CHAPTER 2

Literature Review

In order to understand about maintaining elderly health with Central Thai local wisdom, literature reviews was explored as follows:

- 1. Elderly health
- 2. Elderly health in Thai society
- 3. Maintaining elderly health
- 4. Local wisdom and elderly health

Elderly Health

In order to understand elderly health, the researcher will explore certain about definition of health and of elderly health, and changes in elderly health as follows:

Definition of Health and of Elderly Health

Definition of health. Global perspective of health, health is defined in numerous ways as result of the increased diverse social values and norms that conceptualize health (Pender, Mursaugh, & Parsons, 2011). The traditional definition of health is based upon the medical view, emphasizing the curative model within a biological perspective. Health can be defined as the absence of disease or disability (Stanley, Blair, & Beare, 2005). As the result of the emergence of health promotion as the central strategy for improving health, in 1974, the World Health Organization proposed a definition of health as a state of complete physical, mental and social wellbeing, and not merely being the absence of disease or infirmity (WHO, 1974).

However, Pender et al. (2011), who were experts about health promotion, defined individual health as comprising of three major categories including: 1) health as stability; 2) health as actualization; and 3) health as actualization and stability (Pender et al., 2011). *Health as stability*, health is defined as a state or condition that enables the

individual to adapt to environment (Dubos, 1965, as cited in Pender et al., 2011). Health exists when an individual is able to adapt well to the environment successfully and is able to grow, function, and thrive. The adaptation is a significant factor related to the ability of individuals to maintain a balance with the environment. *Health as actualization*, health defined more broadly as actualization of human potential. Newman, defines health as the totality of the life process, which is evolving toward expanded consciousness derived from the work of Martha Rogers, (Newman, 1991, as cited in Pender et al., 2011). Noticeable, health concept varies according to age and cultural context. *Health as actualization and stability*, health is defined as a dynamic state in the life cycle of a person that implies adjustment to stressors in the environment through optimum use of resources to achieve maximum potential for daily living. Pender et al. (2011), defined health as the realization of human potential through goal-directed behavior, competent self-care, and satisfying relationships with others, while adapting to maintain structure, integrity and harmony with the social and physical environment.

Thailand perspective of health, the National Health Act Thailand B.E. 2007, section (3), defines "health" as the state of human being, which is perfect in physical, mental, spiritual, and social aspects, all of which are holistic in balance. It also defines "spiritual (*Panya: ปัญญา*)" as the comprehensive, insightful, foresight knowledge and conscience leading to kindness and sympathy.

In conclusion, health can be described as the state of human being, which is holistic in balance. In addition, in order to achieve good health among the elderly it is important to understand the elderly health concept for guides on processes and strategies of maintaining health, to be discussed later.

Definition of elderly health. World Health Organization (WHO) denotes the elderly as an individual who is 60 years and over, in low and middle income regions, and aged 65 and older in high income regions (WHO, 1998). Rationale is that age 65 and above is described as the entry point for the elderly, in accordance with work retirement period in Western countries (WHO, 2014). According, the elderly defined by chronological age can be classified into three subsets as: young-old (60-74 years);

middle-old or old-old (75-84 years); oldest-old (85 years and above) (WHO, 1988). *United Nations*, similarity with WHO's aging definition, the United Nations classifies the elderly as both 60 and 65 years and over (United Nations, 1999).

Thailand's perspective of the elderly; Thailand is classified as a developing country. The Thai law defines the elderly through chronological aging; as an individual aged 60 years and over, in accordance with work retirement period which adopts ideas in accordance with international standard "World Assembly on Aging in 1982" (National Health Commission Office, 2007; Prasartkul & Vapattanawong, 2010; United Nations, 1982;). Accordingly, Thai elderly defined by chronological age can be classified into three subsets as: young-old (60-69 years); middle-old (70-79 years); and old - old (80 years and above) (Tongjareon, 2011).

In conclusion, in this study "elderly" means an individual who is aged 60 years or over based on a measure of the accumulation on the number of years from birth.

Elderly health could be defined as varied due to health changes over the life span during the course of human development (Millstein & Irwin as cited in Pender et al., 2011). One study found that the elderly defined elderly health as the integration of physical, mental, spiritual, and social aspects, also health is embedded in everyday experiences (Arcury, Quandt, & Bell, 2001, as cited in Pender et al., 2011). As well, Filner and Williams (1979), found the elderly defined health as "an ability to live and function effectively in society and to exercise self-reliance and autonomy to the maximum context feasibility, but not necessary as total freedom from disease" (Filner, & Williams as cited in Stanley et al., 2005). Stanley et al. (2005), stated that elderly health refers to feeling good, being able to do things that are important, coping with life's demands, and achieving one's potential (Stanley et al., 2005).

Other literature in gerontology highlights elderly health as related to quality of life. Elderly health refers to an individual's perception of their physical and mental health and state of well-being (Depp & Jeste, 2010). Also it includes essential characteristics of elderly health such as social functioning, emotional well-being, a personal sense of physical and mental health, and overall life satisfaction and happiness (Drewnowski & Evans, 2001).

A few studies have described elderly health. Sopavonnakul (2004), reported from her study that elderly health based on perceived of elderly refers to eating well, sleeping well, debt-free, no weakness, being content and not worrying (Sopavonnakul, 2004).

In conclusion, in this study elderly health definition adopts the concept of health in general. Therefore elderly health defines as a state of complete among physical, psychological, social, and spiritual health, which was perceived by the persons at aged 60 years and over.

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Change in Elderly Health

Living is a process of continual change, this continuation of change from infants, become toddlers, children, and adults into later life is natural and expected. Changes in elderly health refers to the normal process of human beings that changes in aging are influenced by genetic factors, environment, diet, health, stress, lifestyle behavior, and other elements. The change of physical, psychological, social, and spiritual changes experienced during life circumstance are highly individual because of individual factor involved (Eliopoulos, 2014).

Change in physiological health in elderly. *Physiological health* refers to the physiological changes occurring in all body systems, but contributed to alteration in each body system (Goldman, 1979). It can also refer to a cumulative effect in the continuum of biological, psychological, social, and environmental process in the elderly. It occurs internally and affects the way the body continues to function and is mediated by the lifestyle behaviors (Lange, 2012). Cristofalo (1996, as cited in Stanley et al., 2005) described the physical process of the elderly as including alterations in structural and functional, development, longevity, and death (Cristofalo, 1996, as cited in Stanley et al., 2005). However normal development of the elderly is not a disease but eventually leads in structural and functional decline and involves increased susceptibility to diseases (Moody, 1994).

Most biological theories focus on the alternations in structural and functional aspects, development, longevity, and death. For example: Genetic theory, believes that people inherit a genetic program that determines their specific life expectancy

(Eliopoulos, 2010). Gene formation and the environment are primarily essential factors influenced aging (Stanley et al., 2005). Wear and tear theories, believe that the body wears out over time as it performs its highly specialized functions. Like any complicated machine, the body will function less efficiently with prolonged use and numerous insults to it, as the result of waste product accumulation, thus leading to molecular and eventually organ malfunction (Eliopoulos, 2010; Stanley et al., 2005). Environmental history, this theory focuses on factors in the environment that force changes in the aging process, factors such as sunlight, carcinogens, trauma, and infection (Stanley et al., 2005). Adapting and coping with these changes results in structural and functional decline in the physiological dimension of health, which are discussed next.

Heart, blood vessels and respiratory organ. Accordance to the heart and blood vessel, decreased elasticity of the arteries can affect the blood flow to the body's organs. This can lead to complications, for example thickening of the blood vessels and of the ventricular free wall and the septum, leading to stiffness and a decrease in contractility of the heart; these are risk factors for coronary artery disease and hypertension. Respiratory tract and pulmonary performances will change gradually. This can also have an effect on the respiratory organ and related organs, resulting in the decline of lung function, which is a significant factor of chronic obstructive pulmonary disease, emphysema, asthma, and chronic bronchitis among the elderly.

Endocrine function. Elderly peoples' endocrine system can have a reduction in hormonal secretion, and a sensitivity of hormonal stimulation of the target organs. Hormones that have been found to decline with aging were estrogen, progesterone, thyroid, growth hormones, and insulin. Thyroid function remains adequate with age however partial change leads to diabetes mellitus and thyroid diseases.

Gastrointestinal function. Decreased muscle contraction means more time is needed for the cardiac sphincter to open, thus food is transmitted to the stomach at a slower rate. One major change in the gastrointestinal system is the decrease of hydrochloric acid and atrophy of the gastric mucosa. As a result of this, the sensation of being full before having had a full meal occurs faster; thus, the elderly eat small quantities of food at mealtimes. Disorders of the gastrointestinal system related to

normal ageing changes include peptic ulcers, loss of appetite, dysphagia, hernia, carcinoma, and gastritis.

Sensory function. Taste bud atrophy, lose efficiency in relaying flavor, and decrease in number. A problem related to sensitivity reduction includes a lack of appetite, the elderly may only eat once a day and this could result in poor nutrition. Visual function decreases when comparing elderly aged 55-64 years old with those aged 85 years old and over. Results of a study showed that increased visual impairment was fourfold (Bognoli & Hodos, 1991, as cited in Hooyman & Kiyak, 1999). Consequently, the elderly tended to face difficulties with many activities of daily living that required good visual skills.

Urinary system. Both kidney and bladder functions alter with the elderly. The kidneys decrease in volume and weight, and the total number of glomeruli correspondingly decrease by 30% from age 30 to age 65 (Hooyman & Kiyak, 1999). As a result, renal function, defined by the rate at which blood is filtered through the kidneys, will decrease by up to 50 percent with age. Also, bladder function awareness reduced with age. The sensation of needing to empty the bladder is delayed, which can cause urinary incontinence. Renal failure, prostatic hypertrophy, urinary incontinence, and vaginitis are common problems of the genitourinary system among the elderly.

Sleep changes. The sleep-wake cycle is influenced by the brain and sleep patterns often change in the elderly. Characteristically, elderly people do not sleep through the night. With normal aging, elderly people have shorter cycles of sleep from stage 1 to 4 and REM sleep (stage 5), with the latter stage occurring earlier in the cycle. Thus during these stages elderly people are more easily awakened. Statistics show that 40 percent of older people in a community complained about sleep problems (Hooyman & Kiyak, 1999). Insomnia was not an expected age-related outcome but it can exacerbate with varied discomforts or cause psychological upset.

In conclusion, a change in physical health indicates multiple declines in organ capacity and internal protective mechanisms, thus the elderly may become more vulnerable to sickness.

Change in psychological health in the elderly. Psychological health refers to psychological development task in the elderly that occurs over time as new relationships are formed, new opportunities and experiences are sought out, and new ways of coping with the everyday stresses are learned (Lange, 2012). Two theories that are used to support psychosocial development are Erik Erikson's stages of psychosocial development, (Erikson, 1963) and Maslow's theory of basic needs and learning (Maslow, 1954).

Erik Erikson's stages of psychosocial development. According to Erik Erikson (Erickson, 1963), psychosocial development can be illustrated using eight stages of development of life. The process of healthy psychological aging is the result of the successful fulfillment of development tasks. The old age stage of life is ego integrity versus despair and wisdom refers as a psychosocial strength. The primary goal is to become an integrated and self-accepting person. For the final strength, wisdom implies as a kind of informed and detached concern with life itself, in the face of death itself". It maintains and learns to convey the integrity of experience, in spite of the decline of bodily and mental functions (Erikson, Erikson, & Kivnick, 1986; Erikson, 1997).

A major task in this stage is to integrate the experiences of the preceding stages and realize that one's life has meaning whether it is successful or not. The challenge of the elderly stage is to accept and find meaning in the life the person has lived; this gives the individual ego integrity that helps in adjusting and coping with the reality of aging and mortality (Eliopoulos, 2010; Erikson, 1997; Hearn et al., 2011). Strikingly, integrity results when the elderly individual derives satisfaction from an evaluation of their life that implies a positive perspective on the elderly themselves. In contrast, disappointment with life (feeling of anger, bitterness, depression, and inadequacy) and the lack of opportunities to alert the past can result in ego despair (Eliopouse, 2010; Erikson, 1997; Hearn et al., 2011).

Maslow's Theory of Basic Needs and Learning. Maslow's Theory of Basic Needs and Learning (Maslow, 1954), consists of Maslow's hierarchy pyramid's foundation of five basic needs starting with physiologic as the first step, safety and security, love and belonging, self-esteem, and self –actualization as the last stage. The basic needs are critical for human survival; Maslow called the four stages of the

pyramid "deficiency needs". If the deficiency needs are not meet, the body would not even consider focusing its motivation on higher level of needs, such as spirituality. The person will feel anxious and tense. Being a Humanist, Maslow believes that humans strive to reach their fullest potential. People who look for wisdom and personal growth have mastered the other stages of this hierarchy, and are fully functional.

In conclusion, if an individual is successful aging, achievement of being healthy psychologically. The integrity that refers as healthy psychologically in the elderly could occur in later age, as well as fulfillment of self- actualization, thus positive health among the elderly occur. Also some positive psychological health can be gained later in life from the wisdom obtained from their life experiences. However if individual experiences failure to adapt at certain periods in their life, despair may occur at a latter age, thus may lead to illness among the elderly such as depression or anxiety. Therefore as a nurse, enhancing healthy psychology for the elderly is important, and could lead to improved health among the elderly and prevent illness.

Change in social health in elderly. Social health refers to physical and social environments that affects behaviors and abilities of the elderly to perform their activities of daily living. Social health of the elderly can be associated with changes in status and roles (Lange, 2012). Social roles are an important component of the social structure. Safe environment is a significant factor that leads to good health among the elderly (Lange, 2012). The theories that explain social changes include role theory and activity theory.

Role theory. Role theory describes how individuals adjust to elderly and behaves compatible to age norms. Role includes the behaviors associated with a particular social position (Aiken, 1995 as cited in Morgan & Kunkel, 2001). Each society transfers age norms through socialization, a life-long process by which individuals learn to perform new roles, adjust to changing roles, relinquish old ones, and eventually become integrated into society (Morgan & Kunkel, 2001). Roles of the elderly often alter in terms of role reduction, such as the decline of head of household economic roles, educating roles (Chayovan & Knodel, 1997). Also, the elderly may be faced with role losses, deriving from chronic illness, death of friends and family, relocation, widowhood and retirement. These losses bring about reductions in self-identity of

person and self-esteem and feelings of alienation socially (Rosow, 1985, as cited in Hooyman & Kiyak, 1999). Thus, the elderly should prepare themselves for such roles changes before they become old.

Activity theory. Activity theory asserts that the elderly should continue a middle age lifestyle, denying the existence of old age as long as possible, and that society should apply the same norms to the elderly as it does to the adult rather than advocate diminishing activity, interest, and involvement as its members grow old (Havighurst, 1963). The theory suggest the ways to maintain activity in later age that being in the presence of multiple losses associated with the elderly process such as: the elderly cannot engage in physical work in later life, thus they should replace physical labor with intellectual activities. After retirement, they can develop new roles and activities, and establish the new friendships when old ones are lost (Eliopoulos, 2010; Roach, 2001). A benefit of activity theory, encouraging an active lifestyle among the elderly can facilitate physical, mental, and social well-being. However the theory assumes that the elderly person is able to maintain a middle age lifestyle and active role in society, but some of the elderly lack the physical, social, or economic resources to maintain active role, and this could drive them to conflict (Eliopoulos, 2010).

In conclusion, social health in the elderly is relevant to change in status and role in society. It is also associated with the ability of the elderly to maintain activity, and adapt to new roles. Social health in the elderly shows both positive and negative aspects, both social aspects and the elderly themselves are important factors influencing social health. If society views positive aspects of the elderly this may lead to maintaining health in the elderly within a safe environment, and facilities to support and open up opportunity for the elderly to participate in social activities; combined with positive aspects of health as perceived by the elderly themselves which adapt well with a change in status and roles which may lead to good health outcome. Whereas negative aspects on the elderly viewed by society, is a worse determinant that may lead to poor of health in later age.

Change in spiritual health in elderly. Spiritual health refers to all the experiences and expression of one's spirit dynamic process that reflects faith in God; connectedness with oneself, others, and nature (Gaskamp, Sutter, & Meraviglia, 2004).

Also spirituality in the elderly can be described as a universal, intrinsic, and individual process, progressing through the life span. Because of a drain of cyclic losses punctuating the elderly's life, equilibrium is maintained partially by the positive effects of hope offsetting those losses (Stanley et al., 2005). Spiritual beliefs are a buffer for physical and emotional stressors of aging, with spirituality having a positive impact on chronic illness and health perception. The elderly can maintain their life meaning, sense of fulfillment, spiritual well-being, and closure at the end of life (Meraviglia, Gaskamp, & Sutter, 2012). Therefore, spirituality in the elderly is a crucial positive aspect that helps cope with losses or the challenge of aging and chronic condition in later age. In the elderly, there is a loss in physical function and mental capacity, however a gain in social and spirituality are a buffer for physical and psychological losses among the elderly.

In addition, religion can greatly enhance spirituality by providing a structure for spirituality. Religion refers to a belief system, attitudes, and behaviors that are associated with a particular community (Miller, 2004; Stanley et al., 2005). Also religion is the outward practice of a spiritual system of beliefs, values, codes of conduct, and rituals (Speck, 1988, as cited in Mohr, 2006). Religion is a platform for the expression of spirituality and is an important factor in the lives of people (Mohr, 2006). Therefore encouraging the elderly to participate in a religious activity may best help the elderly improve spiritual health (Stanley, Blair, & Beare, 2005). Moreover, religious faith and spirituality are associated with many positive mental and physical health outcomes (Pardini, Plante, Sherman, & Stump, 2000). The evidence role of spirituality is increasing in healthcare, but few studies focus on spirituality of the elderly (Kazer & O'shea, 2007).

In conclusion, change in spiritual health in the elderly involves inner aspect of an individual that requires interaction between the higher beings or supernatural, natural, and other people. It is a crucial positive factor in helping the elderly cope with physical declines and inevitable losses and chronic condition in later age. In addition enhancing spirituality in the elderly is a buffer for health as a whole.

Elderly Health in Thailand

To understand elderly health in Thailand, the following sub-sections regard the elderly health situation that incorporates four dimensions of health, namely physical, psychological, social, and spiritual health need to be addressed.

Situation of Physiological Health in the Thai Elderly

Situation of physiological health in the Thai elderly, the researcher discuss three sub-topics; leading cause of death among the Thai elderly, common chronic diseases, and health risk behaviors among the elderly. *Leading cause of death among the elderly*, the two leading causes of death among the elderly are caused by chronic disease (51.4%), and senile age (25.4%) (National Statistics Office, 2007). A report by Foundation of Thai Gerontology Research and Development in 2009, found that the elderly aged 60 and over had prevalence of chronic disease was 50% (Sretunyarat, Arunsang, & Autasunchai, 2009). In addition, by 2011 this was dominated by: chronic disease; infections; and accidents, respectively (Ministry of Social Development and Human Security of Thailand, 2010).

Common chronic diseases among Thai elderly that related to physical health are high blood pressure (31.7%), diabetes (13.3%), heart disease (7%), stroke (2.5 %), and cancer (0.5%) (National Statistics Office, 2007). Also other health conditions include fall, arthritis, and back pain. Furthermore elderly can suffer from falls, arthritis, back pain, psychosis (Sretunyarat et al., 2009). In addition, chronic illness is a leading cause of death among the elderly, which can be directly associated with health risk behaviors.

Evidence of health risk behaviors among Thai elderly persons include less physical activity - less than half of elderly people do regular exercise (41.1%); 12.6% smoke, 3% engage in high risk drinking, and 1.8% both smoking and engage in high risk drinking (National Statistics Office, 2007; Sretunyarat et al., 2009).

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In conclusion, physiological health status in the Thai elderly could decline and eventually lead to a decline in structure and function and an increased susceptibility to diseases.

Situation of Psychological Health in the Thai Elderly

Situation of psychological health in the Thai elderly. In Thailand, psychological health is represented using the happiness score, and in 2012 among Thai elderly the overall country wide score was 7.5 points out of a possible 10 points. Breaking down the score into regions they were: south (7.5), north (7.4), central (7.4), and north-eastern (7.3) (Prachuamoh, 2012). There were shown to be 5 negative psychological health problems in the elderly, namely anxiety and stress; psychological disease; dementia; depression; and drug or narcotic addiction (National Statistics Office, 2007). For example, dementia disease has shown a consecutive increase in incidence and prevalence rate. The incidence rate in 1994 was 27.2% and 29.8% by 2002, similarly the prevalence rate as of 2004 was 3.04% and expected to rise to 3.4% by 2030 (National Statistics Office, 2007). Also, in the elderly situation report 2011, the prevalence of dementia in the elderly was 11% in people aged sixty and above (Foundation of Thai Gerontology Research and Development, 2012).

Regarding the depression rate, 2003-2004 it was 3.8% and 3.2% in 2008-2009. Report of elderly health assessment across four regions of Thailand, depression in elderly was 87.0%. In 2003, Southern Thailand reported a higher rate of depression compared to Central, North-Eastern, and Northern Thailand; 15.5%, 12.6%, 10.3%, and 3.8% respectively. The risk of depression rises sharply with age, the elderly aged 80 and over have a higher risk (Geriatric Medicine, Ministry of Public Health, 2007).

In addition, regarding alcohol consumption, report on evidence of health risk behaviors among Thai elderly persons, stated that 3% engage in high risk drinking, and 1.8% smoke and engage in high risk drinking (National Statistics Office, 2007; Sretunyarat et al., 2009).

In conclusion, psychological health in the Thai elderly could be positive (gain) or negative (decline). Psychological health among Thai elderly indicated on both views, positive aspects which is supported by happiness, and negative aspects which is expressed by mental health problem.

Situation of Social Health in the Thai Elderly

The situation of social health in the Thai elderly. In Thailand, reports on elderly health shows both positive and negative aspects of social health of the elderly. Positively, several studies report wisdom as a valuable asset of the elderly that contributes to family and society (Srijukkot et al., 2007; Rattanakorn, 2006). In regard to negative aspects of social health among the elderly self-perception regarding self-esteem and suicide attempt are indicators.

A national health survey reported that there was 7.3% low self-esteem in the elderly across the country, furthermore the elderly residing in the Northern region had a higher rate of low self-esteem (11.2) compared to the Southern region (10.2), North-Eastern region (7.2), and Central region (6.8). Total suicide rates in the elderly for all the country was 2.6% and broken down into regions: Northern region had the highest rate suicide (4.1) followed by Central (3.2), Southern (1.5), and North-Eastern (1.4) (Geriatric Medicine, Ministry of Public Health, 2007). Furthermore, by 2011, the percentage of elderly living with family was as follows; 92.4% in North-East, 90.2% in Southern and Central, and 88.8% in North. The number of elderly living alone has been increasing: 4.3% in 1994, 7.6% in 2007 and 8.6% by 2011. This may be due to the decrease in the number of children and a high percentage of single people (Prachuabmoh, 2012).

In addition, regarding social health determinants that Thailand faces situation regarding the social as well as the global world. The World Health organization regarding the framework of active aging proposed seven health determinants of active aging were:- social service systems, behavior, personal, physical environment, social environment, economic, and culture. Notification, culture is a key factor in active aging framework, a culture shapes the way in which older people age because it influences all of the other determinants of active aging (WHO, 2002).

However the culture about family primary care is changing, in social practices, female labor force participation, migration, and changing demographic data effects (Angel & Angel, 2015; UNFPA, 2009). In the previous decade the family was the primary care-giving institution and there was solidarity, the practice being reflected in

mutual care and assistance. The elderly individuals could enter their later age with at least some of their children living close by. Today the general situation of the elderly is of individuals. The traditional world of a family based support system is changing rapidly. In the developed world the elderly have fewer children living close by on whom they can rely. Their adult children have careers and must work to support themselves and others, and these children often move far away. The issue is while the elderly have the rapid increase in life expectancy at older ages, they have been reliant on their child for care and support because of the low levels of asset accumulation. However the culture about family primary care or familistic is changing:- changing in social practices, female labor force participation, migration, and changing demographic data effects (Angel & Angel, 2015; UNFPA, 2009).

However, the level of change in society might vary differently in each part such in a rural area and city. Based upon the fact that most Thai people are Buddhist and believe in the concept of repayment, that is children repay their parents for having borne and nurture them, the tradition of repayment of the parents' goodness was recognized for its values for everyone, which is that they believe it brings merit. This merit will bring the better life for them in the future. Culturally, children do not leave their parent alone, elderly people are respected and honored by their children (Choowattanapakorn, 1999; Jitramontree, 2010).

The Thai culture encourages the idea of nurturing the elderly where children have to take care of their aged parents (Othaganont, Sinthuvorakan, & Jensupakarn, 2002). However due to the social change which Thai people confronted by socio-economic changes and an increased number of elderly people living longer than ever before, children who had care for their parents move into labor market, married woman were away from home to fund support for their family, they migrated from rural areas to cities separating family members and communities. Adult people today experience conflict between the obligation to care for their parents and the hardships of life. Therefore the way of family support is often different from the past (Choowattanapakorn, 1999; Jitramontree, 2010).

In conclusion, social health status among Thai elderly as well as worldwide, represents both positive (gain) and negative conditions (decrease). If the elderly can

adapt and adjust their lifestyle well to change in their role in later life, as well as society providing a comfortable environment for the elderly, this will help them achieve optimal health.

Situation of Spiritual Health in the Thai Elderly

The situation of spiritual health in the Thai elderly, been few studies worldwide regarding spiritual health in the elderly, but there is some evidence to suggest the association of the Buddhist religion with increased health of the Thai elderly (Pincharoen & Congdon, 2003). The older persons need more religious in later age. The elderly who strong integration of faith, believed religion and spirituality were vital for healthy mind and body (Pincharoen & Congdon, 2003).

As with in later age the elderly become more aware of physical declines and inevitable losses, those are of unwanted situation allows them to find meaning to balance their life (between integrity and despair) (Carson as cited in Pincharoen & Congdon, 2003). Spirituality are phenomena that are viewed differently depend on the perspective which is coming. The meaning of spiritual health are viewed varies based on the local culture and spiritual beliefs system (Hattori, McCubbin, & Ishida, 2006).

In Thai culture, Thai elderly focus on spirituality based on religious and super natural beliefs, and it is a part of their daily lives (Pincharoen & Congdon, 2003). Growing spirituality was perceived as that crucial aspect of being human being and have meaningful life (Thanakwang et al., 2014). The majority of Thai people are Buddhist, the reported from to the Government's National Statistics Office (2007), approximately 94% of the Thai people are Buddhist. Thai elderly people view their later life as a time to go to the temple for the purposed of practice follows the Buddhist doctrine such chanting or mediation, and gaining merit. In addition Dharma teaching about the law of nature "the Three Universal Characteristics" composed of impermanence, suffering, and insubstantiality, is one of Buddhist teaching and is a good resource for the elderly, which Dharma teaching that life is impermanent and all human being born, aging and dying, which is a natural process (Channgam, 2013; Payutto, 1993; Pra Phasan Visalo, 2011). Thai elderly visit Buddhist temples to growing spiritual by make merit offering foods or money, to listen to the teaching of the monk which learn

from the Buddha teaches, to practice chanting or mediation, and acceptance and calmness in their daily living (Pincharoen & Congdon, 2003; Thanakwang et al., 2014). Also Pincharoen and Congdon (2003), posted as spiritual helped older Thai persons maintain their health, in with ways of maintaining spiritual health by connect with spiritual resources in later life; seeking religious resources, maintaining religious beliefs, practicing religious activities, and gaining merit.

Most of Thai elderly self-identify their self as Buddhist, which they were have faith and practice their beliefs. The spiritual health status in the Thai elderly was developed through practice follow the Buddhist doctrine. Thus to maintain the spiritual health of the Thai elderly should be a concern as a means of maintaining the elderly health because this aspect is a crucial dimension of health that could develop and grow in later age if they practice through religious beliefs.

In summary, the situation of the Thai elderly indicated a major decline in physical and physiological health. They are living longer with at least one chronic illness. It also indicated health problems and the limitation to preserve effective functioning in the elderly's everyday life. However, when Thai elders perceived themselves as healthy, even if they lived with some illness it reflected their mental health be in a good condition. Social health status trend of healthy elderly Thai's include engaging in family and social activities and having good relations with others. The spiritual health trend among the Thai elderly include a good state of mind and spirit as a result of following the Buddhist religion. Therefore, to live effectively during aging spiritual health is needed.

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Maintaining Elderly Health

This section discusses the two issues regarding the definition of maintaining elderly health, and practices to maintain elderly health.

Definition of Maintaining Elderly Health

Maintaining elderly health based on dictionary. Two aspects of the meaning of "maintain" were defined based on dictionary denotations;

- 1. Maintain (verb) means to continue to have, to keep in existences, to keep in good condition (Cambridge Dictionary Online, 2013).
- 2. Maintain (verb) means to make something continue at the same level or standard. Maintenance (noun), means the act of keeping something in good condition by checking or repairing it regularly (Oxford University, 2015).

Words such as preserve, keep, sustain, hold, and retain have similar meaning of maintain. For example:

Preserve, meaning to store or maintain something like valuable documents (National Encyklopedin as cited in Anderberg, Lepp, Berglund, & Segesten, 2007). Preserve, refers as to keep something intact in existence from decay (Webster's Third New International Dictionary as cited in Anderberg et al., 2007).

Conclusion, maintain defined based on dictionary denotations; refers to the act to keep something in good condition or existence from decline.

Maintaining elderly health based on literature review. Meaning of "Maintaining elderly health" are defined based upon the literature reviews as discussed.

1. Keeping their health in late life which concern on individualize of four dimensions of health. Anderberg et al. (2007), conducted a study regarding the meaning of preserving dignity in caring for older adults. The word 'preserving' relates to keeping of something that is there. The finding revealed that preserving dignity in older adults

requires individualized care by becoming aware of the person's needs, wishes and habits on a physical, psychological, social, and spiritual.

- 2. Preserving elderly potential health function in late life by adjusting their lifestyle. Yaff et al. (2009), conducted a study about predictions of maintaining cognitive function in older adults. The research revealed that predictive factors of successful cognitive aging that are potentially modifiable, are behavior factors including; volunteering; engaging in exercise regularly; and not smoking. The elderly who incorporate a lifestyle according those behavior factors posted above helps preserve cognition in old age. Benefits not only improve cognitive function, but appear to increase one's sense of wellbeing and reduce mortality.
- 3. Practicing individual's self-capacity to do exercise to maintain health later in life. Hengsuko (2015), conducted a study in Knonkaen province at Senior's Health Care Club regarding capacity in health promotion by exercise of senior people. Exercise was the main physical activity for health promotion among the elderly. Exercise, based on the individual's ability, helps to maintain health in later life. (Also community's participation was considered a factor in the potentiality of health promotion because of exercise by senior people in the rural community).
- 4. Keeping practice in daily living among elderly to maintain health in four dimensions. Othaganont et al. (2002), explored about daily living practice of the life satisfied Thai elderly in four provinces of the eastern border of Thailand. The findings reveal that practice to promote or maintain elderly health include the following: physical aspects concerning foods, regular exercise, and seeking knowledge toward health; psychological aspects were following religious teaching as regular practice; and social aspects were the willingness to help each other in the family and community and having good relationship with others.
- 5. Practicing of elderly in daily living to maintain good health in later age as possible based on their own functional ability that they perceive. Kespichayawattana and Wiwatvanich (2006), conducted a case study of elite Thai elderly in Bangkok, explained that the elderly are able to appropriately care for themselves in physical, mental, social, and spiritual dimensions, also engage in their favorite activities

regularly, and have feelings of being safe and are free from worry about income or caregiving. These are the practices to maintain good health in later age that are perceived by the elderly themselves.

In summary, maintaining health later in life mean to practice in daily living of older people according to their ability to effectively preserve health as perceived by themselves, which concerns health in all dimensions, such as physical, psychological, social, and spiritual health.

Practices to Maintain Elderly Health

In Thailand practices that used to maintain elderly health follow the four dimensions of health as: physical, psychological, social, and spiritual health. This part drawn from the literature reviews that addressed above.

Physical health. To maintain physical health in elderly by engaging exercise regularly; eating healthy foods; adjustment elimination; living in fresh air; not smoking, seeking knowledge toward health; and to do what they want according to their ability and doing essential activities in their daily lives. Also adjustment of lifestyle is significant to maintain elderly health.

Othaganont et al. (2002), maintain elderly health in; physical aspects were concerning foods, regular exercise, and seeking knowledge toward health. Siramput (2010), stated the practices to maintain physical health in elderly involving controlled diets which should adjust their weight to combat obesity, and having vegetables rather than other kind of foods, and having a variety of foods in daily life. Next, having good hygiene will reduce susceptible health risk to disease. Next, strategies that apply to fresh air are living close to nature to get fresh and enough oxygen, and adjustment for daily elimination to flush out waste products in the body. Significant practice of exercise is a major factor which could help to maintain health and delay the decline of physical health.

In addition, the results across the studies recommended practicing exercise regularly adds more benefit to health, and if the elderly continued physical activity according to their ability, it could help to maintain their health. Adjustment of lifestyle

when you are younger and healthy is the best way to maintain health in later age too (Nukhro, 2010; Siramput, 2010; Tongjareon, 2011).

Maintaining physical health among the elderly was the result of utilizing northern local wisdom exercise. This utilization of local wisdom aided in the management of common chronic diseases. Among the elderly, those diseases were chronic obstructive pulmonary disease, hypertension, dyslipidemia, type 2 diabetes mellitus, and coronary artery disease. There are consistent findings across studies that show elderly people who exercise are more likely to have greater functional capacity and better memory than those who do not participate in exercise regularly. Noticeably, integrating elderly activities that are known as local wisdom such as "Fawn Jerng (Mourida): Lanna dance" into exercise programs. Fawn Jern is a specific dance that comes from the Northern region of Thailand. It was found that this exercise program could motivate the elderly to practice daily with enjoyment, thus contributing towards good health outcome (Apirukworakul, 2009; Jullmusi, 2008; Khangsarikit, 2009; Ratanasiri, 2008; Saengrut, 2009; Sobbong, 2008).

Research studies in central Thailand on Hermit exercise, Yoadsomsuay et al. (2006), conducted research with 22 elderly volunteers age 60 and above from Lumlookka district, Pathumthani province. It was found that with regular practice of the hermit exercise, there was an improvement on physical activities among elderly. After participating in the hermit exercise program, which was taught by the researcher three days a week, for two months, the elderly had better physical performance and fewer problems in activities of daily living. Also the researchers recommended this exercise program as safe, appropriate, and effective in maintaining elderly health.

Similarly, Suttijit and Sukonthasab (2010), conducted research with 40 elderly volunteers age 60 to 83 years from U-Thong district, Suphunburi province. Quasi experimental design was applied with an experiment group and a control group, 20 volunteers in each group. The experimental group performed hermit exercise or "Ruesee-Dat Ton" program for 12 weeks, 3 days per week, and 50 minutes a day, whereas the control group performed their daily activity. It was found that after six to twelve weeks of regular Reusi Dat Ton practice, there was an increase in flexibility and

body balance of the elderly, also when compared with the control group the results were significantly different.

This implies that with regular hermit practice there was an increase in physical function. Sukonthasarn (2004), conducted a quasi-experimental research related to Thai traditional medicine and herbs on the elderly group, in Phitsanolok province with 75 elderly age 60 years and over, subjects were assigned into 3 groups of 25 each. The first group was assigned to knee exercise, the second group hot herbal compression, and the third group a combination of knee exercise and hot herbal compression. It was found that spreading on the herbal compress has greatly helped reduce joint pain among the elderly, rather than just a typical knee and joint exercise. In addition, combination of exercise and hot herbal compression better reduced the difficulty in performing activity more than hot compress alone. It also helped the elderly become less prone to the risk of negative consequence of analgesics.

Regarding research on stretching exercise or flexible exercise; Kitirojanapun (2003), who conducted research with 40 elderly, in Muang Distric Supunburi province, subjects were assigned into control groups with normal work and an experimental group who exercised in program three days per week, for two months. It was found that after 2 months of regular physical exercise at a club in the style of Aunt Boonmee Kuerrat (รำไม้ พลองแบบป้าบุญมี), there was improvement in physical fitness, and also on the physical wellbeing of the elderly.

Sungworakan et al. (2008), conducted a study with 34 female elderly, with an average age 69 years old, in Dindaeng Services Center for the elderly, Bangkok. Subjects were assigned into two groups of 17 subjects per group, the control group had normal work and the experimental group performed Ram-kra-bi exercise. It was found that after 3 months of daily performing Ram-kra-bi exercise by using Mai-ta-pod there was an improvement in physical fitness and body balance among the elderly.

Suksom et al. (2011), conducted research with thirty elderly woman, in Dindaeng Services Center for the elderly, Bangkok. Subjects were assigned to exercise with a Flexible Stick group and a Tai Chi group. Both training groups performed training assigned protocol, for three months, four days a week, 40 minutes per day. It was found

that "Exercise with a Flexible Stick-EF, a Thai novel exercise", after 3 months of regular exercise, which incorporated the element of endurance and strength training, was a more effective exercise than Tai Chi for improving physical fitness. It also improved and reactive circulation of oxygen within the elderly.

Psychological health. To maintain psychological health in elderly by engaging in favorite activities regularly; actively maintaining social engagement; contributing to society; practicing tradition and culture, and practicing religious teaching regularly.

Othaganont et al. (2002), posted the way to maintain elderly health in regards to psychological aspects were by following religious teaching as regular practice. Thanakwang et al. (2014), stated being actively engaged with society by the elderly maintaining socially active engagement, contributing to society by engaging in social activities help to promote psychological health. Phuanjai (2006), reported the practice of achieving successful aging in their daily living includes; contributing to others, being self-dependent, working for the community or society, and to be virtuous for the common good. Tongjareon, (2011) and Siramput (2010) posted practices to maintain psychological health in the elderly in this dimension of :-health are associated to many factors such as family and a friendly environment for living, however the inner factor for the elderly themselves is more likely to lead them to be happy in later age. Strategies to maintain psychological health including engaging in their favorite activities regularly, and to feel safe and free from worry about income or caregiving, willingness to help each other in the family, practice tradition and culture, and practice religious teaching regularly.

Social health. To maintain social health in elderly by engaging in social activity, contribute to the benefit others, and participate in traditional and cultural activity.

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The literatures reveal that continued participation in social activities and enjoying good relationships with others and willingness to help each other or participating in community through volunteer work or in the elder's club, and practicing tradition and culture. When the elderly contribute to society by engaging in social activity, this participation could make them view their life as being useful and helpful by contributing their productiveness, knowledge, experience and wisdom to others.

(Siramput, 2010; Thanakwang et al., 2014; Tongjareon, 2011). Danyuthasilpe et al. (2009) also found that tradition and cultural beliefs were used to promote elderly healthy. Similarly study by Rattanapun (2008) found that health aging was dominated by cultural, religious, and social contexts. The research posted that adjusting the lifestyles according to self-capability and take account for cultural, religious, and social context, is the way to promote health among the elderly.

Srijukkot (2007), conducted a study in a North-Eastern cultural context, explored the provisions of care for the elderly. She found that elderly people are viewed as role models for others thus they are called "pillars of the community". An elderly is a counselor or supporter that passes on their experience and knowledge concerning lifestyle practices, wisdoms, and beliefs. The elderly, also provide traditional therapy to help others (those are traditional healer, Ritual healer, and Reiki therapy), or contribute assets to their family and community, are recognized as a valuable elder and active agent member. The study indicated a positive reaction towards the elderly that was recognized by others (people) which could strengthen health among that elderly.

Spiritual health. To maintain spiritual health by practicing following their beliefs and religions teaching.

Practices to maintain spiritual health involves three activities including making merit, acceptance and calmness, and trusting and practicing religious doctrines. In addition, the elderly who are offer or give themselves to benefit others or the community, will be happy such as the quote "giving more delight more", also these elderly will not worry about being born, ill, or dying, they will have readiness to face death (Othaganont et al., 2002; Siramput, 2010). Pincharoen and Congdon (2003), posted as spirituality helped older Thai persons maintain their health, ways of maintaining spiritual health by connecting with spiritual resources in later life;- seeking religious resources, maintaining religious beliefs, practicing religious activities, and gaining merit.

However, one studies gives the ways to maintain elderly health as follows; Thanakwang et al. (2014), conducted a qualitative study from four provinces in the four regions of Thailand about Thai cultural understandings of active ageing from the perspectives of older adults. The findings reported identified that the practice to keep elderly people active for good health included: 1) being self-reliant by the elderly staying physically active by reliance upon themselves without depending on others; 2) to do what they want according to their ability and doing essential activities in their daily lives; 3) maintaining a healthy lifestyle, the elderly practice physical exercise of body movement, eating healthy food; 4) being active learner and maintaining mental activity by having autonomy in which the elderly have freedom in making decisions in daily life tasks that affects their lives; 4) being actively engaged with society, by active social engagement, contributing to society, by engaging in social activities which could make them see their lives as being useful and helpful by contributing their productivities, knowledge, experience and wisdom to others; 5) growing spirituality is a crucial aspect of aging and having a meaningful life, it refers to a meaningful relationship with others, and relating to religions. It involved three activities including making merit, acceptance and calmness, and trusting and practicing religious doctrines; lastly 6) managing later life security, by building financial security.

In conclusion, practices to maintain elderly health from the existing knowledge indicated that the elderly utilized both conventional, and traditional and cultural way to promote their healthy. In Thailand, practices that used to maintain health among elderly from each regions of Thailand indicated that culture, traditional practices, or local wisdom have supported elderly health in holistic balance. Therefore to explore in-depth to understand maintaining elderly health with local wisdom was still needed.

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Local Wisdom and Elderly Health

In order to understand local wisdom and elderly health, two subtopics are discussed namely local wisdom; and local wisdom and elderly health.

Local Wisdom

In order to further understand local wisdom, the definition of wisdom and local wisdom, and characteristics of local wisdom.

Definition of wisdom and local wisdom.

Definition of wisdom. From a Western perspective, wisdom refers to "expert knowledge in the domain fundamental pragmatics of life" (which include life planning, life management, and life review), that permits exceptional insight, judgment, and advice about complex and uncertain matters (Kunzmann & Baltes, 2003; Sternberg, 1998). The Berlin Wisdom Paradigm approaches wisdom as a form of advanced cognitive functioning, and intellectual growth that is oriented towards a balance between self, other people, and society (Merriam-Webster, 2011; Staudinger & Dorner, 2007; Taylor, Bates & Webster, 2011; Webster, 2007, 2010). Wisdom also guides people to behave in socially desirable, ethical, and moral ways (Ardelt, 2011).

Definition of local wisdom. The Alliance for Health Promotion (2008) defines local wisdom as a dynamic knowledge resource which hold, unique skills, accumulated experiences, and insights of people. It is a developing process that is transmitted through an understanding of ones' surrounding nature and culture of (a particular) local people (Alliance for Health Promotion, 2008). People apply a set of unique local knowledge for solving problems in their daily life. Using local wisdom encourages a balance, in terms of basic decision-making, particularly with personal health care, education, agriculture, natural resources management and many other activities that surrounds our life (Alliance for Health Promotion, 2008; Demio, 2009; Smith, 2010; SubbaRao, 2006). In addition, others terms that have been used along with local wisdom, namely indigenous knowledge (IK) and traditional knowledge (Demio, 2009; Smith, 2010).

In Thailand the definition of local wisdom refers to *Phumpanya* (ภูมิปัญญา). Phumpanya combines with two words *phum* (ภูมิ) and *panya* (มีญญา). *Definition of phum* (ภูมิ) signifies landscape, earth, and background ('Review of wisdom: Challenge of Knowledge', 2004). *Definition of punya* (มีญญา) signifies insightfulness, foresight, and analytic and synthetic thinking that is developed through experiential learning to understand reality (National Health Commission Office, 2007). *Definition of local wisdom* (ภูมิปัญญา: *Phumpanya*) is defined as crystallized knowledge, accumulated knowledge which transferred from generation to generation, beliefs, and ability to understand things that are gained by learning in life experiences through processes of analysis and syntheses (Bureau of Agriculture, Department of Agriculture, 2012; National Health Commission Office, 2007). Thai scholars also define local wisdom as accumulated experiences, dynamic knowledge, unique problem solving skills, which are found in individuals, communities, societies (Na-Thalang, 1997, 2001; Phongphit & Nantasuwan, 2002; Thana-Snguanwong, 1999; Wasri, 1987).

In Thai context, local wisdom reflects culture (Na-Thalang, 2001; Tieagam et al., 2010; Wasri, 1987). For example: The influence of HM King Bhumibol Adulyadej has raised widespread interest in local wisdom as a means to advance the development of Thai society, particularly in rural areas. For him, local wisdom refers to intellect, competence, curiosity, problem solving skills, as well as to accumulated experiences, and abilities, and is manifested among laypersons and communities. Local wisdom refers to broad and deep knowledge underlying both ideological belief systems that have developed over time, and attitude, skills, and behavior practiced by traditional beliefs. Consequently to understand local wisdom, researchers need to take an 'emic perspective' in order to perceive local beliefs system and behavior. People utilize local wisdom to guide everyday life, to cope well with difficulties or crises whether at the level of the individual or the community such as natural disaster, or economic-insufficiency. Utilizing local knowledge helps people/community solve problems in daily life and build balance among humans and nature (Royal Institute, 1995).

In conclusion, in this study local wisdom is defined as attitude, knowledge, skills, behaviors, and beliefs resulting from accumulated experiences transferred from generation to generation within the Central Thai community.

Characteristics of local wisdom. These discussions cover Western and Thai views. In the Western and Thai definitions of 'local wisdom' there has been some diversity, therefore characteristics of local wisdom will be diverse in each area.

Characteristics of local wisdom from a Western perspective. Characteristics of local wisdom from a Western perspective based on the literature reviews refers to 1) the typical experiences and rooted in a particular area, generated and modified by people living in those areas; 2) embed in everyday life and activated by experience toward trial and error which it represented as an empirical knowledge rather than theoretical knowledge (Ellen & Harris, 1996); 3) compatible within cultural traditions, in which tradition refers to repetition evidence even when new knowledge is added tradition is repetition (Ellen & Harris, 1996); 4) Constantly changing; 5) composed of abstract (beliefs) and concrete parts (knowledge, skills, behaviors) (Ellen & Harris, 1996); and 6) It also shows the relevance to ethical and moral values, which implies knowledge of virtue that guides people living together based upon ethics and morals (Ardelt, 2011).

Characteristics of local wisdom from a Thai perspective. Characteristics of local wisdom from a Thai perspective based on the literature review, be summarized as follows: 1) typical experiences are rooted in a particular area, it shows uniqueness and diversity in each area; 2) it is embedding in everyday life, also all activities in everyday life have inter-relationships that reflect life as; 3) dynamic information for balance, constant changes influenced by society; 4) compatible within cultural traditions which tradition refers to repetition evidence even when new knowledge is added; 5) nature surrounding influence in development of local wisdom; 6) problem solving skills, adaptation strategies, for communities or individuals. Also implies a fundamental guidance in everyday life; and 7) included abstract (beliefs) and concrete parts (knowledge, skills, behaviors) (Bureau of Agriculture, Department of Agriculture, 2012; Chuengsatiansup & Tontipidhok, 2007; Kongprasertamorn, 2007; Naritoon, 2010; Na-Talang, 1997, 2001; Phongphit & Nantasuwan, 2002; Wasri ,1987); 8) Furthermore, local wisdom characteristics in a Thai context show a collaborative relationship between

humans, nature, and the super natural; expressed in the form of cultural values, beliefs, rituals, not originally generated from science; mostly related at the abstract level, and emphasize practicality in ethics and morals that go beyond the materialistic (Bureau of Agriculture, Department of Agriculture, 2012). In addition, in Thailand characteristics of local wisdom compress development integrated into three parts, which include human being (mind-body), social, and environment (Wasri, 1991). Also local wisdom implies an accumulation of lived experiences. Other persons give respect and recognition to the elderly as results of the lives they have experienced (Na-Talang, 2001; Phongphit & Nantasuwan, 2002; Wasri,1991).

In conclusion, there are many common characteristics when it comes to gathering information about local wisdom. Whether referring to Western perspective or the Thai view, these characteristics are genuine. The essence of local wisdom characteristics include: 1) it is embedded in a particular environment and has a set of its own experiences and also it is generated by the people living in those areas; 2) it is an accumulative of knowledge that has grown from everyday life practices, and is constantly developed through a process of trial and error; 3) it is shaped by nature and cultural context; 4) individual or community utilize it as a problem-solving strategy, to maintain and improve their livelihood; 5) it is dynamic and can constantly change; 6) it is abstract that refers to beliefs and concrete parts that refers to knowledge, skills, and behaviors. In addition, other characteristics of local wisdom support the fact that typical or unique experiences are set upon a particular environment, also this is empirical knowledge. There are certain issues that should be taken into consideration concerning the understanding and transferring of local knowledge. Observation is a tool of necessity for the development of empirical knowledge in order to achieve true theoretical knowledge.

In this study, characteristic of local wisdom refers to the activities in everyday life which communities or individuals used as problem solving skills, adaptation strategies with compatible within cultural traditions. It described inform of abstract (beliefs) and concrete parts (knowledge, skills, behaviors). In addition, local wisdom was different in each area as the result of the way to develop wisdom was influenced by culture and natural context which have been varied.

Local Wisdom and Elderly Health

To fully understand local wisdom and elderly health, three subsections are discussed they include; local wisdom about health; local wisdom about elderly health; and existing knowledge regarding local wisdom about elderly health.

Local wisdom about health.

Definition of local wisdom about health. The essence of the National Health Act, B.E. 2007, Section 47 (7), defines 'local wisdom about health' as knowledge, ideas, and beliefs that are based on learning from lived experience. People receive knowledge handed down over generations, in a particular area where they dwell (National Health Commission Office, 2007). Kulsomboon and Adthasit (2007) defined local wisdom about health as integral with art and science resources. For them the development process consists of crystallized observation, application, selection, filtration, and accumulation of live learned experience and is passed on to next generations. Development process of local wisdom about health as follows; it is developed through integration of understandings of surrounding nature, tradition, and culture (Kulsomboon & Adthasit, 2007).

Characteristics of local wisdom about health. Characteristics of local wisdom about health can be utilized as a guideline to solve problems in daily activities (Chompusri & Suksut, 2007; Niwasawat, 2008; Taoprasert & Onchomchantra, 1994), it is a holistic approach that contributes to balance between mind and body as health (Niwasawat, 2008). Furthermore it is also utilized to maintain, prevent, cure, and restore health (Chompusri & Suksut, 2007; Niwasawat, 2008).

Types of local wisdom about health. Types of local wisdom about health are based on its resource of knowledge namely: 1) The National Health Act, B.E. 2007, section 7, states that local wisdom about health can be generated from three resources including Thai traditional medicine, indigenous medicine, and other alternative medicines; 2) Department for Development of Thai Traditional and Alternative Medicine, Ministry of Public Health, classify local wisdom about health into two types, namely indigenous health and indigenous medicine. Indigenous health refers to self-treatment that people practice in daily living, which is oriented in individual and family

levels. Indigenous medicine refers to typical traditional medicine that is particular to each area which is oriented through ethicality and culture. It is integrated with supernatural, religion, and lived experiences. The people who provide a treatment are called folk healers (Kulsomboon & Adthasit, 2007); and 3) Tontiphidhop et al. (2000, as cited in Onchomchantra, 2009) they divided local Thai wisdom about health into two types: Indigenous self-care which refers to self-treatment that is oriented toward a balance between human beings, socio-culture, and nature; and folk medicine, which refers to cultural treatment that integrated with three ingredients: folk healer, client, cultural context (Tontiphidhop et al. as cited in Onchomchantra, 2009).

In conclusion, local wisdom about health refers to knowledge, skills, behaviors, and belief or attitude resulting from accumulative experience transferred from generation to generation within a Thai community. It reflects the attitude, the way of thinking, belief system, and is a method of how to take care of an individual and the life of the community and its health. It is also a reflection of health in a holistic aspect. In addition it is embedded with harmonious ingredients of local culture, tradition, and natural surroundings.

Central Thai local wisdom about elderly health.

History of central Thailand. Central Thailand is the third largest region in south Asia. Thailand is divided into four region based on National geographic and culture features. Thailand has 77 provinces. 17 of which are Northern, 20 North-Eastern, 18 Southern, and 26 in the central region of Thailand. Central Thailand is surrounded by rivers; people have a deep connection with these rivers. For example, the Chao Praya River has major significance and has been called the river of life; it is an important resource for major rice and fruit cultivation (Puriwannachana, 2009). Also it shows essential characteristics of Central Thailand which is indicated from historical texts: The area has an abundance of historical sites, diverse culture that is rapidly changing, and multi-ethnics groups, and being in comprehensive form (Eaw Sri-Wong, 1992; Vuliphodom, 2005). Central Thailand is a territory, covering the broad alluvial plain of the Chao Phraya River. It is often called the "rice bowl" of Thailand, because it is the most fertile area of the country.

The two principal river systems in Thailand are the Chao Phraya and the Mekong. These two rivers support the irrigation for Thailand's agricultural economy.

The Mekong is the only river system in Thailand which drains into the South China Sea. Whereas the Chao Phraya water route runs through Bangkok and empties into The Gulf of Thailand. It is a significant river for the people living along its coastline. The principal tributaries of the Chao Phraya River are the Pa Sak River, the SakeaKrang River, the Mea-Khong River, and the Tha Chin River, which include the two provinces of Nakhon Pathom, and Suphunburi province.

(Sri) Dvaravati: The initial phase of Siam's history, during the 6th to 11th centuries A.D.. Sri Dvaravati is considered to have had an important part in the historical development of early Siam and south Asia. Saraya (1999), identified three main characteristics of Sri Dvaravatithese namely: (1) the coastal centers along the South China Sea and the Gulf of Siam, (2) the diversity of the ethnic groups and cultures, traditions and lifestyles, these characteristics appear throughout the formation stages of the Sri Dvaravati state. The main ethnicity of the Sri Dvaravati state was Mon, others groups such as Indian, Chinese, Vietnamese, Tais, Tanluin, and also indigenous people. In several groups of people in this state, the farmers and planters were the main producers; (3) Sri Dvaravatiin grew out of various coastal centers, though, the Hinayana Buddhism was once the faith in the state. The religion and faith was recognized by both state and its people, thus it helped to bridge the gaps that existed between the indianizing influence and local or indigenous culture. Buddhism which had originated in India, was accepted and adapted, and so became the core faith of this society, it also played a part in determining the form of the political system. Buddhism played a key in influencing Sri Dvaravati civilization. The evidence, which support these statement are in the Dvaravati art forms, and it is spread throughout this region. During, the Dvaravati reign, this early period of the development of Buddhism formed the time and basis for a Buddhist society in this area. Furthermore, in this early stage of Sri Dvaravatican, it is understood that it provided the historical basis and origins of a later development of the state of Siam (Thailand) (Saraya, 1999).

In conclusion, Central Thailand indicated two essential features, which influence their attitude belief and lifestyle behavior. The first one, that the people have the deepest relation with Chao Praya River basin, which it provides plenty of parts and rich land. People are boned to the central basin, , they want agriculture life. Buddhism is the dominant faith of people with diverse culture in central Thailand. They follow the Buddhist doctrine and use it as a doctrinal guide in lifestyle. People also practice the beliefs through Buddhist doctrine. The central region has a long history dating back to the Sukhothai period. Suphunburi province was selected as a representative of central Thailand, which reflects the essential characteristics of the central- region in Thailand, since the Sukhothai period to the Rattanakhosin era.

Central Thai local wisdom about health. Central Thai local wisdom about health refers to knowledge, skills, behaviors, and belief or attitude resulting from accumulative experiences as transferred from generation to generation with in Central Thai community.

According to facts on the development of Thailand, from the Dvarati period to Sukhothai period, there is insufficient evidence or literature on local wisdom regarding health. The knowledge of local wisdom regarding health was transferred by folk healer to the next generation. During the Dvarati period there is limited evidence to support local wisdom regarding health such as a "herb grinder" (Srisathit & Prempre, 1991). The Sukhothai period was the shining period of Thai traditional medicine wisdom, and there is evidence that shows a herbal garden (สวนอโรกอา, เขาสรรมขา), which was supported by the king. The Thai traditional medicine wisdom continue to grow during the Ayutthaya period. During this era it was proclaimed to be the most prosperous out of all Thai Traditional medicine trials. It is the first time Thai traditional medicine wisdom was reviewed and revised.

There are three main Thai traditional medicines; Thai massage, Thai traditional medicine which includes herbs, and Hermit exercise-Thai style exercise (Reu See Dad Ton). For example, in the Ayutthaya period during the reign of king Narai, the evidence of Lalubaire's dispatch indicated that the Siamese used Thai massage to cure some illness, and to relieve birth pain. People trusted that Thai massage was on efficient and respectable way of curing minor aches, pain, and sores. It became one of the most famous occupations. At that time, a French missionary established a hospital which was

dominated by Western medicine. It failed because Thai people did not give any consideration to the utilization of biomedicine for their health. Thai traditional medicine is compatible to the way of life of Thai people, which is integrated by three main essences: Buddhism; Superstition; and Astrology.

Finally, during the Rattanakhosin period, which followed the Ayutthaya era, Thai traditional Medicine was directly descended from the Ayutthaya period. The indigenous whom practiced many generation of this tradition had passed and transferred this knowledge by way of a folk healer. Still to this day they are practicing this wisdom in certain rural areas of Central Thailand. Due to the fact and result of war some documents and text books have been destroy or vanished. In the reign of King Rama I, eighty statues of hermit, Reu See Dad Ton-Thai exercise and inscription of Thai Traditional massage were recreated at Wat Po, Bangkok. While under King Rama IV, the text book of Thai traditional massage and Thai traditional medicine were reviewed and revised. However, after western medicine came into Thai society, in the reign of King Rama VI, there was a decline in Thai traditional medicine, such as Thai massage. Yet, folk massage has continuously evolved and developed. The essences of Thai traditional medicine wisdom will be discussed as follow.

Definition of Thai traditional medicine wisdom, Department for Development of Thai Traditional and Alternative Medicine defined it as, the knowledge, skills, and belief of medicine which descended and was developed from Thai ancestors in a particular area. It has three essential concepts of knowledge based upon supernatural, natural surroundings, and universal energy. The process of Thai traditional medicine is composed of assessment, diagnosis, and curative. Its purpose is to promote health, protect health, cure health, restore health. It also includes herb manufacturing and Thai style of pregnancy, delivery, and postpartum care (Sitthitunyagit & Temwiset, 2004).

The assessment and diagnosis of Thai traditional medicine considers six essential parts. They are the elements (สมุฏฐานธาตุ), season (อุตุสมุฏฐาน), age (วัย), time and astrology (กาลสมุฏฐาน), habitat (ประเทศสมุฏฐาน), and health behaviors (พฤติกรรมมูลเหตุก่อโรก). All of Thai traditional medicine was influenced by religion (Buddhist and Brahminism), and the belief about ghost, god or supernatural power.

According to essential features of Central Thai culture, Thai Traditional medicine was strongly influenced by Buddhist doctrine and the surrounding natural environment. "Dhammanamai" (ธรรมมานามัย) is the main concept of Thai traditional medicine, it means all of the process of interventions applies to Buddhist doctrine and Brahminism, and ghost beliefs as guideline.

- 1. Element, Thai traditional medicine believes human beings must be integrated with four original elements: Earth, water, fire, and wind, all of which are holistic in balance. The balance of the four elements sets people in a state of good health, but an imbalance of these four elements causes illness.
- 2. Seasons, there are three seasons in Thailand: each season influences a person's health differently. The hot season affects the fire element, rainy season affects the wind element, and winter season affects the water element. Also, during the transition of these seasons, it may cause illness. Adapting or adjusting to these four elements in order to keep a balance state is needed.
- 3. Aging there are three groupings: Youth (0-16 years)-water element causes illness; Middle-age (16-32 years) fire element causes illness; and old-age (over 32 years)-wind element cause illness. Elderly is based upon Thai belief, starts at 32 years of age, as the result of regress of the four elements.
- 4. Time and astronomy, time changes every day and astronomy power has influences towards the elements. Such as during the time 6 -10 am/ pm, water element cause illness; time 10 am/pm 2 pm/am, fire element cause illness; and 2 pm/am 6 pm/am, wind element causes illness.
- 5. Habitat, area of residencies that cause illness may vary, as the result of habitat influenced by the elements. Tropical country, illness caused by fire element: Cold country, illness caused by wind element; Warm country, illness caused by water element; and country with a cold climate and residing nearby coastal, illness caused by earth.
- 6. Health behavior, refers to being in the state of stability of which: diet; activity (sit, stand, walk, lie); temperature; abstinence (of water, diet, sleep); stifled (stool,

urine); very hard work, physical labor; strong emotions, either sadness or cheerful; and having an emotional imbalance. Belief about health behaviors according to the principles of Buddhism; in order to maintain health, a person should practice being or doing things in the "middle-way." Means keeping a balance in all aspects of a person's life.

Therapeutic method of Thai traditional medicine, applies the Buddhist principle as guidelines of traditional treatment or curative care. Also the essence of treatment concept is holistic balance of the mind (mental and spiritual), body, and society. In addition, all of curative, focusing in promoting balance of elements. Three main therapies focus on Buddhist teaching Called "Thummanamai" (ธรรมมานามัย) which are as follows. All intervention therapies have a Buddhist doctrine as a main concept of guide dance.

- 1. Gaya Na Mai (กายานามัย), refers to strategy used to promote physical (body) health. Therapeutic strategies that apply for maintaining health are diets (herbs, local vegetation), exercise (Hermit exercise), Thai massage, and herbal hot compress. For example, several studies used to support Gaya Na Mai, consider the physical (which focus on symptom management such pain, fatigue) and psychological health in all age groups (Boonsinsuk, 1992; Janepanich & Tuchinda, 1981; Kochamat, 2009; Piravej, Tangtrongchitr, Chandarasiri, Paothong, & Sukprasong, 2009).
- 2. Jitta Na Mai (จิตตานามัย), refers to a strategy that is used to promote psychological (mind) health which addresses Buddhist or religion faith as its principle guideline. For example practice meditation (walking meditation, sitting meditation), apply five precepts as a basis guideline for way of life, chanting, and utilizing Buddhism in everyday life, to keep balance of mental health and spiritual health.
- 3. Chi Vita Na Mai (ชีวิตานามัย), refers to right livelihood, or working in an honest career and not bring others (people) suffering in term of mind and body. It is utilized as a guideline for human living. People who apply religious belief and practice it in their life, can achieve a balance of mind-body which indicates a harmony between them and the elements (Sitthitunyagit & Temwiset, 2004).

Research studies support the three main of therapeutics of Central Thai local wisdom as such Gaya Na Mai (กายานามัย), Jitta Na Mai (จิตศานามัย), and Chi Vita Na Mai (จิตศานามัย) (Sitthitunyagit & Temwiset, 2004). Several studies about Thai massage focus on physical health or biological effects, and symptom management. In 1981, Janepanich and Tuchinda, found Thai massage effective for increasing temperature of both feet, to decrease the heart rate, and to decrease the maximum point of blood pressure. In 1990, Krungkrai Janepanich and Prasert Tuchinda, found that Thai massage could reduce the pulse rate and blood pressure. it also helps to relieve the symptoms of headaches. Also In 1984, Boonsinsuk et al. found that Thai massage, by pressing on the pain point was able to reduce backache at the waist level. In 1992, Boonsinsuk et al., and Ungpinijpong et al. in same period of time, found that Thai massage helped relieve muscle and joint pain. Recent studies, Kochamat et al. (2009), found that Thai massage was an effective strategy for reducing fatigue in patients with COPD. Piravej et al. (2009), found that after providing eight weeks of Thai traditional massage there was a positive effect in improving stereotypical behaviors in autistic children.

In addition, *Hermit exercise* (Ascetic Exercise or Ruesi Dat Ton) like most exercise is focused on healing of the mind and body. Reusi Dat Ton, consists of: breathing exercises, self-massage, acupressure, dynamic exercises, poses, mantras, visualization and meditation. According to research, several studies found common results as ReusiDat Ton effectively preserved physical health. For example, there was a recent study, conducted on young adults, at Naresuan University in Phitsanulok, Thailand; it found that ReusiDat Ton improved balance performance, trunk flexibility and quadriceps strength in young females. Lertsinthai et. al. (2005), also found that practicing Reusi Dat Ton improved anaerobic exercise performance and strengthening of respiratory muscle (Chidnok et al., 2007; Phuangphae, 2010). Moreover Yoadsomsuay et al. (2006), found that after two months of regular activity of Ascetic exercise there was an improvement on the elders' physical activities and a degree of satisfaction on their well-being. Accordingly, Suttijit and Sukonthasab (2010), found that ReusiDat Ton practice increased flexibility and body balance of the elderly.

Moreover, *Thai traditional medicine related to herb*, explored literature reviews found; most studies regarding Thai Traditional medicine related to herb concerned

physical health. For example Suwan (2000), reported a hot compress with or without herbal substance, helps to alleviate physical health issues such as decreasing joint pain, joint stiffness, and physical disability that has to do with knee osteoarthritis. Sukonthasarn (2004), focused on managing the symptoms of joint pain among the elderly. She found that spreading on a herbal compress greatly helped to reduce joint pain among the elderly, rather than just a typical knee and joint exercises only. In addition, it also helped the elderly become less prone to the risk of negative consequence of analgesics.

Moreover, other studies regarding local wisdom in respect to health with the elderly focus on the physical health. Kitirojanapun (2003), found that regular physical exercise at a club in the style of Aunt Boonmee Kuerrat, there was improvement in physical fitness. According to recent studies, Sungworakan et al. (2008), found that when performing Ram-kra-bi exercise by using Mai-ta-pod, there was an improvement on health-related in the aspect of physical fitness (body fat, leg strength, capacity of oxygen used) and body balancing among the elderly female. Suksom et al. (2011), found that" Flexible Stick-EF a Thai novel exercise", was a more effective exercise than Tai Chi for improving physical fitness. It also improved circulation of oxygen within the elderly.

In conclusion, *Central Thai local wisdom about health*, which is described based upon the three main therapies of traditional medicine such Gaya Na Mai (กายานามัย), Jitta Na Mai (จิตตานามัย), and Chi Vita Na Mai (ชีวิตานามัย), is appropriate in maintaining health holistically. All aspects of health include; physical, psychological, social, and spiritual health. However, few studies were found regarding Central Thai local wisdom related to health as a whole. The Central region of Thailand is a great resource in local wisdom about health. Therefore, exploring knowledge of local wisdom about health in Central Thailand is required.

Central Thai local wisdom about elderly health. Local wisdom about health is unique and diverse in each area. It is a result of accumulative life experiences, which generate and modify by people living in a particular area. It is also influenced by natural surroundings, society, and traditional culture (Ardelt, 2011; Chuengsatiansup &

Tontipidhok, 2007). In Thailand, each region of Thailand shows a diverse characteristic of natural geographic and specific culture. Thus local wisdom is defined as different in each region; such in *Northern*, Lanna's local wisdom about health resulting from accumulated experiences and transferred from generation to generation within their community. Local wisdom focuses on health stability and holistic health (Thongseaw, Sethabouppha, & Chanprasit, 2011); *North-Eastern*, Isan local wisdom regarding health is knowledge resulting from accumulated experiences and passed from generation to generation within Isan community. Local wisdom focuses on holistic health and stabilizing body elements (Wongkwanklom, Sethabouppha, & Chanprasit, 2011); *Southern*, Thaksin local wisdom about health is knowledge and beliefs resulting from accumulated experiences among Thaksin people. Local wisdom in this sense places a great value on stability and holistic health for health management (Wanbon, Sethabouppha, & Chanprasit, 2011). Central Thai local wisdom meaning, attitude, knowledge, skills, behaviors, and beliefs results from accumulated experiences transferred from generation to generation within the Central Thai community.

Existing knowledge of local wisdom about elderly health. The Existing knowledge in previous studies about local wisdom used to maintain elderly health have been reviewed. Local wisdom in Northern of Thailand, were used to explain the maintaining of health to successful aging, such study of Danyuthasilpe et al. (2009); Phuanjai (2006); Apirukworakul, 2009; Jullmusi, 2008; Khangsarikit, 2009; Ratanasiri, 2008; Saengrut, 2009; Sobbong, 2008. Local wisdom in Southern of Thailand, was used to explain the maintaining of health to healthy aging, such study of Rattanapun (2008). Local wisdom in North-Eastern of Thailand, was used to explain the maintaining of health to life satisfied with Thai elderly, such study of Srijukkot (2007); and Othaganont et al. (2002). Local wisdom in Central of Thailand, was used to explain the maintaining of health to appropriate health care among the elderly, such study of Kespichayawattana and Wiwatvanich (2006). Another study focused on utilizing exercise in maintaining elderly health, such Yoadsomsuay et al. (2006); Suttijit and Sukonthasab (2010); Sukonthasarn (2003); Kitirojanapun (2003); Sungworakan et al. (2008); and Suksom et al. (2011). More detail were maintaining elderly health.

The results across studies revealed that cultural, or, traditional practices, or local wisdom have supported maintaining health in holistic balance among Thai elderly. Although, the study in central regions of Thailand respond some finding but the indepth understand of local wisdom used in maintaining health among elderly was still limited.

National research studies conducted on local wisdom about health. Kulsomboon and Adthasit (2007), conducted research on status and direction of research of local wisdom about health, found that a large part of the research was conducted in the Northern region of Thailand. While there are only a few studies that have been conducted in the other three regions of Thailand. As for the Central region of Thailand, 41 items were conducted between the years 1992 to 2004. They also found that a large part of previous studies focused on survey research methods. They suggested that future research on local wisdom regarding health should be conducted in accordance to cultural context, and explore more about the four dimensions of health.

Tiengam et al. (2010), also confirmed a limited amount of research on the local wisdom about health in central Thai, they conducted a documentary researching the situation of the existing research about Thai traditional medicine, Thai folk medicine and alternative medicine from the 2000-2009. They found that local wisdom about health which was conducted in the central region Thailand is limited. Also, studies of local wisdom about health from laypeople perspective are limited (Tiengam et al., 2010).

As well as a study by Onchomchan et al. (2011), which conducted a documentary research regarding 1st decade anniversary research on the Thai traditional medicine, Thai folk medicine and alternative medicine. The results reveal that the existing research regarding traditional medicine and folk medicine focused on technique and utilization, while lacking the descriptive and synthesis of the process of thinking and perception of health.

In conclusion, the literature reviews given of elderly who practice their beliefs following local traditional, could help to maintain health in later age. Practices to maintain elderly health from literature reviews conducted in northern southern eastern

and central of Thailand, indicated that practices that have been used to maintain elderly health include; physical health by exercise, having a healthy diet, adjusting lifestyle to healthy aging; psychological and social health by engaging in social activities, and having good relationships with others, being willing to help each other in the family, practicing tradition and their culture; and maintaining spiritual health by following religious teachings in daily living. Although the study of practices to maintain elderly health with local wisdom have been studied in the four dimensions of health, previous studies show that limited study about using local wisdom to maintain elderly health in holistic dimensions. However, significant research findings revealed that cultural, or traditional practices, or local wisdom have supported maintaining health in holistic balance, but studies about using local wisdom to maintain elderly health in central Thailand was limited. Therefore understanding the maintaining of elderly health in other areas was different in traditional beliefs, or local wisdom such as central region Thailand was still necessary.

Theoretical Framework

The descriptive qualitative approach proposed by Sandelowski (2000) was used to address the research question which focuses on identifying the perspectives of the elderly in the context of a rural Central Thai village regarding ways to maintain elder's health. The descriptive qualitative approach was a suitable method because it provided an ideal method to enable the researcher to gain insight through informant's perspective, experiences, and the way of life of elderly. In addition, by adopting descriptive qualitative method it provides a full description of the facts of the phenomenon both exact and rich descriptions of experiences. This study is to explore the perspectives of the elderly to maintain their health with Central Thai local wisdom. Such an approach also helps in understanding of the informant in a holistic point of view. Also in the descriptive qualitative approach, the informants are identified as the experts and actively involved in the construction of what is significant in the phenomena of interest in the world they live.

To gain insight into the informant's perspective, experiences, and the way of life of elderly regarding maintaining their health in their own terms, and in their natural setting, the naturalistic inquiry as described by Lincoin and Guba (1985) was used as

the philosophical underpinning for this study. Naturalistic inquiry implies only a commitment to studying something in its natural state. The process of naturalistic inquiry follows a paradigm of inductive approach. The assumption of naturalistic inquiry includes; 1) realities are multiple, many constructions are possible that can be studied only holistically in the context; 2) reality is a construction of individuals participating in the study; 3) the generation of knowledge results from the interaction between the inquiry and the respondents, knower and know are inseparable;4) in process of making generalization, naturalists argue that a lot of meaningful information that exists in individual units is reduced in the process of generalization, hence generalized knowledge does not represent real knowledge; 5) naturalists do not believe in value free inquiry, they believe inquiry is value-bound. They assume the influence of value systems in the identification of problems, use of the tools for data collection and analysis of data and interpretation of findings, the conditions or the context in which data are gathering, the possible interaction between the inquirer and the respondents. Therefore, to describe the situation as it related to the perspectives of the elderly in the context of a rural Central Thai village regarding ways to maintain elder's health, the naturalistic inquiry was applied in this study.

Through qualitative descriptive research, the researcher was able to capture the perspectives of the elderly regarding their wisdom in maintaining their health within the context of their community in rural Suphanburi province. Buddhism is fundamental to Thai culture, with strong influence on the elderly's way of life. Buddhism helps stabilize the mind to contribute to a sense of peacefulness and to become more conscious of the natural order of things and of their place in that order. Thai culture, social norms, geography, and Buddhist beliefs influenced the elderly's lifestyle and value systems, and shaped their perspectives of Central Thai local wisdom. Qualitative descriptive research provided the way to study local wisdom in the elderly's maintenance of health and their way of life from an informant's perspective.