The Elderly in Malaysia : Demographic Trends

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Introduction

The process of development in Malaysia has brought about significant socioeconomic and demographic transformations. Reduction in fertility and mortality, have resulted in increasing survival of populations to later life. Thus the proportion of the elderly is increasing. Population ageing, the most salient change affecting the demographic profile of Malaysia, will have a significant impact on the patterns of socio-economic development. In order to anticipate and respond in time to the far-reaching socio-economic and humanitarian implications of ageing, it is imperative that the magnitude and the momentum of its occurrence need to be recognised. This paper looks at demographic trends, disease profile as well as health policy implications of ageing in Malaysia.

Definition of the Elderly

Ageing can be defined as a biological, sociological, economic and chronological phenomenon. In this paper, chronological definition will be used and in line with the United Nations'[1] and Ministry of Health's[2] recommendations, "*the elderly or ageing population*" will be taken to mean people aged 60 years or older.

Trends In Population And Development In Malaysia

The population of Malaysia has changed tremendously as a result of both historical as well as socio-economic events. The process of immigration at the turn of the century saw a heavy influx of foreign migrants from China and India. This has created a multi-ethnic and multi-cultural society. The main ethnic groups in Malaysia are the Bumiputras (which consists of mainly Malays and other indigenous groups), Chinese, and Indians. Initially the main factor contributing to population growth was immigration. However after the post-war period, with tighter restriction in immigration, natural increase began to play a dominant role in population growth.

Malaysia's population has almost trebled over the past four decades, growing from a population of 7.4 million in 1957 to 20.7 million in 1995[3]. Its population age-structure has also changed. The proportion of population aged 0-14 years had increased initially during the first two decades followed by a decline in the 1980s and 1990s. The proportion of elderly population has however shown a steady increase. (Table I).

Rapid development has transformed the mainly rural agricultural society to an increasingly urbanised industrial society. The percentage of population employed in the agricultural sector has decreased from 52% in 1970 to 26% in 1990, whilst female labour force participation has increased from 36% in 1957 to 47% in 1991[4].

Rapid economic growth saw the country's Gross National Product (GNP) per capita increased from RM 1,106 in 1970[5] to RM 9,786 in 1995[3]; and the incidence of poverty among Malaysians reduced from 16.5% in 1990 to 8.9% in 1995[3]. Rapid expansion of educational facilities has increased literacy rates and decreased educational disparities between males and females[3].

Determinants of Population Ageing

Why do populations age? The determinants of ageing of populations are reductions in fertility and reductions in mortality. It has been shown that population ageing is determined primarily by fertility decline and modified to a greater or lesser extent, by mortality or migration[6]. Marked fertility decline will affect just the youngest age-group initially but will work through to affect the older age-groups resulting in a change in the population age-structure of the population. Variation in the level of infant mortality tends to produce an effect similar to that caused by a change

Table I
Population and Projected Population of Malaysia by Age-Group 1957 - 2020

	0-14 years		15-59 years		60 & above years		Total
Year	No. ('000)	%	No. ('000)	%	No. ('000)	%	No. ('000)
1957+	2752.1	43.8	3236.8	51.6	288.0	4.6	6276.9
1970	4684.5	44.9	5208.9	49.9	546.0	5.2	10439.4
1980	5413.0	39.3	7563.0	55.0	787.0	5.7	13763.0
1990*	6818.0	37.1	10512.0	57.2	1047.0	5.7	18377.0
2000	7717.0	33.9	13618.5	59.8	1425.4	6.3	22760.9
2010	8736.1	31.4	16980.3	61.1	2094.0	7.5	27810.4
2020	10191.8	30.5	19921.2	59.7	3261.0	9.8	33374.0

+ Peninsular Malaysia only
** Denotes 1991*
Source: Department of Statistics, Malaysia

in fertility as it affects initially the youngest age groups. Changes in adult mortality has however less impact on ageing populations as it is not concentrated in one age-group, but spread over the ages. Migration can also cause distortions in age-structure of populations because it is normally concentrated among young adults and is sometimes also sex selective.

Demographic Transition in Malaysia

Post-independence socio-economic transformations have brought about great improvements in the standard of living. Better education, increased income, improved nutritional status, success in public health initiatives (especially in the provision of safe water and sanitation, better prevention and control of infectious diseases and development of a comprehensive network of rural health services) were some of the factors that have combined to bring mortality rates down dramatically in Malaysia.

In Peninsular Malaysia, crude death rates declined from 12.4 per 1000 population in 1957 to 4.7 per 1000 population in 1990. Infant mortality rate (IMR) also fell from 76 per 1000 live-births to 12 per 1000 live-births and the expectation of life at birth increased from 57 years to 71.2 years over the same period[7]. Fertility decline followed soon after and the crude birth rate (CBR) fell from 46 per 1000 population in 1957 to 28.4 per 1000 population in 1990 (Figure 1)[7]. Total fertility rate (TFR) also recorded a decline from 6.7 in 1957 to 3.3 in 1990[7].

The change from a situation of high mortality and high fertility to low mortality and subsequently low fertility has been described by Notestein[8] as '*Demographic Transition*'. Thus Malaysia is currently undergoing demographic transition and this is illustrated in Figure 1.

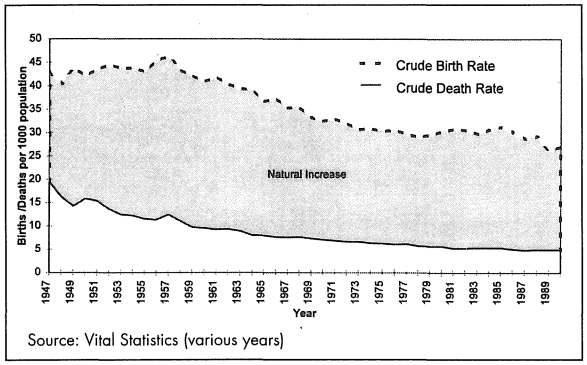

Fig. 1: Crude birth rates and crude death rates for Peninsular Malaysia 1947-1990

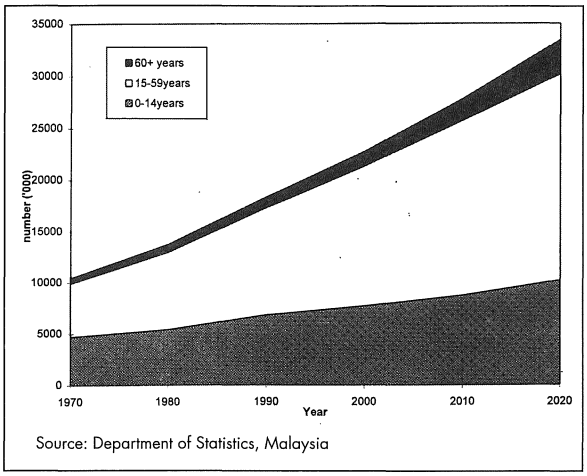

Fig. 2: Population of Malaysia by age-groups, 1970-2020

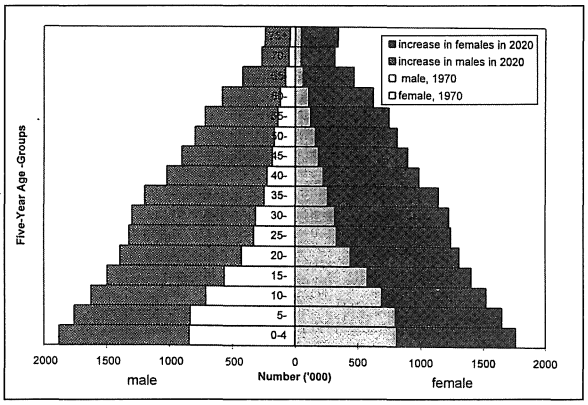

Fig. 3: Population of Malaysia 1970 and 2020

Population Ageing in Malaysia

As Malaysia progresses on into the next millennium, between 1990 to 2020; its population is projected to increase by 80% that is, from 18.4 million to 33.3 million. At the same time its aged population is expected to increase by 211%, that is from 1.05 million to 3.26 million. While the increase in the proportion aged during the same period may be small, from 5.7% to 9.8%; the aggregate number is sizeable (Table I, & Figure 2). Its population pyramid will still be mainly broad based in the year 2020 though the proportion in the 15-59 age group and the aged will increase (Figure 3). This relatively slow increase in the aged proportion is due to the moderate fall in fertility

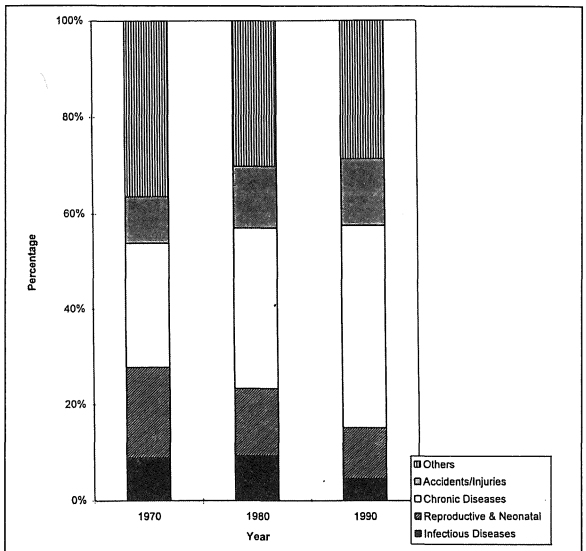

Fig. 4: Proportion of medically certified and inspected deaths by major causes in Peninsular Malaysia 1970-1990

level in Malaysia; contributed by the stalling of Malay demographic transition in the 1980s[4].

Ethnic differentials in fertility and mortality declines caused demographic transition to be experienced by different ethnic groups at different rates. This will ultimately lead to differences in population growth rates and population ageing among the ethnic groups. This will lead to differences in dependency ratios among ethnic groups (Table II). Apart from ethnic groups, there are also regional differentials.

The health of populations aged 60 and above, is far from homogenous. Frailty and dependency increase more rapidly after 70. Not only are populations growing older, the old themselves are living longer. Thus ageing in Malaysia will see the proportion of population aged 70 increasing from 2.21% in 1990 to 3.5% in 2020 (Table III).

Disproportion between the number of males to females also increases with ageing. Projected increases between 1990 and 2020 in the number of aged persons in Malaysia are 1.01 million for males and 1.20 for

Table II
Projected dependency ratios of Malaysian citizens by ethnic group in Malaysia, 1991-2021

Year	Child Dependency	Aged Dependency	Total Dependency
All			
1991	62.9	6.4	69.3
2001	54.8	7.3	62.0
2011	50.6	9.1	59.7
2021	44.6	12.3	57.0
Bumiputras			
1991	72.3	5.8	78.2
2001	66.3	6.4	72.7
2011	60.7	7.4	68.2
2021	51.0	9.6	60.6
Chinese			
1991	47.4	7.6	54.9
2001	34.7	9.0	43.7
2011	31.0	13.2	44.2
2021	29.5	19.8	49.3
Indians			
1991	54.7	5.5	60.2
2001	41.7	6.6	48.3
2011	34.9	7.9	42.8
2021	33.6	13.9	47.5

$$\text{Child Dependency Ratio} = \frac{\text{population aged 0-14}}{\text{population aged 15-64}} \times 100$$

$$\text{Aged Dependency Ratio} = \frac{\text{population aged 65 and over}}{\text{population aged 15-64}} \times 100$$

$$\text{Total Dependency Ratio} = \frac{\text{(population aged 0-14) + (population aged 65 and over)}}{\text{population aged 15-64}} \times 100$$

Source:Leete, R(4)

females. The sex ratio (number of men per 100 women) will decrease from 90.1 in 1990 to 85.8 in 2020. Thus there will be an increasing predominance of women among the aged population in Malaysia (Table III).

Urbanisation has been occurring rapidly in Malaysia. The percentage of population in urban areas has increased from 24.5% in 1957 to 50.8% in 1990. The rapid migration of younger populations to urban areas leads to the isolation and marginalisation of the elderly. However as the urban workers themselves age, the future will see the aged predominantly in urban areas (unless there is a trend for populations to retire in rural areas). Population mobility even within urban areas may still see the elderly being separated from family members.

Women are traditionally the main providers of care for the disabled, young and the elderly. Increased

Table III
Projected aged population in Malaysia 1990 and 2020

Age Group	1990* Male ('000)	Female ('000)	Total ('000)	Male/female ratio (per 100 women)	2020 Male ('000)	Female ('000)	Total ('000)	Male/female ratio (per 100 women)
60-69	308.4	328.7	637.1	93.8	1001.0	1093.9	2094.9	91.5
70+	187.8	221.9	409.7	84.6	505.6	661.1	1166.7	76.5
Total 60+	496.2	550.6	1046.8	90.1	1506.6	1755.0	3261.6	85.8

** denotes 1991 census figures*
Source: Department of Statistics, Malaysia

mobility and participation of women in the labour-force, as well as the changing family structure, will have a great impact on the extent families can participate in the care of the elderly. Thus if the family is expected to be responsible for the care of the elderly in the future, greater support and flexibility should be given to women to ensure that they can play the many roles that are expected of them and at the same time contribute to the labour-force.

Epidemiologic Transition In Malaysia

As a result of demographic transition, with increasing numbers of people surviving until adulthood, an increasing proportion of the population is at risk of noncommunicable, chronic health problems. This is associated with a change in the morbidity and disease pattern from one of mainly infectious diseases to one where chronic degenerative and noncommunicable diseases predominate. This process is termed '*epidemiologic transition*'[9].

Although the demographic transition in Malaysia has not yet brought about dramatic changes in its population age-structure, the changes in mortality and morbidity pattern is already evident. Figure 4 shows that the proportion of medically certified and inspected deaths due to chronic diseases and injuries have increased whilst that due to infectious diseases and reproductive and neonatal problems have declined over the past two decades The declining trend in proportionate deaths due to infectious diseases and reproductive and neonatal problems is probably grossly underestimated in the early years as the figure represents only medically certified and inspected deaths. In 1970, 16.5 % of all uncertified deaths were infant deaths (deaths among those below 1 year) whereas in 1990, only 3.6% of uncertified deaths were infant deaths[7]. As deaths among infants tend to be mainly due to infections or related to neonatal problems, it can be presumed that the proportion of deaths due to infectious diseases and reproductive and neonatal problems were probably much higher in 1970 and 1980 than that shown in the figure.

Apart from demographic and epidemiologic transitions, socio-economic development also brings about changes in life-style, behaviour and environment which leads to changing patterns of risk to the population[10].

The process of urbanisation, industrialisation and mechanisation have brought about increases in injuries from motor vehicles, industrial accidents and toxic chemical poisoning. Other behavioural risk factors which include sedentary life style and high saturated fat diets are also associated with obesity, diabetes mellitus, hypertension and ischaemic heart disease. Changes in patterns of sexual behaviour brought about by changes in social values are associated with an increase in sexually transmitted diseases (STDs) and acquired immuno-deficiency syndrome (AIDS). Increasing age is associated with greater exposure to

risk factors and lessening adaptability[11]. Thus increasing survival is normally associated with increasing morbidity, impairments and disabilities. The challenge therefore is to bring about increases in survival with minimal increases in morbidity and disability.

As Malaysia undergoes epidemiologic transition and ageing, cardiovascular diseases, diabetes mellitus, cancers and injuries have already emerged to be important causes of mortality anf morbidity in the population[12]. Unfortunately the pattern of mortality among the elderly cannot be determined as a large proportion of deaths among them were uncertified. In 1980 and 1990, 73.8% and 71.4% of mortality among the aged were uncertified deaths[7]. Thus, although tomorrow's elderly population will certainly be larger than today's, the demographic, psychosocial and physical attributes of the elderly will not remain constant. They will change with the times as shared attitudes and values carried by one generation are transformed by the next. The course of these chronic diseases in the future will depend on the physical, social and political environment as well as choices made by Malaysia as it considers alternative health development strategies.

Health Policy Implications

Ageing of a population is a matter of great concern for the health sector. The elderly are, on the whole less healthy than the non-elderly. Among the elderly, increasing age is associated with higher morbidity, higher use of health services (number of visits to doctors and hospitalisations) and greater demand for specialised services[13]. All these factors will lead to an increase in the complexity of health services required and increased expenditure.

As demographic factors have been shown to shift to affect ageing as well as the disease pattern of a population, demographic analysis and trends can quantify the magnitude and momentum of the ageing process in Malaysia. However due to unavailability of data, it is difficult to measure its impact on the burden of disease in Malaysia.

It has been pointed out that different ethnic groups in Malaysia are undergoing different rates of ageing. At the same time chronic diseases have distinct epidemiological features, preferentially affecting different ethnic groups, cultures, and geographical distribution. An analysis of health policy implications of ageing can therefore not proceed very far using an aggregate concept of ageing because aggregation obscures important details of cause and potential intervention. Thus the burden of disease of ageing Chinese populations must be derived by looking at the rate of ageing among Chinese, together with morbidity and mortality of diseases commoner among the Chinese.

Reliable disaggregate demographic data is already available. However accurate data on mortality and morbidity for different diseases and by ethnic groups are still lacking. In spite of tremendous socioeconomic improvements in Malaysia, the percentages of deaths that were medically certified and inspected have remained around 30-40% in the last four decades[7]. At the same time the incidence and prevalence rates of most chronic diseases including a Cancer Registry are still not available.

In order to assess the health policy implications of ageing and in planning appropriate intervention strategies, accurate information on morbidity and mortality among the aged is of utmost importance. Morbidity and mortality patterns provide guidance as to the kind of services required. Thus there is a need for Malaysia to:

1. improve on its system of death registration and increase the proportions of medically certified and inspected deaths,

2. measure the incidence and prevalence of diseases affecting the aged,

3. develop a Cancer Registry,

4. measure the prevalence of risk factors for diseases (eg: smoking, occupation, etc),

5. identify aggravating factors which will change disease to impairment and impairment to disability.

The needs of the elderly are so complex and demands an interdisciplinary approach. It must take into consideration the interactions between social, economic,

political and environmental variables and their effect on health and function. Thus they require a scientific approach, of which good data is a necessity.

At the same time, it is recognised that in order to arrive at old age at the best possible health, healthy options need to be taken throughout the lifespan. Thus the practice of healthy lifestyles (as promoted by the Ministry of Health) in order to protect and promote well-being will contribute towards successful ageing.

Conclusion

As Malaysia continues on its path of being a developed nation by the year 2020, population ageing is inevitable. Ageing will generate new challenges for health and social services. Universally available, equitable and quality health services are required to prevent further disease and disability.

There is a need for a health policy on ageing. The form it will take will depend on quality data being available and political support. Whatever, the choices the planners make today will determine the health improvements for vast numbers of the elderly.

Demographic trends regarding the issue of ageing underscore the fact that both current situations and future trends directly concern all of us. Ageing for some is their present reality, for others their future.

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