60 years to refer to the elderly population were adopted by many developing countries.

Global Trends

Population ageing is widespread phenomena across the world. It is most advanced in the most highly developed countries like Japan, Switzerland, Sweden, Germany and other developed
countries. Ageing of population is growing faster in less developed regions, which means that elderly will be increasingly concentrated in the less developed regions of the world (United Nations, 2013). In year 2000, the worldwide population of elderly aged over 65 years was an estimated 420 million, a 9.5 million increase from 1999 (Kinsella K & Velkoff V, 2001). Between 2000 to 2030, the worldwide population of elderly aged over 65 years is projected to increase by approximately 550 million to 973 million (U.S. Census Bureau, 2015), increasing from 6.9% to 12.0% worldwide, from 15.5% to 24.3% in Europe, from 12.6% to 20.3% in North America, from 6.0% to 12.0% in Asia, and from 5.5% to 11.6% in Latin America and the Caribbean (Kinsella K & Velkoff V, 2001). In Sub-Saharan Africa, an area where both fertility and mortality rates are high, the proportion of elderly aged over 65 years is expected to remain small, increasing from an estimated 2.9% in 2000 to 3.7% in 2030 (Kinsella K & Velkoff V, 2001). Developing countries experience the largest increases in absolute numbers of elderly; between 2000 to 2030 the number of elderly aged over 65 years in developing countries is projected to almost triple, from approximately 249 million in 2000 to an estimated 690 million in 2030 (U.S. Census Bureau, 2015), and the developing countries' share of elderly aged over 65 years is projected to increase from 59% to 71% (Kinsella K & Velkoff V, 2001). And for elderly aged over 60 years, two-thirds already live in developing countries, and by 2050, this share is expected to reach nearly 80% (United Nations, 2013).

Japan has the oldest population in the world, with 23.3% aged over 65 in January 2011 and a life expectancy at birth of 83.1 years in 2010, the highest in the world. All the other countries in the top 10 oldest as of January 2011 are in Europe, with Monaco in second place followed by Germany, Italy, Greece and Sweden. Major regional variations are evident. Western Europe is the region with the world’s oldest population (as a proportion of the total population), with 16.5% of people aged over 65 in January 2011. In contrast, only 3.2% of the population in Sub-Saharan Africa were aged over 65 in January 2011 (United Nations, 2013).

**Demographic Transition and Family Structure**

The world has experienced a gradual demographic transition from patterns of high fertility and high mortality rates to low fertility and delayed mortality (Kinsella K & Velkoff V, 2001). This results with the ageing of the world's population. Other factors contributed to ageing of population are increasing standard of living and quality of health care. Fertility rates declined in developing countries during the preceding 30 years and in developed countries throughout the 20th century; in developed countries, the largest gain ever in life expectancy at birth occurred during the 20th century, averaging 71% for females and 66% for males, resulting life expectancy at birth in developed countries now ranges from 76 to 80 years (Kinsella K & Velkoff V, 2001). Life expectancy also has increased in developing countries since 1950, although the amount of increase varied. A higher life expectancy at birth for females compared with males is almost universal. The average sex differential in 2000 was approximately seven years in Europe and North America but less in developing countries.

The demographic transition begins with declining mortality among infant and childhood as a result of effective public health measures. Lower childhood mortality contributes initially to a longer life expectancy and a younger population. Declines in fertility rates generally follow, and improvements in adult health lead to an elderly population. As a result of demographic transitions, the shape of the global age distribution is changing, whereby in 1990 the age distribution in developed countries represented similar proportions of younger and older
population, and for developing countries, age distribution is projected to have similar proportions by 2030 (United Nation, 2001).

Implications of demographic transition are changes in family structure. Earlier, families commonly had many children and the grandparents usually died before their grandchildren reached adulthood. This meant the family structure looked like a pyramid with a large number of children and parents and very few grandparents (Figure 1). Then followed by the family model looked like a lopsided rectangle (Figure 2). As life expectancy increased, the grandparents and great-grandparents are living longer and families have fewer children. This meant demographic transition resulting with the boomers of grandparents and great-grandparents; the top of the pyramid will be quite broad, and there will be fewer parents and children (Figure 3).

![Figure 1](image1.png) ![Figure 2](image2.png) ![Figure 3](image3.png)

Understanding the impact of these changes is important for families and society. More members in the elder generation may help families raise children. But elder members may require care and support.

**Epidemiologic Transition**

Together with ageing population, the world also has experienced an epidemiologic transition in the leading causes of death, from infectious disease and acute illness to chronic disease and degenerative illness. Developed countries in North America, Europe, and the Western Pacific already have undergone this epidemiologic transition, and other countries are at different stages of progression. In 2001, the leading causes of death in developed countries, which had low child and delayed adult mortality, were primarily cardiovascular diseases and cancer, followed by respiratory diseases and injuries (WHO, 2002). Similar experienced by developing countries in which chronic non-communicable diseases such as cardiovascular diseases and other degenerative illness had been taking lead as cause of death.

**Impact on Health and Social Services**

The epidemiologic transition, combined with the increasing number of elderly, represents a challenge for public health. Majority of elderly over 65 years of aged will have one or two chronic diseases. In the United States, approximately 80% of elderly have at least one chronic condition, and 50% have at least two (CDC, 1999). Chronic diseases also can lead to severe disability. As elderly live longer, the prevalence of Alzheimer's disease, which doubles every 5 years after age of 65 years, is also expected to increase (CDC, 1999). With ageing populations and increasing life expectancies, countries will inevitably see changing population burdens of disease. Burdens of disease, risk factors and patterns of injury are changing through a complex combination of evolving social, demographic, health, political and economic processes. Diseases thought to be the domain of higher-income countries are now significant causes of morbidity and mortality in a number of lower-income and middle-
income countries. Cardiovascular diseases, cancer, mental disorders, rheumatism, arthritis, Alzheimer’s disease, permanent disability and decreased mobility are the major health problems among elderly.

Hence, increased number of elderly will potentially lead to increased health-care costs. The health-care cost per capita for persons aged over 65 years is three to five times greater than the cost for persons aged less than 65 years, and the rapid growth in the number of elderly, coupled with continued advances in medical technology, is expected to create upward pressure on health care spending. The demands associated with long-term care might pose the greatest challenge for health resources available, either personnel or family resources, and also public resources. However, these increases in demand for health resources will be less if public health programmes successful to decrease disability among elderly, helping them to live healthy and independently.

The economic effects of an ageing population are considerable. Older people may have higher accumulated savings per head than younger people, but spend less on consumer goods. Depending on the age ranges at which the changes occur, an elderly population may thus result in lower interest rates and the economic benefits of lower inflation, such as experienced in Japan. This gives an opportunity to progress into automation and technological development without causing unemployment. Also emphasise a shift from GDP to personal well-being. However elderly also increases some categories of expenditure, including some met from public finances. The largest area of expenditure in many countries is on health care, whose cost is likely to increase dramatically as number of elderly populations increased. This would present governments with hard choices between higher taxes, including a possible reweighing of tax from earnings to consumption, and a reduced government role in providing health care. The second-largest expenditure benefited from ageing population is education, because fewer young people would probably continue into tertiary education as they would be in demand as part of the work force. Social security systems have also begun to experience problems. Earlier defined benefit pension systems are experiencing sustainability problems due to the increased longevity. The extension of the pension period was not paired with an extension of the active labour period or a rise in pension contributions, resulting in a decline of replacement ratios, lead to collapse of the system.

The anticipated increase in the number of elderly will have dramatic consequences for public health, the health-care financing and delivery systems, informal care giving, and pension systems. Although more attention has been given to population ageing projections and their implications, greater numbers of elderly and increasing chronic disease will place further strain on resources in countries where basic public health concerns (e.g., control of infectious diseases and maternal and child health) are yet to be addressed fully. To address the challenges posed by an elderly population, public health agencies and community organizations worldwide should continue expanding their traditional scope from infectious diseases and maternal/child health to include health promotion amongst elderly, prevention of disability, maintenance of capacity in those with frailties and disabilities, and enhancement of quality of life. Because behaviours that place persons at risk for disease often originate early in life, the public health system should support healthy behaviours throughout a person's lifetime, from womb to tomb. Public health also should develop and support better methods and systems to monitor additional health outcomes that are related to elderly, such as functioning and quality of life.

There are five role of public health specialist in promoting health and prevent disease in context of elderly population:

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1) to provide high-quality health information and resources to public health professionals, consumers, health-care providers, and ageing experts;
2) to support health-care providers and health-care organizations in prevention efforts;
3) to integrate public health prevention expertise with the aging services network;
4) to identify and implement effective prevention efforts; and
5) to monitor changes in the health of older adults.

These roles will require new efforts to address the special needs of elderly and to deliver programmes in communities in which elderly work, reside, and congregate. Existing public health programmes will be required to examine whether they meet the needs of an elderly population.

Conclusion

It is wrong to assume that the elderly as a burden; this is the view of a society that has come to see the institutionalization of elderly as a solution for elderly population. Elderly are usually the most experienced members of society – they have a vital social role to play. Elderly may have more physical needs than the rest of members of society, but quite often elderly are the least demanding members of society. The fact that elderly people can and do lead active and happy lives is a blessing for all of us. But it would be a mistake to ignore the changes brought on by ageing societies and to think matters can simply continue as before with no negative consequences.

References


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