Assessment of need for elderly in Community in Hang Dong District, Chiang Mai pro vince, Thailand using Camberwell Assessment of Need for the Elderly questionnaire (CANE)

Miss Piyanuch Tiativiriyakul

บทคัดย่อและแฟ้มข้อมูลฉบับเต็มของวิทยานิพนธ์ตั้งแต่ปีการศึกษา 2554 ที่ให้บริการในคลังปัญญาจุฬาฯ (CUIR)
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การประเมินความต้องการของผู้สูงอายุในชุมชนอำเภอหางดงจังหวัดเชียงใหม่ ประเทศไทยโดยใช้แบบสอบถามแคมเบอร์เวลล์

นางสาวปิยะนุช เตียติวิริยะกุล

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาสาธารณสุขศาสตรมหาบัณฑิต
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By	Miss Piyanuch Tiativiriyakul
Field of Study	Public Health
Thesis Advisor	Peter Xenos, Ph.D.

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ปิยะนุช เตียติวิริยะกุล : การประเมินความต้องการของผู้สูงอายุในชุมชนอำเภอหางดงจังหวัดเชียงใหม่ ประเทศไทยโดยใช้แบบสอบถามแคมเบอร์เวลล์ (Assessment of need for elderly in Community in Hang Dong District, Chiang Mai province, Thailand using Camberwell Assessment of Need for the Elderly questionnaire (CANE)) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: ปีเตอร์ ซีนอล, 88 หน้า.

เหตุผล: สังคมผู้สูงอายุเป็นการเปลี่ยนแปลงที่กำลังเกิดขึ้นและส่งผลกระทบทั่วโลกรวมถึงประเทศไทย การประเมินความต้องการในผู้สูงอายุน่าจะมีส่วนช่วยในการประเมินการให้บริการและเป็นแนวทางในการดูแลผู้สูงอายุต่อไป

วิธิวิจัย: การศึกษาครั้งนี้เป็นการวิจัยเชิงพรรณา ณ จุดเวลาใดเวลาหนึ่งเพื่อประเมินความต้องการ(ปัญหา)ในผู้สูงอายุและระบุความต้องการที่ไม่ได้รับการตอบสนอง ซึ่งทำการศึกษาใน ผู้สูงอายุในชุมชน อำเภอหางดงจังหวัด เชียงใหม่ โดยใช้แบบสอบถามแคมเบอร์เวลล์ ซึ่งมีการแปลโดยคณะผู้วิจัยและผ่านการตรวจสอบความเที่ยวตรงของเนื้อหาโดยผู้เชี่ยวชาญและความเชื่อถือได้ โดยมีค่า IOC = 0.76 และ Cronbach' Alphe = 0.82 จากนั้นข้อมูลที่ได้จากกลุ่มตัวอย่างได้ถูกนำมาวิเคราะห์ความสัมพันธ์ระหว่างปัจจัยทางสังคม, สถานะที่อยู่อาศัยและปัจจัยทางด้านสุภาพ กับ ความต้องการในผู้สูงอายุ โดยใช้ การวิเคราะห์ไคสแควร์และการถดถอยพหุคูณ

ผลลัพธ์: จากกลุ่มตัวอย่างผู้สูงอายุที่มีอายุตั้งแต่60ปีขึ้นไปจำนวน 330 คน 66.4%ของกลุ่มตัวอย่างมีความต้องการ(ปัญหา)อย่างน้อย1ความต้องการ(ปัญหา)จากทั้งหมด 24 หัวข้อ และ 22.7%มีอย่างน้อย 1 ความต้องการที่ไม่ได้รับการตอบสนอง ความต้องการเฉลี่ยของกลุ่มตัวอย่างคือ 3.09 ต่อคนจาก 24 หัวข้อ และค่าเฉลี่ยของความต้องการที่ไม่ได้รับการตอบสนองอยู่ที่ 0.4 หัวข้อที่พบสัดส่วนของความต้องการความช่วยเหลือมากที่สุดได้แก่ สุขภาพร่างกาย การมองเห็น/การได้ยิน/การสื่อสาร และความจำ ตามลำดับ หัวข้อที่มีสัดส่วนความต้องการที่ไม่ได้รับการตอบสนองมากที่สุดได้แก่ การดูแลบุคคลอื่น การดูแลสุขอนามัยตนเอง และผลประโยชน์ จากการศึกษาพบว่าอายุ จำนวนโรค และประเภทของประกันสุขภาพที่ใช้ มีความสัมพันธ์กับปริมาณความต้องการของกลุ่มตัวอย่าง ในขณะที่ระดับรายได้ต่อเดือนและสภาวะแวดล้อมการอยู่อาศัย มีความสัมพันธ์กับความต้องการที่ไม่ได้รับการตอบสนอง อย่างมีนัยสำคัญทางสถิติ ($p\text{-value} < 0.05$)

สรุป: ถึงแม้ว่าผู้สูงอายุในชุมชนต้องการการดูแลทางด้านสุขภาพร่างกายสูงแต่สัดส่วนของความต้องการที่ไม่ได้รับการตอบสนองส่วนใหญ่พบในด้านการทำหน้าที่หรือกิจวัตรประจำวัน นอกจากนี้ อายุ จำนวนโรคและประเภทของประกันสุขภาพมีผลกับปริมาณความต้องการ แต่รายได้และสภาพแวดล้อมที่อยู่อาศัยมีความสัมพันธ์กับความต้องการที่ไม่ได้รับการตอบสนอง

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สาขาวิชา สาธารณสุขศาสตร์ ลายมือชื่อนิสิต ....

ปีการศึกษา 2559 ลายมือชื่อ อ.ที่ปรึกษาหลัก ....

5878848053 : MAJOR PUBLIC HEALTH
KEYWORDS: NEED / CARE FOR THE ELDERLY / UNMET NEED / NEED IN ELDERLY

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Background: The Population Ageing is poised to become an inevitable and predominant demographic changes occurring in every country around the world including Thailand. The country is facing challenges of the coming demographic shifts and enacting policies proactively to adapt to an ageing population. Therefore, the actual need of the elderly should be evaluated properly in order to manage the continuing growth of the ageing society.

Method: This study is a cross-sectional description for quantitative data study which aimed to access the needs and identify the met need and un-met need of the elderly living Hang Dong District, Chiang Mai Province, Thailand using Camberwell Assessment of Need for the Elderly questionnaire (CANE). The CANE questionnaire was translated to Thai and the validity and reliability test were performed. The IOC (Index of Consistency) score of the questionnaire was 0.76 and the Cronbach's Alpha coefficient was 0.82. The Chi-square analysis was used to explore the association between and sociodemographic, living status and health status and need identification. The regression analysis was also performed to evaluate association of independent factors which can explain the number (level) of need, met need and unmet need

Results: Among 330 elderly participants who age 60 years old or above, 66.4 percent of them had at least one need per 24 items of need and 22.7% had at least one unmet need. The average need score of the sample was 3.09 per person out of 24 CANE topics (s.d.= 3.33) which 0.4 were unmet need (s.d.=1.05). The areas which had high percentage of need were physical health, eyesight/hearing/communication and memory respectively, while the area with the high percentage of unmet need (per total need) were the self-care, caring for other, benefit and accommodation. The age, number of disease and type of insurance had significant association with the number of total needs whereas, the monthly income and living environment had relationship with the unmet needs determination ($p\text{-value} < 0.05$).

Conclusions: Although the most frequent identified need was in physical need, the highest proportion of unmet need was found in function category. Even age, number of disease and type of insurance had association with the number of total needs, the monthly income and living environment were the factors determining the unmet need.

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CHAPTER I

Introduction

1.1 **Background and Rational**

The "Population Ageing" —the increasing share of older persons in the population—is poised to become an inevitable and predominant demographic changes occurring in every country around the world. Asia had the largest increase in the proportion of the older population in urban; the percentage of those aged 60 years or over resident in urban areas increased from 37 per cent in 2000 to 49 per cent in 2015. (Nation, 2015).According to data from the institute of population and social research, Thailand 2014, the population aged 60 years and over will approach 10 million (16.3% of total population) in 2014 and will reach 19 million (29% of the total population) by 2034. (Institute for population and social research & Thailand, 2014)

The growth in the numbers and proportions of elderly have far impact reaching economic, social and need political implications. In some countries, which the number of older persons is growing faster than the number of working ages, leading many governments to consider increasing the retirement ages in an effort to prolong the labour force and improve the financial sustainability of pension systems. At the same time, population ageing puts pressure on increasing the demand for care, services and technologies including health care services. The countries have to address challenges of the coming demographic shifts and enacting policies proactively to adapt to an ageing population. Therefore, the actual need of the elderly should be evaluated properly in order to manage the continuing growth of the ageing society.

The basic concept of need according to Maslow (Maslow's Hierarchy of Needs) shows the five levels of needs starting from the basic need to the top level as the growth need. The concept of Maslow also mention that the lower level of needs must be satisfied before individuals seek for the higher order of needs. The level are as follows. (Maslow, 2013 reprint of 1943 edition)

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1. Physiological – includes air, food, water, sleep, other factors towards homeostasis, etc.
2. Safety – includes security of environment, employment, resources, health, property, etc.
3. Belongingness – includes love, friendship, intimacy, family, etc.
4. Esteem – includes confidence, self-esteem, achievement, respect, etc.
5. Self-actualization – includes morality, creativity, problem solving, etc

In Thailand, there are also the Act on Older Persons; Thailand 2003 which has been in force since 1 January 2004 to ensure welfare to cover many aspects for the elderly(Security, 2003). In Thailand social welfare can be categorized into 3 types; social insurance, public assistance and social service. Social Insurance is the system of security assurance 2) Public Assistance, and 3) Social Services. Social insurance refers to the system of security assurance. Public Assistance is the system of help. And social services are services supporting basic human needs including health, education, housing, employment and income, social activities, and recreation (Narirat Jitramontree & Thayansin, 2013)

Even, there are a lot of programs and supports for the elderly in Thailand, and some studies have been conducted for evaluating the programs, there are still no report demonstrated the fulfillment for all aspect of needs in the elderly in Thailand. Moreover, the research to assess the basic need of the older and expand to all aspects is limited. Therefore, the research to identify and evaluate the met-needs and un-met needs of the elderly is one of the interesting topic which can be used for the better understanding the need in elderly and benefit for further facility or service development for older people. The assessment of needs is also required to ensure the appropriate distribution and utilization of services from government or private sector services.

Although the Camberwell Assessment of Need for the Elderly questionnaire (CANE) questionnaire was originally developed as a tool for assessing the needs of patients with mental disorders (Fahy & Livingston, 2001). its usefulness has also been verified regarding health problems of elderly individuals. (Steve Iliffe et al., 2004) CANE can also evaluate the needs and the sufficient of the need to identify the

need and unmet need and can evaluate the need from the elderly and the carer (a relative, friend, neighbor) and health professional as well. (Reynolds et al., 2000)

The need assessment topics in the Camberwell Assessment of Need for the Elderly questionnaire (CANE) criteria seem to cover almost all aspects of the Maslow's Hierarchy of Needs. The 24 topics of needs of older people in CANE questionnaire can be divided in to categories so that it would be easy to evaluate the needs in specific categories and can identify the severity of need required in each group. The following is the example of categorization by some researcher (Szczepańska-Gieracha, Mazurek, Kropińska, Wieczorowska-Tobis, & Rymaszewska, 2015); (Ruggeri et al., 2005)

- Basic (e.g. accommodation, meals/food);
- Social (e.g., social contacts, close relationships);
- Functioning (e.g. caring for the house, daily activity);
- Health (e.g. physical and mental health, psychological stress);
- Health and social care (e.g. information on health status and treatment, funding and allowances)

Another example is the grouping by Hoogendijk E.O. and team as follows; (Hoogendijk et al., 2014)

- Environmental needs (e.g. accommodation, household activities, food, caring for another, caring for another)
- Physical needs (e.g. physical health, medication use, visual/hearing impairment, mobility/falls, self-care)
- Psychological needs (e.g. memory, company, daytime activity, information)

According to the data from Thailand Social Statistics Bureau, National Statistical Office, the northern of Thailand has the highest percentage of elderly (18.4%). Chiang Mai is capital city in the upper northern of Thailand where many government models for elderly have been developed and implemented. However, there is no research evaluate the need of the older people in this area. Hang Dong district is one of the district located in the central of Chiang Mai province and next to

the Mueng District where is the urban part of Chiang Mai. Hang Dong is in the suburb area where combine the lifestyle of rural and urban area.

The CANE assessment for the elderly in many different setting and environments have been performed in many countries. However, there are no research using CANE to evaluate the need of the elderly in Thailand. The aim of this project is to analyze the need, extent of necessary support and the factors determining the demand for care in older people in, Hang Dong District, Chiang Mai Province, by using CANE questionnaire.

1.2 **Research Questions**

1. What are the needs of elderly living in Hang Dong District, Chiang Mai Province, Thailand identified by using CANE?
2. What are the needs which receive sufficient support (met needs) and those for which the support from either informal sources or formal services are missing (unmet needs) for the elderly living in Hang Dong District, Chiang Mai Province, Thailand?
3. What are the relationship between the socio-demographic characteristics, living status and health status and the needs of the elderly living in Hang Dong District, Chiang Mai Province, Thailand?
4. What are the association between the socio-demographic characteristics, living status and health status and the sufficiency of the support on needs of the older people living in Hang Dong District, Chiang Mai Province, Thailand?

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1.3 **Research Hypotheses**

1. There is relationship between age of the respondents and the level of need. The elderly who are in older age group have more needs than the younger age group.
2. There is association between the income and the sufficiency of the support on needs the elderly. The older people who have higher income will have less unmet need.
3. There is association between the number of disease and unmet need of the elderly. The older persons who have more disease will have more unmet need.

1.4 **Research Objectives**

1. To translate the Camberwell Assessment of Need for the Elderly questionnaire (CANE), perform validity and reliability test and use this translated version to evaluate the need of elderly in Hang Dong District, Chiang Mai Province, Thailand
2. To identify the need for the elderly covering all aspects stated in Camberwell Assessment of Need for the Elderly questionnaire (CANE) of the elderly living in the elderly living in Hang Dong District, Chiang Mai Province, Thailand
3. To assess the needs which receive sufficient support (met needs) and those for which the support from either informal sources or formal services are missing (unmet needs) of the elderly living in the elderly living in Hang Dong District, Chiang Mai Province, Thailand
4. To determine the relationship between the socio-demographic characteristics, living status and health status and the needs of the elderly living in the elderly living in Hang Dong District, Chiang Mai Province, Thailand
5. To determine the association between the socio-demographic characteristics, living status and health status and the sufficiency of the support on needs of the elderly living in the elderly living in Hang Dong District, Chiang Mai Province, Thailand

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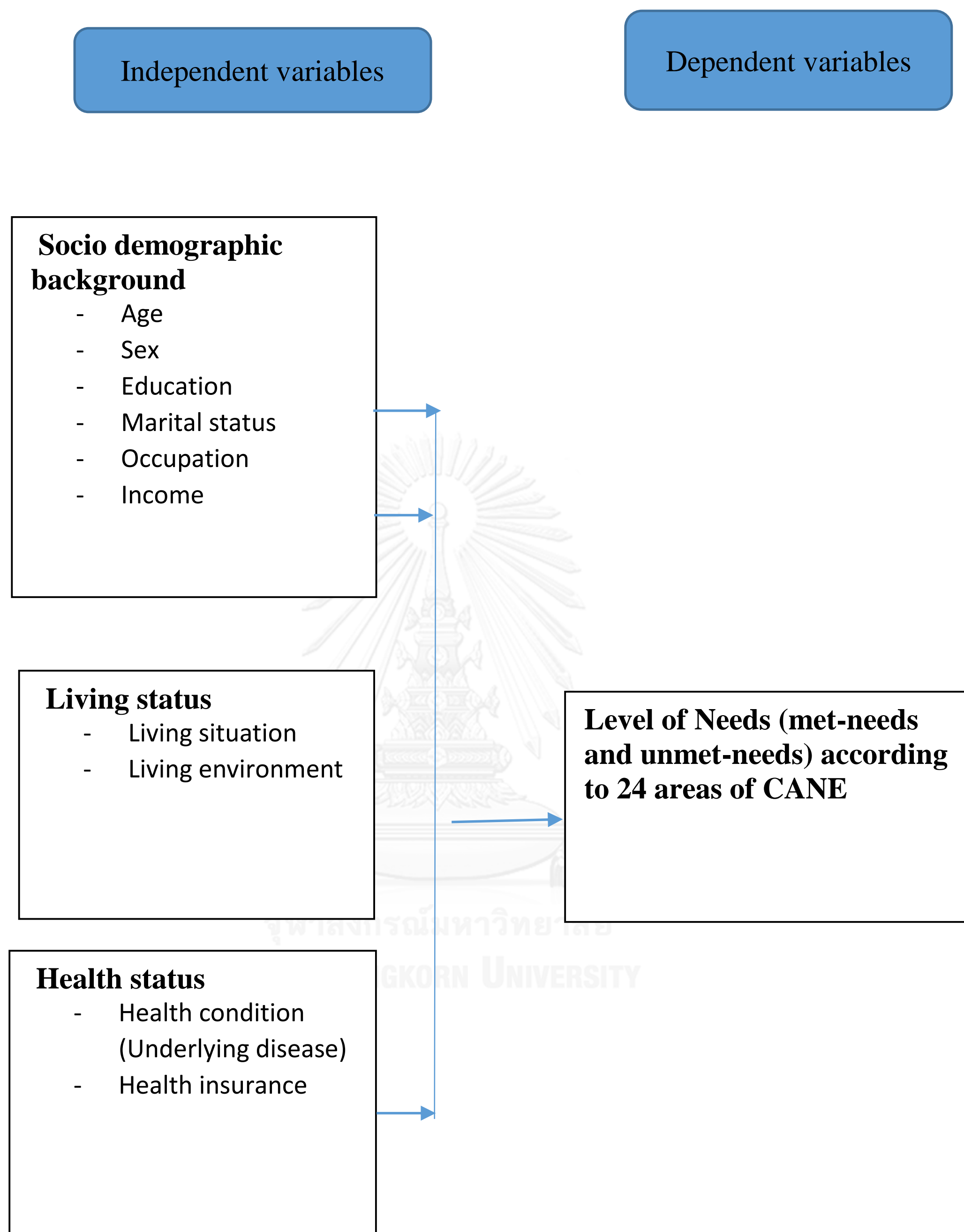
1.5 **Variable in the study**



1.6 Operational Definition

Needs refer to a situation in which there is a significant problem/issue, for which there is an appropriate intervention that could help, resolve or alleviate the problem (Hancock & Orrell, 2004)The need for this research covers 24 areas of need for elderly from CANE questionnaire consist of Accommodation, Household Activities, Food, Self-Care, Caring for Another, Daytime Activities, Memory, Communication,

Mobility/Falls, Continence, Physical Health, Drugs, Psychotic Symptoms, Psychological Distress, Information, Deliberate Self-harm, Accidental Self-harm, Abuse/Neglect, Behaviour, Alcohol, Company, Intimate Relationships, Money, Benefits entitlement.

Each item has four elements 1.) whether a need exists; 2) help provided by family/friends; 3) help from statutory services; 4) whether the help provided meets the needs.

Unmet need is a situation which individual are not receiving the appropriate level of assessment or care.

Met need is a situation which individual has difficulties in a particular area but the difficulties are being adequately provide for or help by others.

Elderly refers to the individuals who age 60 or above.

Education refers to the highest education of each individual which is categorized into 7 groups; “Never went to school”, “Primary school”, “Middle school or equivalent”, “High school or equivalent”, “Vocational school or equivalent”, “Bachelor’s degree” and “Master’s degree or higher than master’s degree”

Marital status refers to individual marital status of individuals which is categorized into 5 categories; “Single”, “Married”, “Divorced”, “Separated’ and “Windowed”

Occupation refers to the previous or most current occupation of the respondent which is categorized into 7 groups; “Government officer”, “Employee”, “Merchant/Business owner”, “Agriculture”, “General labor”, “No Occupation” and “Other”

Income refers to income of respondent from all sources per month including pension and elderly allowance (Bia-Yang-Cheep) which is categorized into 6 groups; “Less than 3,000THB”, “3,001-5,000 THB”, “5,001 – 10,000 THB”, “10,001 – 15,000”, “15,001 – 30,000” and “more than 30,000”

Living arrangements refer to arrangement of living which is categorized into 5 groups, “Alone”, “With spouse”, “With children”, “With relative” and “With others”

Living environment refers to environment of living which is categorized into 5 groups, “Elderly’s own house”, “Rental house”, “Children/Relatives’ house”, “Flat” and “Other”

Health condition refers to the diseases or illness condition of the participants categorized into 2 groups, “Chronic medical condition”, “No chronic medical condition”. In this part, there is also the space that the participant can enter their underlying diseases.

Health insurance refers to health insurance which participants use for health care service, which is categorized into 5 categories; “universal coverage scheme”, “social security scheme”, “Medical welfare of civil servants”, “private health insurance” and “Other”

Physical health refers to physical illness including the high-risk areas for the elderly such as pain, oral health, foot care and tissue viability. (Hancock & Orrell, 2004)

Abuse: This topic in the questionnaire refers to anything that frighten or harm to elderly or persons who take benefit of the elderly. It includes all threatening actions.

Need for information refers to the appropriate level of comprehension information for the individual’s needs. As the elderlies have the right to receive information as much as possible about their own disease and care, this means full information and access to information sources per their need. (Hancock & Orrell, 2004)

Drugs: This topic in the questionnaire refers to any adverse side-effects from medication, non-compliance issues and self-administrating medication problems.

Intimate relationships: refer to the relationship with someone they can trust and talk about thing. There are some one that they can contact if they want and would like to talk to about a personal and important issue. (Hancock & Orrell, 2004)

Money/budgeting refers to the ability of individuals to purchase the specific individual items they might need (e.g. clothes, shoes, toiletries) (Hancock & Orrell, 2004)

Informal sources of help refer to family, friends and neighbors.

Formal sources of help refer to formal supports including residential care, specialist service, day-care center, hospital and community health volunteer etc.

CHAPTER II

Literature review

In current rapid and continuing growth of aging society, the high-quality of health and social care for the older people is important. To evaluate the effectiveness of the care provided to the elderly, the comprehensive and accurate identification of needs of the individual should be performed. (Hancock & Orrell, 2004) The aging population and care for the individual elderly has been one of the most concerns in develop countries for a long time (Ebrahim, Hedley, & Seldom, 1984). Their government and international organizations have been eager to assess the need of the older population to manage this impact of population change on the resource (Cassel, 1994). While some developing countries; nowadays, consider this issue as country topic and try to find the cost-effectiveness ways of using theirs limited resources to meet the needs of older people (Momtaz, Hamid, & Ibrahim, 2012) Given the diversity of life histories and physical/mental conditions of the elderly, the goals also vary by each individual (Kane, Ouslander, Abrass, & Resnick, 2009), and thus accurate and comprehensive assessment of the individual needs of the elderly who require care is a challenge for frontline care providers (Ohura, Higashi, Ishizaki, & Nakayama, 2015).

2.1 Ageing Population in Thailand

Due to the fast-continuous growth of the aging society, the real need of the elderly is crucial for providing the accurate care and management. This topic is also the interesting issue for long term policy management. The care for the elderly is now not only the individual's matter, but it is the topic of discussion for the top management of the country. This demographic change is occurring over the world (Nation, 2015).

According to the Social Statistics Bureau, National Statistical Office, the older people in Thailand is the person who is at the age of 60 and above. The data form the

survey from Social Statistics Bureau of Thailand 2014, shows that the percentage of elderly people is 14.9% (male 13.8% and female 16.2%). About 55% of the elderly were at the age of 60 - 69 years old. The northern of Thailand has the highest percentage of elderly (18.4%). The region with the second high percentage of older people is the north-eastern (17%) and then central region and south region (13.5% and 13.2%) respectively. (Institute for population and social research & Thailand, 2014) The trend of dependency ratio which is the ratio of people who more than 60 years old divide by the working population (age 15-60 years old) has increased gradually from 10.7% in 1994 to 18.1% and 22.3% in 2011 and 2014 respectively. The dependency ratio is a numerical measure of the economic burden imposed on the working population who have to ultimately take care people who are not in the labour force. In addition, the proportion of adult and working age population has continuously declined and this will affect the supply of labor in the near future. The shortage of skilled labor is one of the critical concern of the government.

According to Thai culture and value of reciprocity of one's parents and family is the important factor influencing children to take care of the financial, medical and mental health needs of their older parents. However, the demographic changes causing an increasing dependency ratio and a decreasing support ratio lead to the burden on family members caring for their elderly relatives. Even through, the Thai government provides a range of social safety programs designed to guarantee certain income levels for the elderly including both mandatory and voluntary systems, and contributory and non-contributory systems (Suwanrada, 2009), the sufficient of the support and the effectiveness of the program are still be the issue of concern.

Thailand will be an ageing society in 2025 (Board & Minister, 2016). As the elderly frequently have some coexistence of disability, physical and mental illness and social problems, this means that they often have the complex needs. Moreover, the intensive and long-term care might be required and the health expenditures will become a burden of household and public finances. One approach to identify cares needed for elderly is to perform a comprehensive geriatric assessment. In such an assessment, the capacities and problems of older adults are evaluated in multiple domains, such as the medical, psychological and environmental domain.

2.2 Social Welfare for the Elderly in Thailand

Definition of social welfare

According to the Encyclopedia Britannica, social welfare program is any of a variety of governmental programs designed to protect citizens from the economic risks and insecurities of life. The most common types of programs provide benefits to the elderly or retired, the sick and invalid, dependent survivors, mother, the unemployed, the work-injured, and families. Methods of financing and administration and the scope of coverage and benefits vary widely among countries.

In Thailand, the Social Welfare Act 2003 (Security, 2003) defines the social welfare as the social service management system which is about prevention, resolution, development and promotion of social security that is appropriately and equally provided in order to meet people basic need for good quality of life and encourage self-reliant. This system aims to maintain standard of education, health, accommodation, work (income), social activity, fairness and social service by considering human right. All citizens have to get access to and participate in social welfare equally.

The Ninth National Economic and Social Development Plan had concluded the definition interpreted by many agencies including social welfare technical officer, executive and other technical officer from government and non-government parties and determine the social welfare as the social service management system to prevent and resolve the social problem and also develop and improve the social security. (Board & Minister, 2016) The purpose of the system is that to maintain the standard of living. The provided services have to serve the basic need of the people and to improve their quality of life thoroughly and equally in all aspects including education, health, work, income, welfare, social security, activity and social service. Moreover, the service system have to concern about their right and participation.

Social welfare for elderly development in Thailand (Sudsomboon, 2014)

The social welfare development for elderly in Thailand started in 1953 when field Marshal Por Pipulsongkram tried to implement social welfare in Thailand and assigned the Department of Public Welfare to build the first nursing home for elderly to help the older people who have some difficulties and cannot live with their family. In 1982, the social welfare for elderly dramatically progressed, as the United Nation

(UN) General Assembly issued an international action plan on elderly. It is the first issue that put the main policies and programs associated with aging population. In the same year, the World Assembly on Aging was approved.

Type of social welfare in Thailand

1.) **Social Insurance**

Social security funds in Thailand are as follows: (Japan, 2010)

Civil Servant scheme (CS scheme), including Civil Servant Medical Benefit Scheme(CSMBS) and non-contributory pension scheme and Government Pension Fund(GPF),

- State Owned Enterprise schemes (SOE scheme),
- Private School Teacher Welfare Fund (PSTWF or PS scheme), and
- Social Security scheme for private employees (Social Security Office (SSO) scheme)."

Classification of the covered and non-covered population (million persons)

	Independent Labor Force	Dependants in Labor Force	Dependants not in Labor Force or LT 15yrs old	Total	%
Covered population	8.75	1.11	2.96	12.83	20.0%
Civil service scheme	1.75	1.02	2.64	5.41	8.4%
State Owned Enterprise scheme	0.28	0.08	0.29	0.65	1.0%
Private School Scheme	0.05	0.01	0.03	0.10	0.2%
Social Security Scheme	6.67	-	-	6.67	10.4%
Non-covered population	25.71	-	25.60	51.31	80.0%
Total population	34.46	1.11	28.56	64.14	100.0%

Source: Thailand Social Security Priority and Needs Survey 2004

2.) **Public Assistance** (Sudsomboon, 2014)

The public assistance is the aid grant for free to the persons who need help and cannot help themselves, socially disadvantaged individuals. The public assistance for elderly in Thailand is as follows.

- Elderly Allowance （Bia-Yang-Cheep）: This allowance was introduced in 2011. It was a significant effort to introduce to the older people in Thailand. The allowance has been paid to

those who are aged 60 and over except for former civil service officials. The Thai citizen who age 60-69 years old get 600 Baht/month, 70-79 years old get 700 Baht/month, 80-89 years old get 900 Baht/month and more than 90 years old get 1,000 Baht per month.

- Fund of elderly who are defenseless: This fund is tacking care by the elderly promotion and escort office. It is to assist the elderly from abuse, and abandoned. The support cover funeral arrangements, housing, food and clothes for senior citizens who need help
- Legal advice assistance: The Ministry of Justice provides the relevant counsel service in the lawsuit for the elderly and prevent the older individuals from abduction and neglect
- Exemption of entrance fee: The Ministry of Transport and the Ministry of Natural Resources provides the seniors free admission.
- Discount on transportation fare: The Thai elderly can by the train / BTS / MRT half price and get 15% reduction on domestic fare

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3.) Social service (Sudsomboon, 2014)

The social service is service system that provide to service on basic needs of the elderly in five different areas.

1. Health care service:
    a. The Universal Health Coverage: It is the basic health care coverage for all Thai people providing the comprehensive health examination service, treatment and health promotion operated by the national health security office (NHSO)
    b. According to the elderly act 2003 and National elderly plan No.2 (2002-2021), there are specific channel for elderly people separated from other service recipients.
    c. Health promotion hospital is facility to provide primary health care for the people in the area.

   d. Home care is the service that suitable for elderly patients with mild symptom; and it is not convenience for them to go to hospital. Most elderly people are satisfied to receive medical treatment at home and it also reduces the travelling cost.
   e. Elderly care volunteer program, it is a project aimed at solving the problem of lack of elderly caregivers and inappropriate care. By building health volunteer team from village health volunteers, these elderly care volunteer will help older people in the village and provide rehabilitation service to the elderly.
2. Education service:
   a. Non-formal education: The Ministry of Education has developed education guideline for the special target group. For example, the lifelong education for the elderly has been promoted to create value and maintain sustainable development for the elderly.
   b. Computer study: The old people playing young club is the club that teach the skill of using computer and internet to the elderly but the elderly has to support the cost themselves.
3. Housing: To provide house which is one of the 4 basic need and care service to the elderly. The nursing home service will also cover several essential cares such as nursing care, physical therapy, recreation activity and cultural. Currently, there are 21 state nursing homes in Thailand.
4. Employment and income: Elderly welfare fund and community development institute develop the program that the elder can join in and manage the program by themselves.
5. Social and recreational service:
   a. Elderly club is the group of senior citizens who have a common interest and would like to develop the quality of life among their group. The Elderly (Senior) clubs are sponsored by the Ministry of Public Health and the Elderly Council. These

elderly networks create the stronger collaboration among the elderly.

b. Multipurpose center for elderly: The propose of this center is use the community as a base for long term holistic care service for elderly.

2.3 Concept of need and defining need in elderly

There are many difference terminologies to define the concept of individual needs. However, the definitions differ due to different backgrounds and frameworks of using. Even Maslow (Maslow, 2013 reprint of 1943 edition) defined the concept of basic of need in general. However, difference of population might have more specific type of need (Murphy, 1994). One if the common way of defining need is to consider the individual ability comparing with the other of same age and circumstance (Brewin, Wing, & Mangen, 1987). Some authors provide definition of a need that it relates to the quality of life (Xenidis, Thornicroft, & Leese, 2000) However; it is quite difficult to define the need objectively because its nature is quite personal and subjective (O'Brien, Arms, & Burns, 2000). A commonly used definition has involved some interventions and care for identifying the needs of individual as it is more objective and has the advantage of evaluation of potential help and intervention for that needs. The need can be divided to the met need and un-met need. In addition, it can outline the care plans and assess the successful of meeting the individual's need. (Hancock & Orrell, 2004)

According to the definition of met and un-met need from Hancock G. and Orrell M. (2004); a met need is a situation which individual has difficulties in a particular area but the difficulties are being adequately provide for or help by others. While an unmet need is a situation which individual are not receiving the appropriate level of assessment or care.

There are several tools develop to assess the needs in the elderly. Many of them were developed from the tools that used for assessing health and social needs targeted at mental health services. For example, the MRC Needs for Care Assessment (Brewin et al., 1987), the Cardinal Needs Schedule (Marshell, Hogg, & Gath, 1995), and the Camberwell Assessment of Need. (Phelan et al., 1995)

In Japan, there are also several tool developed to access the need in the elderly. For example, Ohura T. and team developed the 25-item instrument that asked about the daily subjective needs of the elderly to evaluate four aspects of need which consist of self-care, living environment preference, physical aspects and emotional (Ohura et al., 2015).

The EASY-Care Standard Instrument is one of the instrument used for health need assessment older people (Lee, Lin, & Philip, 2015). The EASY-Care Standard Instrument cover the same area of assessment as the Camberwell Assessment of Need in the Elderly (CANE) but the questions are divided to difference sections. The EASY-Care Standard questionnaire consists of 9 sections; Seeing, hearing and communicating, Looking after yourself, Getting around, Your safety, Your accommodation and finance, Staying healthy, Your mental health and well-being, Other information which you think is important and Carers comments. The questionnaires can also be used to evaluate an independence, an increased risk of hospital admission and an increased risk of falling by sum of the score of the indicator of need for support set of questions (Independence Score), risk of hospital admission set of questions (Risk of breakdown in care) and risk of falling and / or injuries from falls set of questions (Risk of falls) respectively. High scores are associated with high needs for care and support.

Although the Camberwell Assessment of Need in Elderly (CANE) questionnaire was originally developed as a tool for assessing the needs of patients with mental disorders (Fahy & Livingston, 2001), its usefulness has also been verified and used to identify health problems and unmet need of elderly individual in general practice and primary care (Iliffe, Lenihan, & Orrell, 2004), (Hoogendijk et al., 2014). As the assessment of needs should be comprehensive and should involve multi-disciplines and agencies as appropriate in the circumstances (Hancock & Orrell, 2004), another advantage of the CANE questionnaire is that it is the triangulate questionnaire which can assess the need and identify the unmet need in patient, carer, and professional perspectives (Iliffe et al., 2004).

2.4 Measurement of need using CANE questionnaire

The Camberwell Assessment of Need for Elderly questionnaire (CANE) is one of a series of need measurement developed from the original Camberwell Assessment

of Need (CAN) (Phelan et al., 1995). It was developed in the UK and has been widely used in Europe including Norway, Sweden, Finland, Holland, Belgium, Austria, Ireland, Germany, Portugal and Spain and has also been used in New Zealand, Australia, Canada, the USA, Brazil, Turkey, India and HongKong. Translations are available in Norwegian, Swedish, German, Spanish, Portuguese, Dutch, Turkish and Hindi (Hancock & Orrell, 2004). The CANE is the comprehensive measurement designed to evaluate the broad range of needs of the elderly, especially those with mental health problems. However, it was intended in all setting ranging from primary care, out-patients, psychiatric ward, nursing and residential home (Reynolds et al., 2000).

As the CANE was developed from the CAN the overall format of the CAN was preserved and the adaption was performed by various focus group interviews to generated the draft version called Camberwell Assessment of Need for Older Adults (CANOA) which had 27 areas. The Delphi process, workshops and focus group interviews were performed to developed the last version of CANE. In this last version, the ratings of assessors (e.g. clinician or research) column was added. (Reynolds et al., 2000)

The main study to measure the validity and reliability of the CANE was carried out in London and Essex in collaboration with five other center (three in UK, one in Sweden and one in the USA). The overall consensus was that CANE covered the main area of need in the elderly and the words used in the questionnaire were suitable. Moreover, the criterion and concurrent validity was investigated by comparing with four other scales including the Clifton Assessment Procedures for the Elderly – Behaviour Rating Scale (CAPE-BRS) for dependency and behavioral status, Short Form 36 for quality of life measurement, Barthel Index for functional status measurement and General Health Questionnaire (GHQ) for carer stress measurement. The appropriate criterion validity was observed (Gilleard, Pattie; 1979). The interrater and test-retest reliability studies were conducted. There were very high correlations between summary score in both interrater (elderly, staff and carer) and test-retest scores(elderly) (Hancock & Orrell, 2004)

Kate Walter and Steve Iliffe had studied the feasibility of CANE in primary care setting and suggest that a shorter, more focused primary care-oriented version of

CANE might be useful when assessment time is often severely restricted (Walter K., Iliffe S., & M, 2001). The further study was also conducted to develop the short instrument to identify common unmet need of the elderly in general practice (Iliffe et al., 2004).

2.5 Related studies using CANE to evaluate the need in primary care and family home environment in older adults

There are several studies using CANE questionnaire access the need in elderly. Majority of them are from European countries and most of them comparing the difference between the response from the elderlies' own perspective and the score from carers and staffs.

The research using CANE as a research tool to access the need in the elderly who age 75 years old and over in primary care setting (Walters K and Iliffe S., 2000) was found that the mean number of needs identified was 6.6 per 24 items of need (s.d.4.4) per person, of which the met need was 4.2 (s.d.=3.0) and the unmet need was 2.4 (s.d.=2.9). In another study accessing need of people 75+ living in nursing home or family home environment by Szczpanska-Gieracha J. and team, the total need of the outpatient subjects (family home environment) was 3.97 (s.d = 2.37) per patient with the met need and unmet need as 3.44 (s.d = 2.37) and 0.53 (s.d. = 1.03) while the total need of nursing home group was 5.37 (s.d.=4.76) with the met need and unmet need as 4.45 (s.d.=3.91) and 0.92 (s.d.=1.42) respectively. There were higher in the mean number of total need, met need and unmet need in research perspective. For the staff perspective in the nursing home group, there was higher in the mean of total need but lesser in the mean of unmet need. (Szczepańska-Gieracha et al., 2015)

The study of Emiel O. Hoogendijk and team evaluated the self-perceived met and unmet care needs of frail older adults (who were at the age of 65 or above) in primary care. This study aimed to access the met and unmet care needs as perceived by frail older adults and explored the association of the socio-demographic and health-related characteristics with care needs. This study was also identified 13 items of CANE to three domains (environmental needs, physical needs and psychological needs). It was found that the mean number of care needs in frail older adults in primary care were 4.2 care needs out of 13, of which 0.5 needs were unmet need.

There were more needs in physical and environmental model; however, the higher proportion of unmet needs were found in phycological domain. (Hoogendijk et al., 2014)

According to the development of a short instrument to identify common unmet Leeds in older people in general practice study by Steve Iliffe and team, The CANE was used to interview in four community and institutional studies. First group has 311 (57.2%) community (primary care and sheltered housing) patients, the second group has 160 (29.4%) day hospital patients, and 73 (13.4%) care home residents were enrolled into the third group. Overall the five highest ranking of unmet needs were memory, daytime activities, psychological distress, company, and mobility. More patients in the oldest age group (85+ years) had unmet needs regarding mobility ($\chi2$ = 26.5, P<0.001), eyesight/hearing ($\chi2$ = 29.6, P<0.001), and accommodation ($\chi2$ = 13.0, P = 0.01) There were more primary care patients had unmet needs regarding accommodation ($\chi2$ = 20.9, P<0.001), eyesight/hearing ($\chi2$ = 33.2, P<0.001), self-care ($\chi2$ = 64.7, P<0.001) and continence ($\chi2$ = 20.1, P<0.001) then other groups.

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CHAPTER III

Research Methodology

3.1 Research Design

This study is a cross-sectional description for quantitative data which aimed to access the needs and identify the met need and un-met need of the elderly living Hang Dong District, Chiang Mai Province, Thailand using Camberwell Assessment of Need for the Elderly questionnaire (CANE)

3.2 Study Area

The study was carried out in Hang Dong District, Chiang Mai Province, Thailand.

3.3 Sample Population

The elderly people who living in Hang Dong District, Chiang Mai Province, Thailand.

Sub-district	Number of elderly (person)
San Phak wan sub-district	1,876
Hang Dong sub-district	563
Khun Kong sub-district	915
Num Prae sub-district	1,146
Han Kaew sub-district	1,229
Nong Kwai sub-district	1,740
Sob Mae Kha sub-district	417
Ban Pong sub-district	733
Nong Kaew sub-district	1,053
Nong Tong sub-district	670

Baan Waen sub-district	1,864
Total 11 sub-districts	12,206 persons

Official statistic registration system 2016

Inclusion Criteria

1. The Thai individuals who age 60 or above and welling to participate in the study.
2. The elderly who are living in Hang Dong District, Chiang Mai Province for more than 3 months.
3. The elderly who can communicate in Thai language.

Exclusion Criteria

1. The elderly who have communication problem.

3.4 Sample size calculation

The sample site was calculated by using the following formula.

$$n = \frac{z_{\alpha/2}^{2}\sigma^{2}}{d^{2}} \text{ x design effect}$$

The average SD of the mean total unmet need accessed by the community-dwelling elderly from the literature review is 1.01 ((Hoogendijk et al., 2014), (Szczepańska-Gieracha et al., 2015).

In this study, the sample size is calculated with the absolute error 0.15 and at type 1 error at 5%.

$$\text{n} = \frac{1.96^2\ 1^2}{0.15^2} * 1.7$$

n = 291

The 10% add-up is considered in case of missing value.

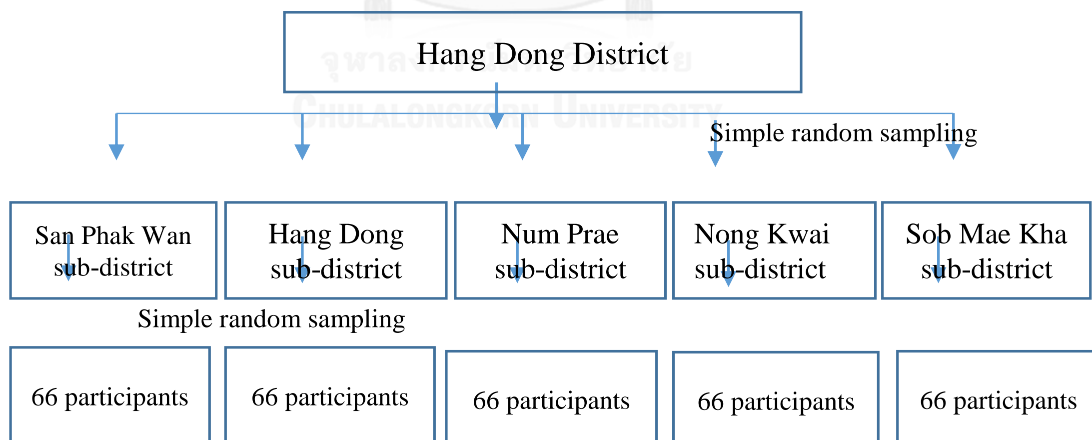
Thus, total sample size will be 291 + 29 = 330

3.5 Sampling Technique

Firstly, the researcher used simple randomized sampling method to sample 5 sub-districts from total 11 sub-districts in Hang Dong district. Then the cluster sampling

was applied to enroll 60-65 elderlies (one elderly/ household) from each sub-district to the study. Then simple random 66 elderly participants form each sub-district. The samples were simple random from the list of elderlies who are registered for the elderly allowance (Bia-Yang-Cheep) from the district municipality office. As there was an announcement of the schedule of Bia-Yang-Cheep give out dates every month. The elderlies were to the multi-purpose center of the village to sign and receive the Bia-Yang-Cheep. The researcher had asked for the permission from the head of villages to interview the elderly who were willing to participate to this study the multi-purpose center of the village. For the random sampled who do not come to receive the allowance at the center. The researchers accessed to the elderlies at home by the help of the health volunteers. In case there were more than one elderlies in one household, the oldest elderly of the household was selected.

The 5 sub-districts (San Phak Wan sub-district, Hang Dong sub-district, Num Prae sub-district, Nong Kwai sub-district and Sob Mae Kha sub-district) were simple random sampling from 11 sub-districts. The subjects of each villages were randomized sampling from the list of elderlies who were registered for the elderly allowance (Bia-Yang-Cheep) from the district municipality office.



3.6 Measurement Tool Development

3.6.1 Validity and reliability of the questionnaire

The CANE questionnaire was used as multi-dimensional needs assessment in this study. The primary response was received by the elderly as the self-perceived needs evaluation. However, there was no Thai version of CANE is available. Therefore, the researcher and team have been performing the translation, validity and reliability test ourselves. First, the original English version of CANE was translated to Thai language by the Chulalongkorn University Language Institute. Then it was verified by researcher and team for the completeness and appropriateness of the language. The content validity was reviewed by 3 experts, the first expert from Geriatric Medicine Center of Medical excellent center, Faculty of medicine, Chiang Mai University, the second expert from the Preventive and Social Medicine, Chulalongkong University and the third expert from the Faculty of Public Health, Mahidol University. The IOC (Index of Consistency) score of this questionnaire is 0.76.

Then the questionnaire was tested for reliability. According to the data from the development of the Camberwell Assessment of Need for the Elderly(CANE) by Tom Reynolds and team the correlation between summary scores of original CANE questionnaire was (0.8). The reliability of this Thai version was tested in 30 elderlies in Hang Dong District, Chiang Mai Provinces, Thailand. The Cronbach's Alpha coefficient of the questionnaire is 0.82.

3.6.2 Data collection items in the questionnaires

The socio-demographic characteristics included age, sex, education, income and marital status were collected as the background independent variables. The living status and health status were also evaluated. The self-perceived, multi-dimensional needs will be assessed using the Camberwell Assessment of Need for the Elderly (CANE) questionnaire. The CANE questionnaire version IV consists of 24 topics of needs; Accommodation, Household Activities, Food, Self-Care, Caring for Another, Daytime Activities, Memory, Communication, Mobility/Falls, Continence, Physical Health, Drugs, Psychotic Symptoms, Psychological Distress, Information, Deliberate

Self-harm, Accidental Self-harm, Abuse/Neglect, Behaviour, Alcohol, Company, Intimate Relationships, Money and Benefits. In each topic, there are 5 sections. The first section aims to assess whether there is currently a need in the specific area. The second section asks about assistance from informal sources during the past month. The third section asks whether the elderly receives any assistance from local services to help with the problem and whether interviewer feels that the elderly requires that the support. The forth section evaluates whether the person feels that the elderly is receiving the right type of help for their need and the individual's satisfaction with the assistance. The fifth section is the comment section where the detail can be provided in this section. (Reynolds et al., 2000)

3.7 Data Collection

The data collection was performed by interviewing the participants using questionnaires as the guideline. There were 3 research assistants for this study. The public health officer (3 persons) were trained to be research assistant for this study. The training was taken about 1-2 hours.

The data was collected from the elderlies who were randomized sampling from the elderly list. The data was collected at the multi-purpose center of the village for the elderlies who receive the elderly allowance at the center and at the elderly's home for who do not come to the center. The face to face interview method will be used for this study.

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The inform consent obtained process was performed before any research activities with the elderly. The researcher explained research detail in brief. Once the participant was well informed and the consent was obtained, the brief socio-demographic background was collected. For the participant who meet eligibility criteria, the full socio-demographic information according to the questionnaire was collected and the assessment of need per CANE questionnaire will be performed.

According to the original CANE questionnaire, there are 24 items and each item consist of five sections as following detail;

Section 1: This section asks whether there is currently a need in specific area. A need is defined as a significant problem with a potential remedy or intervention.

0 = no need   If there is no need in the area then, go on to the next question.

1 = met need A need is met when there is mild, moderate or serious problem which receiving an intervention or appropriate assessment and potential benefit.

2 = unmet need There is a serious problem requiring intervention or assessment, which currently do not receive assistance or receive the wrong type or level of help.

9 = unknown If the person does not know about the nature of the problem or about the assistance he/she receives, go on to the next page.

Section 2: This section assesses assistance from informal source. Informal source are defined as family, friends or neighbours.

1 = The assistance is given very occasionally, or only minimal help is provided.

2 = The assistance is given more frequently or involves more time/effort.

3 = The assistance is given daily or very intensive.

9 = The interviewee is unsure of the level of assistance provided by informal support.

Section3: This section asks whether the user (elderly) receives any assistance from local services. The formal supports are defined as residential care, specialist service, day-care center, hospital and community health volunteer etc.

1 = Minimal or occasional support

2 = More regular assistance or more significant support

3 = Specialist assistance or intensive help

9 = The interviewee is unsure of the level of assistance provided by formal support.

Section4: This section asks how much help dose the person need from local service (formal support)

1= The person needs minimal support.

2 = The person needs more regular support.

3 = The person needs support frequently or intensive support.

9 = The person is unsure about the level of support they need.

Section 5: This section asks the overall satisfaction of the amount of help the elderly are receiving.

1 = Not satisfied

2 = Satisfied

9 = Not known

For this study; however, only the data from section 1 of all 24 items were collected and used for data analysis. As the criteria of scoring per original CANE (Hancock & Orrell, 2004; Reynolds et al., 2000) is also count the total CANE score based on section 1 of each 24 items. (rate as 0: No need, 1:met need and 2: unmet need) and used this score to calculate the average of number of need and unmet need identified by the respondents. The needs and unmet needs identification in each item was accessed and categorized into categories (Szczepańska-Gieracha et al., 2015) to identify the area which has the most concern of need and unmet need. Moreover, the association between sociodemographic, living status and health status and the lever of need and unmet was also evaluated using the data from part one of the questionnaires.

Scoring

The scoring is the second aspect of the Camberweel assessment of need in the elderly (CANE) (Hancock & Orrell, 2004; Reynolds et al., 2000). The primary purpose of this assessment is to identify and evaluate the individual needs of the elderly. The total CANE score is based on the section 1 of each of the 24 problem areas. Count total number of need identified (rate as 1:met need and 2: unmet need) out of maximum 24. Count the total number of met needs (rate as 1) out of maximum 24. Count the total number of unmet needs (rate as 2) out of maximum 24.

3.8 Data Analysis (statistics)

For data analysis, SPSS software version 16.0 (licensed for Chulalongkorn University) will be used. The data analysis included univariate, bivariate and multivariate. Frequency distribution, percentages, means and standard deviations were used to describe data. The Chi-square analysis was used to explore the association between and sociodemographic and other independent variables. The normality of data distribution was examined by the Shapiro-Wilk's test. The binary logistic regression will be employed to determine the relationship between some socio-demographic characteristics and unmet need. Multivariable regression analysis was

performed to evaluate if there is a model that some independent factors can predict or explain the number (level) of need and unmet need

3.9 Ethical Consideration

This research was approved by the Ethical Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University

3.10 Expected benefits

There were several expected benefits from this study. Firstly, the study provided more understanding on the needs of the elderly in many aspects. Secondly, the information received from this study can be used for further research or other specific projects. Moreover, it can also be used to evaluate the sufficient of the current support programs for elderly. Finally, it is expected that the data from this study can be one of the information for project development for the elderly to satisfy the needs of elderly people in Thailand as much as possible.

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CHAPTER IV

RESULTS

This chapter includes analysis and interpretation of the data obtained from this study. This study is a cross-sectional descriptive study to access the needs, met need and un-met need of the elderly living Hang Dong District, Chiang Mai Province, Thailand using Camberwell Assessment of Need for the Elderly questionnaire (CANE)

The purposes of this study are identifying the need for the elderly covering all aspects stated in Camberwell Assessment of Need for the Elderly questionnaire (CANE) of the elderly living in the elderly living in Hang Dong District, Chiang Mai Province, Thailand and assessing whether the needs are received sufficient support (met needs) from either informal sources or formal services or the support are missing (unmet needs). Moreover, this study aims to identify the socio-demographic characteristics and health status influencing the need and the evaluate the relationship of socio-demographic characteristics and health status on the sufficiency of the support on needs.

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The 5 sub-districts (San Phak Wan sub-district, Hang Dong sub-district, Num Prae sub-district, Nong Kwai sub-district and Sob Mae Kha sub-district) were sample randomized sampling from 11 sub-districts. The subjects of each villages were randomized sampling from the list of elderlies who were registered for the elderly allowance (Bia-Yang-Cheep) from the district municipality office. Three hundred and thirty elderly subjects who aged 60 years old or above were joined the face to face interview using structural questionnaire. The questionnaire consisted of two parts. In part 1, the sociodemographic data of the elderlies were collected. Then the detail of need and whether the need is met need or unmet need were obtained using the Camberwell Assessment of Need in the elderly (CANE) as the structural questionnaire in part 2. The interviewing was conducted at the multi-purpose center of the village for the elderlies and at the elderly's home.

The results of this study are shown in each section detail as follows;

4.1 Study Sample

The general characteristics of the 330 sampled populations were analyzed and shown in table 1. There were more female participants (60%) than male (40%). The majority of the sample was in the age of 60-69.9 years old. The means age of the participant was 70.3 years old. For the education level, more than half of the participants had education level at primary school (about 60%). The majority of elderlies participated in this study were retied (not currently working). However, there were about 18 and 12 percent of the sample were still working as general labors and agriculturist respectively. About 60 percent of the elderly were married and living with spouse, while about a quarter of the participants were widowed/divorce and live with their children. Interestingly, there were almost 10 percent of the older people were living alone. For, living environment, most of elderly participants were living in their owned house. Regarding the health status, more than 60% of the elderlies had at least one disease and around 10% have three or more diseases. The majority of the participants used universal health care coverage as the health insurance when visiting the hospital and primary health care service, whereas about one quarter of the elderly used civil service scheme (government officer welfare scheme).

Table 1 The characteristics of the 330 older adults participating in this study.

General Data	Number	Percentage (%)
Socio-demographic Data		
Gender		
Male	132	40.00
Female	198	60.00
Age (years)		
60-69.9	203	61.50
70-79.9	85	25.8
80-89.9	35	10.6
90-99.9	7	2.1
Education		
None	31	9.4
Primary school	200	60.6
Middle school	34	10.3

General Data	Number	Percentage (%)
Senior high school/vocational certificate	37	11.2
High vocational certificate	7	2.1
Bachelor degree	11	3.3
Master degree or higher	10	3
Occupation		
Government officer/ retired	26	7.9
Merchant/Business owner	39	11.8
Agriculture	41	12.4
General labor	61	18.5
Other eg. take care of home, does not work	163	49.4
Monthly Income		
3,000 and less than	187	56.7
3,001-5,000	53	16.1
5,001-10,000	29	8.8
10,001-15,000	22	6.7
15,001-30,000	27	8.2
more than 30,000	12	3.6
Marital status		
Single	20	6.1
Married	223	67.6
Divorce	10	3
Widowed	77	23.3
Living status		
Living condition		
Alone	31	9.4
With spouse	201	60.9
With children	87	26.4
With relative	11	3.3
Living environment		
Owned house	268	81.2
Rent house	17	5.1
Relative's house	45	13.6
Health Status		
Number of disease		
None	131	39.7

General Data	Number	Percentage (%)
1 disease	115	34.8
2 diseases	52	15.8
3 or more than 3 diseases	32	9.7
Health Insurance		
Universal coverage	236	71.5
Social insurance	9	2.7
Government	85	25.8
CANE		
Total needs, mean (SD)	3.09	(3.33)
Met needs, mean (SD)	2.67	(3.02)
Unmet needs, mean (SD)	0.4	(1.05)

4.2 General data of need, met need and unmet need of study sample

The table 1 also shows the frequency of the number of need identified by the participants. Thirty-One percent of the elderly stated that they did not need any support in these 24 areas of CANE. Even there were 66.4 percent of the participants had at least one met need, only 22.7% of the sample had at least one unmet need. The average need score of the sample was 3.09 per person (s.d.= 3.33). The mean number of met needs and unmet needs identified were 2.67 (s.d.=3.02) and 0.4 (s.d.=1.05) respectively.

The table 2 illustrates the frequency and percentage of needs including met need and unmet need in each area. The area which had most met need is physical health (31.8% of total responders), while the area with the most unmet need was the accommodation (5.8% of total responders). The areas of need that participants answer that they need support more than 20% were accommodation, looking after at home, food, memory, eyesight/hearing/communication, mobility/falls, and physical health. Some variables (psychotic symptoms, deliberate self-harm, abuse/neglect, behavior, alcohol) in the CANE areas did not identify any need. This result was quite similar to the research which test the feasibility and utility of CANE as a research and clinical tool in primary care settings (Walters K., Iliffe S., & S., 2000). Moreover, some researches using the CANE to evaluate the need of patients in primary care setting had removed some topics of CANE which were less appropriate for more general older population and show very low prevalence in primary care, since the 24

topics/areas of CANE were originally developed for using in the old-age psychiatry patients. (Hoogendijk et al., 2014)

Table 2 Frequency and percentage of needs including met need and unmet need in each area of CANE

	Frequency	Percentage (%)[a]
Need divided by section		
1. Accommodation		
no need	258	78.2
met need	53	16.1
unmet need	19	5.8
2. Looking after the home		
no need	256	77.6
met need	67	20.3
unmet need	7	2.1
3. Food		
no need	255	77.3
met need	66	20
unmet need	9	2.7
4. Self-care		
no need	308	93.3
met need	15	4.5
unmet need	7	2.1
5. Care for someone else		
no need	315	95.5
met need	9	2.7
unmet need	6	1.8
6. Daytime Activities		
no need	292	88.5
met need	37	11.2
unmet need	1	0.3
7. Memory		
no need	237	71.8
met need	80	24.2
unmet need	13	3.9
8. Eyesight/hearing/communication		
no need	230	69.7

met need	90	27.3
unmet need	10	3
9. Mobility/falls		
no need	256	77.6
met need	64	19.4
unmet need	10	3
10. Continence		
no need	296	89.7
met need	29	8.8
unmet need	5	1.5
11. Physical Health		
no need	219	66.4
met need	105	31.8
unmet need	6	1.8
12. Drugs		
no need	286	86.7
met need	39	11.8
unmet need	5	1.5
13. Psychotic symptoms		
no need	330	100
14. Psychological distress		
no need	282	85.5
met need	42	12.7
unmet need	6	1.8
15. Information		
no need	286	86.7
met need	42	12.7
unmet need	2	0.6
16. Deliberate self-harm		
no need	330	100
17. Inadvertent self-harm		
no need	298	90.3
met need	28	8.5
unmet need	4	1.2
18. Abuse/neglect		
no need	330	100
19. Behavior		
no need	330	100

20. Alcohol		
no need	330	100
21. Company		
no need	290	87.9
met need	38	11.5
unmet need	2	0.6
22. Intimate relationships		
no need	314	95.2
met need	12	3.6
unmet need	4	1.2
23. Money/budgeting		
no need	278	84.2
met need	47	14.2
unmet need	5	1.5
24. Benefit		
no need	294	89.1
met need	25	7.6
unmet need	11	3.3

[a] Percentages are based on the total number of responses in that specific topic

The table 3 shows the frequency of need (divided to met-need and unmet-need) of CANE which are classified to each category. The categories customized by Szczepanska-Gieracha J. and team was used as the reference for this evaluation. (Szczepańska-Gieracha et al., 2015). The caring for someone else, self-care and benefit contributed the highest percentage of unmet need (based on total need) with the percentage of 40, 31.82 and 30.56 respectively. The area which had the highest percentage of met need was daytime activities (97.37%) and follow by information (95.45%) and company (95%). Although the most frequent identified need was in physical need, the highest proportions of unmet need was found in function category. The items which had the percentage of unmet need more than 20 % were accommodation (26.39%), intimate relationship (25%), self-care (31.32%), caring for someone else (40%) and benefit (30.56%).

Table 3 Frequencies of care needs identified using CANE classified into categories (Szczepańska-Gieracha et al., 2015)

Topic	Description	Needs	Met needs	Unmet needs
		n (%)	n (%)[a]	n (%)[a]
Basic				
Accommodation	Inappropriate, inadequate house, adaption is needed	72 (21.8)	53 (73.61)	19(26.39)
Food	Unable to buy or prepare meals, estricted diet, inappropriate food	75 (22.7)	66(88)	9 (12)
Money	Have difficulty managing money and budget, does not have enough money for essential items or bills	52 (15.8)	47(90.38)	5(9.62)
Social				
Company	Lack of company, frequently feels lonely and isolated	40 (12.1)	38(95)	2 (5)
Intimate relationships	Lack of partner, relative or friend he/she feels close to, dose get on well with them	16 (4.8)	12 (75)	4(25)
Function				
Looking after the home	Limited in looking after home, in need of domestic assistance	74 (22.4)	67 (90.54)	7 (9.46)
Self-care	Difficulty with personal care (washing, dressing, cutting nails)	22 (6.7)	15 (68.18)	7 (31.82)
Caring for someone else	Difficulty with caring for another person	15 (4.5)	9 (60)	6 (40)
Daytime activities	Difficulty with regular, appropriate daytime activities	38 (11.5)	37 (97.37)	1 (2.63)
Health				
Physical needs				

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Topic	Description	Needs n (%)	Met needs n (%)[a]	Unmet needs n (%)[a]
Eyesight/hearing/communication	Difficulty with hearing what someone says in a quiet room, difficulty in seeing newprint or watching television	100 (30.3)	90 (90)	10 (10)
Mobility/falls	Restricted mobility, falls, problems using public transport	74 (22.4)	64 (86.49)	10 (13.51)
Continence	Incontinence, need help with laundry, hygiene and use of aids	34 (10.3)	29 (85.29)	5 (14.71)
Physical health	Has a physical illness that should be treated appropriately	111 (33.6)	105 (94.59)	6 (5.41)
Drugs	Problems with compliance, side effects, drug abuse or dependency, medication not recently reviewed by medical doctor	44 (13.3)	39 (88.64)	5 (11.36)
Psychological needs				
Memory	Problems with remembering things that happened recently, often forgets where he/she put things	93 (28.2)	80 (86.02)	13 (13.98)
Psychotic symptom	Has psychotic symptom (hear voices, see strange thing, have problem with thoughts)	0 (0)	NA	NA
Psychological distress	Recently felt very sad or fed up, felt very anxious, frightened or worried and need support	48 (14.5)	42 (87.50)	6 (12.50)

Topic	Description	Needs	Met needs	Unmet needs
		n (%)	n (%)[a]	n (%)[a]
Deliberate self-harm	Has thoughts of self-harm or suicide	0 (0)	NA	NA
Health and social care				
Information	Verbal or written information on condition, medication and treatment	44 (13.3)	42 (95.45)	2 (4.55)
Inadvertent self-harm	Accidentally put himself/herself in danger such as leaving gas tap on, leaving the fire unattended, getting lost	32 (9.7)	28 (87.5)	4 (12.5)
Abuse/neglect	Someone has done anything to frighten/ harm/taken advantage of him/her.	0 (0)	NA	NA
Behaviour	Interfering with other affairs, frequently annoying, threatening or disturbing others.	0 (0)	NA	NA
Alcohol	At risk from alcohol misuse, uncontrollable	0 (0)	NA	NA
Benefits	Dose not receive all entitled benefit and need support to get the benefit	36 (10.9)	25 (69.44)	11 (30.56)

[a] Percentages are based on the total number of needs in that specific topic

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4.3 Relationship between socio-demographic data and health status

The Chi-square test of independent had been tested to determine the relationship between the socio-demographic characteristics and health status of the elderly living in the elderly living in Hang Dong District, Chiang Mai Province, Thailand. The health status was divided to 2 groups; one with less diseases and the other one with more diseases. From the data, the age of the elderly had a significant effect on the number of disease. The participants who at the age of 80 or above had more diseases than the elderly in younger age. The living status also had relationship on the number of disease in the participants as well. As the data shows that there was higher percentage of more diseases in the group of participants who were living with children. While the other sociodemographic which were collected in this study including gender, education, income, marital status, occupation and living environment had no significant association on the low or high number of the diseases. Regarding the health insurance, there was also no significant relationship between the type of insurance and the higher number of the diseases. The analysis of the data has been shown in table 4.

Table 4 Relationship between socio-demographic data and health status of the older participants in Hang Dong District, Chiang Mai Province, Thailand

Sociodemographic data	Number of diseases		chi-square	p-value
	1 or less than 1 disease , N (%)	2 or more than 2 diseases, N (%)		
Gender			0.024	0.877
Male	99 (75%)	33 (25%)		
Female	147 (74.2%)	51 (25.8%)		
Age (years)			7.146	0.028*
60-69.9	161(79.3%)	42 (20.7%)		
70-79.9	59 (69.4%)	26 (30.6%)		
80 and more than	26 (61.9%)	16 (38.1%)		
Education			0.949	0.622
Primary level (primary school or less)	174 (75.3%)	57 (24.7%)		

Sociodemographic data	Number of diseases		chi-square	p-value
	1 or less than 1 disease , N (%)	2 or more than 2 diseases, N (%)		
Middle level (Middle school, vocational certificate)	50 (70.4%)	21 (29.6%)		
High level (High vocational certificate, bachelor degree of higher)	22 (78.6%)	6 (21.4%)		
Occupation			5.416	0.247
Government officer/ retired	16 (61.5%)	10 (38.5%)		
Merchant/Business owner	32 (82.1%)	7 (17.9%)		
Agriculture	34 (82.9%)	7 (17.1%)		
General labor	46 (75.4%)	15 (24.6%)		
Other eg. take care of home, does not work	118 (72.4%)	45 (27.6%)		
Monthly Income			0.472	0.790
5,000 and less than	182 (75.5%)	59 (24.5%)		
5,001-15,000	37 (72.5%)	14 (27.5%)		
more than 15,000	27 (71.1%)	11 (28.9%)		
Marital status			3.375	0.185
Single	14 (70.0%)	6 (30.0%)		
Married	173 (77.6%)	50 (22.4%)		
Divorce/ Widowed/Separated	59 (67.8%)	28 (32.2%)		
Living condition			10.893	0.012*
Alone	23 (74.2%)	8 (25.8%)		
With spouse	159 (79.1%)	42 (20.9%)		
With children	54 (62.1%)	33 (37.9%)		
With relative	10 (90.9%)	1 (9.1%)		
Living environment			0.342	0.843
Owned house	201 (75%)	67 (25%)		

Sociodemographic data	Number of diseases: 1 or less than 1 disease , N (%)	Number of diseases: 2 or more than 2 diseases, N (%)	chi-square	p-value
Rent house	13 (76.5%)	4 (23.5%)		
Relative/children's house	32 (71.1%)	13 (28.9%)		
Health Insurance			1.191	0.909
Universal coverage	177 (75%)	59 (25%)		
Social insurance	7 (77.8%)	2 (22.2%)		
Government	62 (72.9%)	23 (27.1%)		

4.4 Relationship between socio-demographic data, living and health related characteristics and needs (including met need and un-met need)

The Chi-Square was used to determine whether there are the association between the sociodemographic, living and health related factors and the need determinant of the subjects. The categories had been divided to the elderlies who had at least 1 need and the participants who claimed that they had no need at all. The conclusion of the chi-square test was showed in table 5. According to the data from table 6, there were the association of gender, occupation, living condition, living environment, number of disease on the need identification. There were more female elderlies identified that they had some needs than male. Regarding the occupation, the elderly who were still working as general labor perceived that they need some support than who were in agricultural field. According to the data related to the living status, it was quite surprising that the elderlies who were living alone mentioned that they needed support less than the other groups, while the all of older participants who were living with the relative stated that they had at least one need. The participants who were living in their own houses also need less support than the subjects who rented the house or lived with their relative. The increase in the number of disease also had an effect on the perceive of need of the individuals. The participants who had more disease tended to need more care and supports.

Table 5 Relationship between socio-demographic data, living and health related characteristics and needs determination of elderly samples in Hang Dong District, Chiang Mai Province, Thailand

Factor	Need		Chi-Square	p-value
	No need	at least 1 need		
Gender			4.554	0.033*
Male	50 (37.9%)	82 (62.1%)		
Female	53 (26.8%)	145 (73.2%)		
Age (years)			5.231	0.073
60-69.9	62 (30.5%)	141 (69.5%)		
70-79.9	33 (38.8%)	52 (61.2%)		
80 and more than	8 (19.0%)	34 (81.0%)		
Education			5.348	0.069
Primary level (primary school or less)	70 (30.3%)	161 (69.7%)		
Middle level (Middle school, vocational certificate)	19 (26.8%)	52 (73.2%)		
High level (High vocational certificate, bachelor degree of higher)	14 (50.0%)	14 (50.0%)		
Occupation			21.684	0.000*
Government officer/ retired	7 (26.9%)	19 (73.1%)		
Merchant/Business owner	13 (33.3%)	26 (66.7%)		
Agriculture	25 (61.0%)	16 (39.0%)		
General labor	12 (19.7%)	49 (80.3%)		
Other eg. take care of home, does not work	46 (28.2%)	117 (71.8%)		
Monthly income			4.668	0.097
5,000 and less than	74 (30.7%)	167 (69.3%)		
5,001-15,000	12 (23.5%)	39 (76.5%)		
more than 15,000	17 (44.7%)	21 (55.3%)		
Marital status			2.167	0.338
Single	8 (40%)	12 (60%)		
Married	64 (28.7%)	159 (71.3%)		

Factor	Need		Chi-Square	p-value
	No need	at least 1 need		
Divorce/ Widowed/Separated	31 (35.6%)	56 (64.4%)		
Living condition			19.489	0.000*
Alone	19 (61.3%)	12 (38.7%)		
With spouse	62 (30.80%)	139 (69.2%)		
With children	22 (25.3%)	65 (74.7%)		
With relative	0 (0%)	11 (100%)		
Living environment			8.115	0.017*
Owned house	93 (34.7%)	175 (65.3%)		
Rent house	3 (17.6%)	14 (82.4%)		
Relative's house	7 (15.6%)	38 (84.4%)		
Health insurance				
Universal coverage	89 (37.7%)	147 (62.3%)		
Social insurance	1 (11.1%)	8 (88.9%)		
Government	13 (15.3%)	72 (84.7%)		
Number of disease			17.637	0.001*
No disease	50 (38.2%)	81 (61.8%)		
1 disease	42 (36.5%)	73 (63.5%)		
2 diseases	8 (15.4%)	44 (84.6%)		
3 diseases	3 (9.4%)	29 (90.6%)		

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The multivariable regression analyses were performed to evaluate the level of needs, met needs and unmet need. The studies were done separately for total number of needs, met need and unmet needs. The multivariable linear regression analysis was used for the total number of need and met need. As the nature of the data was not normal distribution, the log10 of need and met need was used as dependent variable in the linear regression analysis. Only the participants who had at least one needs were counted in this model to evaluate the association between the independent variables and the level of need. The logistic regression analysis was applied for unmet needs since the data of unmet need was highly skewed and only small proportion of the participants have at least one unmet need. The binary variable logistic regression was used to access the determinants of the unmet need. The two variables were created to divide the participants with one or more unmet needs from those without

unmet needs. The male was chosen to be reference for gender group. For the other independent variables, the low age group, primary education level group , other occupation(eg. Take care of home) group, lower income group, married, living with spouse group, living in own house group and universal coverage insurance group as references as these variables have majority of the participants, so they will be the comparisons between the other variables with the majority ones.

The results of the multivariable regression analyses for total needs and met needs are shown in table 6. The older elderly and having more diseases had a significant association(p-value<0.01) with a higher number of total needs. However, the needs which associate with the age and number of disease of the elderly participants were met needs. The type of insurance also had an association with the number of total need and met-need. The participants who claimed the Civil Servant scheme as their insurance had less need (p-value<0.01) than the elderly who used the universal care coverage. Regarding the unmet need, the living environment has a significant effect (p-value<0.05) on unmet needs identification. There were more participants who living in relative's house had at least one unmet needs than the elderly who living in their own houses. This result relates to the high number of unmet need in the accommodation topic. The monthly income related to the unmet need as well but in reverse effect. The less unmet need was found in the participants who had higher income. The participants who had monthly income 15,000 Thai Baht or more had lower unmet need when compare to the elderly who had monthly income 5,000 THB of less than significantly (p-value<0.05). The analysis of the data has been shown in table 7.

Table 6 Multivariable linear regression analyses of sociodemographic, living status and health related characteristics on needs and met needs

	Log total needs		**Log met needs**	
	B	**p-value**	**B**	**p-value**
Socio-demographic				
Gender				
Male (ref.)				
Female	0.047	0.298	0.014	0.737
Age				

	Log total needs		Log met needs	
	B	p-value	B	p-value
60-69.9 (ref.)				
70-79.9	0.073	0.169	0.083	0.823
80 and more than	0.238	0.001**	0.260	0.000**
Education				
Primary level (ref.)				
Middle level	0.043	0.389	0.048	0.312
High level	-0.165	0.130	-0.108	0.298
Occupation				
Other eg. take care of home, does not work (ref.)				
Gevernment officer/ retried	0.073	0.501	0.090	0.378
Bussiness owner	0.024	0.742	0.034	0.620
Agriculture	0.105	0.179	0.094	0.205
General labor	-0.088	0.121	-0.094	0.081
Monthly Income				
5,000 and less than (ref.)				
5,001-15,000	0.004	0.955	-0.029	0.626
more than 15,000	-0.095	0.320	-0.124	0.171
Marital status				
Married (ref)				
Single	0.120	0.316	0.118	0.303
Divorce/ Widowed/Separated	0.134	0.110	0.133	0.096
Living Status				
Living arrangement				
With spouse (ref.)				
Alone	-0.159	0.205	0.074	0.535
With children	-0.064	0.418	-0.067	0.371
With relative	-0.113	0.278	-0.066	0.507
Living environment				
Owned house (ref.)				
Rent house	0.037	0.692	0.041	0.641
Relative's house	0.017	0.767	0.059	0.283
Health Status				

	Log total needs		Log met needs	
	B	**p-value**	**B**	**p-value**
No. of disease (0-3+)	0.081	0.000**	0.071	0.000**
Type of Insurance				
Universal coverage (ref.)				
Social insurance	0.142	0.184	0.125	0.221
Government	-0.130	0.009**	-0.103	0.025*
R^2	0.349		0.324	

B: regression coefficients;
* $p < 0.05$
** $p < 0.01$

Table 7 Multivariable linear regression and logistic regression analyses of sociodemographic, living status and health related characteristics on unmet needs

	Unmet needs	
	Odds ratio	**(95% CI)**
Socio-demographic		
Gender		
Male (ref.)		
Female	0.915	(0.483-1.733)
Age		
60-69.9 (ref.)	1	
70-79.9	0.814	(0.384-1.72)
80 and more than	1.122	(0.414-3.042)
Education		
Primary level (ref.)	1	
Middle level	0.556	(0.248-1.244)
High level	0.871	(0.175-4.338)
Occupation		
Other eg. take care of home, does not work (ref.)	1	
Gevernment officer/ retried	3.759	(0.75-18.854)
Bussiness owner	1.683	(0.614-4.614)
Agriculture	0.266	(0.07-1.017)
General labor	1.211	(0.537-2.732)

	Unmet needs	
	Odds ratio	**(95% CI)**
Monthly Income		
5,000 and less than (ref.)	1	
5,001-15,000	0.506	(0.182-1.409)
more than 15,000	0.203	(0.042-0.974)*
Marital status		
Married (ref)	1	
Single	1.187	(0.216-6.51)
Divorce/ Widowed/Separated	0.662	(0.179-2.453)
Living Status		
Living arrangement		
With spouse (ref.)	1	
Alone	3.801	(0.755-19.143)
With children	1.153	(0.326-4.076)
With relative	2.603	(0.489-13.854)
Living environment		
Owned house (ref.)	1	
Rent house	2.115	(0.599-7.477)
Relative's house	2.698	(1.191-6.115)*
Health Status		
No. of disease (0-3+)	1.036	(0.761-1.411)
Type of Insurance		
Universal coverage (ref.)	1	
Social insurance	1.925	(0.927-3.999)
Government	1.036	(0.761-1.411)
R^2	0.191[e]	

[e]Nagelkerke R^2

OR: Odds ratio

95% CI: 95% confidence interval

* $p < 0.05$

** $p < 0.01$

CHAPTER V

DISCUSSION, CONCLUSION AND RECOMMENTDATION

This chapter includes the discussion and the conclusion of the research finding and also mentions the recommendation for further researches. As the main purpose of this research is to study the need (including met and un-met need) and identified the sociodemographic and health status which related to the need, met need and un-met need of the elderly in Hang Dong district, Chiang Mai province by using the Camberwell Assessment of Need in the Elderly (CANE) questionnaire as the guideline.

The CANE questionnaire was translated to Thai and was reviewed by the research and team. Then the content validity was performed by 3 expert reviewers. The Index of Consistency (IOC) score of this questionnaire is 0.76. The reliability test was performed in 30 elderlies in the Hang Dong District, Chiang Mai province. The Cronbach's Alpha coefficient is of the questionnaire is 0.82.

Then this Thai version of the CANE questionnaire was used as a tool for the needs, met and unmet need assessment in this study. There were 330 participants who are 60 years old or above and living in Hang Dong district, Chiang Mai province, Thailand join in this study. The questionnaire is divided to 2 parts. Part 1 consist of socio-economic questions and questions which related to living and health status. In part 2, the need, met need and unmet of need were evaluated by using the Thai adapted version of CANE questionnaire which consist of 24 items covering many areas (e.g. physical, phycological, function and social). In each items of CANE, there are sub-questions which assess whether the responders receive any support or help for the need, in case the subject responses that they have a problem and need support in that topic. The questions are also divided to identify the level of support that they have got the support from relative/friends and local services. The 5 sub-districts (San Phak Wan sub-district, Hang Dong sub-district, Num Prae sub-district, Nong Kwai sub-district and Sob Mae Kha sub-district) were sample randomized sampling from

11 sub-districts. The subjects of each villages were randomized sampling from the list of elderlies who were registered for the elderly allowance (Bia-Yang-Cheep) from the district municipality office.

Then the analyzation was performed base on the objectives of this study. The purposes of this study are identifying the need for the elderly covering all aspects stated in Camberwell Assessment of Need for the Elderly questionnaire (CANE) of the elderly living in the elderly living in Hang Dong District, Chiang Mai Province, Thailand and assessing whether the needs are received sufficient support (met needs) from either informal sources or formal services or the support are missing (unmet needs). Moreover, this study aims to identify the socio-demographic characteristics and health status influencing the need and the evaluate the relationship of socio-demographic characteristics and health status on the sufficiency of the support on needs.

5.1 The discussion of the results

5.1.1) Sociodemographic and health characteristics of the participants

There were more female participated in this study than male. The ratio of female per male is 6:4. The proportion is quite similar to the proportion of the elderly in Hang Dong district which has the percentage of male as 45% of total population (Registration, 2016). The majority of participants are at the age between 60-69.9 years old (61.5%). While the elderly samples who are age between 70-79.9, 80-89.9 and 90 years old or above are 25.8%, 10.6%, 2.1% respectively. The average age of the participant is 70.3 years old. The percentage of the samples in each age range is quite the same as the proportion of each age range in the population which the percentage of elderly who are between 60-69 years old, 70-79 years old, 80-89 years old and 90 or above are 65%, 22%, 11% and 2% respectively. In addition, the average age of the elderly in Hang Dong district, Chiang Mai province is 70.02 years old (Registration, 2016). According to the data from the National Health Examination Surveys (NHES) 2014(Institute, 2014), there was 7.9 % of the elderly who live alone. While there is 9.4% of the samples of this study living alone. This issue may cause the lack of carer for the elderly when necessary and in emergency cases. In the income perspective, the median income of the elderly per data from NHES 2014 is 3,000 Thai Bath (THB). It

is quite similar to the data from the study indicating that the majority of elderly participants have the income between less than 3,000 and 5,000 THB (78.8%). For the living status, it is mentioned in the NHES that the majority of male elderlies (81.5%) stated that they are the head of the family which mean they were the owner of the house. This information is quite related with the data from this study that majority of the elderlies (81.2%) are living in their own houses. There are 60.3 % of the participants have at least 1 diseases. It is quite similar to the data from NHES which shows that there was about 53.3% of the elderlies has hypertension (the most common disease in the elderly).(Institute, 2014)

5.1.2) General data of need, met need and unmet need of study sample

There was limit number of the study which evaluate the need using Camberwell Assessment of Need in the elderly (CANE) to evaluate the need of the elderlies in the community. Most of the studies applied the CANE to evaluate the need of older people in the hospital range from inpatient ward to the primary care health facility. According to a feasibility study to test the use of the CANE as a research tool in primary care setting by Walters K and Iliffe S. conducted in UK, the mean number of needs identified was 6.6 per 24 items of need (s.d.4.4) per person, of which the met need was 4.2 (s.d.=3.0) and the unmet need was 2.4 (s.d.=2.9) (Walters K. et al., 2000). When compare with this study which using CANE to access the need in the community, the mean number of need, met need and unmet need identified in this study were a bit less than the result from the study in primary care hospital. (The average need score of this study was 3.09 per person (s.d.= 3.33). of which 2.67 (s.d.=3.02) were met need and 0.4 were unmet need (s.d.=1.05). However, the age of the elderly included in these study is difference. In the feasibility study of CANE as a research tool in primary care, 55 patients aged 75 years and over were enrolled to the study. While, this study included the elderly in the community who aged 60 years and over. In another study accessing need of people 75+ living in nursing home or family home environment by Szczpanska-Gieracha J. and team, the total need of the outpatient subjects (family home environment) was 3.97 (s.d = 2.37) per patient with the met need and unmet need as 3.44 (s.d = 2.37) and 0.53 (s.d. = 1.03) respectively

(Szczepańska-Gieracha et al., 2015). The result showed the quite similar result in this assessment of need in elderly aged 60 years and above in community. It was found that there were higher the mean number of needs in the studies conducted in the long-term care setting and the group of elderlies with the complications but the mean number of unmet need of each study was not quite different. For example, in the study of Wieczoroeska-Tobis K. and team which use the Camberwell Assessment of Need for the Elderly questionnaire as a tool for the assessment of needs in elderly individuals living in long-term care institutions found that the mean number of all needs from the user perspective was 9.1 (s.d. = 3.4), most of which were met needs 7.8 (s.d. = 3.2) and the mean number of unmet needs was only 1.3 (s.d. = 1.4) which was 14.3% of total need (Wieczoroeska-Tobis K., Talarska D., Kropinska S., & K., 2016). This percentage of mean number of unmet needs per total needs was quite the same as in the study in family home environment setting (Szczepańska-Gieracha et al., 2015) and in this study assessing the unmet need in the community which the percentage of unmet needs per total needs were 15% and 13% respectively. This low percentage of un-met was also found in the subjects with special complication. For instance, the data study the self-perceived met and unmet care needs of frail older adults in primary care found that the percentage of unmet need/total need was only 12% (Hoogendijk et al., 2014). This low percentage of unmet need in the long term setting and the group of elderlies who need special care in the European counties studies may reflect the high standard of care for the elderly in the counties. The studies to assess the need and unmet need of care for the elderlies in the nursing home or in the elderlies who need special care should be further conducted to evaluate the need of care and identify the areas of unmet need for further service improvement.

The areas where the high percentage of needs had been identified in this study were accommodation, looking after at home, food, memory, eyesight/hearing/communication, mobility/falls, and physical health. These areas were quite the same as the needs identified in other studies; however, the percentages of needs identified in each area were varied in each study. The continence was the addition area of need identified more in the other studies. This may be because the other studies included the older age of elderly sample (75 year or over). The items which had the high percentage of unmet need in this study were accommodation

(26.39%), intimate relationship (25%), self-care (31.32%), caring for someone else (40%) and benefit (30.56%). The majority areas of un-met needs varied from study to study. For example, the high levels of unmet need in primary care setting (Walters K. et al., 2000) were identified for mobility, eyesight/hearing, self-care and daytime activities; while, the data from another study evaluating the met and unmet need in primary care but for the specific frail older adults (Hoogendijk et al., 2014) showed the high percentage of unmet need in the areas of company, daytime activities, information and caring for another respectively.

5.1.3 Relationship between socio-demographic data living and health related characteristics and needs, met need and un-met need

Many of the studies using the Camberwell Assessment of Need in the Elderly had the main objective to evaluate the difference of the perception of need, met need and unmet need identified by user (elderly), carer and staff. However, this study aimed to evaluate the association of need, met need and unmet need identified by the elderlies and socio-demographic and health-related characteristics. According to the data from this research, the age and number of disease had a strong association with the need and met need. Even the age had no significant relationship on the determination whether the elderly had no need or at least one need, the age had a meaningful association of the number of need identified by the elderly. These results seem straightforward and were the same as the other studies (Hoogendijk et al., 2014), (Ronksley, Sanmattin, Quan, & Ravani, 2012). From the data comparing the socio-demographic characteristic between the group of elderlies who claim that they had no need and who had at least one need, the gender, occupation, living condition and living status also had effect on the need determination. The female and general labor groups identified that they need support on at least in one area more than the other groups, while the elderlies who were in living alone group and living in their own houses group mentioned that they needed support less than the other groups. The consideration of the relationship of these factors and the level of disease might to identify the confounders. Nevertheless, the data from the study showed only the association of age and living condition on the number of diseases. Moreover, the

relationship between the association of living condition on the number of disease and the association of the living condition on the identification of need was quite contradict. There are only 9.1% of the elderlies who were living with the relative had 2 diseases or more; however, one hundred percent of the elderlies living with the relative has at least one need. Another interesting point is that the elderlies who claimed the social insurance scheme for health care service had more needs than the participants who used the Universal Health Care Coverage scheme. Anyhow, the major of the identified needs was met needs. According to the data from the linear regression model, the association between the socio-demographic, living condition and health related characteristics and met need was the same as total need.

Regarding the unmet need, it was found that there was the relationship between the monthly income, living environment and unmet need. The participants who had higher monthly income identified that they had at least one unmet need less than the elderlies in the lower income groups. The percentage of elderly participants who were living in relative house determined at least one unmet need higher than the others. These determinations of unmet need should be further investigated and may need more research for further development of the support provided to the elderly.

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5.2 Conclusion

This study aimed to identified the need for the elderly covering all aspects stated in Camberwell Assessment of Need for the Elderly questionnaire (CANE) of the elderly living in the elderly living in Hang Dong District, Chiang Mai Province, Thailand and assessing whether the needs are received sufficient support (met needs) from either informal sources or formal services or the support are missing (unmet needs). Moreover, this study tried to identify the socio-demographic characteristics, living status and health status influencing the need and the evaluate the relationship of socio-demographic characteristics and health status on the sufficiency of the support on needs.

The data collected from the face-to face interview by using structured questionnaire to collect the socio-demographic data, living status, health condition and then the data of need and the level of support from informal source

(family/relative or friend/neighbor) and the informal support (government related organization) per CANE questionnaire were recorded and evaluated. There were 330 elderlies participated in this study which 60% were female. The means age of the participant was 70.3 years old. More than half of the participants had education level at primary school (about 60%); and the majority of elderlies participated in this study were retied. About a quarter of the participants were widowed/divorce and live with their children, while almost 10 percent of the older people were living alone. For, living environment, most of elderly participants were living in their owned house. Regarding the health status, more than 60% of the elderlies had at least one disease and around 10% have three or more diseases. The majority of the participants used universal health care coverage as the health insurance, whereas about one quarter of the elderly used civil service scheme (government officer welfare scheme).

The average need score of the sample was 3.09 per person (s.d.= 3.33). The mean number of met needs and unmet needs identified were 2.67 (s.d.=3.02) and 0.4 (s.d.=1.05) respectively. The area which had most met need is physical health (31.8% of total responders), while the area with the most unmet need was the accommodation (5.8% of total responders). The items which had the high percentage of unmet need per the total need of responders in this study were caring for someone else (40%), self-care (31.32%), benefit (30.56%), accommodation (26.39%) and intimate relationship (25%). The area which had the highest percentage of met need was daytime activities (97.37%) and follow by information (95.45%) and company (95%). Although the most frequent identified need was in physical need dimension, the highest proportions of unmet need was found in function category.

From the data, the age of the elderly had a significant effect on the number of disease. When the number of diseases was divided to two groups (≤ 1 disease and ≥2 diseases), it was shown that the living status also had relationship on the number of disease in the participants. There was higher percentage of more diseases in the group of participants who were living with children. Considering the association between socio-demographic, living and health condition and need determination, there were the association of gender, occupation, living condition, living environment, number of disease on the need identification. The female elderlies identified that they had some

needs more than male. In addition, general labor perceived that they need more support. In contrast, the elderlies who were living alone mentioned that they needed support less than the other groups, while the all older participants who were living with the relative stated that they had at least one need. The participants who were living in their own houses also need less support than the subjects who rented the house or lived with their relative. The increase in the number of disease also had an effect on the perceive of need of the individuals. Regarding to the regression model of association between each factor and needs. The elderlies with older age and having more diseases had a significant association with a higher number of total needs. However, the need which associate with the age and number of disease of the elderly participants is met need. The type of insurance also had an association with the number of total need and met-need. The participants who claimed the social insurance scheme had more need and more met need than the elderly who used the universal care coverage. Regarding the unmet need, the living environment has a significant effect on the number of unmet needs. The participant who living in relative's house had more unmet needs than the elderly who living in their own houses. The monthly income related to the unmet need as well but in reverse effect. The less unmet need was found in the participants who had higher income.

5.3 Limitation

This study mainly assesses the need of the elderly in the community. This might not include all characteristics of the elderly in Hang Dong district; for example, the elderly who were currently in hospital care. Even the data were collected at the multi-purpose center of the village and as home visit for the purpose to include various types of the elderly in the community, there were still many constraints to limit the access to the appropriate proportion of the elderly in the community.

There were also many other factors affecting the need in the elderly. For example, village level facility which potentially has the effect on the social and mental aspect of need in the elderly. However, this research evaluated only the association of sociodemographic, living status and health status of the elderly and their need and the support that they receive.

The psychological and dementia test will not be performed for this study, as the research would like to simplify the questionnaire, and would not bother the elder

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for the long time. The researcher tried to avoid the error and confounder by did not included the elderly with severe dementia (asked information from the officer of sub-district health promotion hospital and health volunteer).

As this study randomly included the subjects from the list of the elderlies who register in the elderly allowance in the district, only Thai elderly were included in this study. Per discussion with the district municipality officer, the elderlies who are minority (e.g. hill-tribe) in Hang Dong District are very rare cases. However, the nationality may have the effect on the need of the elderly. The further research to access the factors and the difference of need between this group of elderly and the Thai elderly may benefit for further evaluation for the concern in the minority group.

There were some sensitive questions and the face to face interview might be the barrier of the truthful report of the needs in some areas. This may lead to under detection in those questions and may confound the interpretation of need in that area.

This study was purposively selected to access the need in the study area because this district has the mix cultural of the rural and urban city. The further researches may be required for the generalization of the data to the bigger population or the other research to identify the effect of difference culture on need may be beneficial.

5.4 Recommendation

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Accessing the self-perceived needs and evaluating the level of support received for the social (both formal and informal source) may lead to the better understanding and service improvement. The unmet needs may be caused by the under recognition of the needs or the unavailable or insufficient of the services or supports.

As there were also many other factors affecting the need in the elderly, the further researches to evaluate the other factors to cover most aspects are recommended to access the effectiveness of the services provided by government or other service providers. Moreover, the upscale and including more districts in covering more regions in Thailand may advantage for further policy development.

In case the equity of the distribution of service is the point of concern and as the nationality may have the effect on the support for the need of the elderly. The

further research to access the factors and the difference of need between the minority group of elderly and the Thai elderly may benefit for further evaluation.

The questionnaire development specified to the Thai culture and environment is also the interesting point. The simplified questionnaire which the elderly can easily understand and answer by themselves may benefit for using as a tool for assessing the need and unmet need of the elderly and may be applied to use as the basic need evaluation in primary care.

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APPENDIX

APPENDIX A

Questionnaire

สถานที่ในการเก็บข้อมูล

อำเภอ/เขต .... ตำบล/แขวง ....
หมู่ที่ ....

คำแนะนำสำหรับผู้สัมภาษณ์

การวิจัยนี้ต้องการทราบว่า ผู้สูงอายุถูกสุ่มเลือกที่อยู่อาศัยในชุมชนที่มีความต้องการจำเป็นที่ต้องได้รับการช่วยเหลือในเรื่องต่างๆ หรือไม่ หากมีความต้องการ ผู้สูงอายุได้รับการช่วยเหลือหรือไม่ จากใคร (สมาชิกในครอบครัว ญาติพี่น้อง ลูกหลาน เพื่อนบ้าน หรือหน่วยงานให้บริการในท้องถิ่น) และการช่วยเหลือเป็นอย่างไร การพูดคุยจะใช้เวลาประมาณ 30-50 นาทีต่อ1ราย ดังนั้นผู้สัมภาษณ์ควรสอบถามเกี่ยวกับความสมัครใจในการพูดคุย ผู้สูงอายุสามารถยุติการเข้าร่วมการให้ข้อมูลได้ตลอดเวลาการสัมภาษณ์

ตอนที่ 1 ข้อมูลพื้นฐานของผู้สูงอายุ

ให้กาเครื่องหมาย ✓ ใน ☐ หรือบันทึกข้อความ หรือตัวเลขลงบน "........."

1. เพศ ☐ 1) ชาย ☐ 2) หญิง

2. อายุ..............................ปี

3. ระดับการศึกษาสูงสุด

☐ 1) ไม่เคยเรียน ☐ 2) ประถมศึกษา ☐ 3) มัธยมศึกษาตอนต้น
☐ 4) มัธยมศึกษาตอนปลายหรือเทียบเท่า ☐ 5) ปวส./ ปวท./ อนุปริญญา ☐ 6) ปริญญาตรี
☐ 7) ปริญญาโท หรือสูงกว่า

4. **อาชีพ**

☐ 1) ข้าราชการ พนักงาน ลูกจ้างของรัฐ/พนักงาน ☐ 2) พนักงาน/ลูกจ้างเอกชน
รัฐวิสาหกิจ
☐ 3) ค้าขาย/ธุรกิจส่วนตัว ☐ 4) เกษตรกร
☐ 5) รับจ้างทั่วไป ☐ 6) ว่างงาน/ไม่มีงานทำ
☐ 7) อื่นๆ ระบุ...

5. ***<u>รายได้ของท่าน</u>*** *รายได้รวมทั้งหมดเฉลี่ยต่อเดือน รวมถึงเงินบำนาญและเบี้ยยังชีพ (รายได้ที่เป็นตัวเงินเฉลี่ยในรอบ 12 เดือน)*

☐ 1) รายได้ต่ำกว่า 3,000 บาท ☐2) 3,001 – 5,000 บาท ☐ 3) 5,001 – 10,000 บาท

☐ 4) 10,001 – 15,000 บาท ☐5) 15,001 – 30,000 บาท ☐ 6) 30,001 ขึ้นไป

6. สถานภาพการสมรส

☐ 1)โสด ☐ 2) สมรส ☐ 3) หย่า..........ปี
☐ 4)แยกกันอยู่...........ปี ☐ 5) หม้าย ....ปี

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7. สถานภาพการอยู่อาศัย *(ตอบได้มากกว่า 1 ข้อ)*

☐ 1)อยู่คนเดียว ☐ 2) อยู่กับคู่ครอง ☐ 3) บุตร/หลาน

☐ 4)อยู่กับญาติระบุ…………… ☐ 5) อยู่กับคนอื่น ระบุ......................

8. ประเภทที่อยู่อาศัย

☐ 1)บ้านตัวเอง ☐ 2) บ้านเช่า ☐ 3) บ้านของลูกหลาน/ญาติ

☐ 4) แฟลต ☐ 5) อื่นๆ : สถานสงเคราะห์……

9. สิทธิรักษาพยาบาลที่ใช้ *(ตอบได้มากกว่า 1 ข้อ)*

☐ 1) โครงการประกันสุขภาพถ้วนหน้า30 บาท ☐ 2) ประกันสังคม ☐ 3) สิทธิข้าราชการ

☐ 4.) ประกันส่วนตัว ☐ 5.) อื่นๆ……..

10. โรคที่เป็นตามการวินิจฉัยของแพทย์ 1. ....
2...
3…………………………………………………………………………………

ตอนที่ 2 การประเมินความต้องการจำเป็นของผู้สูงอายุ และการได้รับความช่วยเหลือ (แปลจากต้นฉบับแบบสอบถามประเมินความต้องการในผู้สูงอายุแคมเบอร์เวลล์)

1. ที่อยู่อาศัย

ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีที่อยู่อาศัยที่เหมาะสมหรือไม่ ***ท่านอาศัยอยู่ในที่อยู่อาศัยประเภทใด*** ***ท่านปัญหาด้านที่อยู่อาศัยหรือไม่***	

0 = ไม่มีปัญหา เช่น มีที่อยู่อาศัยเพียงพอและเหมาะสม 1 = ความต้องการได้รับการตอบสนอง เช่น ที่อยู่อาศัยอยู่ระหว่างการปรับปรุง/ตกแต่งใหม่ ต้องการความช่วยเหลือและได้รับความช่วยเหลือด้านที่อยู่อาศัย 2 = ความต้องการไม่ได้รับการตอบสนอง อาศัยอยู่ในสถานที่ ๆ ไม่เหมาะสม หรือขาดสิ่งอำนวยความสะดวกขั้นพื้นฐาน หรือสาธารณูปโภค 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

2. การดูแลที่อยู่อาศัย	
ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่าน มีปัญหาในการดูแลบ้านของตนเองหรือไม่ ***ท่านสามารถดูแลบ้านของผู้สูงอายุเองได้หรือไม่*** ***มีใครช่วยท่านในการดูแลบ้านหรือไม่*** ***ท่านมีความยากลำบากในการดูแลบ้านตนเองหรือไม่***	

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0 = ไม่มีปัญหา เช่น ดูแลบ้านของตนเองได้ด้วยตนเอง บ้านอาจจะรกแต่สะอาด 1 = ความต้องการได้รับการตอบสนอง เช่น ดูแลบ้านของตนได้อย่างจำกัดและมีคนในบ้านช่วยเหลือในระดับที่เหมาะสม 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น ไม่ได้รับความช่วยเหลือในระดับที่เหมาะสม บ้านมีความเสี่ยงที่เป็นอันตรายต่อสุขภาพหรือการเกิดอัคคีภัยหรือไม่มีทางหนีไฟหรือการหลบหนีเมื่อมีเหตร้าย 9 = ไม่ทราบ	

หากได้คะแนน 0 หรือ 9 ให้ข้ามไปตอบคำถามข้อ 3 (อาหาร)

3. อาหาร	
ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีปัญหาในการจัดหาอาหารรับประทานได้อย่างเพียงพอหรือไม่ ***ท่านสามารถทำอาหารเองและซื้อของเข้าบ้านเองได้หรือไม่*** ***ท่านได้รับอาหารที่ถูกต้องหรือไม่ จากแหล่งใดบ้าง*** ***ท่านมีความยากลำบากในการจัดหาอาหารรับประทานได้อย่างเพียงพอหรือไม่***	

0 = ไม่มีปัญหา เช่น สามารถซื้อและ/หรือจัดเตรียมอาหารด้วยตนเองได้อย่างเพียงพอ 1 = ความต้องการได้รับการตอบสนอง เช่น ไม่สามารถจัดเตรียมอาหารและต้องมีผู้จัดเตรียมอาหารให้ตามที่ต้องการ 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น อาหารที่จำกัดประเภทอย่างมาก (ไม่หลากหลาย) อาหารที่ไม่เหมาะสมกับวัฒนธรรมหรือสุขภาพ ไม่ได้รับอาหารอย่างพอเพียง มีปัญหาในการกลืนอาหาร เป็นต้น 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

4. การดูแลสุขอนามัยส่วนบุคคล ได้แก่ การอาบน้ำ แปรงฟัน สระผม แต่งตัว	
ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านดูแลสุขอนามัยส่วนบุคคลได้อย่างยากลำบากหรือไม่ ***ท่านรู้สึกว่าการดูแลตัวเอง เช่น การอาบน้ำ ตัดเล็บ หรือแต่งตัว เป็นเรื่องยากลำบากหรือไม่*** ***ท่านเคยต้องการความช่วยเหลือไหม***	

0 = ไม่มีปัญหา เช่น แต่งตัวได้เองและเหมาะสม 1 = ความต้องการได้รับการตอบสนอง เช่น มีความต้องการและรับความช่วยเหลือในการดูแลตนเอง 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น รักษาสุขอนามัยของตนเองได้ไม่ดี อาบน้ำและแต่งตัวเองไม่ได้ ไม่ได้รับความช่วยเหลืออย่างเหมาะสม 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

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5. **การดูแลผู้อื่น**	
ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีความยากลำบากในการดูแลผู้อื่นหรือไม่ ***ท่านต้องดูแลผู้ใดอยู่หรือไม่*** ***ท่านรู้สึกว่าการดูแลพวกเขานั้นเป็นเรื่องยากลำบากหรือไม่***	

0 = ไม่มีปัญหา เช่น ไม่มีคนที่ต้องดูแล หรือ ไม่มีปัญหาในการดูแลบุคคลผู้นั้น 1 = ความต้องการได้รับการตอบสนอง เช่น มีปัญหาในการดูแลผู้อื่นและได้รับความช่วยเหลือ 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น มีปัญหาในการดูแลผู้อื่นอย่างมาก 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

6. กิจกรรมในช่วงกลางวัน	
ข้อคำถาม	ความเห็นของผู้ประเมิน
6.1 ท่านทำกิจกรรมที่เหมาะสมที่ตนทำเป็นประจำในช่วงกลางวันได้อย่างยากลำบากหรือไม่ ***ในวันหนึ่งๆ ท่านทำกิจกรรมอะไรบ้าง*** ***ท่านมีกิจกรรมอะไรทำอย่างเพียงพอหรือไม่*** ***ท่านมีความยากลำบากในการมีกิจกรรม ในช่วงกลางวันบ้างหรือไม่อย่างไร***	

0 = ไม่มีปัญหา เช่น มีกิจกรรมทางสังคม การทำงาน สันทนาการหรือการเรียนรู้อย่างเพียงพอ สามารถจัดกิจกรรมที่จะทำเองได้ 1 = ความต้องการได้รับการตอบสนอง เช่น มีข้อจำกัดอยู่บ้างในการหากิจกรรมทำด้วยตนเอง มีผู้อื่นช่วยจัดกิจกรรมที่เหมาะสมให้ทำ 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น เช่น ไม่มีกิจกรรมทางสังคม การทำงาน หรือสันทนาการอย่างเพียงพอ 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

7. **ความจำ**	
ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีปัญหาด้านความจำหรือไม่ ***ท่านมักจะมีปัญหาว่าจำสิ่งที่เพิ่งเกิดขึ้นเมื่อไม่นานมานี้ไม่ได้หรือไม่*** ***ท่านมีปัญหาในการจดจำเหตุการณ์ที่เกิดขึ้นหรือไม่*** ***ท่านมักจะลืมว่าวางสิ่งของไว้ที่ไหนหรือไม่*** ***ท่านมีอาการหลงลืมบ้างหรือไม่ อย่างไร***	

0 = ไม่มีปัญหา เช่น มีอาการหลงลืมบ้างเป็นครั้งคราวแต่ก็นึกออกในภายหลัง ไม่มีปัญหาด้านความจำ 1 = ความต้องการได้รับการตอบสนอง เช่น มีปัญหาบ้างแต่ได้รับการตรวจประเมิน/ความช่วยเหลือ 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น จำข้อมูลใหม่ ๆ ไม่ได้อย่างเห็นได้ชัด ทำของหาย สับสนเรื่องเวลาและ/หรือสถานที่ ไม่ได้รับความช่วยเหลืออย่างเหมาะสม 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

8. สายตา การได้ยิน การสื่อสาร	
ข้อคำถาม	ความเห็นของผู้ประเมิน
8.1 ท่านมีปัญหาด้านการมองเห็นหรือการได้ยินหรือไม่ ***ท่านมีปัญหาในการได้ยินเมื่อมีคนพูดกับผู้สูงอายุในห้องที่ไม่มีเสียงรบกวนหรือไม่*** ***ท่านมีปัญหาในการมองเห็นเมื่ออ่านหนังสือพิมพ์หรือดูโทรทัศน์หรือไม่*** ***ท่านสามารถสื่อสารให้ผู้อื่นเข้าใจสิ่งที่ต้องการจะสื่ออย่างชัดเจนได้หรือไม่***	

0 = ไม่มีปัญหา เช่น ไม่มีปัญหา (สวมแว่นสายตาหรือเครื่องช่วยในการฟัง ไม่ต้องพึ่งพาผู้อื่น) 1 = ความต้องการได้รับการตอบสนอง เช่น มีปัญหาบ้าง แต่ใช้แว่นสายตา/เครื่องช่วยฟังช่วยในระดับหนึ่ง ได้ไปเข้ารับตรวจประเมินหรือได้รับความช่วยเหลือให้ได้รับเครื่องช่วยอ่าน/ฟัง 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น มีปัญหาอย่างมากในการมองเห็นหรือได้ยิน ไม่ได้รับความช่วยเหลืออย่างเหมาะสม 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

9. การเคลื่อนไหว /การพลัดตกหกล้ม	
ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านสามารถเคลื่อนไหวได้อย่างจำกัด หกล้ม หรือมีปัญหาในการใช้รถโดยสารสาธารณะหรือไม่ ***ท่านมีปัญหาในการเดินไปมาในบ้านหรือไม่***	

ท่านเคยหกล้มบ้างหรือไม่ *ท่านมีปัญหาในการเดินทางโดยยานพาหนะหรือไม่ อย่างไร*	

0 = ไม่มีปัญหา เช่น เคลื่อนไหวได้เป็นปกติ 1 = ความต้องการได้รับการตอบสนอง เช่น มีปัญหาในการเดิน ขึ้นบันได หรือใช้รถโดยสารสาธารณะบ้าง แต่ก็ทำได้หากมีอุปกรณ์ช่วย (เช่น อุปกรณ์ช่วยเดิน เก้าอี้รถเข็น) หกล้มบ้าง มีแผนป้องกันเตรียมไว้ 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น เคลื่อนไหวได้อย่างจำกัดมากแม้จะมีอุปกรณ์ช่วย หกล้มบ่อย ขาดความช่วยเหลือที่เหมาะสม 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

10. ความสามารถในการกลั้นปัสสาวะ/อุจจาระ

ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีปัญหากลั้นปัสสาวะไม่อยู่หรือไม่ ***ท่านเคยปัสสาวะราดหรือไม่ในกรณีที่ไปเข้าห้องน้ำไม่ทัน*** ***ปัญหาของท่านรุนแรงแค่ไหน*** ***ท่านเคยอุจจาระราด อุจจาระเล็ด อุจจาระกะปริดกะปรอยหรือไม่ และท่านได้รับความช่วยเหลือหรือไม่***	

0 = ไม่มีปัญหา เช่น ไม่มีปัญหากลั้นปัสสาวะไม่อยู่ สามารถควบคุมปัญหากลั้นปัสสาวะด้วยตัวเองได้ หรือ ไม่มีปัญหากลั้นอุจจาระไม่อยู่ สามารถควบคุมปัญหากลั้นอุจจาระด้วยตัวเองได้ 1 = ความต้องการได้รับการตอบสนอง เช่น มีปัญหากลั้นปัสสาวะไม่อยู่/ปัญหากลั้นอุจจาระไม่อยู่บ้าง ได้รับความช่วยเหลืออย่างเหมาะสม ได้รับการตรวจ 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น กลั้นปัสสาวะหรืออุจจาระไม่อยู่อยู่เสมอ อาการแย่ลงเรื่อย ๆ และต้องได้รับการประเมิน 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

11. สุขภาพทางกาย

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ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีปัญหาด้านความเจ็บป่วยทางกายหรือไม่ ***ท่านรู้สึกว่าร่างกายแข็งแรงดีหรือไม่*** ***ตอนนี้ท่านเข้ารับการรักษาอาการเจ็บป่วยทางร่างกายหรือไม่ ถ้ามี ด้วยอาการอะไร***	

0 = ไม่มีปัญหา เช่น สุขภาพกายแข็งแรงดี ไม่ได้รับแผนการรักษาทางการแพทย์ 1 = ความต้องการได้รับการตอบสนอง เช่น อาการเจ็บป่วยเช่น ความดันโลหิตสูงที่ควบคุมได้ ตลอดจนได้รับการรักษา/การตรวจอย่างเหมาะสม ได้รับการตรวจประเมินสภาพร่างกาย 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น อาการเจ็บป่วยร้ายแรงที่ไม่ได้รับการรักษา /ความเจ็บปวดที่รุนแรง /รอรับการผ่าตัดใหญ่ 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

12. การใช้ยา	
ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีปัญหาในการใช้ยาหรือไม่ ***ท่านมีปัญหาในการใช้ยาหรือไม่ (เช่น ผลข้างเคียง)*** ***ตอนนี้ท่านรับประทานยาอยู่กี่ชนิด*** ***แพทย์ได้ทบทวนรายการยาที่รับประทานอยู่ในช่วงไม่นานมานี้บ้างหรือไม่*** ***ท่านรับประทานยาอะไรที่แพทย์ไม่ได้เป็นผู้สั่งบ้างหรือไม่*** ***ท่านเคยซื้อยามารับประทานเอง / สมุนไพร/ยาชุด บ้างหรือไม่ อย่างไร***	

0 = ไม่มีปัญหา เช่น ไม่มีปัญหา (ได้รับยาอย่างสม่ำเสมอ /ไม่ได้รับผลข้างเคียง /การใช้ยาในทางที่ผิด 1 = ความต้องการได้รับการตอบสนอง เช่น ประเมินยาที่ใช้อย่างสม่ำเสมอ คำแนะนำ พยาบาล/พยาบาลจิตเวชชุมชน เป็นผู้จ่ายยา กล่องหรือตลับแบ่งยา/เครื่องช่วยต่าง ๆ 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น ใช้ยาไม่สม่ำเสมอตามที่แพทย์สั่ง หรือติดยาบางชนิด หรือ การใช้ยาผิดวัตถุประสงค์ 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

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13. อาการทางจิต	
ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีอาการเช่น อาการหลงผิด ประสาทหลอน หูแว่ว ประสาทหลอน ความคิดที่สับสน หรือเฉื่อยชาบ้างหรือไม่ ***ท่านเคยได้ยินเสียงแว่ว เห็นสิ่งแปลก ๆ หรือมีปัญหากับความคิดของตัวเองหรือไม่*** ***ท่านได้รับยาเพื่อรักษาอาการเหล่านี้หรือไม่***	

0 = ไม่มีความต้องการ เช่น ไม่มีอาการที่ชัดเจน ไม่มีความเสี่ยงหรือทุกข์ใจจากอาการต่าง ๆ และไม่ได้รับยาเพื่อรักษาอาการทางจิต 1 = ความต้องการได้รับการตอบสนอง เช่น อาการทุเลาด้วยยาหรือความช่วยเหลืออื่น เช่น กลยุทธ์ในการรับมือ แผนป้องกัน 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น มีอาการรุนแรง หรือมีความเสี่ยงที่จะเกิดอันตราย 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

14. ความเครียด

ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านเป็นทุกข์จากความเครียดหรือไม่ ***ช่วงหลัง ๆ นี้ท่านรู้สึกโศกเศร้าหรือรันทด ท้อหรือไม่*** ***ผู้สูงอายุรู้สึกกระวนกระวาย หวาดกลัว และกังวลหรือไม่***	

0 = ไม่มีปัญหา เช่น เครียดบ้างเล็กน้อยหรือเป็นครั้งคราว จัดการกับความเครียดได้ด้วยตนเอง 1 = ความต้องการได้รับการตอบสนอง เช่น ต้องการและได้รับการสนับสนุนอย่างต่อเนื่อง 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น ความเครียดมีผลกระทบต่อชีวิตอย่างมีนัยยะสำคัญ เช่น ทำให้ไม่อยากออกไปไหน	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

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9 = ไม่ทราบ	

15. ข้อมูลเกี่ยวกับสภาวะความเจ็บป่วยและการรักษา

ข้อคำถาม	ความเห็นของผู้ประเมิน
15.1 ท่านได้รับข้อมูลเกี่ยวกับสภาวะและการรักษาของตนอย่างชัดเจนทางวาจาหรือเป็นลายลักษณ์อักษรหรือไม่ ***ท่านเคยได้รับข้อมูลที่ชัดเจนเกี่ยวกับสภาวะ การให้ยา หรือการรักษารูปแบบอื่นของเองหรือไม่*** ***ท่านต้องการข้อมูลลักษณะนั้นหรือไม่ ข้อมูลเหล่านั้นมีประโยชน์กับตัวท่านมากน้อยเพียงใด***	

0 = ไม่มีปัญหา เช่น ได้รับและเข้าใจข้อมูลอย่างเพียงพอ ไม่ได้รับแต่ก็ไม่ต้องการข้อมูล 1 = ความต้องการได้รับการตอบสนอง เช่น ได้รับความช่วยเหลือให้เข้าใจข้อมูล ข้อมูลที่ได้รับนั้นเหมาะสมกับระดับความสามารถในการสื่อสาร/ความเข้าใจของบุคคลผู้นั้น 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น ไม่ได้รับข้อมูลอย่างเพียงพอหรือไม่ได้รับข้อมูลเลย 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

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16. การเจตนาทำร้ายตนเอง

ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีความคิดที่เป็นอันตรายต่อตนเองหรือไม่ ***ท่านเคยคิดจะทำร้ายตัวเอง หรือเคยทำร้ายตัวเองจริง ๆ บ้างหรือไม่***	

0 = ไม่มีปัญหา เช่น ไม่มีความคิดจะทำร้ายตัวเองหรือฆ่าตัวตาย 1 = ความต้องการได้รับการตอบสนอง เช่น เจ้าหน้าที่คอยเฝ้าระวังไม่ให้ฆ่าตัวตาย ได้รับคำปรึกษา มีแผนความปลอดภัยเตรียมพร้อมรับมือ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

2 = ความต้องการไม่ได้รับการตอบสนอง เช่น เคยแสดงเจตนาอยากฆ่าตัวตาย จงใจปล่อยตัวหรือจงใจเอาตัวเข้าไปหาอันตรายที่ร้ายแรงในช่วงเดือนที่แล้ว 9 = ไม่ทราบ	

17. การก่อให้เกิดภยันตราย การบาดเจ็บต่อตนเองโดยไม่ได้ตั้งใจ

ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีความเสี่ยงที่จะกระทำให้ตนเองก่อให้เกิดภยันตราย การบาดเจ็บต่อตนเองโดยไม่ได้ตั้งใจหรือไม่ ***ผู้สูงอายุเคยทำสิ่งใดที่ทำให้ตนเองตกอยู่ในอันตรายโดยไม่ได้ตั้งใจบ้างหรือไม่ (เช่น เปิดแก๊สทิ้งไว้ จุดไฟทิ้งไว้โดยไม่มีใครเฝ้า หรือหลงทาง)***	

0 = ไม่มีปัญหา เช่น ไม่เคยทำให้ตนเองเป็นอันตรายโดยไม่ได้ตั้งใจ 1 = ความต้องการได้รับการตอบสนอง เช่น การเฝ้าดูแลหรือช่วยป้องกันไม่ให้เกิดอันตราย เช่น บันทึกเตือนความจำ การเตือน สภาพแวดล้อมที่ปลอดภัย การมีผู้เฝ้าสังเกตุการณ์ 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น พฤติกรรมที่เป็นอันตราย เช่น หลงทาง เปิดแก๊สหรือจุดไฟทิ้งไว้ ไม่มีแผนป้องกันอันตรายที่เหมาะสม 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

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18. การถูกทำทารุณกรรม/ การถูกทอดทิ้ง

(สังเกตอากัปกิริยา และสภาพร่างกายประกอบ)

ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีความเสี่ยงต่อการถูกทำทารุณกรรม/ การถูกทอดทิ้งหรือไม่ ***เคยมีใครทำให้ผู้สูงอายุกลัวหรือทำร้าย หรือเอาเปรียบหรือไม่*** ***ผู้สูงอายุเคยถูกคุกคาม ข่มขู่ หรือการกระทำใดที่ทำให้รู้สึกกลัว หรือไม่อย่างไร***	

0 = ไม่มีปัญหา เช่น ไม่ถูกทำทารุณกรรม/ถูกทอดทิ้งในช่วงเดือนที่ผ่านมา	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

1 = ความต้องการได้รับการตอบสนอง เช่น ต้องการและได้รับการสนับสนุนและการปกป้องอย่างต่อเนื่อง มีการเตรียมแผนป้องกันอันตราย 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น ถูกตะคอก ผลัก หรือทอดทิ้งอยู่เสมอ ถูกยักยอกเงิน/ทรัพย์สิน ถูกทำร้ายร่างกาย 9 = ไม่ทราบ	

19. พฤติกรรม

(หมายเหตุ ผู้วิจัยถามคำถามปลายเปิด ให้ผู้สูงอายุได้เล่า)

ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีพฤติกรรมที่เป็นอันตราย คุกคาม ก้าวก่าย หรือสร้างความรำคาญต่อผู้อื่นหรือไม่ ***ท่านมีข้อขัดแย้งกับผู้อื่น เช่น เข้าไปแทรกแซงในเรื่องของผู้อื่น ทำตัวน่ารำคาญบ่อย ๆ หรือข่มขู่หรือรบกวนผู้อื่นหรือไม่*** ***ท่านได้ทำอะไร และมีเรื่องอะไรเกิดขึ้นบ้าง***	

0 = ไม่มีปัญหา เช่น ไม่มีประวัติว่าเคยก่อกวนใคร 1 = ความต้องการได้รับการตอบสนอง เช่น ถูกควบคุม/บำบัดเนื่องจากมีความเสี่ยง 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น มีพฤติกรรมรุนแรง ข่มขู่ หรือก้าวก่ายเรื่องของผู้อื่นอย่างรุนแรง 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

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20. การดื่มเครื่องดื่มประเภทแอลกอฮอล์

(ในระดับที่กระทบต่อสุขภาพ ต่อความสัมพันธ์กับผู้อื่น หรือ กลายเป็นคนติดสุราเรื้อรัง)

ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านดื่มหนักหรือมีปัญหาด้านการควบคุมตนเองเมื่อดื่มสุราหรือไม่ ***ท่านดื่มสุราไหม การดื่มสร้างปัญหาให้ตัวเองหรือไม่*** ***ท่านเคยรู้สึกผิดที่ดื่มสุราไหม*** ***ท่านเคยหวังว่าตัวเองจะสามารถลดการดื่มสุราลงได้หรือไม่***	

0 = ไม่มีปัญหา เช่น ไม่ดื่ม หรือดื่มอย่างมีสติ 1 = ความต้องการได้รับการตอบสนอง เช่น มีความเสี่ยงต่อการดื่มสุราในทางที่ผิด หรือได้รับความช่วยเหลืออยู่แล้ว 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น พฤติกรรมการดื่มสุรา ณ ปัจจุบันเป็นอันตรายหรือควบคุมไม่ได้ ไม่ได้รับความช่วยเหลืออย่างเหมาะสม 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

21. การมีปฏิสัมพันธ์ทางสังคม

ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านต้องการความช่วยเหลือด้านการพบปะกับผู้คนหรือไม่ ***ท่านมีความสุขกับชีวิตทางสังคมของตนเองหรือไม่*** ***ท่านอยากพบปะผู้คนมากกว่านี้หรือไม่***	

0 = ไม่มีปัญหา เช่น สามารถนัดพบปะกับผู้คนได้อย่างเพียงพอ ได้พบปะเพื่อนฝูงอย่างเพียงพอ 1 = ความต้องการได้รับการตอบสนอง เช่น ระบุว่ามีปัญหาด้านขาดเพื่อน มีการจัดกิจกรรมเพื่อตอบสนองความต้องการพบปะผู้คน เช่น รู้สึกเหงายามค่ำคืนแต่ไปเข้าสถานดูแลช่วงกลางวัน หรือเข้าร่วมชมรมสังสรรค์มื้อกลางวัน มีส่วนร่วมในงานเพื่อสังคม 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น มักรู้สึกเหงาและโดดเดี่ยว พบปะผู้คนน้อยมาก 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

22. การมีความสัมพันธ์อย่างใกล้ชิด

ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีคู่ครอง ญาติพี่น้อง ลูกหลานหรือเพื่อนฝูงที่ตนมีความสัมพันธ์อย่างใกล้ชิดทางอารมณ์/ทางกายหรือไม่ ***ท่านมีคู่ครอง ญาติพี่น้อง ลูกหลานหรือเพื่อนฝูงที่รู้สึกสนิทสนมหรือไม่***	

ท่านกับเขาผู้นั้นเข้ากันได้ดีไหม *ท่านพูดคุยกับพวกเขาได้ในเรื่องที่ตัวผู้สูงอายุเป็นกังวลหรือปัญหาต่าง ๆ หรือไม่* *ท่านขาดการพบปะกับผู้คน/ขาดความใกล้ชิดกับผู้อื่นหรือไม่*	

0 = ไม่มีปัญหา เช่น มีความสุขกับสัมพันธภาพที่มีอยู่ในปัจจุบันหรือไม่ต้องการมีความสัมพันธ์ที่ใกล้ชิดกับผู้ใด 1 = ความต้องการได้รับการตอบสนอง เช่น มีปัญหาด้านความสัมพันธ์ที่ใกล้ชิด แต่มีแผนการจัดการที่ชัดเจน ได้รับการให้คำปรึกษา/คำแนะนำ/การสนับสนุนที่เป็นประโยชน์ 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น รู้สึกเปล่าเปลี่ยวอย่างมาก ขาดความมั่นใจ 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านมีปัญหาในการจัดการหรือวางแผนการใช้จ่ายเงินของตนหรือไม่ ***ท่านมีปัญหาในการจัดการเงินของตัวเองหรือไม่*** ***ท่านสามารถชำระค่าใช้จ่ายจากแหล่งเรียกเก็บเงินต่าง ๆ ได้หรือไม่***	

0 = ไม่มีปัญหา เช่น สามารถซื้อสิ่งของจำเป็นและจ่ายใบเรียกเก็บเงินต่าง ๆ ได้โดยไม่ต้องพึ่งใคร 1 = ความต้องการได้รับการตอบสนอง เช่น ได้รับผลประโยชน์ในรูปความช่วยเหลือในการจัดการเรื่องต่าง ๆ หรือวางแผนการใช้จ่าย 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น มักขาดเงินเพื่อซื้อสิ่งของที่จำเป็นหรือเพื่อจ่ายใบเรียกเก็บเงินต่าง ๆ ไม่สามารถจัดการเรื่องการเงินเองได้ 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

24. การได้รับผลประโยชน์ต่าง ๆที่พึงได้รับตามสิทธิ์

ข้อคำถาม	ความเห็นของผู้ประเมิน
ท่านได้รับความช่วยเหลือให้ได้รับผลประโยชน์ที่พึงได้รับตามสิทธิ์อย่างครบถ้วนหรือไม่ ***ท่านแน่ใจว่าตัวผู้สูงอายุเองได้รับเงินทั้งหมดที่มีสิทธิ์ได้รับหรือไม่***	

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ท่านได้รับสิทธิ์ที่พึงได้รับอะไรบ้าง	

0 = ไม่มีปัญหา เช่น ไม่มีความจำเป็นที่จะรับผลประโยชน์ หรือได้รับผลประโยชน์ตามสิทธิ์อย่างเต็มที่ 1 = ความต้องการได้รับการตอบสนอง เช่น ได้รับความช่วยเหลืออย่างเหมาะสมในการเรียกร้องผลประโยชน์ โดยนักสังคมสงเคราะห์เข้ามามีส่วนร่วม ในช่วงเดือนที่ผ่านมา 2 = ความต้องการไม่ได้รับการตอบสนอง เช่น ไม่แน่ใจ/ ไม่ได้รับสิทธิ์ในผลประโยชน์อย่างเต็มที่ 9 = ไม่ทราบ	**สำหรับผู้วิจัยบันทึกข้อมูลเพิ่มเติม**

Part 1

1. **Gender** ☐ 1) Male ☐ 2) Female
2. **Age** ....years old
3. **Education**

☐ 1) None ☐ 2) Primary school ☐ 3) Middle school or equivalent

☐ 4) High school or equivalent ☐ 5) Vocational school or equivalent ☐ 6) Bachelor's degree

☐ 7) Master's degree or higher

4. **Occupation**

☐ 1) Government officer/retirement ☐ 2) Employee

☐ 3) Merchant/Business owner ☐ 4) Agriculture

☐ 5) General labor ☐ 6) No Occupation

☐ 7) Other...

5. ***Income*** *(from all sources per month)*

☐ 1) *Less than 3,000THB* ☐ 2) *3,001-5,000 THB* ☐ 3) *5,001 – 10,000 THB*

☐ 4) *10,001 – 15,000* THB ☐ 5) 15,001 – 30,000 THB ☐ 6) *more than 30,000*

6. **Marital status**

☐ 1) Single ☐ 2) Married ☐ 3) Divorced

☐ 4) Separated ☐ 5) Windowed

7. **Living arrangements**

☐1) Alone ☐ 2) With spouse ☐ 3) With children

☐ 4) With relative………… ☐ 5) With others....................

8. ***Living environment***

☐1) Own house ☐ 2) Rental house ☐3) Children/Relatives' house

☐ 4) Flat ☐ 5) Other ……

9. **Health insurance**

☐1) Universal coverage scheme ☐ 2) Social security scheme ☐ 3) Medical welfare of civil servants

☐ 4.) Private health insurance ☐ 5.) Other……..

10. **Underling disease** 1. ....
2...
3……………………………………………..

ACCOMMODATION

Question	Assessment
DOES THE PERSON HAVE AN APPROPRIATE PLACE TO LIVE? What kind of home do you live in? Do you have any problems with accommodation?	

0 = NO NEED e.g. Has an adequate and appropriate home (even if currently in hospital). No need for assistance with accommodation

1 = MET NEED e.g. Home undergoing adaptation/redecoration. Needs and is getting help with accommodation, e.g., in residential care, sheltered housing.

2 = UNMET NEED e.g. Homeless, inappropriately housed or home lacks basic facilities such as water, electricity, heating or essential alterations.

9 = NOT KNOWN

2. LOOKING AFTER THE HOME

Question	Assessment
DOES THE PERSON HAVE DIFFICULTY IN LOOKING AFTER THEIR HOME? *Are you able to look after your home?* *Does anyone help you?*	

0 = NO NEED e.g. Independent in looking after the home, home may be untidy but kept basically clean.

1 = MET NEED e.g. Limited in looking after home and has appropriate level of domestic help.

2 = UNMET NEED e.g. Not receiving appropriate level of domestic assistance. Home is a potential health/fire/escape hazard.

9 = NOT KNOWN

3. FOOD

Question	Assessment
DOES THE PERSON HAVE DIFFICULTY IN GETTING ENOUGH TO EAT? *Are you able to prepare your own meals and do your own shopping?* *Are you getting the right sort of food?*	

0 = NO NEED e.g. Able to buy and/or prepare adequate meals independently.

1 = MET NEED e.g. Unable to prepare food and has meals provided to met need.

2 = UNMET NEED e.g. Very restricted diet; culturally inappropriate food; unable to obtain adequate food; difficulty swallowing normal food.

9 = NOT KNOWN

4. SELF CARE

Question	Assessment
DOES THE PERSON HAVE DIFFICULTY WITH SELF CARE? *Are you have any difficulty with personal care like washing, cutting your nails or dressing?*	

Do you ever need help?	

0 = NO NEED e.g. Appropriately dressed and groomed independently.

1 = MET NEED e.g. Needs and gets appropriate help with self care.

2 = UNMET NEED e.g. Poor personal hygiene, unable to wash or dress, not receiving appropriate help.

9 = NOT KNOWN

5. CARING FOR SOMEONE ELSE

Question	Assessment
DOES THE PERSON HAVE DIFFICULTY CARING FOR ANOTHER PERSON? *Is there anyone that you are caring for? Do you have any difficulty in looking after them?*	

0 = NO NEED e.g. No-one to care for or no problem in caring.

1 = MET NEED e.g. Difficulties with caring and receiving help.

2 = UNMET NEED e.g. Serious difficulty in looking after or caring for another person.

9 = NOT KNOWN

6. DAYTIME ACTIVITIES

Question	Assessment
DOES THE PERSON HAVE DIFFICULTY WITH REGULAR, APPROPRIATE DAYTIME ACTIVITIES? *How do spend your day? Do you have enough to do?*	

0 = NO NEED e.g. Adequate social, work, leisure or learning activities, can arrange own activities.

1 = MET NEED e.g. Some limitation in occupying self, has appropriate activities organised by others.

2 = UNMET NEED e.g. No adequate social, work or leisure activities.

9 = NOT KNOWN

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7. MEMORY

Question	Assessment
DOES THE PERSON HAVE A PROBLEM WITH MEMORY? *Do you often have a problem remembering things that happened recently?* *Do you often forget where you've put things?*	

0 = NO NEED e.g. Occasionally forgets, but remembers later. No problem with memory.

1 = MET NEED e.g. Some problems, but having investigations / assistance.

2 = UNMET NEED e.g. Clear deficit in recalling new information: loses things: becomes disorientated in time and/or place, not receiving appropriate assistance.

9 = NOT KNOWN

8. EYESIGHT / HEARING /COMMUNICATION

Question	Assessment
DOES THE PERSON HAVE A PROBLEM WITH SIGHT OR HEARING? *Do you have any difficulty hearing what someone says to you in a quiet room?* *Do you have difficulty in seeing newsprint or watching television?* *Are you able to express yourself clearly?*	

0 = NO NEED e.g. No difficulties (wears appropriate corrective lenses or hearing aid, is independent).

1 = MET NEED e.g. Some difficulty, but aids help to some extent, receiving appropriate investigations or assistance to care for aids.

2 = UNMET NEED e.g. A lot of difficulty seeing or hearing, does not receive appropriate assistance.

9 = NOT KNOWN

9. MOBILITY / FALLS

Question	Assessment
DOES THE PERSON HAVE RESTRICTED MOBILITY, FALLS OR ANY PROBLEMS USING PUBLIC TRANSPORT? *Do you have trouble moving about your home? Do you have falls?* *Do you have trouble with transport?*	

0 = NO NEED e.g. Physically able and mobile.

1 = MET NEED e.g. Some difficulty walking, climbing steps or using public transport, but able with assistance (e.g. walking aids, wheelchair). Occasional fall. Safety plan in place.

2 = UNMET NEED e.g. Very restricted mobility even with walking aid. Frequent falls. Lack of appropriate help.

9 = NOT KNOWN

10. CONTINENCE

Question	Assessment
DOES THE PERSON HAVE INCONTINENCE? *Do you ever have accidents/ find yourself wet if you can't get to the toilet quickly?* *(How much of a problem? Ever any soiling? Are you getting any help?)*	

0 = NO NEED e.g. No incontinence. Independent in managing incontinence.

1 = MET NEED e.g. Some incontinence. Receiving appropriate help/ investigations.

2 = UNMET NEED e.g. Regularly wet or soiled. Deteriorating in continence needing assessment.

9 = NOT KNOWN

11. PHYSICAL HEALTH

Question	Assessment
DOES THE PERSON HAVE ANY PHYSICAL ILLNESS? *How well do you feel physically?* *Are you getting any treatment from your doctor for physical problems?*	

0 = NO NEED e.g. Physically well. Receiving no medical interventions.

1 = MET NEED e.g. Physical ailment such as high blood pressure under control, receiving appropriate treatment / investigation. Reviews of physical conditions.

2 = UNMET NEED e.g. Untreated serious physical ailment. Significant pain. Awaiting major surgery.

9 = NOT KNOWN

12. DRUGS

Question	Assessment
DOES THE PERSON HAVE PROBLEMS WITH MEDICATION OR DRUGS? *Do you have any problems (e.g. side effects) with medication. How many different tablets are you on? Has your medication been recently reviewed by your doctor? Do you take any drugs that are not prescribed?*	

0 = NO NEED e.g. No problems with compliance, side effects, drug abuse or dependency.

1 = MET NEED e.g. Regular reviews, advice, District Nurse/ CPN administers medication, Dosette boxes/ aids

2 = UNMET NEED e.g. Poor compliance, dependency or abuse of prescribed or non-prescribed drugs, inappropriate medication given.

9 = NOT KNOWN

13. PSYCHOTIC SYMPTOMS

Question	Assessment
DOES THE PERSON HAVE SYMPTOMS SUCH AS DELUSIONAL BELIEFS, HALLUCINATIONS, FORMAL THOUGHT DISORDER OR PASSIVITY? *Do you ever hear voices, see strange things or have problems with your thoughts?* *Are you on medication for this?*	

0 = NO NEED e.g. No definite symptoms. Not at risk or in distress from symptoms and not on medication for psychotic symptoms.

1 = MET NEED e.g. Symptoms helped by medication or other help e.g., coping strategies, safety plan.

2 = UNMET NEED e.g. Currently has symptoms or is at risk.

9 = NOT KNOWN

14. PSYCHOLOGICAL DISTRESS

Question	Assessment
DOES THE PERSON SUFFER FROM CURRENT PSYCHOLOGICAL DISTRESS? *Have you recently felt very sad or fed up? Have you felt very anxious, frightened or worried?*	

0 = NO NEED e.g. Occasional or mild distress. Copes independently

1 = MET NEED e.g. Needs and gets on-going support.

2 = UNMET NEED e.g. Distress affects life significantly, e.g. prevents person going out.

9 = NOT KNOWN

15. INFORMATION (ON CONDITION & TREATMENT)

Question	Assessment
HAS THE PERSON HAD CLEAR VERBAL OR WRITTEN INFORMATION ABOUT THEIR CONDITION AND TREATMENT? *Have you been given clear information about your condition, medication or other treatment? Do you want such information? How helpful has the information been?*	

0 = NO NEED e.g. Has received and understood adequate information. Has not received but does not want information.

1 = MET NEED e.g. Receives assistance to understand information. Information given that is appropriate for the person's level of communication / understanding.

2 = UNMET NEED e.g. Has received inadequate or no information.

9 = NOT KNOWN

16. DELIBERATE SELF-HARM

Question	Assessment
IS THE PERSON A DANGER TO THEMSELVES? *Do you ever think of harming yourself or actually harm yourself?*	

0 = NO NEED e.g. No thoughts of self-harm or suicide.

1 = MET NEED e.g. Suicide risk monitored by staff, receiving counselling, adequate safety plan in place.

2 = UNMET NEED e.g. Has expressed suicidal intent, deliberately neglected self or exposed self to serious danger in the last month.

9 = NOT KNOWN

17. ACCIDENTAL SELF-HARM

Question	Assessment
IS THE PERSON AT INADVERTENT RISK TO THEMSELVES? *Do you ever do anything that accidentally puts yourself in danger (e.g. leaving gas taps on, leaving fire unattended or getting lost)?*	

0 = NO NEED e.g. No accidental self-harm.

1 = MET NEED e.g. Specific supervision or help to prevent harm: e.g. memory notes, prompts, secure environment, observation.

2 = UNMET NEED e.g. Dangerous behaviour, e.g. getting lost, gas/ fire hazard, no appropriate safety plan

9 = NOT KNOWN

18. ABUSE/ NEGLECT

Question	Assessment
IS THE PERSON AT RISK FROM OTHERS? *Has anyone done anything to frighten or harm you, or taken advantage of you?*	

0 = NO NEED e.g. No abuse/ neglect issues over past month.

1 = MET NEED e.g. Needs and gets ongoing support or protection. Safety plan in place.

2 = UNMET NEED e.g. Regular shouting, pushing or neglect, financial misappropriation, physical assault.

9 = NOT KNOWN

19. BEHAVIOUR

Question	Assessment
IS THE PERSON'S BEHAVIOUR DANGEROUS, THREATENING, INTERFERING OR ANNOYING TO OTHERS? *Do you come into conflict with others e.g. by interfering with their affairs, frequently annoying, threatening or disturbing them? What happens?*	

0 = NO NEED e.g. No history of disturbance to others.

1 = MET NEED e.g. Under supervision / treatment because of potential risk.

2 = UNMET NEED e.g. Recent violence, threats or seriously interfering behaviour.

9 = NOT KNOWN

20. ALCOHOL

Question	Assessment
DOES THE PERSON DRINK EXCESSIVELY OR HAVE A PROBLEM CONTROLLING THEIR DRINKING? *Do you drink alcohol? How much? Does drinking cause you any problems?* *Do you ever feel guilty about it? Do you ever wish you could cut down your drinking?*	

0 = NO NEED e.g. Doesn't drink or drinks sensibly.

1 = MET NEED e.g. At risk from alcohol abuse and receiving assistance.

2 = UNMET NEED e.g. Current drinking harmful or uncontrollable, not receiving appropriate assistance.

9 = NOT KNOWN

21. COMPANY

Question	Assessment
DOES THE PERSON NEED HELP WITH SOCIAL CONTACT? *Are you happy with your social life? Do you wish you had more social contact with others?*	

0 = NO NEED e.g. Able to organise enough social contact, has enough contact with friends.

1 = MET NEED e.g. Lack of company identified as a problem. Has specific intervention for company needs e.g.,
lonely at night but attends drop-in or day centre or Lunch Club. Social work involvement.

2 = UNMET NEED e.g. Frequently feels lonely and isolated. Very few social contacts.

9 = NOT KNOWN

22. INTIMATE RELATIONSHIPS

Question	Assessment
DOES THE PERSON HAVE A PARTNER, RELATIVE OR FRIEND WITH WHOM THEY HAVE A CLOSE EMOTIONAL/ PHYSICAL RELATIONSHIP? *Do you have a partner, relative or friend you feel close to? Do you get on well?* *Can you talk about your worries or problems? Do you lack physical contact/ intimacy?*	

0 = NO NEED e.g. Happy with current relationships or does not want any intimate relationship.

1 = MET NEED e.g. Has problems concerning intimate relationships, specific plan, counselling/ advice/ support which is helpful.

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2 = UNMET NEED e.g. Desperately lonely. Lack of confidant.

9 = NOT KNOWN

23. MONEY / BUDGETING

Question	Assessment
DOES THE PERSON HAVE PROBLEMS MANAGING OR BUDGETING THEIR MONEY? *Do you have any difficulty managing your money? Are you able to pay your bills?*	

0 = NO NEED e.g. Able to buy essential items and pay bills independently.

1 = MET NEED e.g. Benefits from help with managing affairs or budgeting

2 = UNMET NEED e.g. Often has no money for essential items or bills. Unable to manage finances.

9 = NOT KNOWN

24. BENEFITS

Question	Assessment
IS THE PERSON DEFINITELY RECEIVING ALL THE BENEFITS THAT THEY ARE ENTITLED TO? *Are you sure that you are getting all the money that you are entitled to?*	

0 = NO NEED e.g. Has no need of benefits or receiving full entitlement of benefits.

1 = MET NEED e.g. Receives appropriate help in claiming benefits, social worker involvement over past month.

2 = UNMET NEED e.g. Not sure/ not receiving full entitlement of benefits.

9 = NOT KNOWN

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APPENDIX B

Budget

Budget Details	Amount of money (THB)
A. Data collecting process	
1.) CANE translation and back translation	30,000
2.) Photocopy	2,000
3.) Reliability test	1,500
5.) Research assistants	6,000
B. Field survey	
1.) Fuel	2,000
2.) Administration cost (eg. gift for the participants and village chief)	15,000
3.) Telecommunication service	300
C. Data analysis and report	500
Total	57,300

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APPENDIX C

Time schedule

Activity	Months									
	1	2	3	4	5	6	7	8	9	10
1. Review literatures and documents	■	■								
2. Instruments (questionnaire & survey questions) for the research		■	■							
3. Ethic committee submission and approval				■	■					
4. Sampling and Gathering information and data						■	■			
5. Information processing							■	■		
6. Analysis and interpretation of data								■	■	
7. Summary and report writing									■	■

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VITA

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Education

2009 - 2011: Master of Business administration

National Institute of Development Administration, Thailand

2001 – 2006: Bachelor's degree of Pharmacy (Hons)

Chiang Mai University, Thailand

Employment experience

2014 – Present: Senior Clinical Research Associate

Quintiles (Thailand) Co.Ltd

2012 – 2014: Feasibility and site identification Specialist

Quintiles (Thailand) Co.Ltd

2008 – 2012: Clinical Research Associate

Quintiles (Thailand) Co.Ltd

2006 – 2008: Medical Representative (Thailand) Co.Ltd

Pfizer (Thailand) Co.Ltd

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Publication

- Saldanha LM, Tantiwanitchanon N, Tiativiriyakul P, Wai K, Lee K. Current Scenario of Clinical Research Sites in Thailand: a ground up approach to clinical site selection in emerging countries. Presented at: Drug Information Association Boston, MA, USA, 23–27 June 2013. (1st prize)

Language

IELTS: Overall Band Score 7.0

Listening 6.5, Reading 7.5, Writing 6.5, Speaking 6.5

License and Certification

- Pharmacy License (Thailand), 2006
- GCP certification
- Pharmacy council member