TOWARDS HEALTHY AGEING IN PALEMBANG, INDONESIA

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Towards Healthy Ageing in Palembang, Indonesia

A thesis submitted in partial fulfillment of the requirement for the degree of

Master of Public Health

By

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Declaration:
Where other people's work has been used (either from a printed source, internet or any other source) this has been carefully acknowledged and referenced in accordance with departmental requirements.

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Abstract

Worldwide, ageing populations are growing rapidly due to the success of governments in decreasing fertility and increasing life expectancy. Ageing populations, however, constitute also a challenge, because elderly are often suffering from diseases and other conditions which hamper them from ageing in a healthy way. Furthermore, they may put on burden on the people around them, the health system and financial resources. Hence, policies have to be developed by considering the determinants of healthy ageing. So far, the attention from the government in Indonesia and Palembang for healthy aging has been limited and not many policies have been formulated and implemented.

The thesis intends to provide a basis for developing a strategy for healthy aging in Palembang. The situation of ageing in Indonesia and Palembang is analyzed, and the determinants of healthy ageing are identified and assessed. The methodology of this study is as much as possible based on a review of available data from Indonesia and Palembang. The framework of healthy ageing which is proposed by SNIPH is used. Though it was developed in Europe, it is also useful for Indonesia. Furthermore, it provides a framework for developing policies, in which the local condition in Palembang should be considered and support from different stakeholders plays an important role. Finally, several recommendations are presented for formulating a strategy for healthy ageing in Palembang.

Keywords: Indonesia, South Sumatra, Palembang, demographic transition, ageing, ageing population, elderly, life expectancy, healthy ageing, quality of life, determinants of healthy ageing, policy and program.

List of abbreviations

BAPPENAS	:	Badan Perencanaan Pembangunan Nasional
BKPBM	:	Badan Kajian dan Pengembangan Budaya Melayu
BPS	:	Biro Pusat Statistik (Central Statistics Bureau)
CCP	:	Center for Communication Programs
DHO	:	District Health Office
EBH	:	Ernaldi Bahar Hospital
GDP	:	Gross Domestic Product
GOI	:	Government of Indonesia
LGO	:	Local Government Office
MOH	:	Ministry of Health
MOSW	:	Ministry of Social Welfare
NCIPC	:	National Center for Injury Prevention and Control
NGO	:	Non-Governmental Organization
PHO	:	Provincial Health Office
PPP	:	Purchasing Power Parity
SIF	:	Singapore International Foundation
SKN	:	Sistem Kesehatan Nasional (The National Health System)
SNIPH	:	The Swedish National Institute of Public Health
TFR	:	Total Fertility Rate
UN	:	United Nations
UNDESA	:	United Nations Department of Economic and Social Affairs
UNDP	:	United Nations Development Programs
UNFPA	:	United Nations Population Fund
USD	:	United State Dollar
WHO	:	World Health Organization

Chapter 1. Introduction

As a normal biological and natural process, ageing will occur in individuals and each individual should be given the opportunity to age in a healthy and active manner. In Indonesia, the ageing population is growing steadily. Moreover, the National Development Planning Agency projected that the elderly population in Indonesia will be one fourth of the total population in 2025 (Atmaji 2007).

The growth of older populations, however, poses a challenge to the system of health care. Older people tend to become more dependent due to physical and emotional changes and statistics show that the burden of caring for them will increase. At the same time healthy older persons are a resource for their families, their communities and the economy. If elderly people are in good health, dependency is likely to be low. Consequently, there is a need to increase knowledge and capability about how to improve good health among older people and the quality of life of later stages, and also to prevent increasing costs for the population as a whole. This so called "healthy ageing" provides a big challenge for public health in Indonesia, particularly to know the determinants of healthy ageing and to develop policies to support this group.

Palembang as one of capital cities in Indonesia is also facing an increasing number of elderly people. Hence healthy ageing should be considered and get special attention from different stakeholders in Palembang in order to maintain adequate health status and quality of life in older people. Also in this city the determinants of healthy ageing should be explored.

Chapter 2. Background Information

2.1 Geography and governmental system

Worldwide, the biggest archipelago is Indonesia. Five big islands (Sumatra, Java/Madura, Kalimantan, Sulawesi, and Irian Jaya) and approximately 13,700 islands are located in Indonesia. Nowadays, Indonesia is composed of 33 provinces and 440 districts/ municipalities, moreover the number of ethnic groups is more than 300 and about 250 languages are used (Heriawan 2006).

In Indonesia, there are some government levels with the provincial level as the highest level of local government and sub-national unit which is headed by a governor. South Sumatra province with its capital Palembang is lead by a governor as Head of the Region Governmental administration and development policy. By the end of 2006, South Sumatra province was divided into 10 regencies and 4 cities. The number of villages, urbans and sub districts are 2.538, 293 and 201 respectively (BPS Prov Sumsel 2006).

2.2. Demography

The estimated population of Indonesia in 2008 is 228 millions (Data statistic Indonesia 2008). The annual growth rate of the population in 2006 was 1.1% (World Bank 2008b).

In 2008, the population of the South Sumatra Province will be around 7 million. The growth rate of population will decrease from 1.7 in 2000-2005 periods to 1.58 in 2005-2010 periods (BPS, BAPPENAS and UNFPA 2005). A large percentage of the population is concentrated in urban areas, mainly in Palembang, the capital city (20%). The rest of the population is distributed in other parts of South Sumatra Province. Compared to 7 other provinces in Sumatra Island (Indonesia tourism 2008), South Sumatra is the number three in proportion of population (BPS, BAPPENAS and UNFPA 2005).

2.3 Health Policy and Health System

In Indonesia, the basic purposes of The National Health System or SKN (Sistem Kesehatan Nasional) are to enhance community empowerment and quality of health services to achieve the maximum health status for all societies (MOH 2008c). Furthermore, the Minister of Health is the head of Health Department who should implement the government policy of health and is responsible to the president. The main functions of the Ministry of Health are as follows:" implementing government directives of health, guiding and co-coordinating health services, implementing

research, applying and developing training and education to support health policies and to implement functional supervision of health care providers" (MOH 2008a).

According to Gish and Malik (2008), a distance between home and health facilities, insurance conditions and income are factors which can influence the utilization of health services in Indonesia. Utilization of curative and preventive services in all public sector facilities was 0.8 per capita per year. Limitations are also discovered when the patients have difficulties to reach the health facility. On average, people who have insurance will use public health services more often than people who don't have an insurance.

According to information from the World Bank only 16 USD per person is spend on health in 2001 in Indonesia. Furthermore, the utilization of public facilities is decreasing, while the number of consultations to the private sector has increased. Hence, the private sector accounts for more than two-thirds of ambulatory care, more than half of hospital contacts and 30-50% of all deliveries (compared with only approximately 10% a decade ago). Furthermore, particularly the poor make much use of non-medical health staff and their hospital utilization rates are low (World Bank 2008a). Also in Palembang health facilities are not only managed by government, but the private sector also runs several health facilities (DHO 2006).

In 2001, decentralization to the districts was introduced. This has resulted in new challenges, because the local governments are now responsible for the delivery of health services. Another consequence was that they spend now about 50% of the public health budget, while they were spending about 10% of the budget in the years before (World Bank 2008a).

The structure of health system organization should be in line with government in national level. Every province is separated into districts and sub-districts. So, the basis administrative units are sub-district. One health centre which is headed by a doctor should be in place in one sub district, while two or three sub centers will support a health center. Preventive and promotive services for children, maternal and elderly level will be given by the integrated family health post. The community is managing these health posts with support from health providers (WHO 2007).

South Sumatra Province has 257 health centers and 6.139 health posts. Thirty-six health centers and 889 health posts, including 160 health posts for older persons are located in Palembang. Aerobic exercises, giving health education, regular assessment, mental support and recreation, are activities which are conducted in integrated health services for elderly.

(PHO 2006). The aim of policy agenda for elderly in Indonesia is to achieve healthy ageing (GOI 1998).

2.4 Socioeconomic situation

The Human Development Index for Indonesia in 2005 was 0.728, which gives the country a rank of 107th out of 177 countries. The GDP per capita (PPP US$) was 3.843. Applying the international criteria of $ 1 per day, the proportion of poor population was 7.5 percent in the period 1990-2005 (UNDP 2007). In South Sumatra province, 22% of population is living below the poverty line and in Palembang, the proportion was 35 percent (LGO 2006). A National Social Economic Survey (2004) which was conducted by Central Statistics Bureau showed that 59.12% of older people in Indonesia are poor and they are 27% of the total population.

2.5 Health status

The life expectancy in Indonesia was 68 years in 2006 and the total fertility rate (TFR) was decreased from 2.4 in 2000 to 2.2 in 2006 (World Bank 2008b). The life expectancy in South Sumatra province in 2005 was 65.48 for men and 69.52 years for women. Hence in Palembang, in 2006, the life expectancy for men was 69.85 and 73.47 for women (DHO 2006).

According to WHO (2006a), In Indonesia, ischemic heart disease was the number one cause of death (14%) in all ages, followed by tuberculosis (8%), cerebrovascular disease (8%) and lower respiratory infections (7%) in 2002. The most frequent causes of hospitalization are diarrhea and gastroenteritis (8,5%), typhoid and paratyphoid fever, dengue hemorrhagic fever, intracranial hemorrhage, trouble related to heavy and short pregnancy body, tuberculosis of lung, fail other kidney, diabetes mellitus, pneumonia, gastritis and duodenitis (1,6%) (MOH 2008a).

According to a research result concerning socio-economic and elderly health which was conducted by Elderly National Committee in 10 Indonesian provinces in 2006, the main diseases are musculoskeletal disease (52.3%), hypertension (38.8%), anemia (30.7%) and cataract (23%). These kind of diseases are also the major factors of disabilities in elderly people (MOH 2008b). According Darmojo (1993), in Indonesia, the causes of morbidity and mortality among elderly are cardiovascular diseases, especially ischaemic heart disease, hypertension and its consequences.

Chapter 3. Problem statement, aim of thesis and specific objectives, methodology and limitations of the study

3.1. Problem statement

Huber states that:

> Ageing should be considered from two major perspectives: demographic and individual. From the demographic perspective, ageing is a population process, caused by declining fertility and mortality rates, which manifests itself in the growing number of older persons in society. Individual ageing is a process of individual progression through the life course, particularly its latest stages. It is important to consider both these perspectives of ageing, and the implications they carry for society and for the individual and his or her family. (Huber 2005, p.2)

The demographic perspective reveals that the number of elderly people is progressing rapidly in the world contributing to rapid increases in their proportion. Today, the elderly are the world's fastest growing population group and among the poorest. Nowadays one person in ten is 60 years or older, by 2050 this will be one person in five. The elderly population is growing rapidly and approximately, 400 million populations in developing world are above 60 years old and most of them are women (Obaid 2002). Hence, the issue of ageing must be at the centre of the global development agenda, particularly while its consequences tend to appear gradually and predictably. We must meet the needs of the older persons who are alive today and plan ahead to meet the needs of the elderly tomorrow.

This demographic transition will also influence countries such as Indonesia. An increase in the population of elderly in Japan, China, the Republic of Korea and Thailand is followed by Indonesia, where the proportion of elderly will increase from 8% in 2007 to 25% in 2050 (Abikusno 2007). The National Development Planning Agency projected that elderly population in Indonesia already in 2025, will become one fourth of population (Atmaji 2007). Unfortunately, in Indonesia, policies related to the concept of ageing have not become a priority. Policies were mostly formulated based on the disease which arises in a group of people with the same problem, such as the policy to address infectious and non-infectious diseases. Moreover, in Indonesia there is no special division for elderly. Elderly is one subdivision of public health division (MOH 2005).

The individual perspective focuses on the health of every single aging person. All older persons want to maintain or improve their health so that they can become more independent and don't bother other people, and

are not seen as a burden placed on families, communities, and governments. Often people around older people do not have enough information and resources to know how to care and support the elderly. Because of that, it is crucially important to know what the determinants of healthy ageing are.

However, elderly people are a physically, mentally and socially vulnerable group. Older people become more fragile and need more support from their environment. Not surprisingly, heterogeneity (physically, mentally and socially) among elderly population was not getting enough attention. Consequently, some problems related with physic, mental and social may occur during their life.

Ageing populations will also lead to greater numbers of older people living with disabilities. Prevention of disability in later life is therefore a major public health concern. Disability decreases quality of life, increases the risk of hospitalization or nursing home admission and premature death. Adaptation, acceptation and autonomy are important concepts to consider in health promotion for healthy ageing. Several chronic diseases, causing disabilities, are becoming more prone in ageing. Because people live longer, they also more become vulnerable to risk factors for these chronic diseases. Alcohol and tobacco consumption, unhealthy diet and fewer activities are important risk factors for chronic diseases (Beaglehole 2003).

As a result of these challenges the "healthy aging" approach was developed, addressing both the more demographic/societal and individual perspective of aging. Healthy ageing is "the process of optimizing opportunities for physical, social and mental health to enable older people to take an active part in society without discrimination and to enjoy an independent and good quality of life "(SNIPH 2006, p.16).

The healthy ageing concept provides a holistic approach and priorities health determinants which have an important impact on societies and individuals. The cross cutting themes are: inequality in health, socioeconomic determinants, gender and minorities. Health inequality starts early in life and persists in later life. Poverty is a very significant socioeconomic health determinant, with negative effects on health, life expectancy and disability. Gender has to be taken into account when planning and promotion initiatives and also belonging to a minority group can affect the health of elderly. Selected determinants for healthy ageing are retirement and pre retirement, social capital, mental health, environment, nutrition, physical activity, injury prevention, substance use/misuse, use of medication and associated problems and preventive health services (SNIPH 2006).

To prevent unfavorable consequences of ageing and to facilitate "healthy aging" governments should formulate policies for the elderly to make them become more healthy and independent and to empower them. The emphasis should be on prevention and promotion and action to keep and enhance their health and also to offer alternative support systems. To achieve that aim, determinants of healthy ageing should be known better and consequently, government policies can be developed on the actual condition and need of elderly people.

According to SNIPH (2006), determinants of healthy ageing characterize the special needs of elderly people in their daily living to enjoy their life and achieve well being. It will enable elderly people to remain in good condition of physical, mentally and socially. Hence, a systematic and complete planning should be done to improve health promotion and preventive interventions for elderly.

As indicated earlier, the number of elderly and the life expectancy in Palembang has also increased from year to year, and Palembang has currently the highest proportion (20%) of elderly population in South Sumatra province. In 2006 life expectancy in Palembang has become 69.85 years for male and 73.47 years for female. Changes in disease patterns are another consequence of this transition characterized by an increase of chronic diseases (DHO 2006). Obviously, this situation requires that the government increases its awareness to the special needs of elderly and these changing disease patterns.

This paper intends to analyze the situation of the elderly in Palembang and to make a first step in developing a strategy for healthy aging for its population. This requires a more in-depth analysis of the demographic changes and current policies related to aging, as well as a framework to assess the determinants of health aging and opportunities to address them.

3.2. Aim of thesis and specific objectives

The overall objective of this thesis is to provide a basis for developing a strategy for healthy ageing in Palembang.

Specific objectives of the study are:

1. To describe the situation of aging and policies related with ageing in Palembang.
2. To identify the determinants of healthy ageing and how they can be used for developing programs related with ageing.
3. To make recommendations for managers to enhance the formulation and implementation of policies and programs related with ageing in Indonesia and Palembang.

3.2. Methodology

The study is partly based on a review of available data from Indonesia and Palembang. Furthermore, data was collected by a literature review and compiled by using journals, reports, published and unpublished documents concerning programs and practices in Indonesia and other countries. Data was also obtained from KIT Library, international and online data base, and national/international organizations (Ministry of Health Indonesia, Local Government, WHO, UN, NGO working with older people, UNFPA, UNDESA, UNDP, EuroHealthNet and HelpAge). Keywords that were use were: Indonesia, South Sumatra, Palembang, demographic transition, ageing, ageing population, elderly, older people, life expectancy, quality of life, determinants (retirement and pre-retirement, social capital, mental health, environment, nutrition, physical activity, injury prevention, substance use/misuse, use of medication and associated problems and preventive health services), healthy ageing, policy and program. In addition, the literature and other resources were searched for a feasible conceptual framework for healthy ageing, in order to assess the determinants of healthy aging and to develop policies for the elderly.

3.3. Limitations of the study

The data used to discuss the determinants of healthy ageing are mostly secondary data. Secondary data are data that are collected by other studies and then employed to assess the determinants of healthy ageing. Unfortunately, there was limited research in Indonesia conducted concerning ageing issues. So far, healthy ageing has not been considered as an important issue. Not many policies have been formulated and implemented for healthy ageing.

Chapter 4. Study results

4.1. Ageing in general and ageing in Palembang

4.1.1 Definition of ageing

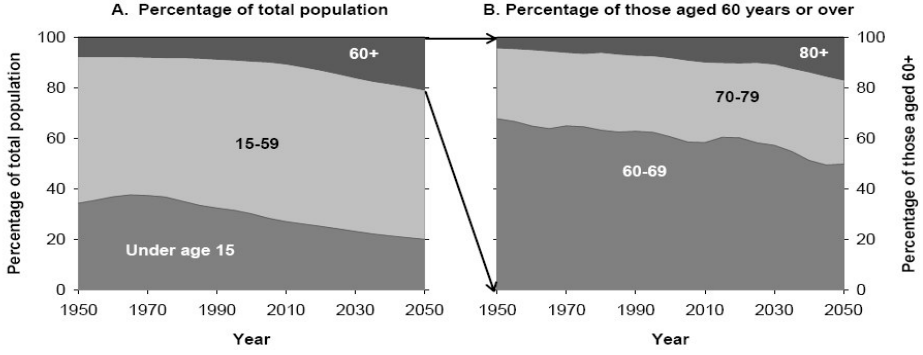
According to Izaks and Westendorp (2003), ageing can be defined as the continuing development with various transformations in individuals until the later stage of life. Elderly people are defined as people aged 60 year or above (GOI 1998). People who reached the age of 60 years can be called as older persons and it is used to illustrate population/demographic changes (Huber 2005). However, there is no common conformity on the age at which a person becomes old.

The increase of the percentage of older persons (aged 60 years and above) in the whole population globally is a definition of population ageing. Decreasing fertility along with increasing life expectancy is carry on to change the age structure of the population in all regions of the world by changing relative weight from younger to older groups (Abikusno 2007). The issue of population ageing is a highly global process, not only occurring in developed countries, but it has also become reality in developing countries due to several developing countries will experience faster population ageing than developed countries in the future (UN 2005c).

4.1.2. Demographic profile worldwide and in Indonesia

Globally, the percentage of people aged 60 years old or above in 2000 is almost 10 percent. In 2050, due to a reduction in fertility and mortality rates, the proportion will become 20 percent in 2050 (WHO 2003). These changes create the demographic transition which also contribute to the concept of "ageing population" and will also result in the "epidemiological transition".

Figure 1. Proportion of world population in different age groups, 1950-2050



Source: United Nations 2003 cited in United Nations 2005b, p.1

Table 1 shows the changes in Indonesia's population by age groups, 1950-2050. There is an increasing population among people above 60 years old is very clear.

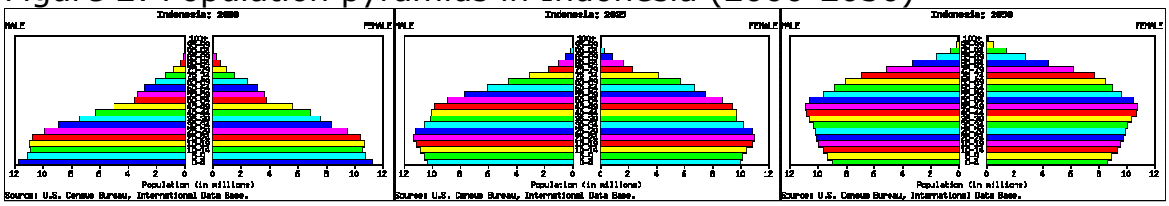
Table 1: Changes in Indonesia's population by broad age groups, 1950-2050

Period	Increments in population (000)				Increase as per cent of increase in total population		
	Total	0-14	15-59	60+	0-14	15-59	60+
1950-60	16,393	7,205	9,119	69	44.0	55.6	0.4
1960-70	24,602	12,749	10,612	1,241	51.8	43.1	5.0
1970-80	30,575	10,031	18,592	1,952	32.8	60.8	6.4
1980-90	31,738	4,349	24,324	3,065	13.7	76.6	9.7
1990-00	28,847	-1,278	25,166	4,959	-4.4	87.2	17.2
2000-10	27,906	-341	23,055	5,192	-1.2	82.6	18.6
2010-20	22,269	-3,955	17,059	9,165	-17.8	76.6	41.2
2020-30	17,799	-3,897	7,549	14,147	-21.9	42.4	79.5
2030-40	12,394	-1,088	-2,241	15,723	-8.8	-18.1	126.9
2040-50	4,824	-3,048	-5,257	13,129	-63.2	-109.0	272.2

Source: UNDESA 2007 cited in Abikusno 2007, p.4

Figure 2 shows three population pyramids which illustrate the shifting population pyramid from young population to old population

Figure 2: Population pyramids in Indonesia (2000-2050)



Source: U.S. Census Bureau 2007

Successful family planning programs were able to decrease fertility rates and contribute to falling mortality rates and will be manifested as improvements of life expectancy. This condition is influenced by improved treatment, reporting and quality services of health providers (Abikusno 2007).

Table 2 shows the life expectancy and survival rates in males and females since 2000-2005 periods. Female's life expectancy and survival rate has always been higher than male. This fact will result in a high proportion of women in older population and can be called as feminization of ageing (Abikusno 2007). Also according to table 2, the survival rates to age 60 years are currently 79.9% for females and 73.6% for males in 2000-2005 periods. These are projected to increase gradually in 2045-2050, with 92.9% of female babies and 89.6% of male babies in 2045-2050 period expected to reach age of 60 years.

Table 2: Life expectancy and survival rates female and male in Indonesia

Life expectancy and survival rates	2000-2005		2025-2030		2045-2050	
	female	male	female	male	female	male
Life expectancy at birth (years)	69.8	65.3	76.2	71.7	79.8	75.1
Life expectancy at age 60 (years)	17.9	16.0	20.2	17.5	22.7	18.7
Life expectancy at age 80 (years)	5.9	5.4	6.8	5.8	8.4	6.2
Survival rate to age 60 (per cent)	79.9	73.6	89.8	84.3	92.9	89.6
Survival rate to age 80 (per cent)	33.7	24.6	48.0	34.3	59.1	41.8

Source: UNDESA 2007a

4.1.3. Epidemiological transition and disease patterns

The epidemiological transition is closely related with the demographic transition which changes the population size and composition; it is the complex process of changes in the pattern of health and diseases (Caldwell 2001). The implication of the epidemiological transition is a shift in the major causes of morbidity and mortality, a shift in diseases pattern (from communicable, maternal and childhood causes) to more degenerative and non-communicable diseases, low fertility rates and long life expectancy rates (Omran 1971).

Globally, the health burden of the future is not only due to communicable diseases but also to non-communicable diseases and disorders. Particularly, the collective effects of daily life, lifestyle and surroundings will have a high contribution to develop non-communicable diseases in old age (WHO 2002). There are three major components which should be considered in health. These consist of physical health problems, mental health problems and social health problems (WHO 2003b). Heart disease and stroke, cancers, musculoskeletal, sensory are the common physical disorders. Dementia, depression, alcohol dependence and suicide are common mental health problems in elderly (WHO 2003b; Soejono and Laksmi 2008). Social health problems are related to elderly as individuals being a community member with social relationships (WHO 2003b). Table 3 shows the percentage of older persons reporting health complaints. Cough is becoming the most frequently which are mostly closely associated with health behavior and environmental health.

Table 3: Percentage of older persons reporting health complaints during the last month by type of complaint, gender and residence in Indonesia, 2004.

Type of complaint	Male		Female		Both sexes	
	In urban	In rural	In urban	In rural	In urban	In rural
Fever	20.8	20.0	20.5	22.1	20.6	21.1
Cough	24.6	50.4	41.9	44.7	44.1	47.4
Running nose	30.8	29.6	28.1	27.4	29.4	28.5
Tooth ache	18.7	19.5	23.1	22.8	21.1	21.1

Source: BPS 2004 cited in Abikusno, 2007 p.16

The causes of death among elderly in Indonesia are different between provinces. However data indicate that in Indonesia the most prevalent diseases in older people are musculoskeletal disease (38.8%), hypertension (38.8%), anemia (30.7%) and cataract (23%) (MOH 2008b). According to Provincial Health Office (2006), the most common diseases in elderly people in Palembang are rheumatoid arthritis (26%), followed by hypertension (22%), infectious diseases (17%) and allergy (8.1%).

4.1.4. Programs and policies for ageing populations in Indonesia

To achieve welfare for elderly, harmonization between different stakeholders including Ministry of Health, Ministry of Social Welfare and Ministry of Manpower ought to be established because each ministry has different perspectives to support the welfare of elderly. The function of physical, mental and social life in later age of life can be maintained and enhanced by adequate health care in the previous age.

In Indonesia, health promotion and prevention are considered as well as curative and rehabilitative services in the new health vision with the motto "Healthy Indonesia 2010". Its objective is to improve ability, management and advocacy within a decentralised health care system and to enhance preventive health care services (CCP 2005). Individuals, households and communities empowerment becomes the focal point in healthy Indonesia 2010, to ensure that they can make decision about their own health concern and requirements (Storey, Ambar and Lediard 2003). Moreover, support, health endorsement and community participation are three elements of Healthy Indonesia 2010 (CCP 2005). It is an authorized basis for health sector actions and was established by health law No. 23 which was launched in 1992.

The Ministry of Health has formulated some policies, programs and activities which support the health status and quality of life of older people. The main program is implementing healthy life patterns by giving more priority to disease prevention and health promotion, without neglecting the curative and rehabilitative efforts. For the poor elderly, government has tried to give free services. The objectives of the program regarding healthy ageing are to increase health status of older people to stay healthy, independent and productive so they will not bother for themselves, families and communities (MOH 2008b).

Up to now, the policy regarding preventive, promotive and rehabilitative health services has not been implemented. Actually, it is very crucial to emphasize the strategies, plans and activities to enhance the quality of life of elderly people. Also the development of health providers and long term care in communities for elderly people has not been established. It is very crucial to improve their knowledge and skills trough pre-service

training or in house training. According to Sahar, Courtney and Edward (2003), training for health providers can increase their motivation to give services. Referral systems should be improved because elderly people need long term care. Furthermore, since the family is the core of primary care for the elderly, they must know the factors which can influence the quality of life in elderly people.

The Ministry of Social Welfare formulated "The old age welfare Law" of 1998 (Law No. 13/ 1998). This law specifies that elderly Indonesians have the same rights as any other citizen (GOI 1998). Community elements have responsibilities to increase elderly well being. This is also directly related with "Healthy Indonesia 2010" concept that highlights community empowerment and community participation. To enhance implementation of this law, the government also launched the National Commission for elderly which established by Presidential Decree No. 52/2004 (GOI 2004b). The final objectives of social services for elderly are to improve the welfare of elderly (MOSW 2008). But in reality policies and programs for elderly people are more focused on cure and not on prevention. Government is usually only gives little or no attention and consideration to elderly people who are still active.

In Indonesia, the National Social Security System Law of 2004 is the most recent regulation connected to civic policy for the elderly. Among the main characteristics of the new law is that it authorizes the formation of numerous social security schemes for civics: old age pension, old age savings, national health insurance, and death benefits. The minimum pension is seventy percent of the minimum wages. A minimum pension between 40% and 60% of the local minimum wages will be received by widows/widowers until they die, remarry, or start working full time and children until they marry, start working full time, or reach 23 years of age, whichever come first (GOI 2004a).

Fifty five years is the retirement age of the formal sector, and to accept full pension, workers must give contribution for 15 years minimally. If the workers die before accomplishing the contribution period, their family will not accept monthly pension compensations (GOI 2004a).

4.2. Determinants of healthy ageing

According to WHO (2003), health status in later stage of life can be influenced by various determinants, including daily living patterns such as smoking and alcohol misuse. Nutrition status, previous diseases, access to information, unsafe working environment, lack of social support and poor health services are also influencing the well-being of elderly.

In order to describe the most important determinants of healthy aging a conceptual frame work is required. A search in the literature and the

internet was conducted. Unfortunately, not many examples were found from countries in Asia or from settings similar to Indonesia.

In this thesis, the framework from "Healthy Ageing: A Challenge for Europe", will be used (figure 3). It gives a holistic perspective which consists of all important elements to create and improve healthy ageing**.** The framework "Healthy Ageing: A Challenge for Europe" which identifies and analyze determinants of healthy ageing can also be used as a framework to develop health policies for ageing populations. The framework turned out to be very useful for all countries in Europe. Though it is acknowledged that differences exist between the Indonesian situation and Europe, it was found that the basic conditions and determinants are similar. Ten major topics as health determinants are identified as a holistic approach and influenced both by society and its policies as well as the individual factors with the cross-cutting themes including socioeconomic determinants, inequalities in health, gender and minorities, the health determinants are wide and interact with each other (SNIPH 2006).

Figure 3 Major topics for healthy ageing (SNIPH 2006)

Figure 3. Major topics for the Healthy Ageing project. ILLUSTRATION: NINNI OLJEMARK.

In the subchapters a discussion will be given of the determinants of healthy ageing and policies to address them. Also the relevance for the setting in Palembang and opportunities to address them will be discussed.

4.2.1. Retirement and pre-retirement

The health of the older employees is not only their own responsibility but also the employer's responsibility. Employers should be accountable for the health status of their employees, so that they can provide optimal work for their workforce. To get "work ability", there should be equilibrium between work and other individual activities. This balance may diverge in the different stages of living (SNIPH 2006). It means that, the employees can give their contributions optimally and can fulfill the demands of their work if they are in good condition, physically, mentally and socially.

Age management is a crucial component in organizing the employees, because employers can organize employees by using their skills and knowledge to get the maximum result from them and can explore their capacity properly based on the job demand (Ilmarinen 2005). The younger and older workers have many different characteristics. Health both physically and mentally plays an important role for younger and older workers to work and there must be differences between them and also between older workers themselves. However, the complexity of the relation between health, age and work is not fully recognized (Wegman and McGee 2004). In the previous years, the retirement age in Japan was 55, but nowadays, the majority of Japanese corporations give an extension of retirement age until 60 years for their workers to work in their companies (Campbel and Campbel 1991).

In Indonesia, currently the fixed retirement age in the formal sector is 55 and this policy is also applied in Palembang. According to Data Statistik Indonesia (2005), approximately 30% of elderly in Palembang received pension/social security. There is no documentation about the percentage of working older persons in the informal sector in Palembang. So far, not many interventions related to this policy have been developed. But this determinant should be addressed and get more attention, because although interventions in this determinant are outside of the health sector, the impact of this determinant is very huge on the health of elderly people.

4.2.2. Social capital

According to Putnam (1993), social capital can be defined as social activities which is supported and facilitated by using potential resources, trust, society norms, culture, community relationship, public commitment, group solidarity. Public affiliation and public association are examples of

social capital. In other words, social capital also can be defined as social relationship (Sato and Wolf 2005). Although these aspects are located inside socioeconomic and political science, they have strongly association with health outcomes and health endorsement (Gillies 1998).

Pinquart and Sorensen (2001) discuss the influence of the socioeconomic status, public incorporation, capabilities, wages, value of social relations, communications with peers and contact with adult children, age and public affiliation with competence on subjective well-being in later life. Generally, there are no differences between elderly women and men, but the effect of socioeconomic status and the stage of well-being is higher for elderly men than elderly women. Moreover, elderly women more likely need a public affiliation to improve their sense of welfare.

Volunteer work is one approach for older persons to get a higher quality of social contact. According to Wheeler, giving chances for older people to work without paying among seniors can enhance the living value of the volunteers and those who accept the assistances (SNIPH 2006). Furthermore, group interventions are also giving advantages to reduce social isolation and loneliness, such as group discussion to support the recently widowed older people (Cattan et al. 2005).

Globally, there is a decrease in the number of elderly who are living together with their children (UN 2005a). But in some countries, there are culturally imbedded norms about respect for elderly and responsibility of the young to care for the old (Martin cited by SNIPH 1990). In countries, such as Thailand and Indonesia generally older people are living with their families. To maximize support among family members, it is very important to create the condition which makes elderly keep staying together with their children (UN 2005a). This again indicates the role of social relationship through living arrangements of elderly in maintaining good health.

In Indonesia, commonly elderly people remain productive and autonomous for their own life (Schröder-Butterfill 2002), but in terms of supply for household demand, only 22 percent of older people contributed (Wirakartakusumah 1994 cited in Concepcion 1998). If elderly are living together with their children, they will be involved household activities, such as cleaning house, cooking, cleaning dishes, taking care of grandchildren, washing and ironing clothes (Abikusno 2007).

Gupta (2007) also mentioned that living arrangements have many consequences, for instance, less disabilities occurred in elderly who lived with their spouses. Mostafa and Ginnekenb (2000) documented that older people who are not married are less likely to enjoy higher level of survival, mental health, use of health services and giving contribution to

the public than married people. Moreover, older women are less likely to obtain support to get health services than elderly men and living arrangements also make them in weaker position compared to men (WHO 2003a).

In Palembang, some elderly are living in a traditional house which is called buddle house. It can also be called a family house because it comes from previous generations and is given to the next generation. Mostly different generations will stay together in one house. It shows the closed relation and support from previous generations to the next generation. Family members will live in big numbers and support each other. Sometimes, even the neighborhood also can stay in their house. But intergenerational transfers of buddle house are not well documented (Siswanto 1997).

According to a study in Japan, health status is not only influenced by high social status, but also by educational level and health behavior (Kimura 2005) and the quality of social interaction (Sato and Wolf 2005). In Indonesia, elderly women who have no friends are less likely to achieve satisfaction than elderly women with many friends. Furthermore social integration and having a social life is very important (Wongkeban 2008). Moreover, social support is needed for elderly to help them in maintaining their daily activities (Kuntjoro 2002). According to a study which was done in Jakarta, 50% of elderly women and men are still socially active and a higher percentage of elderly women followed religious activities than elderly men (Raharjo 2005 cited in Abikusno 2007, p.20).

In Palembang, some informal organizations were established which mostly involve the elderly, such as religious, sport, and ethnic groups. Generally elderly people are still active in religious activities, not only elderly women but also elderly men. They always come to these activities two or three times a week. This may be due to the fact that almost 90% of elderly are Moslems (Bankominfo Sumsel 2008b). Moreover, elderly people with similar diseases conduct same sport activities together in groups. According to Yusdani (2004), in Palembang there are various ethnic groups in which elderly participate, either in language, traditions and culture. According to Data Statistik Indonesia (2005), the percentage of elderly women and men in Palembang who follow social activities is 7.8% and 7.2% respectively. By joining a certain group/organization, elderly can share their feelings, reduce loneliness, and consequently they will feel comfort and useful which also related to health status improvement.

4.2.3. Mental health

Keller, Leventhal and Larson (1989) said that positive life experience can be obtained by older persons (50-80 years) if they know about coping mechanisms so they have no negative feelings about ageing. They consider being forgetfulness, depression and death of loved ones as the major problems. Unfairness, participation in meaningful activities, strong personal relationships, physical health and poverty are the main subjects which can influence mental health status in older persons. Eradication of discrimination has a direct relation with welfare and high quality of mental health. Contributing to the community can improve self esteem. The feeling to be appreciated by others is also an effective way to enhance mental health for older persons. To obtain good mental health, older persons need to acquire a strong relationship from people around them such as family, relatives or society.

Physical health and mental health have the same important position, and they can support each other. If older persons are physically health, it will contribute to their mental health. Conversely, mental health can also influence the status of individual physical health. According to Inoue et al (2007), not only physical support should be provided to patients who are suffering from physical illness, but they also should be provided with mental support. Poverty may become the cause of mental health deterioration. Living under poor conditions every day, living alone and being disqualified by the community can directly influence and weaken the capability of older persons to cope with stressful situations (SNIPH 2006). According to WHO (2008b), the mental health status can also be influenced by housing conditions. Furthermore, Prus and Ellen (2003) stated that in Canada, aspects which are related to stress have a strong influence on the health status of elderly women.

Sometimes mental health problems are caused by diseases that directly affect the brain, e.g. in dementia. The prevalence of Alzheimer's disease which is more frequent in women is lower than vascular dementia in Japan which is more common in men. Age, hypertension, previous stroke, and alcohol consumption are the risk factors for vascular dementia. Age also is a risk factor for Alzheimer's (Fujishima and Kiyohara 2000). Mental health problems are also revealed by high percentages of suicide among the elderly. In Japan physical illness (cardiovascular disease and orthopaedic disorder) and psychiatric impairments are the main causes of suicide (Inoue et al. 2007). On average each year, 50 thousand people get suicide because of poor condition, mental impairment, psychosocial environment, economic problem (MOH 2007). Suicide prevention should be established by tackling depression among elderly by the general society as well as by the health providers (Inoue et al. 2007).

In Indonesia, mental health was ignored since a long time and approximately 12.3% loss of productive days because of mental and neurological disorders. Holistic mental health services should be developed and the government ought to formulate policies related to mental health immediately (UN 2004). The study of Syryani et al. (2004) in Bali Indonesia showed that the percentage of elderly (above 65 years) who suffered from anxiety, depression and dementia was 18 per cent, 14 per cent and 7 per cent respectively. Furthermore, SIF (2008) states, that approximately 3 million elderly will suffer from dementia in 2050.

In Palembang, for the last five years, more women elderly were hospitalized than men due to a mental health problem and there is no geriatric unit for elderly patients (EBH 2008). According to Pick (2008), women are twice more likely to suffer from anxiety than men. Generally, if elderly have problems they will solve the problem by telling the problems to their spouse. Children, relatives or closed friends can be a support system for them and about half of the elderly need help from them. It is customary that an elderly woman will tell her problem to her daughter and an elderly man to his son. Hence, support systems are a very crucial element to maintain mental health status (Kuntjoro 2002).

Since families must support prevention and promotion efforts to increase the status of mental health in the elderly, they have to know more about the mental health in elderly. Preventive and promotion activities about this aspect can make elderly become more independent. Consequently, they will not feel being a burden to other people.

4.2.4. Environment

Environment can be defined as everything around elderly which can influence the involvement of elderly in social living. It has a direct impact on the quality of life of older persons because it inspires them to keep on being mobile (SNIPH 2006). Some older persons may be less likely to go outside because of their disability, disease or other impairment. However some older persons need to go outside to work or to participate in social activities. The outdoor environment is quite crucial because it gives various advantages for mobility (Brandt 2005). Older people need also to get an explanation when environmental technologies are used especially with technologies that have a social function (Mollenkopf 2003 cited in SNIPH 2006, p.85).

More events of extreme weather as a result of the worldwide climate will affect the upcoming older population, because older people are very depending on social facilities and social services. The response of older people and younger people to excessive cold and excessive heat is very different. The older people are become more vulnerable to this condition,

because the thermoregulation in older people is not working properly anymore. The caregiver must know how to tackle this condition and the prevention of excessive cold and excessive heat should be known by the family, so they can give first aid when the signs and symptoms occur (Worfolk 2000). The health providers together with local authorities have to assure the availability of health services, safety and social security when extreme weather is happening.

The next factor which can influence environmental conditions is air pollution. Generally, people assumed that air pollution is not dangerous, but actually it may become the cause of a great burden of environment-related diseases. People who are already in poor health condition are more vulnerable to suffer from diseases which are related to air pollution (SNIPH 2006).

The study done by Hiroyuki, Yasushi and Shuichi (2002) about elderly (average age: 80.3) in Japan showed the differences in level of physical function between an indoor-activity group, a neighborhood outdoor-activity group and a long-distance outdoor-activity group. The elderly with long distance outdoor activity group and long distance outdoor activity group had a higher physical function than indoor activity group.

Housing improvements are considered as one of the interventions to get better health, because this intervention can improve mental health status but conversely this intervention can also create a possible threat for older people, because of the increase of rent payment can become a new source of stress for them (Thompson, Petticrew and Morrison 2001). According to Lyons et al. (2003), the safety factor should also get strong attention to prevent accidents of older persons because they are more prone to fall due to weakness of their bones. However, the design of the house can reduce the possibility of older people falling. Hence, the design must be simple and has to make it easier and safer for older people to do their daily activities. In Palembang, there were some changes in the traditional houses to improve their safety, because limas as the traditional house of Palembang has many ladders which can be highly dangerous for elderly to fall (BKPBM 2008)

So far, in Indonesia, only Bandung and Bali have special parks for elderly people. These parks will give elderly comfort because they can talk to each other, express their feelings, remembering their last experiences which will make them happier, because actually older people really need to talk (Suastika 2006; Schiemeg 2008). However, there is no special park for elderly in Palembang, which has 188 parks (Kusnadi 2007).

The implementation of this determinant is similar to the social capital determinant, which enhances the opportunities of elderly by creating a

conducive environment. Creating the parks for elderly is one example of how government can give their support to improve the health status of elderly. In Palembang, the most frequent elderly activity is leisure, 8.0% men and 2.4% women, followed by 0.8% in gardening activity both in elderly men and women (Data Statistik Indonesia 2005).

4.2.5. Nutrition

Nutrition status, which is influenced by food and eating habits, has a direct linkage to health. In terms of the need for essential nutrients, this is applicable for both younger people and older people. However, older people need special consideration to establish the type and amount of nutrition, because for older people maintaining body weight is very important as a sign of health (Bogers et al. 2005). In addition, healthier lifestyles and healthy eating habits can reduce the risk to get sick, ensure that elderly perform optimal and contribute to others, and lastly can also decrease the mortality. Several factors can contribute to eating habits in older people, including psychological changes as a result of disease or medication. Medicines may change the flavor and absorption of nutrition in the digestive tract, disabilities such as impaired sight, may diminish the appetite to eat and poor teeth will disturb older people in processing the food. A diminished appetite can also be due to lack of exercise, dementia and depression, resulting in insufficient intake of energy and nutrients (SNIPH 2006). Some problems related to nutrition may be due to financial limitations, physical inability and inadequate information which cause poor intake of nutrients by elderly population (Tucker and Bunarapin 2001).

According to Bogers et al. (2005), shifting eating patterns can create synergy effects, for example on social function, risk of overweight and some forms of cancer. Cooking and eating together with other people will reduce the loneliness of older people and can increase their appetite, because they are having fun through togetherness. Additionally, not only to get enough food and nutrients cooking and eating together can also arouse social contact and the feeling of loneliness may diminish. Feelings of loneliness should be eliminated because they may decrease somebody's appetite.

Fractures are major health problems when somebody becomes older. Osteoporosis (low bone density) is a main cause for fractures in older people. To tackle these problems, older people should get enough vitamin D3 with calcium co-supplementation to reduce the risk of osteoporosis and fractures following a fall (Gilliespie et al. 2003).

Nutrition is also related to cancer, which becomes a higher risk in older people. Riboli and Norat (2003) suggested that people between 40-80 years should increase their vegetables consumption to decrease the risk

of suffering from cancer. According to them, vegetables become the most important element that can reduce the risk for cancer besides other lifestyle such as smoking, alcohol and physical activity. Anderson et al. (2001) concluded that older people should do physical activities regularly to decrease or maintain their body weight. For elderly women, it is healthy if they have an acceptable body weight (Prus and Ellen 2003).

In Indonesia, malnutrition problems are commonly found in elderly patients (Soejono and Laksmi 2008). Christijani (2003) also said that 31% and 1.8% of elderly are in a low and high nutrition status respectively. According to a study which was done in elderly communities by Darmojo (2002), not all of elderly in Indonesia can consume the complete nutritional requirements, because 50-80% usually eat rice and vegetables, 40% consume fruit, while only a small number consume milk, and in Java Island fish consumption is still limited. Elderly men have a higher calorie intake than elderly women. Reducing calorie intake among elderly is also happening in Japan. According to Sakato et al. (2006), in Japanese elderly women (above 60 years), there is a positive correlation between the protein intake and energy consumption and there is a significant correlation between the protein intake and fat intake with physical fitness score.

As a result of the influence of Palembang's culture, there are differences in eating habits. Since fish is the most frequent daily consumption among elderly (PHO 2006) it can prevent osteoporosis due to calcium content (Siswono 2004). Furthermore, the governor of South Sumatra Province celebrated the elderly day by inviting hundreds of elderly people to eat in his house (Bankominfo Sumsel 2008a), which showed that local government is extremely supporting the program for elderly. However, the government should give their attention to nutrition status of elderly consistently, not only in special moments. Some cadres in health post for elderly people in Palembang are giving health education about healthy nutrition but unfortunately the coverage of health posts for elderly is less than expected, only 22.1%.

4.2.6. Physical activity

Physical activity has an important role to prevent diseases and to improve independency of older people. However, it is also influenced by the frequency and type of physical activity. The advantages of physical activity are well recognized for elderly persons, and they have a relation with progressed duration and quality of life (SNIPH 2006). Physical activity can ensure that older people give more contribution to their life (Shephard 2002). Furthermore, cardiovascular diseases are more likely to develop in people who are inactive than in people who are physically active (Powell et al. 1987). Blood pressure can also be lowered by doing

physical activity appropriately, and older people should develop their physical activity to decrease the risk for stroke (Whelton et al. 2002). While the increasing blood pressure can be prevented by doing moderate exercise, the insulin level also can be regulated by regular physical activity (Borghouts and Keizer 2000), and osteoporosis and muscle weakness can be prevented. Specific physical activity such as weight bearing can increase bone density and works against osteoporosis, so it can maintain the maximum function of the body and make older people become more independent (Latham et al. 2003).

Depression is more likely to develop in physically inactive people than physically active (Camacho et al. 1991). The risk for Alzheimer's disease is higher in people who are physically inactive. One study showed that dementia can be delayed by doing physical activity and other current research illustrates that activities including physical, social and mental, can protect older people to suffer from dementia (Fratiglioni, Paillard-Borg and Winblad 2003). Finally, the level of welfare and physical function are higher in older people who are always doing their physical activity regularly and adequately. Giving an explanation to older people about advantages of physical activity, e.g. by written materials is very important. Referral systems should also give details to support older people if they need an individual approach from a specialist to increase their capability in physical activity (Eakin, Glasgow and Riley 2000). According to Hiroharu et al. (2001), in Japan, elderly anxiety due to fear of falling can be the causal factor of limitation in their physical activities.

Campbell et al. (1997) found that regular exercise at home will reduce the risk of falling among elderly due to enhanced balance and physical function. Moreover, Yang style tai-chi classes can also lower the risk of falls and injuries among elderly (Li et al. 2005).

Based on a study by Christijani (2003), it is known that 31.9 percent of elderly in Indonesia is still active. Another study showed that there was a correlation between frequency and the length of fitness dance of elderly people and muscle strength (Budiharjo 2003). In Palembang, sport, walking and aerobic are regular physical activities at integrated health services for elderly (PHO 2006).

4.2.7. Injury prevention

Among elderly, the high frequency (73%) of falls contributes to injuries (Hua et al. 2003). Older people are more prone to fall due to their disease or low bone density. However there are many factors that contribute to falls that result in injuries in older people. The effect of an injury is very broad, not only physically, but also psychologically and socially, and mostly the effect of the injury is broader than the injury from the fall

itself. The injury can have a long term-effect because older people have undergone many biological and physiological changes so that the healing process will take more time than in younger people. This condition will make older people become more dependent than before. If they need to be taking care of in a hospital, they will not only become more dependent to other people but it will also be costly because of hospitalization. That's why it is very important to prevent injuries among older people, to prevent this financial burden for their family and for themselves (Marks and Allegrante 2004).

Nandy et al. (2004) showed the five risk factors of falling in a primary care group in London among elderly are a fall experience in the past, using four or more medicines, Parkinson's disease or stroke diagnosis, balance problems, and the inability of older people to get up from a chair without using their arms. According to WHO (2003), there are two factors which can give contribution to construct musculoskeletal difficulties, including dangerous labor environment and physically impairment.

Falls in older people can be diminished by maintaining the equilibrium between training, exercising and strengthening muscles (SNIPH 2006). Prospective studies have reported that 30 to 60 percent of community-dwelling older adults fall each year, with approximately half experiencing several falls (McClure 2005 cited in SNIPH 2006, p.106). WHO launched the model which is called "safe communities" for injury prevention in communities to diminish injury and to enhance safety. The main focus of this model is on how to explore and use the community's capabilities to give support and assistance. Working together with communities by using their capacity through an affiliation and collaboration process and also considering socio, cultural, ideological and political aspects is the best way to prevent injuries among older people (Spinks et al. 2005).

Injuries can also be the result of violence or abuse among older people (NCIPC 2007). Violence is a sensitive issue, because it is related with socio-cultural values, and the meaning of violence is very different from one country to another country. Violence is mostly a sign that somebody is neglected. It may occur because older people are assumed to add up the burden of the family, not only in terms of financial costs but also because older people become dependent in many ways to other family members (Shinoda et al. 2004). Derived from a global strategy to combat violence against older people, collaboration and commitment between different stakeholders can help older people not to become violence victims (WHO 2006b).

Roughly, injuries are caused by 62-74% of falls among elderly in Japan and most of them are elderly women. There are various best practices in Japan to prevent falls, such as training to strengthen the musculoskeletal

system and to improve body balance, improvement of vitamin D and Calcium consumption, decreasing psychotropic medication, improving visual function and reducing the risk of injuries at home. Postponing disability is an integrated policy in Japan, including the strategy to prevent fractures by fall prevention (Hua et al. 2003).

According to Soejono and Laksmi (2008), in Indonesia the condition of public facilities is very poor and not friendly for elderly people and it makes elderly become more prone to injuries or any other accidents. In Palembang, some changes in architecture of traditional house contribute to injury prevention among elderly by diminishing the ladders in the houses (BKPBM 2008). Public facilities should be developed by the government, and policies related to the improvement of public facilities and the maintenance of them should also be considered.

4.2.8. Substance use/misuse (tobacco and alcohol)

According to SNIPH (2006), tobacco use is often considered as the most prevalent health problem for all communities in developed and developing countries. Globally, there are approximately 1.3 billion smokers. Smoking has a very bad effect on health status, by causing cancers, chronic obstructive pulmonary disease, pulmonary diseases, vascular diseases, gastrointestinal diseases and osteoporosis among other disorders. Moreover, several references confirm the relation between smoking and different health problems, not only related to the respiratory system but also to other systems or organs, such as bone fracture risk, peripheral arterial disease, cancer, accidents, impotence and eye disease. Burns (2000) stated that to reduce the effect of smoking in all age cessation of smoking is still the most successful intervention.

In other words, smoking has become one of the determinants of healthy ageing. Somebody can maintain his or her good health in later stage of life if (s)he is not smoking. Furthermore based on Peel, McClure and Bartlett (2005), non-smokers will be two and a half times healthier in a later stage of life if they are also physical active compared to those that are not physically active. It means some health problems are not only purely due to one cause but can be caused by many factors.

Besides smoking, alcohol abuse is also a major health risk. Norstrom (2002) cited in SNIPH (2006, p.117) illustrated that mortality is significantly influenced by alcohol consumption. Nowadays alcohol misuse is becoming a lifestyle both in young people and older people and has become a public health problem. Alcohol misuse can cause various diseases and reduce the welfare especially for older people. In Japan, according to Lin et al. (2003), heavy drinking which is closely related to cardiovascular disease, injuries and cancer, contributes to excessive

mortality among middle-aged and elderly men and women. It is, however, difficult to solve health problems related to alcohol misuse, because alcohol use among older people is often under detected and misdiagnosed (SNIPH 2006).

In Indonesia, health household survey's data (2001) showed 36.7% of the older people are smokers and 2.8% of the older people use alcohol (Christijani 2003). The percentage of alcohol consumption is small, maybe because it is uncommon to consume alcohol in Indonesian culture and alcohol consumption is forbidden by Moslem which is the majority of the population, also in Palembang (Bankominfo Sumsel 2008b). Although there are no data about the percentage of alcohol consumer in Palembang, it is likely that the percentage is similar with percentage in general (Indonesia). It means that particularly a clear policy related to misuse of tobacco should be established.

4.2.9. Use of medication and associated problems

Globally, many older people use medication and mostly they use various medicines at the same time. This results in an increasing risk of adverse reactions of drugs (SNIPH 2006). Soejono and Laksmi (2008) stated that elderly are often involved in so-called "polypharmacy".

WHO has developed some categorization of drug related problems in the elderly. So far, many efforts have been made to reduce the problem of error in medication, such as doubling or inappropriate dosages. Furthermore, some patients do not stick to the prescription of the drugs. However, there is not yet a satisfying answer on how to minimize medication errors or non-adherence (SNIPH 2006).

Furthermore, according to SNIPH (2006), older people will take medicines based on signs and symptoms, often not based on the cause of their disease. Through "inappropriate prescribing" the medicines only minimizes the signs and symptoms, but do not cure the disease. Sometimes the prescriber does not consider the precautions of medication in relation to the condition of the patient, which will result in a dangerous situation. Besides "inappropriate prescribing" and non-adherence, the interaction between the medication and the organ response or some other diseases is a third drug related problem in the elderly. The prescriber should give more attention to reduce complications of drugs in the elderly. Recently herbal medication has also become more attractive for the public, so the interaction between chemical medication and herbal medication ought to get consideration (SNIPH 2006). In some developing countries, some elderly have more faith in traditional medicine than modern medicine, also due to the affordability and accessibility of traditional medicine (WHO 2002). It is sometimes easier to obtain and to

buy traditional medicine because it easier to find the vendor and its price is lower than modern medicine. Though, many older people take drugs from traditional healers, table 4 shows that the majority older persons in Indonesia took modern medication, both in rural and urban areas. It also indicates that often different types of medication are combined.

Table 4 Percentage of older persons in Indonesia reporting self medication by type of medication and residence, 2004

Type of medication	Urban	Rural	Total
Traditional	12.4	13.0	12.7
Modern	51.9	45.7	48.0
Others	1.7	2.0	1.9
Combination	34.1	39.4	37.4
Total	100	100	100

Source: BPS 2004 cited in Abikusno 2007, p.18

Hence, the hazards of drug reactions must get special attention, which is illustrated by some experiences. These indicate a high number of hospitalizations due to adverse drug reaction, four percent and sixteen percent in younger and older people respectively. Actually twenty eight percent to fifty one percent of the adverse drug reactions in elderly can be avoided and expenses and suffering from adverse drug reaction can be precluded (SNIPH 2006). Documentation about the use of medication among the elderly in Palembang and problems due to medicine does not exist. Nevertheless, is clear that communities, especially for elderly, must improve their awareness concerning inadequate medication. This awareness must start at young age, so the accumulation effect of medication can be prevented. To achieve this aim, health education to communities, monitoring and evaluation the prescriptions of doctors and also the drug vendors should be endorsed. Research about traditional medicine is also important to know the effect of traditional medicine to health.

4.2.10. Preventive health services

To improve the quality of life in the elderly, preventive and promotive efforts should be developed. Prevention and promotion are essential to postpone the start of disease and to make elderly to become more independent, and not become a burden for other people. Due to financial aspects some obstacles exist particularly for older people with low socio-economic status. However, the obstacles are not only related to financial aspects, but relate also to regulations, cultural factors, transportation, and psychological and social support (SNIPH 2006).

Generally, older people do not know about basic health to prevent common diseases and also do not know how to use health facilities to promote their health (Baker et al. 2000; Gausman and Forman 2002;

Scott et al. 2002). Also Gazmararian et al. (2003) found this correlation between health literacy and the prevalence of chronic diseases. Hence, the skills of health providers to give information should be considered. In this context, it was found that older people not only need a verbal explanation but may sometimes also need a simple written explanation (Gausman and Forman 2002). Jacobson et al. (1999) for instance has developed a simple, cheap, low literacy educational leaflet for low literate older people which can improve vaccination rates and dialogue with health care providers.

Based on Scott et al. (2002), there is no clear relationship between health literacy and education level. People with a high education level will not directly use preventive health services. On the other hand, it was found that older people with a low socioeconomic status or from ethnic minorities may find access to health services difficult for preventive services (SNIPH 2006). The change of disease patterns, from infectious diseases such as tuberculosis to chronic diseases such as cancer, cerebral stroke and heart disease, may make preventive services even more important. In Japan it was found that in most of these diseases lifestyle changes had a strong relationship with mortality. Hence, there is a policy for elderly who emphasized on prevention of lifestyle related diseases and focused on health promotion which was launched in 2008 and the services are called as lifelong healthcare services (Hanyuda 2008).

Another study indicated a very high prevalence of chronic diseases in Indonesia, 74% of the aged had a chronic disease (Concepcion 1998). However, for the provision of health services to more than 10 million elderly people, Indonesia has only 15 internist-geriatricians (Soejono and Laksmi 2008). Moreover, 45.1% elderly people go to GPs and other health providers when they are sick and 41.6% of elderly go to community health centre to get treatment (Christijani 2003). Generally, older people do go to health providers to get treatment when they are ill, but do rarely go for preventive health services.

The situation in Palembang and also South Sumatra Province is even more problematic. There is no geriatrician and no geriatric unit in the public health services such as hospitals and community health centers. It means, if elderly people suffer from certain disease, they will get the same facilities and will be treated in the same rooms with younger patients. Even though there are limitations due to lack of human resources and facilities, the local government has to keep trying to support the preventive efforts. In community health centers, integrated health services (health posts) for elderly were established which only can manage 22.15 of elderly. The various activities that have been done in health posts are aerobics, health education, regular physical examination, and mental support which were provided by volunteers from the communities (PHO 2006).

Chapter 5. Discussion

This study has revealed that ageing of populations as a consequence of reductions in fertility and death rates at all ages should be anticipated actually not only by developed countries but also by developing countries, such as Indonesia. Not only the increasing number or percentage of elderly should be anticipated but also the shift in disease pattern, which may require a different type of health policies and health services. There are some policies and programs for elderly in Indonesia which were also introduced in Palembang, but so far no specific policies were created by government in Palembang. It was found that the implementation of these policies is not optimal and awareness of government to give more attention, support and advocate for elderly were still limited. The political commitment of the government at all levels is still small. The limited attention by the government in Indonesia is illustrated by the low number of professionals in geriatrics, which are only 15 geriatricians in Java Island. Also in Indonesia, there is no special division for elderly and elderly is becoming a part of community participation and health reproductive division.

The increasing number of elderly in Palembang and also the shifting of disease pattern from infectious disease to non infectious and chronic disease are giving consequences to district government and health providers to be more responsive to this condition. Up to now, there is no geriatrician and geriatric unit in Palembang. Lack of awareness can be the major contributing factor probably due to lack of information about elderly, their health problems and their requirements. Obviously, to enhance awareness and to develop adequate policies based on the needs of the elderly such information has to be available.

To implement the policies for elderly, the policies and programs should relate to the needs of elderly which can be shown in determinants of the healthy ageing framework. Moreover, to get an optimal result of its implementation, local conditions must be considered, such as culture, value and norms, because these aspects can influence the success of the implementation of policies and programs. If the policies and programs are related to the need of elderly and suitable with the local conditions, the implementation of policies and programs will be easier and the objective of policies and programs can be achieved.

In this study, use was made of an existing framework in which most of these determinants were included: retirement and pre-retirement, social capital, mental health, environment, nutrition, physical activity, injury prevention, substance use/misuse, use of medication and associated problems and preventive health services. The framework related to healthy ageing which illustrates a holistic approach must be used to

describe determinants of healthy ageing to fulfill special needs of elderly. From the study results, it is known that the determinant can influence each other. Though the framework is based on the European Healthy Ageing Programme, it was found to be a useful framework to describe the needs of the elderly to achieve healthy ageing in a country such as Indonesia. As indicated before, the major problem was however to find adequate data and studies to assess these determinants in depth in the context of Indonesia and Palembang. It was also difficult to find data and best practices from other developing countries. Clearly, there is still much work to be done and the assessment in this study and the recommendations made below, are just a first step.

Nevertheless based on the information collected already steps can make to develop health aging policies. These steps are briefly discussed here. One of them is related to retirement. Compared with Japan, the retirement age in Indonesia is lower than Japan, which may be due to physical condition in Indonesian elderly. In Palembang the retirement age for formal sector is also 55 years old. It is important that the different physical, mental and social characteristics are taken into account when retirement policies are developed. It is also important that elderly people can work based on their capacity, in order to prepare themselves for a good retirement.

Social relationships and social activities are very crucial for the elderly because they can reduce feelings of loneliness, improve their capabilities to express their feelings and enhance self reliance. Generally in Indonesia and Palembang, children respect their parents and perceive them as the source of wisdom. Related with social policy, community awareness should be developed because the welfare of the elderly is also the community's responsibility. The similarity of ideas, values, religion, culture and norms has contributed to the development of social relationship. The societies for elderly in Palembang are different from those in other regions. Because the majority of elderly are Moslem, the norms, values in their daily living are more likely influenced by Islamic values. Families should take care of their parents as the sign of love, caring and obligation of children to their parents which is always taught by religious leaders. Family's support can increase the elderly spirit and contribute to the elderly involvement to become more socially active in many groups, based on their hobbies or their values.

Living together in one house within different generations, which is called buddle house in Palembang, is very common and this condition will create a closed relation and support among them. Special activities among elderly will reduce the loneliness and increase sameness feeling among elderly, which enhances the health status. The social relations within the family will not only influence the elderly contribution to society, but can

also influence the mental health status. Elderly people who live alone are more likely to get mental health problems, because they cannot share their feelings and these elderly people tend to get lonely and the feeling of not being valuable.

Generally, mental health has been a neglected sector, even though it can influence well-being in later stage of life, also in Indonesia. Hence, in health policies the government should not only focus on physical health, but also on mental health. Anxiety has become the most frequent reason for mental health problems, particularly in elderly women because women tend to get anxiety twice as much as men. This determinant is closely related with social capital because elderly people need to be socially active to express their feelings, experiences, contributions and being valuable for societies.

The government has not created a specific policy about safe environments for the elderly, free from pollution, and improving outdoor mobility and housing conditions. Fortunately, Palembang has many parks which can facilitate elderly people to do outdoor mobilization and these parks usually are used as the place to do some aerobic exercise every two or three times a week which is conducted by organizations for patients with certain diseases (patients with heart problems or diabetes mellitus problem) and aerobics which is conducted for elderly in general every Friday. Physical activities can improve the health status both mentally and physically and lastly can increase life expectancy. Furthermore, some changes in the architecture of traditional house (limas house) by reducing or diminishing the ladders inside the house are also contributing, because can reduce the possibility of elderly to falls. But unfortunately there is no policies to manage the safe house for elderly with still keep maintain the traditional value of the house.

As was expected, nutrition has an important role to support well-being in the elderly. Nutrition status can be influenced by lifestyle, eating habits, psychological status and disability. Although modernization is growing rapidly, in Palembang, eating fish is still the most favorite food to be consumed particularly in elderly. This determinant is strongly related with family tradition, and families which are generally eating fish will maintain this tradition. If the elderly is living together in buddle house, eat fish tradition will still remain to other family members.

Substance or misuse tobacco and alcohol should be tackled immediately, because they have a long term implication. Substance or misuse tobacco and alcohol will give bad effect in later stage of life. It is, however, very difficult to prevent and eliminate the misuse because it is related with life style and under the influence of the environment. Although in Palembang, the number of elderly smokers and alcohol consumer is not known, we

can assume that in Palembang alcohol usage is still limited because the majority of the population and elderly is Moslem. Hence these policies should particularly focus on smoking habits.

The number of inappropriate medication usage among elderly is also not known. The Ministry of Health should make a health policy which can protect elderly from misuse of medication, because particularly for elderly, they mostly take more than one drug at a time, which may cause various reactions or complications. Moreover, 12.7% of Indonesian elderly people are using traditional medicine, so government should also regulate and control these medicines.

Furthermore, lack of human resources, facilities and the implementation of policies are the main problem for the health services for elderly in Indonesia. More attention is given to elderly with a specific disease, while there is no attention for elderly people with no physical and mental health problems. The policies and programs should use a holistic approach to give adequate services. It may also be necessary to change health services from curative to more preventive and promotion health services for elderly people. Preventive health services need special consideration because by doing preventive health services, some problems related with elderly can be avoided, such to minimize the prevalence of chronic diseases, which not only increase the burden of individual and family but also of the society. The government, however, should consider all aspects of preventive health for elderly, which consists of infrastructure, human resources, management etc. The influence of religion, culture and norms must be emphasized when giving preventive, promotive and curative health services to elderly. Moreover, to give holistic health services for elderly, collaboration is really needed between Ministry of Health and Ministry of Education to add the number of geriatricians and train the health workers to improve their knowledge and their skills. Finally, the implementation of policies to improve health prevention for elderly should be particularly based on the special needs of elderly and considering the local conditions such as culture. Consequently, the quality of life of the elderly can be improved and healthy ageing can be achieved.

Chapter 6. Conclusions and recommendations

Ageing populations are growing rapidly in Indonesia and Palembang. This requires anticipation and support from the government at all levels and from the communities. More than ever the quality of life of the elderly should become a priority.

So far, not many policies, programs related with elderly in Indonesia, and also Palembang, have been developed. The awareness of health issues related with ageing and the commitment to develop policies for the elderly has, so far, been limited. Moreover, the availability of information related to ageing is still limited and the research about it is also restricted. When developing policies and programs related with elderly in Palembang, they must be supported by various departments and its implementation should be in line with the policies and the programs at national level.

The healthy ageing framework illustrates the special needs of elderly and consists of the determinants of healthy ageing (retirement and pre retirement, social capital, mental health, environment, nutrition, physical activity, injury prevention, substance use/misuse, use of medication and associated problems and preventive health services). Though the framework has been developed in western countries, it seems also useful for Asian countries, such as Indonesia, because the determinants for healthy ageing are mostly similar. The framework can also be used for developing programs related with ageing. Such programs need to start being implemented, for instance with pilot projects. All determinants should be addressed and get more attention, because the impact of these determinants are very enormous on the health of elderly people.

The implementation of policies and programs related with ageing in Palembang should consider the local conditions such as culture norms, because each region in Indonesia has specific characteristics and cultural norms and values. Furthermore, when policies are developed, there should be coordination between governmental departments and collaboration at all levels and also community involvement.

Based on these general conclusions and the results from the study, the following recommendations are made for developing a strategy for health ageing in Palembang.

1. The central government should create an elderly division in the health department and disseminate information about policies and programs regarding to healthy ageing to all levels of government, i.e. provincial level, district and sub-district, community, NGO's, private sectors. At community level, community leaders should be involved to get more

information about elderly policies and programs because healthy ageing is not only the government's responsibility but it is also the community's responsibility.

2. The government at all levels has to develop policies related to the elderly. In Palembang, the coordination between provincial and district level should be enhanced particularly concerning policies and programs related to elderly. This will enhance the implementation of policies and finally the well being among elderly.

3. Central government should give support to various activities which are conducted by the communities and community leaders, NGOs, public organizations, private sectors. Community leaders have to improve community participation in caring for the elderly people. This is extremely important to improve community awareness and to make communities responsible to solve problems related to the elderly and to make activities more sustainable. Government plays a role as a facilitator to support the creation and activities related with ageing policies and programs.

4. The central government must put some extra budget for the elderly. By giving more budgets, the quality of health services can be enhanced. Training and seminars related with elderly should be put as a priority and must be followed by health providers and people who are involved in the services to increase their knowledge and skills.

5. Government at provincial level is expected to establish group activities for the elderly by setting up a center of activities for elderly to increase their social relationship and well being. These activities should be based on social and cultural norms. Hence, special helpline services for protecting finances, health, shelter, education and properties of elderly through coordination with various sectors are also very important.

6. Coordination between Ministry of Health and Ministry of Education is very important to encourage the role of media by distributing information about determinants of healthy ageing, promoting healthy ageing, protecting the elderly and enhancing the responsibilities of community to take care of elderly.

7. The government should make a simple framework and standard operating procedure for health providers and cadres in integrated health services or health posts about how to implement the policies and programs to take care of elderly people in community health centers and integrated health services.

8. The government should facilitate research and data collection of issues related to the elderly and to healthy ageing because the lack of data is a major problem in healthy aging development. By doing the research, problem solving related to ageing can be developed and some problems also can be anticipated.

9. Government should start to establish a liaison with other countries to exchange experiences to enrich information and skills from other countries to achieve healthy ageing.

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Annex 1. Organization Structure of Community Empowerment