

## Healthy Ageing – Singapore’s Perspective

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### Abstract

*Due to better health care and improved living conditions, people are living longer. It is a well-known fact that the world population is ageing fast although not at the same rate, some countries faster than others. Although a phenomenon worth celebrating, it is not without its challenges. Ageing population impacts on the socioeconomic, health and policy direction of a given country. In anticipation, some countries have put in place strategies to meet these challenges. This paper aims to examine the concept and dimensions of healthy ageing and measures taken to enable its ageing population to age in place in the Singapore context.*

*Keywords: Healthy ageing, physical activity, diets, mental health.*

### Introduction

There is growing concern in most parts of the world that the population is ageing fast. As a developed country, Singapore is no different. By 2030, it is projected that 19% of the population will be aged 65 years or older (Inter-Ministerial Committee on ageing, 1999). The phenomenon is often referred to as the “silver tsunami” (Jeffrey & Delafuente, 2009; Fried & Hall, 2008). This term carries a negative connotation which implies that ageing necessarily accompanies problems which arrive unexpectedly, rapidly and deadly.

Many countries, although not all, have anticipated the ageing of population. The first plan of Action on Ageing, the Vienna International Plan of Action was adopted

by Member States in 1982 at the first World Assembly on Ageing to examine the impacts and implications of ageing. The second major assembly yielded The Madrid International Plan of Action on Ageing (MIPAA) in response to challenges and opportunities of population and individual ageing. Its main theme was to enable older people to age with security, dignity and continuous engagement in societies (The Madrid International Plan of Action On Aging, 2008). Many developing and developed countries have shown awareness and are prepared, in varying degrees, to institute measures to assist older adults to lead a better quality of life. These measures aim to facilitate older people to remain healthy physically, mentally and socially engaged for as long as possible. Being healthy encompasses every dimension of human life: physical, mental,

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social and spiritual. In Singapore, the Council of 3<sup>rd</sup> Age mapped out six dimensions of wellness – intellectual, social, physical, emotional, spiritual and vocational (Council of 3<sup>rd</sup> Age, 2010)

This paper examines the different dimensions of healthy ageing and measures taken by the government and various agencies to maintain health and promote engagement and inclusiveness amongst the older population in the community.

### Dimensions of Healthy Ageing

Healthy ageing is described by Haveman-Nies, De Groot and Staveren (2003) as the ideal situation for people to live till advanced age with independence, physically, mentally and spiritually for as long as possible and with a short morbidity and disability before death. Therefore healthy ageing is associated with reduced and delayed disability (Simons, McCallum, Fridlander & Simons, 2000). This can be achieved by adhering to the active ageing concept – that is, to remain active in all perspectives (World Health Organization, 2001). A review of health ageing research in Australia (Kendig, Andrews, Browning, Quine & Parsons, 2000) reported the need to pay much attention on promoting health and minimising dependency of all older people and viewed this approach as “healthy ageing” or “ageing well” or “age in place”. To put it simply and crudely, the best an older person would hope for is to “die on your feet happy” or “drop dead” without protracted pain or suffering.

Many studies have shown that older people with better health habits live healthier for longer periods of time (McMurdo, 2000; Blumenthal et al., 1999). Therefore environmental and behavioural influences have significant impact on older person’s chances of living longer and healthy life (Hartman-Stein & Potkanowicz, 2003; Potkanowicz, Hartman-stein & Biermann, 2009). Refraining from smoking and excessive consumption of alcohol is the most recognised piece of advice

(Abbott, 2004; Hoffmeister, Schelp, Mensink, Dietz & Bohning, 1999; Van Domburg et al., 2000). Other known contributory factors are regular physical activity (Voorrips, Ravelli, Dongelmans, Deurenberg & Staveren, 1990), dietary intake (Lowik, Hulshof & Brussaard, 1999) and social engagement (Mendes, Gless & Berkman, 2003).

### Physical activity

As far back as 1996, the United States Surgeon General’s Report and a large scale Australian Epidemiological study in 1999 consistently demonstrated that the benefits of physical activity were as great as treating cholesterol reduction and hypertension (US Department of Health and Human Services, 1998; Bauman & Owen, 1999). The benefits of regular moderate physical activity are accepted internationally (Bauman & Owen, 1999; Bijnen, Feskens & Caspersen, 1999; Kushi, Fee & Folsom, 1997). A recent study at the National University of Singapore (The Striat Times [ST], 16 April 2011) has shown that participants over 60 years old who did aerobic exercise for an hour three times a week have more brain activity, performed better in several forms of memory, attention and language, in addition to significant fitness improvements. However, personal factors like fear of injury, discomfort, and social isolation in addition to environmental difficulties, inaccessibility and unfavourable weather all serve as barriers to exercise among older adults (Dunlap & Barry, 1999). Concerted efforts must be made to facilitate and encourage older people to be involved in this worthwhile activity. Through buy-in public campaigns in explaining the benefits of exercise and making the facilities more accessible and attractive to the general public such as parks and covered space near the housing estate will greatly facilitate this.

Older adults may find it difficult to participate in vigorous exercise due to the ageing process and may sustain injuries if not performed appropriately. Baum and Smith (2000) maintained that vigorous or aerobic

activities are not that crucial for cardiovascular benefits. Half an hour of moderate activity on most days of the week appears sufficient for the sedentary. Tai Chi, an ancient martial art practiced by the Chinese for centuries has been gaining popularity worldwide. Many studies have shown the positive physiological effects on the cardiovascular system, respiratory function, mental control, immunity, flexibility and muscle strength (Thomas, et al., 2005; Li, Hong & Chan, 2005). It is not uncommon to observe groups of people performing Tai Chi in the neighbourhood community centres. However, it requires discipline and effort. Realising this, the Health Promotion Board (HPB) of Singapore initiated the Senior Health Ambassador Programme (SHAP) where seniors are being trained to equip them with the knowledge and skills to maintain not only their own health but also their peers. (ST, 5 June 2011). Despite this, there may still be a proportion of older adults who may not be able to, or unwilling to participate in this programme. A study by Brach, Simonsick, Kritchevsky, Yaffe and Newman (2004) has shown that any type of physical activity is better than no activity in maintaining general functions of the older adults. Twenty to thirty minutes of moderate-intensity exercise like doing household chores, walking and climbing stairs on most days of the week are as effective in maintaining physical function. Thus, building exercise into normal lifestyle activity would be easier to achieve. Besides, adherence to physical activity is much more likely to be successful if the older adults perceive that they are capable of performing the activity, for instance moderate walking (Kriska, 2000). Therefore it involves a change of mindset like adopting a conscious effort to climb the stairs instead of taking the lift and parking at a distance further from the destination. In accordance to the life-course approach which emphasizes on all stages of life, this mind-set should start from young. Andrews (2001) maintained that regular physical activity of moderate intensity ought to be promoted throughout life. There are many other initiatives, for example: The People's

Association run courses on line-dancing and karate at its community clubs island wide (ST, 6 Dec 2011) and Active Ager Fashion Catwalk Interest Group for retirees and housewives aged above 40 years (ST, 5 June 2011). The Council of the 3<sup>rd</sup> Age and The Organisation of Senior Volunteers also offer various learning courses and activities for seniors (ST, 22 Feb 2011). Widespread messages should be disseminated in schools as well. It is known that some organizations have instituted measures to encourage their employees to participate in regular physical activities such as weekly walks, strength building exercises, fitness assessments and targeted individualized exercise regimens the cost of which was borne by the employers.

All in all, measures should centre on making it possible for the older person to perceive the benefits of exercise and that it is a fun activity rather than a chore. It could be opportunistic or more intensive programmes based on the needs and personal circumstances. The next main dimension on health is dietary pattern.

#### **Dietary factor**

Reduced mortality was found to be linked to daily consumption of fresh fruit (Key, Thorogood & Appleby, 1996). Wahlqvist and Savige (2000) purported that appropriate dietary habits and other lifestyle practices have an effect in reducing premature mortality and compressing the period of morbidity. Many of the so-called affluent diseases, like coronary heart disease, stroke, type II diabetes mellitus, certain types of cancer and atherosclerosis are among the leading causes of death and are linked to particular dietary habits and associated with high consumption of saturated fat, salt and calories (Bidlack, 1996). Okinawa in Japan has the longest-lived, disability-free population in the world. The Okinawa Centenarian Study established in 1976 found that their foods were low calorized, nutrient-rich, mainly plant based diet centered on vegetables, unprocessed grains, soy foods and

fish (Shibata et al., 1992; Matsuzaki, 1992). Numerous studies have found a number of foods to be favourable to health and may contribute towards compressing morbidity. Such as a high intake of fruits and vegetables (Wahlqvist, 1993; Kant, Schatzkin, Harris, Ziegler & Block 1993; Khaw, 1997) soy bean products, nuts and legumes (Fraser & Shavlik, 1997; Wahlqvist & Dalais, 1997; Hu, et al., 1998); fish (Kromhout, Feskens & Bowles, 1995; Wahlqvist, 1996); lean meat as condiment (Wahlqvist, Kouris-Blazos & Watanapenpaiboon, 1998); low fat dairy product (Appel, et al., 1997) and tea (Yang, 1993). Timing, frequency and size of meals in older adults may also be important (Redondo, 1997; Wahlqvist et al., 1998).

Studies have found positive association between Mediterranean diet rich in vegetables, fish and grains and the occurrence of several health outcomes such as premature mortality, cardiovascular diseases and stroke (Knoops, et al., 2004; Tangney, Kwasny, Li, Wilson, Evans & Morris, 2011; Van den Brandt, 2011). A meta-analysis conducted in 2010 by Sofi, Abbate, Gensini and Casini concluded the sustained and significant protection afforded by adherence to the Mediterranean diet in relation to the occurrence of major chronic degenerative diseases.

Li, et al. (2011) found that the Chinese traditional southern dietary habit characterized by high intakes of rice and vegetables and modest intakes of animal fat has led to a lower prevalence of stroke as opposed to the northern Chinese dietary pattern of high consumption of refined cereal products, potatoes and salted vegetables. This study also showed that Western dietary pattern was also linked to high risk of stroke mediated by obesity, hypertension, hyperglycemia, and dyslipidemia.

In the Singapore context, the need for healthy diet was recognised. In 1998, the (HPB) launched the "Ask For" programme to provide option for people eating at hawker

centres and food courts to request for healthier choices in their food like asking for more vegetables, less oil, less sauce or gravy, less sugar or syrup and for skin to be removed from poultry dishes. Food vendors were also encouraged to participate in the programme. However, it was noticed that some food vendors were not keen citing reason that the food may not be tasty enough to attract customers, thus affecting their business.

Undeniably, food is an integral part of our well-being. Food habits are in many ways influenced by cultural, religious, social and emotional experience, more so in Singapore - a multi-racial society. It is a well-known fact that Singaporean love to eat. Food in particular ethnic food is available almost any time and anywhere. This is evident in the patronage of that various food courts and hawker centres which are often packed especially during the weekends. The National Nutrition Survey (HPB, 2004) has shown that 49.3% of adult Singaporeans, mostly Chinese in comparison with other ethnic groups, ate at hawker centres on average of 7 times per week. However, those aged 60-69 were least likely to dine at hawker centres (reasons were not cited). The survey also showed that 54.7% of the older age group (50-59 years) was most likely to trim off all the visible fat compared to other age groups, 63.7% adult Singaporeans across all age groups did not add salt or sauce to their food at the table and in general, the 60-69 years old consumed the least amount of all the main food types except fruit; had the lowest intake of cholesterol (193 mg), total fat (53.5 g), but also had the lowest intake of fibre (21.1g), iron intake (12.9 mg), and calcium intake (481 mg). Moreover, 79.5% of them are most likely to have insufficient calcium intake. It is a concern that older adults have the lowest intake of fibre, iron and calcium. Calcium is essential for the maintenance of healthy bone and lack of calcium is likely to lead to osteoporosis in the older adults. Iron is important in the formation of haemoglobin and insufficient iron may lead to anemia. Inadequate fibre intake is one of the contributory factors towards constipation in older adults.

A recent poll of 605 local MasterCard holders across all age groups found that Singaporeans spend an average of S\$275 eating out each month, trumping consumers from 12 of the 13 other Asia-Pacific countries and regions surveyed (ST, 28 Dec 2011). Despite customers having no control over how the food is prepared and the quality of the ingredients used in the dishes such as the amount of salt and the type of oil, HPB has continued efforts by introducing several key initiatives to encourage healthy food intake such as "Food Trail" where people can sign up at a minimum cost to spend half a day to be educated about nutrition, how to read food labels and choosing healthy food to eat at hawker centres. Eating healthily does not mean to deprive the older people of their favourite dishes which they probably have been eating throughout their whole life. The public was encouraged to ask for healthy food and food labels such "ask for less salt and oil" continued to be displayed at the stalls. Patrons could refrain from drinking the sauce from a local dish "Laksa" which is rich in coconut cream.

Despite the earlier efforts, a recent survey found that 80% of Singaporeans are eating too much salt. The average daily intake for an individual was 8.3g, 60% above the recommended daily intake of 5g per day (ST, 4 Oct 2011). Although sodium is an important mineral which regulates blood pressure, too much intake is a significant risk factor for developing hypertension, a cause for stroke, heart attack and kidney failure.

In summary, it would seem that at the moment, eating less fat, salt, polyunsaturated fat and refined food and high intakes of fresh fruits and vegetables would be the way to go. However, it is important to note dietary interventions need to follow the life-course approach that is, to start from young and must consider the social and cultural aspects of eating which is an important social phenomenon. Furthermore, health promotion

strategies that encourage desirable food habits and other lifestyle factors need to be implemented hand-in-hand to maximise the quality of life for the elderly.

#### **Mental and Socioeconomic Health**

Mental health is another important dimension of healthy ageing. Being physically, mentally and socially active allows older adults to engage positively with their family members and contemporaries and also to function effectively in the community. The WHO (2002) programme recognises the older people's involvement in community life, family and society, and a supportive environment for the older aged will preserve well-being through their life course. This leads to dignity and self-fulfilment in later life.

Life course approach indicated in many studies of the relationship between healthy lifestyles and maintenance of cognitive function through the ages. Sabia et al. (2009) who examined the association between health behaviour from early to late life found that a greater number of unhealthy behaviours, namely smoking, alcohol intake, low physical activity and less than twice a day consumption of fruits and vegetables were related to high risk of poor cognition, particularly in executive functions. Since all these health behaviours are modifiable, it is therefore suggested that the promotion of a healthy lifestyle at all ages is important for cognitive outcomes. Mendes et al. (2003) purported that physical exercise is associated with improved mental health, less likelihood of developing anxiety and depression and more likely to maintain well-being (Baumn & Smith, 2000; Morgan & Bath, 1998). As indicated in the earlier section on dietary pattern, Mediterranean diet was found to reduce the rate of cognitive decline with older age. Many of the foods, vegetables and fish abundant in the traditional Mediterranean diet have been associated with slower cognitive decline (Tangney et al., 2011).

In addition to physical activity, dietary pattern and other health behaviours, it is important to encourage older persons to remain socially occupied especially after retirement. They need to keep their mind active and stay engaged, otherwise mental decline may ensue. Promoting mental well-being involves the use of stimulating activities and games. Valenzuela and Perminder (2009) maintained that cognitive exercise training in healthy older adults yielded strong and consistent protective effects on longitudinal neuropsychology performance. Rolland, Van Kan and Vellas (2008) purported that an increasing body of evidence proposes that an active life has a protective effect on brain functioning in elders. Physical activity may also lead to a slowing down of the course of Alzheimer's disease. The National Bureau of Economic study in USA (Dave, Rashad & Spasojevic, 2006) found that over an average complete post retirement of six years leads to a 5-16 per cent increase in difficulties associated with mobility-associated difficulties and daily activities, a 5-6 per cent increase in illness conditions, a 6-9 per cent decline in mental health. However, the negative health effects are mitigated if the older persons are married; there is presence of social support, continuation in physical activity and working part-time upon retirement. Currently, the retirement age in Singapore is 62 years. From January 2012, companies in Singapore will be required by law to offer full-time workers who turn 62, a chance to be re-employed and continue working until age 65 years (ST, 23 July 2011). It would mean older people can continue to contribute in the workplace actively as well as economically for themselves beyond 62 years old.

Financial wellness is crucial for seniors to maintain a level of comfort and health and ability to achieve a variety of personal goals. Chan, Ofstedal and Hermalin (2002) suggested that economic status is one of the major dimensions of an older person's well-being. Although in general, those older adults who

worked before may have some savings and income, longer lifespan and costly healthcare, the high cost of living and inadequate financial management may exhaust their finances. Hence, older people need to be literate in financial management to ensure they have an adequate income source well after retirement. Policy must also be in place to ensure that older people in general can afford the basic necessities of life through policy, prudent financial planning and subsidy for the needy when appropriate.

A large scale mental health study in several Asian countries (Tseng, et al., 2001) concluded that there is a pressing need to promote mental health education and concern in the general population, likewise for the older adults. It would help older people to live independently, exercise control over his or her life and having the opportunity to make choices, thus fulfilling the ageing in place philosophy.

#### **Conclusion**

The term healthy ageing encompasses many dimensions as discussed in this paper. Each dimension has an interrelationship with one another and cannot be viewed in isolation. Healthy ageing should be approached from the physical, mental, social and economic perspective.

#### **摘要**

#### **健康晚年 - 新加坡的情況**

由於衛生護理及生活環境逐步改良，人類的壽命愈來愈長。全球的人口正在快速老化，個別國家的情況更見急速。雖然這個現象值得慶賀，但並非沒有為我們帶來挑戰。人口老化對一個國家的社會經濟、衛生及政策方向均有影響，有些國家會制定策略以面對這些挑戰。這篇文章會研究健康晚年的概念及範圍，及新加坡在這方面施行的措施。

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