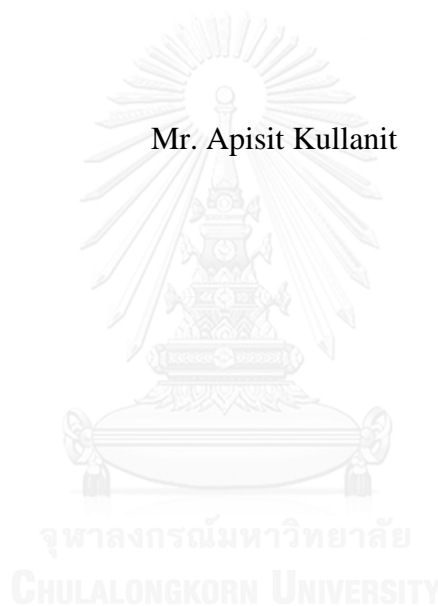


TRANSPORTATION BARRIERS ON HEALTHCARE UTILIZATION AMONG
ELDERLY POPULATION LIVING IN MAHASARAKHAM PROVINCE
THAILAND

Mr. Apisit Kullanit



บทคัดย่อและแฟ้มข้อมูลฉบับเต็มของวิทยานิพนธ์ตั้งแต่ปีการศึกษา 2554 ที่ให้บริการในคลังปัญญาจุฬาฯ (CUIR)
เป็นแฟ้มข้อมูลของนิสิตเจ้าของวิทยานิพนธ์ ที่ส่งผ่านทางบัณฑิตวิทยาลัย

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อุปสรรคในการเดินทางต่อการใช้บริการสุขภาพของผู้สูงอายุในจังหวัดมหาสารคาม ประเทศไทย



วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาสาธาณสุขศาสตรมหาบัณฑิต

สาขาวิชาสาธาณสุขศาสตร์

วิทยาลัยวิทยาศาสตร์สาธาณสุข จุฬาลงกรณ์มหาวิทยาลัย

ปีการศึกษา 2559

ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

อภิสิทธิ์ ฤทธิชัย : อุปสรรคในการเดินทางต่อการใช้บริการสุขภาพของผู้สูงอายุในจังหวัดมหาสารคาม ประเทศไทย (TRANSPORTATION BARRIERS ON HEALTHCARE UTILIZATION AMONG ELDERLY POPULATION LIVING IN MAHASARAKHAM PROVINCE THAILAND) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: อ. ดร. ณัฏฐา ฐานิพานิชสกุล, 106 หน้า.

จากการสำรวจของสำนักงานวิจัยเพื่อการพัฒนาหลักประกันสุขภาพไทย(สวปก) ในปี 2552 และ 2553 พบว่าการใช้บริการสุขภาพของผู้สูงอายุที่เป็นผู้ป่วยนอกลดลง อุปสรรคจากการเดินทาง เช่น ระยะทาง หรือค่าใช้จ่ายในการเดินทาง อาจเป็นปัจจัยสำคัญที่มีอิทธิพลต่อการเข้ารับบริการผู้ป่วยนอก โดยเฉพาะอย่างยิ่งในพื้นที่ชนบท การศึกษาครั้งนี้จึงมีวัตถุประสงค์เพื่อศึกษาความสัมพันธ์ระหว่างการใช้บริการด้านสุขภาพของผู้สูงอายุและการอยู่อาศัยในเขตเมืองและชนบท และเพื่อศึกษาความสัมพันธ์ระหว่างการใช้บริการด้านสุขภาพและอุปสรรคด้านการเดินทาง และความเข้าใจเกี่ยวกับอุปสรรคในการเดินทางเพื่อไปรับบริการสุขภาพของผู้สูงอายุในจังหวัดมหาสารคาม ประเทศไทย

การวิจัยเชิงวิเคราะห์ภาคตัดขวางได้ถูกนำมาใช้ในการศึกษาครั้งนี้ โดยศึกษาผู้สูงอายุจำนวน 359 คน ในพื้นที่ของอำเภอเมือง (เขตเมือง) และอำเภอนาโพธิ์ (เขตชนบท) จังหวัดมหาสารคาม โดยแบ่งเป็นผู้สูงอายุจำนวน 179 คน ในเขตเมือง และ 180 คนในเขตชนบท แบบสัมภาษณ์ในการศึกษาครั้งนี้แบ่งออกเป็น 3 ส่วนคือ คุณลักษณะทั่วไปของผู้สูงอายุ อุปสรรคด้านการเดินทาง และความเข้าใจเกี่ยวกับอุปสรรคในการเดินทางเพื่อไปรับบริการสุขภาพ การสัมภาษณ์โดยอาสาสมัครสาธารณสุขได้ถูกนำมาใช้ในการเก็บข้อมูลจากผู้สูงอายุ และวิเคราะห์ข้อมูลเชิงสถิติด้วยการทดสอบไคสแควร์ (Chi-square) และการทดสอบแบบที (Independent T-test)

ส่วนใหญ่ของผู้ตอบแบบสอบถามในการศึกษานี้เป็นเพศหญิง (59.3%) และมีอายุเฉลี่ย (\pm ส่วนเบี่ยงเบนมาตรฐาน) เท่ากับ 70 (\pm 7.1) ปี หกสิบหกเปอร์เซ็นต์จากผู้ตอบแบบสอบถามทั้งหมดรายงานว่ามีรายได้ต่อเดือนไม่เพียงพอ มากกว่าครึ่งหนึ่งของผู้สูงอายุมีโรคประจำตัว (53.5%) และเห็นว่าตนเองมีสุขภาพในระดับปานกลาง (56.5%) ในช่วง สองเดือนที่ผ่านมา หกสิบแปดเปอร์เซ็นต์ของผู้สูงอายุทั้งหมด รายงานว่าไม่ได้เข้ารับบริการด้านการดูแลสุขภาพ แม้ว่าต้องการที่จะเข้ารับบริการดูแลสุขภาพ ซึ่งพบว่า 72.6% เป็นผู้สูงอายุในเขตเมืองและ 63.3% เป็นผู้สูงอายุในพื้นที่ชนบท อย่างไรก็ตามความสัมพันธ์ระหว่างเมืองและชนบท และการใช้บริการสุขภาพไม่ได้มีความสัมพันธ์ทางสถิติอย่างมีนัยสำคัญ (p -value = 0.06) จากการศึกษาปัญหาและอุปสรรคการเดินทางพบว่าระยะเวลา และระยะทางจากบ้านในการไปเข้ารับบริการด้านสุขภาพมีอิทธิพลอย่างมีนัยสำคัญต่อการใช้บริการด้านสุขภาพของในระดับปฐมภูมิ และระดับทุติยภูมิของผู้สูงอายุ (p -value < 0.05) ค่าใช้จ่ายในเดินทางของผู้สูงอายุมีความสัมพันธ์กับการใช้บริการโรงพยาบาลจังหวัด (p -value = 0.02) นอกจากนี้ความเข้าใจของผู้สูงอายุเกี่ยวกับความสามารถที่จะจ่ายค่าใช้จ่ายในเดินทางระหว่างผู้สูงอายุที่เข้ารับบริการสุขภาพและผู้ที่ไม่ได้เข้ารับบริการสุขภาพมีความแตกต่างอย่างมีนัยสำคัญที่ (p -value = 0.05)

จากการศึกษาครั้งนี้สรุปได้ว่าระยะเวลาในการเดินทาง ระยะทางจากบ้านในการไปเข้ารับบริการด้านสุขภาพที่สถานพยาบาลระดับปฐมภูมิและทุติยภูมิ และการรับรู้ เกี่ยวกับความสามารถในการจ่ายค่าเดินทางมีความสัมพันธ์กับการใช้บริการด้านสุขภาพของผู้สูงอายุ ดังนั้นจึงควรมีกุญแจเพื่อการส่งเสริมการให้บริการด้านสุขภาพของผู้สูงอายุเพื่อดูแลสุขภาพ นอกจากนี้หลักประกันขั้นพื้นฐาน หรือหลักประกันสุขภาพถ้วนหน้า อาจพิจารณาถึงการจ่ายค่าพาหนะในการเดินทางเพื่อเข้ารับบริการสุขภาพบางส่วนให้กับผู้สูงอายุเพื่อลดภาระด้านค่าใช้จ่ายในการเดินทางของผู้สูงอายุ

สาขาวิชา สาธารณสุขศาสตร์

ปีการศึกษา 2559

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APISIT KULLANIT: TRANSPORTATION BARRIERS ON HEALTHCARE UTILIZATION AMONG ELDERLY POPULATION LIVING IN MAHASARAKHAM PROVINCE THAILAND.
ADVISOR: NUTTA TANEAPANICHSKUL, Ph.D., 106 pp.

Background: The recent study by Thailand Health Insurance System Research Office (HISRO) in 2009 and 2010 showed that utilization of healthcare services of outpatient care was decreased among elderly. Transportation may be a predominant factor influencing outpatient care utilization especially in rural area where patients must travel long distances to access health care services. Therefore, this study aimed to find an association between the healthcare utilization of elderly and their living in urban/rural area and to access an association between healthcare utilization and transportation barriers and perception among elderly in Mahasarakham province Thailand.

Method: A cross-sectional study was conducted in Muang district (urban) and Wapi Pathum district (rural) in Mahasarakham province. Face-to-face interview by health volunteers was utilized to obtain information from 359 elderly using structured questionnaire (179 elderlies in urban area and 180 elderlies in rural area). Briefly, questionnaire was divided into 3 parts; demographic characteristic, transportation barriers and perception of transportation to healthcare services. Bivariate analysis using Chi-square and independent t-test was performed to investigate the association.

Results: Majority of respondents in this study was female (59.3%) and had average age (\pm SD) of 70(\pm 7.1) years old. Sixty-six percent of them reported insufficient monthly income. More than half of them had underlying disease (53.5%) and moderate health status (56.5%). During the past two months, sixty-eight percent of overall elderly (72.6 % of elderly in urban area and 63.3 % of elderly in rural area) reported non-utilize the healthcare service even though they preferred to seek for care. However, statistical significance of an association between urban/rural area and healthcare utilization was not achieved (p -value=0.06). Considering on transportation barriers, this study found that traveling duration and distance from home to healthcare services were significantly influenced on healthcare utilization of elderly in primary and secondary care (p -value<0.05). Elderly out-of-pocket of transportation expenses was significantly associated with utilization of secondary care (provincial hospital) (p -value = 0.02). Their perception on ability to pay for transportation expenses was significant different between elderly who had visited and who had not visited healthcare services (p -value = 0.05).

Conclusions: Travel duration and distance from elderly home to healthcare services was associated with healthcare utilization in primary and secondary care. Elderly satisfaction and perception on ability to pay for transportation expense was related to their healthcare utilization. An elderly healthcare utilization promoting strategy should be recognized to enhance elderlies' health. Further basic insurance; universal healthcare coverage, strategy may consider to partially support transportation expenses for elderly to lessen their ability to pay perception.

Field of Study: Public Health

Academic Year: 2016

Student's Signature

Advisor's Signature

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CHAPTER I

INTRODUCTION

1.1 Background and rational

Thailand has achieved in enlarging health of both publicly-funded and publicly-managed health insurance schemes, in 2001 the universal health coverage policy has been launched to run the health insurances. Every Thai citizen would be covered by the publicly-managed health insurance schemes, 3 main things in this scheme are Universal Health Coverage Scheme (UC), Social Security Scheme (SSS), and Civil Servant Medical Benefits Scheme (CSMBS). These arrangements have enlarged access to health care services, provided to higher and more equity of utilization, and reduced the financial burden and decreased the rate of impoverishment related to health care expense. (Osornprasop 2015)

Universal Health Coverage Scheme or 30 Baht Scheme under the supervision of National Health Security Office (NHSO), Thailand, is the government project to provide public health insurance to all of citizen. In Thailand, everyone can enjoy a treat by paying only thirty baht. The government will allow citizens to register with the hospital and providing budget allocated to the hospital. This project can be carried out covering the entire country in 2002 with the main objective to provide Thai citizens have enjoyed public health standards and the poor have the right to receive medical treatment from state services without cost. The right to health can be anyone with Thailand identity number 13 and not entitled to health care, legal rights, health care, social security or the government / enterprise. Health care or other state provides. (NHSO 2013)

While the achievement of Universal Health Coverage Scheme has been noticed by some studies that there are still have some obstacles in health utilization and financial protection. The recent study by Thailand Health Insurance System Research

Office (HISRO) in 2009 and 2010 exposes that utilization of health care services by the overall age arrangement patients of three main health insurance schemes increased after 45 years old for both out-patient and in-patient but we can see that there are dropped during an advanced age period. It's mean that utilization of health care services of out-patient care was decreased among who are over 75 years old and utilization of health care services of in-patient care services decreases among who are over 85 years old. While utilization of in-patient serviced by UC patients in 2007 and 2010 rise with the increasing of age but its start to decrease after the age reach around of 80 in both male and female patients. And for utilization of out-patient serviced, rise sharply after the age around 50. Anyway, its start to decrease after the age reach around of 75. (NHSO 2013)

Entrance to transportation is a critically important feature of health care utilization. Especially in rural areas where patients must travel long distances to access health care services. (Heckman, Somlai et al. 1998) The longer distance to reach services, the higher cost to pay for transportation. The real obstacle that decreased rate of public health services among the elderly may be due to older people have to bear the transportation cost too much like the journey to health care center. (Giambruno, Cowell et al. 1997) The trip to the general hospital. Especially the elderly who do not have income after retirement. The problem becomes more serious when a growing portion of local residents in rural areas such as the Wapi Pathum district are elders who need access to health care services but may have limited factors. There are an increasing number of senior citizens living in rural areas who would prefer to age in place but may be moving to improve their access to health care. Public transportation could play an important role in providing local residents access to health care.

Therefore, the rate of population in Thailand due to the decreased of birth rate in this five years' periods affect to decreasing quantity of Youth (under 15 years old) and Working age (15-59 years old) but Elderly still increased continuously. The trend of elderly will grow up for 19 percent or 8.3 million persons from 2010 to 2040 of the total elderly population. (Development 2015)

In this study, the proportion of elderly population in Mahasarakham province data from official statistic registration of Thailand from 2006 to 2016, the elderly population had increased from 92,227 to 137,387 or 49 percent and going to be completed aging society already. The Wapi Pathum district is going to concern to be the representative of rural area because of the proportion of the elderly population is the highest rate comparing with each other district in Mahasarakham province which the rate of aged 60 and over population in all of age population including male and female is equal to 22.07 percent total of age population. Also, Mueang Mahasarakham district is going to concern to be the representative of urban area because this is the central of Mahasarakham province which located important public organization including general hospital where the patient will be transfer from primary and secondary health care unit to get more efficient treatment. From this reason due to the different of conditions to access the health services, this study will prove the different of transportation cost between rural and urban area, identify the impact of each transportation cost to the rate of health care utilization, and search for the factors which related to transportation influencing elderly accessing to health care services in MAHASARAKHAM province THAILAND. to disclose why the utilization of universal health coverage in elderly Thailand is decreasing while the life expectation is longer than in the past.

Table 1 Distribution of the population aged 60 or over in Mahasarakham, 2016

Rank	District	Population aged 60 and over				
		All of Age	Male	Female	Total	%
	Total	763,962	61,025	76,362	137,387	18
1	Wapi Pathum	82,785	8,152	10,121	18,273	22.07
2	Karedum	20,737	2,006	2,417	4,423	21.32
3	Yangsisurach	23,767	2,248	2,790	5,038	21.2
4	Nachuake	39,531	3,610	4,486	8,096	20.48
5	Naduan	27,087	2,472	3,012	5,484	20.24
6	Kosumpisai	92,989	8,173	10,092	18,265	19.64
7	Borabure	80,832	7,068	8,734	15,802	19.55
8	Chuenchom	18,977	1,658	1,966	3,624	19.1
9	Chiangyuean	49,359	4,156	5,270	9,426	19.08
10	Payakphumpisai	65,491	5,433	6,603	12,036	18.38
11	Kudrang	27,615	2,255	2,746	5,001	18.11
12	Mueang	135,071	9,178	12,022	21,200	15.7
13	Kantarawichai	99,721	4,616	6,103	10,719	10.74

Source: National statistical office, 2016

1.2 Research questions

1) What are the percentage of healthcare utilization among elderly in Mahasarakham province Thailand?

2) Is there an association between primary and secondary healthcare utilization of elderly and their living in urban and rural area in Mahasarakham province Thailand?

3) Do transportation barriers associate with primary and secondary healthcare utilization among elderly in Mahasarakham province Thailand?

4) Does satisfaction and perception of transportation facility associate with primary and secondary healthcare utilization among elderly Mahasarakham province Thailand?

1.3 Research objective

1) To estimate percentage of healthcare utilization among elderly in Mahasarakham province Thailand

2.) To identify an association between healthcare utilization of elderly and their living among urban and rural elderly in Mahasarakham province Thailand

3) To access the associations between transportation barriers and primary and secondary healthcare utilization among elderly in Mahasarakham province Thailand

4). To find an association between satisfaction and perception of transportation facilities and primary and secondary healthcare utilization among elderly Mahasarakham province Thailand

1.4 Conceptual Framework

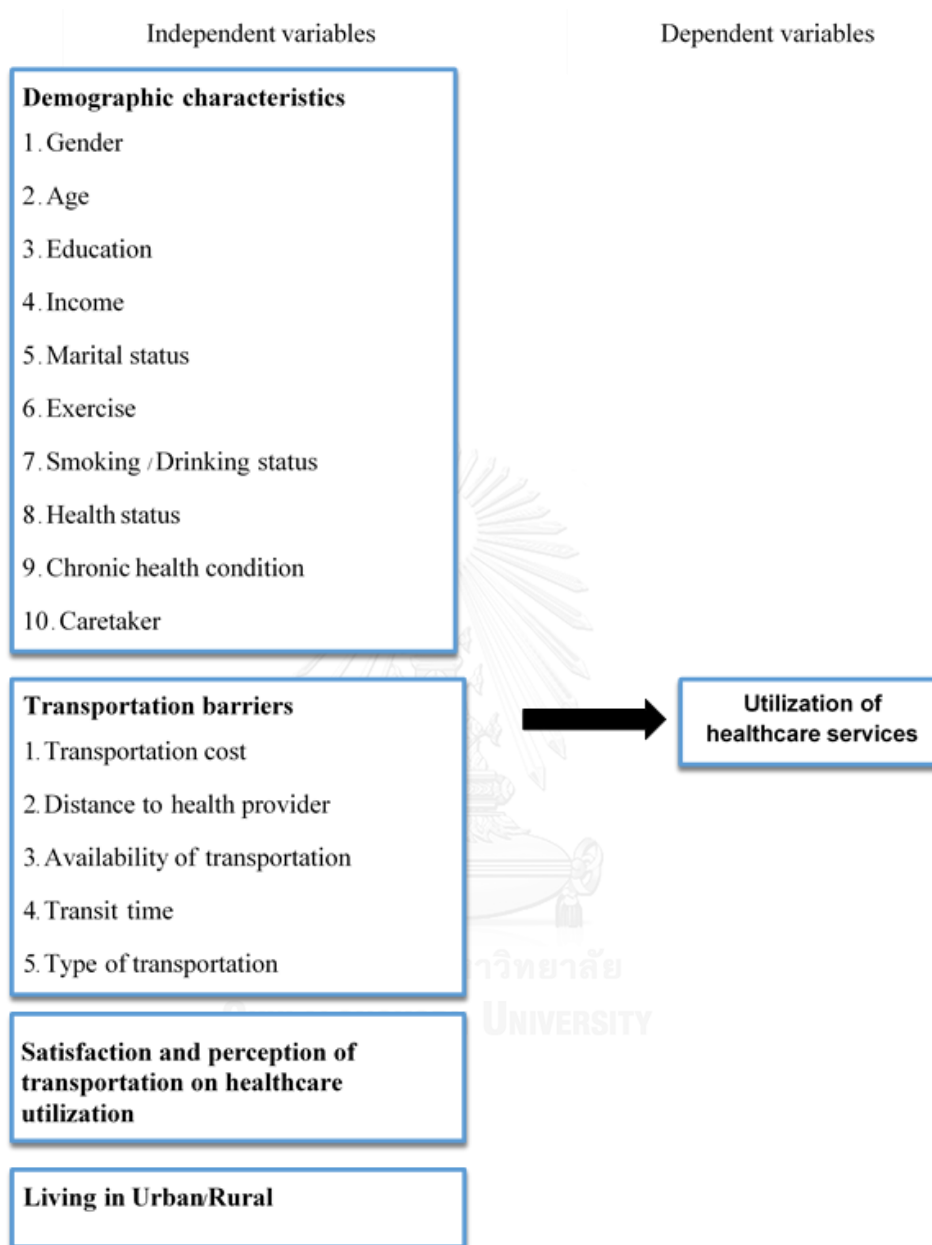


Figure 1 Conceptual Framework

1.5 Operational definition

- 1) Healthcare utilization refers to use of care if needed: for appointment of physician during last 2 months.
- 2) Satisfaction and perception of transportation facility refers to the satisfaction and understanding of transportation to healthcare services in Health promoting hospital, community hospital and general hospital. Satisfaction and perception of transportation were considered as elderly satisfaction and understand of transit time, their convenience, transportation cost, convenience of vehicle, their travelling cost satisfaction and their ability to pay.
- 3) Elderly refers to both female and male persons whose age sixty years old and above.
- 4) Health status refers to elderly perception on their health which is rated into good, moderate and poor.
- 5) Health chronic diseases refers to elderly's chronic diseases which are diagnosed by physician such as high blood pressure, heart disease and diabetes.
- 6) Primary caretaker refers to who is live together and take care of elderly
- 7) Rural area refers to Wapipathum district of Mahasarakham province. This area mainly is an agricultural area and is located in countryside.
- 8) Medical home visit refers to a regular visit from nurses or healthcare profession
- 9) Urban refer to Umphur Muang district of Mahasarakham province which represent the characteristic of, or constituting a city.
- 10) Transportation barriers refer to the obstacle in transportation to get healthcare services include transportation cost, distance to health provider, availability of transportation, driver license or personal car, transit time, and type of transportation.

11) Transportation cost refers to expenses incurred when it transfers the elderly to healthcare providers (Health promoting hospital, community hospital and general hospital).

12) Distance to healthcare provider refers to the distance between elderly home and healthcare services location (Health promoting hospital, community hospital and general hospital).

13) Travel duration refers to the duration to go to health care services location from elderly home



CHAPTER II

LITERATURE REVIEW

2.1 Access to Health Care Services

Access to standard health care services is the major and important role in every single social aspect (สุขศิริเสรีกุล 2543) and also a basic principle under the Constitution. (นิตยารัมภ์พงศ์ 2545) access to health services is a key indicator of the health system. Because an access to health services is not just considered a health facility, personnel facilities, tools and equipment. But also have to considered and covered the output from taking advantage of what mentioned above. (ศรีวณิชชากร 2553)

2.1.1 Definition of access to health care services

Access to health services is related to an access of citizens to receive care in the health system. A characteristic of access is describing the potential and access to the real public service system. (Andersen 1995) an adequate service, anywhere and anytime when people have their demand to get services. The point to consider is access to appropriate health services as needed. According to the characteristics of each patient's illness after the fact. Everything associated with the service must be convenient to access to every single patient and a charter for the seller. A provider of health and wellness services. (Penchansky and Thomas 1981)

Overview of an access to the health services can be divided into three main areas: 1. Demand to access health services 2. Healthcare utilization 3. Results of the health services. When we talk about the demand to access health services, the main aim is to meet the agreements made between the patient and the healthcare provider which depending on decisions by the physician remedy. The relationship between demand and use of health services is the valuable sense in both patients and health providers. Including health services that are appropriate and sufficient to meet the demand of

patients, anywhere and anytime. In terms of the output of the service, patients can understand and realize their health care even further. (Howard 2000)

2.1.2 Barrier to access health care services

Barriers to access to health services can be classified in several different styles. Depends on the type and style of service providers, including institutions or agencies (Gulliford and Morgan 2013) individuals, groups, social services, health seeking behavior, belief, culture, and knowledge of the patient. Financial and administrative costs, such as medical, medicine, long waiting times to get services or queues.

From the overall access to health services. The joint study of the University of California. Identified barriers to access health services into four categories:

1) Physical barriers such as patients cannot get the health services equally or impartially. Because of the lack of distribution of services. Physical barriers are the major obstacles of the elderly in getting access to health services. Because the distance from home to the place, vehicle and physical status may have to rely on other people to access health services (พรมณี 2550)

2) Financial barriers such as having to pay expensive medical bills. Or lack of proper health care. Financial barriers come from the elderly to use the money to pay for travel. Go to see the doctor at health promoting hospital, community hospital, and general hospital. Which elderly have to pay the travel costs several times more than the typical man (พรมณี 2550)

3) Attitudes barriers including religion and culture between the recipient and the provider of health. Attitudes barriers is based on behavior and cognition about keeping health care, social traditions since born and as the belief that the right to 30 baht will get a poorer quality than paying yourself (สุททภาทิน 2545)

4) Process barrier such as lack of knowledge about the right to receive services. Incomplete of evidence for access to the health facility and limited opened time of health center. (ชาติ 2001)

2.1.3 Primary health care

Primary Health Care is essential health care and universally access by individuals and families in the community at the cost that the community can pay for. (World Health Organization. 1978) Primary health care is the standard health care for all of citizen which consider in social and cultural dimension of community. (แต่อารักษ์ 2544) Primary Health Care identify the main health problems in the community to provide, promote, prevent, curative and rehabilitative services. To create Primary Health Care universally access in the community rapidly, community support and individual self-dependent for health development are important. (WHO 1978)

The primary health care approach

Primary health care is a practical approach to making essential health care universally accessible to everyone in the community. With an acceptable and affordable way and with community participation. and if properly applied and influenced health system functions. (WHO 1978)

2.1.4 Health System Support

Primary health care is delivered by community health volunteer. With the require of skills and therefore training, depending upon the particular form of primary health care being in the community situation. Their level of skill is important which they can understand the real health needs of the communities, then they provide and gain the confidence of the people. This implies that they should familiar and understand in the community area. The support from other levels of the health system is necessary to guarantee that people will enjoy the benefits of valid and useful technical term. These levels are an important source of relevant information on health. Moreover, community

health volunteers could be able to rely to be more skilled and knowledge for guidance and training, and primary health care services need the logistic and financial support. (WHO 1978) Primary health care can identified serviced targeted and most of important diseases which is important to improve the health status of community people. (Walsh and Warren 1980)

2.1.5 The secondary health care approach

Both preventive and curative, which is need to referring cases to require more advanced care to public hospitals is the role of the secondary level of care. (Almalki, FitzGerald et al. 2011) There are small proportion of patients attending at outpatient in secondary care but the trend is a routine frequently and are responsible for high amount of healthcare costs. Unexplained symptoms can be found in patients who frequently attend several secondary care specialties.(Reid, Wessely et al. 2001) Some study found that the prevalence of unexplained pulmonary arterial hypertension with connective tissue disease at the secondary health care of community. (Wigley, Lima et al. 2005)

2.1.6 The tertiary health care approach

The cases that need more complex levels of care are transferred to central or specialized hospitals is the role of the tertiary level of health care. (Almalki, FitzGerald et al. 2011)

2.2 Transportation

The transportation is the key to support the elderly to join in the community activity and access to health service. The public transport, local government transit provider, relative transit provider has the significance roles in the community transportation. Driver license and personal care is affect to increase rate of health utilization in elderly especially who can drive by themselves, family members or friend also have the significant in term of provide transit for elderly to go to health care center. (Arcury, Gesler et al. 2005) but some study showed that lack of transportation or difficulty to find transit provider (Ahmed, Winter et al. 2012) is affect as a barrier that could result in missing a cancer treatment. (Guidry, Aday et al. 1998) also more distance

from home to health provider location is the one factor that decrease the rate of health care use and delayed care. Patients living more than 15 miles from health care provider had 1/3 hazard ratio for death, and within every 10 miles traveled will decreased by 3.2 % of hazard ratio of death (Syed, Gerber et al. 2013) Travel difficulties are associated with lower income in the elderly, being female, living alone or widow, having less education. (Branch and Nemeth 1985) The obstacles for follow-up included with the distance to travel to health provider location and availability of transportation in the community. (Canupp, Waites et al. 1997) Postponed care situation occurred because no transportation availability provided (Cunningham, Andersen et al. 1999) Problems to get health care services (46 %) lack of transportation (10 %) was associated in term of financial and structural barriers. (Malmgren, Martin et al. 1996)

2.2.1 Transportation Barrier

Transportation cost is the financial indicator of what a consumer must pay to provide a transportation service. The costs are associated with moving products or assets to other locations, in this study, elderly generally have to pay for transit cost for transit provider to meet the health provider

Distance to health provider is an important issue for accessing health care, especially in rural areas where long travel distances. But access to options such as public transport is not very widespread. However long distance variables did not significantly influence the number of total or chronic care received while emergency treatment was affected by the limited travel options. (Mattson 2011)

Availability of transportation is transit service availability in the transportation system efficiency of service when needed. (Elms 1998)

Driver license or Personal car is the legal license to drive the car. Mostly who have the license will have personal car to use in transportation aspects.

Transit time is the duration to go to destination. In this study elderly will take time to go to health care services location from individual elderly household.

2.3 Community support

Community support is very important essential to support the elderly well-being because the elderly physical health status is the dependency group that need or want the social support which can improving their quality of life and overall health. Especially in term of health care services, Community support will be the major rows that provide the easier to access services in elderly community in the future.

2.4. Health care utilization in Thailand.

Thailand has a multilevel health care system. Main purpose is to spread the hospital to all citizen levels. People can access to health services. Thoroughly, it also improves the performance of the health system which provide the maximum potential of each level of health care and the appropriate referral system. Most hospitals in Thailand are public hospitals. At the sub district level, each district will have at least one health promoting hospital. Caring for the population in the area about 5,000 people in each district. There is at least one community hospital of 30-120 beds. Care for the population of about 50,000 people and the provincial level is a general hospital care for about 600,000 people. Some general hospitals have been upgraded to a center hospital to get refer patients from neighboring provinces. Thailand has 11 medical schools which five are located in Bangkok and more than one third is contractual hospital under the social security scheme in a private hospital.

National Health Security Office is a health care service administrator and disease control for all Thai people. more over Support for Health Promotion organization, a public organization, is funded by cigarettes and alcohol tax. It is the main organization that supports risk management activities, health and social factors that affect health such as alcoholic beverages, cigarettes and road accidents.

National Health Insurance supports in primary care or primary health care (PHC) is through the management of contract parties (contracting units for primary care, CUP) which the most of hospitals in these networks are called health promoting hospital. and the hospital network need a number of staff according to minimum

threshold required to private parties. Most of them are often private clinics or private health centers located in urban areas.

The hospital that provide the secondary and tertiary care. Usually a refer system such as

refer from primary level to the district, province and region respectively. Access to and use of specialized medical services (e.g. heart surgery, kidney transplant surgery) in the hospital is increasing due to the quality of health service in the next level hospital's development has increased. Based on two indicators: Increased quality assurance and reduced age-adjusted mortality.

Emergency medical services or EMS has been adjusted the system to covers every population. With financial support from the general tax through the government budget system. Both pre-hospital and post-hospital services. which the services at the accident and emergency department will choose at the nearest hospital. Pre-hospital services are tailored to the emergency level, which is divided into first response, basic life support, intermediate life support, and advance life support.

Access to rehabilitation and rescue services has increased. But the distribution Still a major problem. It causes inequality in different areas which the urban area is more concentrated than the countryside. In Thailand, long term care is a role and family responsibility (Descendants are care givers), which is tradition and Thai culture, however elderly population has increased in number especially elderly people without family care. So long term care systems need to be set up by public and private sector. with a variety of formats. Both support home care with families of patients / seniors themselves, delivery of caregiver to the patient / elderly home and care / elderly care at the care center mean while patient care and palliative care are needed more in the past. Throughout, health care workers have not paid much attention to the use of painkillers. Especially the opiates. Containing drugs pain relief and palliative care for the course. many health personnel opiate medical use of anesthesia. There has been a rapid increase in the past. But the amount of pain medication. But morphine per capita population is still well below the global average.

Mental health services are available in general hospitals. Also, most services are under the department of mental health. There is a psychiatric hospital. 17 out of 122 outpatient mental health services have been selected health professional fields to

provide treatment, prevention and promotion of mental health. However, these patients still have stigma problems. Dental services are available at all levels of health care. But use rate services remain low (only 9% of the Thai population have dental services). The distribution of dentists varies greatly in each region.

Traditional Thai medicine and alternative medicine are accepted in Thailand, but there are only Thai traditional medicine is registered and integrated with current medicine

2.4.1 Access to public health services

The target population has access to preventive services and health promotion. Initially good such as vaccination, contraception and pregnancy care. Since basic health infrastructure is well dispersed, community hospitals and health promoting hospitals cover all suburbs and all over the country based on the results of the Thai Health Survey. The third and fourth bodies were found to have increased access to screening systems, chronic disease filter (diabetes, hypertension and high blood fat), but it also recognized is the need for further development (Aekplakorn, Chariyalertsak et al. 2011) More comprehensive service part of the payment to the hospital. Specifically, according to the purpose of the service provided. Subsequent neglect of non-target services and health personnel have increased workload such as filling.

2.4.2 Development opportunities

Health reform since 2001 has had some negative consequences. And there is a division in the provision of public health services. Greater collaboration is needed to deal with emerging health issues, especially those related to behavior and lifestyle. Emerging infectious diseases and social factors which affect public health; Future health system reforms are needed to address conflicts and limitations of universal coverage.

2.4.3 Organization of primary care services

Outpatient medical care, the first point of contact between the patient and the health system. In 2009, outpatient care clinics were as follows. There are 10,347 health

promoting hospital or community hospital or 10,347 health centers or health centers (about 5% of these health centers have 1-2 physicians, most of them located in urban areas. Including Bangkok 17671 privately owned outpatient clinics, 992 public outpatient departments, and outpatient department of the hospital. The number of 322 private individuals (Wibulpolprasert, Chokevivat et al. 2011) Outpatient services increased from 2.0 per person per year in 2004 to 3.6 in 2010. (NHSO 2013) The district health station or community hospital is all owned by the Ministry of Health. The main personnel are sanitation workers who have been trained for 2 years. Strengthen the primary care unit and the government has raised the level of the health center to a district health promoting hospital. The number of professional nurses trained over 4 years increased from 1766 in 2006 to 10,274 in 2011. The ratio of personnel to one community hospital increased from 3.2 in 1999 to 3.8 in 2011 (NHSO 2013). And enhance the potential of the health center. To deal with the need yet unmet needs and the solution of outpatient services in hospitals under the Ministry of Public Health. However, the shortage of human resource especially the doctors and nurses are still main obstacle to the operation.

2.4.4 Relationships between primary and secondary care.

Although the health system in Thailand has designed in several levels of service, the disease prevention and promotion (including health programs or health programs) has been integrated into state hospitals. Community hospital, general hospital. Therefore, the hospital does not only provide secondary or tertiary care to residents in the area. It also provides basic public health services to the people in the district. After Thailand has reached universal health insurance. State hospitals under the jurisdiction of the Ministry of Public Health have make an agreement as a primary health service contractor to provide health services to people who are domiciled in the district. District level health promoting hospitals located in the district level are selected as primary health care networks. And provides both individual health care and community services. This causes greater involvement and collaboration between the hospital and the district health promoting hospital. Both financial and academic support (Srithamrong-sawat, Yupakdee et al., 2010). Sub-acute care and long term care. It has

not been developed well. Most hospitals continue to focus on acute care. While there is a great demand for social care, subacute and long term care has increased dramatically as a society. Elderly chronic and non-chronic disease now find sub-acute care system and long term care. The hospital is not sufficient to accommodate patients with disabilities and there is a tendency to lack of continuous treatment in both medical care and community social care (Srisasalux, Vichathai et al. 2009)

2.4.5 Informal care

Home care for the elderly and the disabled: this project was initiated and implemented by the Ministry of Social Development and Security and Human beings since 2002, with the objective of establishing a system of care and protection of the elderly in the community home based care carries out a participatory process. Government and community members, this makes the community more involved in caring for older people and their families. Disability in the community itself. The project is aimed at those without caregivers who experience social problems and help them access home care services. There are volunteers and field staff to access public services and to help them live with their families in a better quality of life. The home care program is being expanded every year. On April 10, 2007, the Cabinet has concluded to expand the project which care at home covers all areas in the country, and in 2010 found that there were 23,324 home care volunteers. (NHSO 2013)

Home care project by volunteer group: additional to the home care program, this project is home based care by a peer group. A member of the Thai Elderly Club under the patronage of HRH Princess Srinagarindra. The project has provincial branches nationwide, working with provincial health offices. By focusing on training the elderly to be volunteers and take care of elderly patients at home under the supervision of a hospital. Community in each locality volunteers will travel to visit elderly patients with hypertension. Reliant on 2 times a week. (NHSO 2013)

Long term care in the community: This project operates under "Collaborative development project in service. Health and Social Welfare for the Elderly in Communities in Thailand," which has been piloted in four provinces: Chiang Rai, Khon Kaen, Nonthaburi and Surat Thani. For the purpose to develop a service model for the

elderly in the community according to the needs and context of each. Community and long-term service to the elderly. The district level project is the center for integrating the elderly care in the community with the organization. Local governments and civil society took a serious part in 2010. Long term care patterns in communities took place in 42 sub districts in 35 provinces. 1) have a quality elderly club 2) volunteer to care for the sick 3) have standardized care homes for elderly people are provided by skilled personnel and 4) there is the establishment of health services for the elderly who are reliant and self reliant. daily routine These criteria help to strengthen the community and support the future of the elderly society. (NHSO 2013)

2.4.6 Formal care

Home and community care: Department of Health, Ministry of Public Health has pilot program. Home care management at home blend for the elderly with the hospital. The project aimed to develop the system. Home care for the elderly and chronically ill patients to increase access to care, and the development of the capacity of the kitchen and the community. Care and help the elderly are not get sick. This can reduce costs of hospitals and health systems. The home care program started in 2005 in 26 pilot areas and 2006-2007 has been expanded nationwide. Society was run by local government organizations through the Ministry of Development. Society and Human Security and the Ministry of Interior. However, the coordination of both services is not good as well.

Paid caregiver: Long term care needs are increasing which is the result of the population. Elderly increases and increases in chronic disability and the expansion of the city (Kespichayawattana & Jitapunkul, 2009). Formal long term care system is clearly visible in urban areas. Families are beginning to employ caregivers to care for dependents, such as parents, when family members go to work outside the home and cannot provide care to dependent patients.

Care center: Care and support for the elderly, the disabled, and those with chronic illness at home. It became a thriving business because it could meet the needs of the people. Big city like Bangkok most of the elderly care centers in Bangkok are operated by doctors and nurses. These training centers are open to coaching, training

and recruitment for the students. The center also accepts as an intermediary between caretaker patients and relatives. The exact number of these centers is unclear. Because of the lack of registration and control systems, various ministries have tried to control the long term care centers by personnel. Health, even if not very comprehensive and systematic. In January 2010, the Ministry of Health provided information on the risks that exist in the long term care center. And control systems have been set up under the Public Health Act BE 2535. However, supervision is under the authority of the governing body. The province has not done much in 2009. Ministry of Social Development and Human wealth has laid down the payment arrangements for helpless patients. Accessible to public service and able to live by yourself at home. These assistants They will receive a fee of 50 baht per hour for care of up to 6 hours a day. This project started in 2009 in all provinces with 5 trained trainees per province and in Bangkok has 25 people.

2.5 Thailand health care services

Ministry of Public Health of Thailand response for public health by providing a health service system that covers health promotion, disease prevention, health care and rehabilitation services. These provided health services in several levels, including primary care, secondary care, and tertiary care. Each level has a role, different functions and linked with a referral system to provide quality health care and efficient use of limited resources. As well as a health service potential for addressing complex medical and public health issues at the local level. (MOPH 2016)

2.5.1 Health service level division by Geographic Information System (GIS)

Primary care is healthy services level from sub-district health promoting hospital, municipal center, community health center, community hospital, general hospital or other service sector both government and private. Which the mission is to promote, rehabilitate, prevent and cure in health and finished as the out-patient. Thus, the location of the primary care should have located at center of the sub-district as possible and sub-district people can transit to receive health services as fast as the most convenience. The doctor should be provided in the service unit. The rotating routine or

routine service as a general practitioner, family medicine, preventive medicine, occupational medicine or epidemiology. All of the kind of care set to level 1. (MOPH 2016)

Secondary care divided in to 3 levels consist of

Initial secondary care is consisting of community hospital, general hospital, central hospital and other service center both government and private. which have patient bed for curative and finished as the in-patient. Cure in the non-complex disease or common problem by general practitioner, family medicine, preventive medicine, occupational medicine or epidemiology. All of the kind of care set to level 2.1. (MOPH 2016)

Mid secondary care is consisting of large community hospital, general hospital and other health service both government and private. This has more complex medical missions and need for specialized doctors such as obstetrics, surgery, pediatrics, orthopedics surgery and anesthetist. All kind of care set to level 2.2. (MOPH 2016)

High secondary care is consisting of large community hospital, general hospital, central hospital and other health service both government and private. which expanded scope of the medical treatment of the disease more complex. And need specialized secondary medicine. In addition to specialized medicine in major fields, such as ophthalmology, otolaryngology, laloprology, radiology psychiatry and rehabilitation. All kind of care set to level 2.3. (MOPH 2016)

Tertiary care divided in to 2 levels consist of

Tertiary care consists of general hospital, central hospital, medical school hospital, specialist hospital or other health service both government and private. The mission of this service center is to expand the scope of medical care needed by sub-specialty physicians, such as neurology, kidney disease, heart disease, respiratory diseases, endocrine system diseases, blood diseases, gastroenterology, infectious diseases, etc. The branch of the orthopedic surgery is neurosurgery. Surgery, Euro stop Surgery, Pediatrics, Pediatrics The large intestine and blood vessels are decorated like a branch of the pediatrics. Respiratory system, heart disease, kidney disease,

hemophilia, pathology, pathology, anatomy, radiation therapy, diagnostic radiology, nuclear medicine and cancer science. All kind of care set to level 3.1 (MOPH 2016)

Excellence center consists of the someplace of central hospital, medical school hospital, specialist hospital and other hospital both government and private. The mission of this service center is to add addition to serving as tertiary units designated as a high-level disease-specific treatment center. For example, heart disease centers (doctors in thoracic surgery cardiology respiratory medicine pediatric respiratory medicine, pediatrics cardiology) cancer center (radiotherapy / radiology / neurology / anatomy/ blood disease medicine) accident center (physician focus on orthopedic surgery, forensics pediatric surgery) implant center etc. All kind of care set to level Excellent (MOPH 2016)

Follow up or doctor appointment is the process of monitoring the progress of a patient after a period of active treatment or some further action taken after a procedure is finished, such as contact by a health care agency day, weeks or month after a patient has undergone treatment. From the study of (Kampan 2006) presented that before hospital discharge, each patient was given appointments for the follow-up at 1 and 3 months respectively to receive serum glucose monitoring and health examination.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research design

The quantitative study by cross-sectional study design, focusing on the elderly who were using health care services and living in the selected comparison area, Umphur Muang (urban) and Wapi Pathum (rural) District, Mahasarakham, to unclosethe recent situation of health utilization due to the effect of transportation barriers.

3.2 Study area and Study period

This study was conducting in urban and rural area, Umphur Muang and Wapi Pathum district, Mahasarakham, Thailand. The study period was April to June 2017.

3.3 Study population

The population in this study is in both male and female elderly persons who are the member of any type of insurance and using of health care services and live more than one year in both urban and rural area of the Umphur Muang and Wapi Pathum district, Mahasarakham, Thailand.

3.3.1 Inclusion criteria

- 1) Thai elderly in both male and female.
- 2) Who are the member and under health insurance schemes.
- 3) Who are able to speak Thai language.
- 4) Who are living in the Umphur Muang or Wapi Pathum district more than 1 year.
- 5) Who are able to come to health facility.

6) Who are willing to participate in this study.

3.3.2 Exclusion criteria

1) Who are hearing and vision loss.

2) Who are bed ridden/disabilism



3.4 Sampling Technique

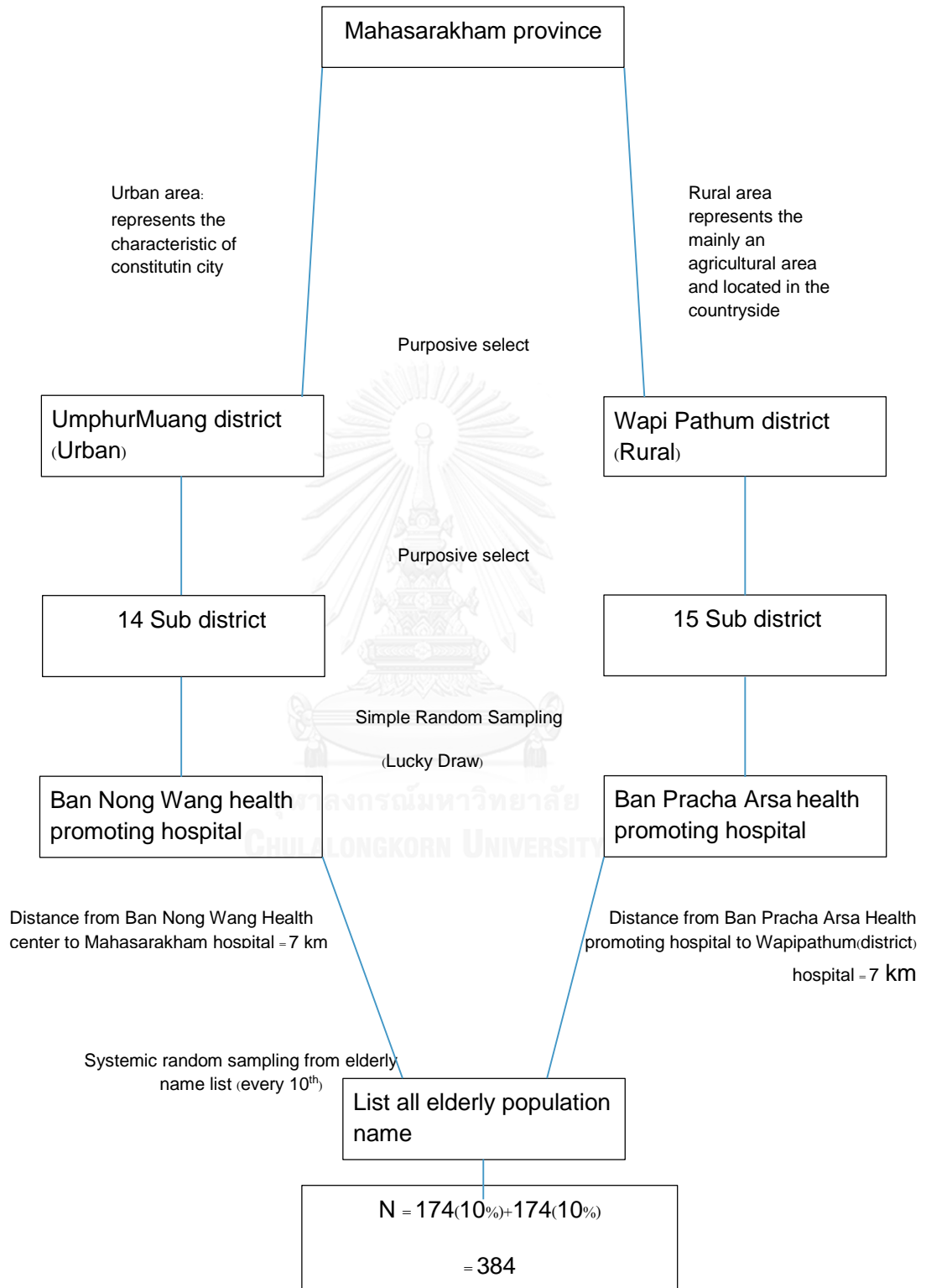


Figure 2 Sampling technique

3.5 Sample and Sample size

Using formula to calculate the sample size in this study and the sample size including people aged 60 or over who are in the inclusion criteria;

$$n_1 = \left[\frac{z_{1-\frac{\alpha}{2}} \sqrt{\bar{p}\bar{q}\left(1+\frac{1}{r}\right)} + z_{1-\beta} \sqrt{p_1 q_1 + \frac{p_2 q_2}{r}}}{\Delta} \right]^2$$

$$r = \frac{n_2}{n_1}, q_1 = 1 - p_1, q_2 = 1 - p_2$$

$$\bar{p} = \frac{p_1 + p_2 r}{1+r}, \bar{q} = 1 - \bar{p}$$

where;

Elderly health utilization in urban area proportion(p_1) = 0.42 (The 2013 Survey on Health and Welfare. (2013))

Elderly health utilization in rural area proportion (p_2) = 0.57 (The 2013 Survey on Health and Welfare. (2013))

Ratio (r) = 1.00

Alpha (α) = 0.05, Z (0.975) = 1.959964

Beta(β)=0.20, Z (0.800) = 0.841621

The proportion of healthcare utilization among urban and rural elderly will be

= $174 * 2 = 348 + 10\%$ increase = 384 persons

3.6 Measurement Tool

There are 3 parts of the questionnaires in this study follow by

3.6.1 The demographic characteristic

Includes 26 questions about the place of living rural/urban, gender, age, education, income, religion, marital status, exercise, smoking status, drinking status, health status, healthcare utilization, chronic health condition, occupation, household characteristics, care taker and home care visited.

3.6.2 The Transportation barrier questionnaires

Include 5 questions about the transportation cost, distance to health provider, availability of transportation and transit time

3.6.3 Satisfaction and perception of healthcare facilities on transportation questionnaires include 6 questions developing from the concept of Penchanskie and Thomas Consisting of three areas:

- 1) Ability to access health center
- 2) Ease to access services
- 3) Ability to pay services

It would ask three levels of access to health services for primary, secondary and tertiary aspects of a multiple-choice questionnaire to assess the five rating by the rating criteria.

- 1) Most = Message in a sentence consist with the idea or feeling your very best (5 points).
- 2) Very = Message in a sentence consist with the idea or feeling your almost very best (4 points)
- 3) Modeate = not sure of the exact sentence. Or does not match the thoughts or feelings (3 points)
- 4) Minor = Message in a sentence consist with the idea or feeling minority. (2 points)
- 5) Least = Message in a sentence consist with the idea or feeling least. (1point)

The interpretation of the average score on the assessment of the answer. The question 3 which asked about the important of transporation cost would be rating score by use inverse method due to the negatively meaning of question. Then the level interpretation of the score was by finding the average and classified by interval into 3

levels. The score is a third level is to reach a high, moderate and low level of service in primary care and secondary care.

3.68 - 5.00 = High level of satisfaction and peception to health care

2.34 - 3.67 = Medium level of satisfaction and peception to health care

1.00 - 2.33 = Low level of satisfaction and peception to health care

3.6.4 Validity

The researcher was referring the questionnaires to three specialists for review and checking validity of questions. After specialists checking and verify, the researcher was developing the content of questionnaires again follow the specialist's suggestion. Totally, item objectives congruence (IOC) was equal 0.7

3.6.5 Reliability

The researcher tries outed for 20 sets of questionnaires at Huay Kwang District. Bangkok province, Thailand since the population of the elderly in Bangkok represent the majority of elderly inThailand and have the most of eldely proportion compare to another province. The samples were both male and female people aged 60 and over. Cronbach alpha coefficient was 0.73.

3.7 Data collection

Collecting data process was "Face-to-Face" interview. The village health volunteers in Umphur Mueang and Wapi Pathum District would be the research assistants in collecting data process, 4 research assistants would be trained, realized the purpose of this study and clarified the questionnaires. The recruitment of participant would be asked the recommendation from health volunteers to classify in inclusion criteria of eldely before came in the participant's house. The place of interviewing was at elderly house. Before starting to interview, participants had to voluntarily sign in the consent form and asked for permission to made sound record. During the interview time, the researcher or research assistants would ask the question follow the pattern of preparing questionnaires and completed all of the questionnaires.

3.8 Data analysis

Data analysis was used Statistical package with Windows (SPSS) version 17 licensed of Chulalongkorn University to answer the objective and research question of the study.

- Descriptive analysis, enumerate frequency, mean, percentage, and standard deviation, will be utilize to describe elderly general information, healthcare utilization and transportation barriers
- Normality of continuous data was tested by Kolmogorov–Smirnov test.
- Statistical significant was considered at p-value less than 0.5

Bivariate analysis

- Independent t-test was analyzed a difference of continuous data between elderly who seeked and received care (Yes) and who seek but not received care (No) during the last 2 months. If data is skewed, Mann whitney u test will be used.
- For categorical data, Chi-Square (or fisher exact test)was analyzed to test an association between categorical data and healthcare utilization (yes/no).

3.9 Ethical consideration

The study would be approving by the Ethics Review Committee for Research involving Human research subjects, Mahasarakham hospital research center before its start. Furthermore, the purposed and method of this study will be informed and clearly explain to the participants, finally elderly signed the informed consent to be one of the participants and can withdraw from the study anytime.

Chapter 4

Results

In this chapter, the descriptive data and data analysis in the transportation barriers on healthcare utilization among elderly population living in Mahasarakham province Thailand and followed in response to the research questions and objective that mentioned in chapter 1. The data were collected from the elderly in two districts, Umphur Muang and Umphur Wapipathum. Using 384 samples from sample size calculation, data collected from April to May 2016. Then 359 sets have been recovered. Research results, interpret data and finding were presented in this chapter as following;

- 4.1 Demographic characteristics, elderly health status and living conditions
- 4.2 Health care utilization, transportation barriers and elderly perception
- 4.3 A comparison of healthcare utilization between urban and rural elderly
- 4.4 An association between transportation barriers, satisfaction and perception of transportation facilities and health care utilization

4.1 Elderly demographic characteristics, health status and living conditions

In this part the descriptive data on the overall demographic characteristics of the elderly in both elderlies who living in the rural and urban area to explain the basic information of elderly such as age, gender, education level, religion, marital status, elderly exercise behavior, drinking and smoking status, elderly job status, and income. As presented in the table 1. Followed by overall health status of the elderly in this study which explained the idea of an individual elderly about their overall health. the chronic disease status and the type of disease that diagnosed by the physician. As presented in the table 2. Finally, overall primary care of the elderly which include stay with people and their children and also described in the elderly living condition. As presented in the table 3

Table 2 Demographic characteristics of participated elderly in Mahasarakham province

	Total N = (359)	
	n	Percent
Age (years)		
60 - 69 Years	196	54.6
70 - 79 Years	123	34.3
More than 80 Years	40	11.1
mean \pm SD	70 \pm 7.1	
Gender		
Male	146	40.7
Female	213	59.3
Education		
Primary school and lower	319	88.9
Secondary	16	4.5
High school and above	24	6.6
Religion		
Buddhists	359	100
Marital status		
Single /Divorce	20	5.6
Married	230	64.1
Widow	109	30.4
Exercise		
Everyday	50	13.9
< 3 days per week	36	10
3-4 days per week	68	18.9
Have Physical Activity but not exercise	205	57.1
Smoking status		
Never	310	86.4
Ex-Smoke	10	2.8
Smoke	39	10.9
Smoking Duration (years; mean \pm SD)	23.6 \pm 15.5	
Amount of cigarettes per day (cigarettes; mean \pm SD)	6.5 \pm 2.6	
Drinking status		
Never	296	82.5

	Total N = (359)	
	n	Percent
Ex-Drink	13	3.6
Drink	50	13.9
Drinking Duration (years; mean \pm SD)	19.8 \pm 14.5	
Amount of glasses per week (glasses; mean \pm SD)	5 \pm 4.2	
Current job		
Have	130	36.2
Not have	229	63.8
Average Income per month (Baht)		
less than 600	3	0.8
600-1000	210	58.5
More than 1000	146	41.2
Source of current income		
Self	48	13.4
Couple	6	1.7
Children	63	17.5
Allowance elderly	237	66
other	5	1.4
Income sufficiency		
Sufficient	120	33.4
insufficient	236	65.7
Retained	3	0.8

The demographic of elderly is presented in table 1. The average age of the elderly population in Mahasarakham province was 70 years with the standard deviation for 7.1 years. The majority group of elderly population located in range of 60 to 69 years or about 54.6 percent. The education levels of the elderly population in this study showed that almost of elderly was graduated from primary school and below which a number showed as 88.9 percent in the table. The religion of the elderly population found that all of the participant was Buddhists. The marital status of the elderly was showed that more than 60 percent had couple status, followed by 30 percent had widow status

and only 5 percent had single status. The exercise of the elderly population showed that more than half of all participant in this study had physical activity but not exercise which elderly just walk and do housework. And another half of all participant had exercise less than 3 days per week, 3 to 4 days per week and every day. The smoking status of the elderly population showed that the majority group in this study had never smoke or equal to 86.4 percent but if they still smoking until now, the data showed that average year of smoking duration was around 23 years with the 15.5 standard deviation and amount of cigarettes per day was around 6 cigarettes with the 2.6 standard deviation. The drinking status of the elderly population showed that the majority group in this study had never drink or equal to 82.5 percent but if they still drinking until now, the data showed that average year of drinking duration was around 20 years with the 14.5 standard deviation and amount of drinking glass per week was around 5 glasses with the 4.2 standard deviation. The current job of the elderly population found that more than 63 percent from all of elderly in this study had no job and 36 percent had a work. The average income per month in the elderly population showed that there are two majority group in arranged of 600 – 1,000 baht income per month for 58.5 percent and followed by the income per month more than 1,000 baht for 41.2 percent. The source of current income found that 66 percent received income from an allowance elderly, followed by 17.5 percent from their children, 13.4 percent from themselves which had a current job, 1.7 percent from their couple and 1.4 percent from other source while the income sufficiency of the elderly showed that 65.7 percent of all participant had insufficient income per month, followed by 33.4 percent had sufficient income and 0.8 percent had retained income.

Table 3 Health condition of participated elderly in Mahasarakham province

	Total (N = 359)	
	n	Percent
Health Status perception		
Good	101	28.1
Moderate	203	56.5
Poor	55	15.3
Chronic Disease diagnosed by physician		
No	167	46.5
Yes	192	53.5
Type of Chronic Diseases (multiple answers)		
High Blood Pressure	65	25.6
Heart disease	23	9.1
Diabetes	55	21.7
Asthma	12	4.7
Others (Osteoarthritis, Osteoporosis, Eyes Disease and Hearing Disease)	99	39.0

The overall health status of the elderly population in Mahasarakham province showed that more than half of participant had moderate health status for 56.5 percent, followed by good health status for 28.1 percent and poor health status for 15.3 percent. The data of chronic disease which diagnosed by physician found that 53.5 from all of the elderly population had chronic disease and another 46.5 percent had no chronic disease. From the number of chronic disease that diagnosed by physician, the data have classified in 5 types. Firstly, elderly in this study had high blood pressure for 25.6, secondly elderly had diabetes for 21.7 percent, thirdly elderly had heart disease for 9.1 percent, fourthly elderly had asthma for 4.7 percent and the last one elderly had osteoarthritis, Osteoporosis, eyes disease, hearing disease for 39 percent (Table 2).

Table 4 Elderly caretaker and their living conditions in Mahasarakham province

	Total (N = 359)	
	n	Percent
Primary caretaker		
Couple	154	42.9
Children	174	48.5
Relative	20	5.6
other	5	1.4
People who elderly stay with		
Stay alone	20	5.6
Couple	181	50.4
Children	135	37.6
Relative	16	4.5
other	7	1.9
Number of children		
No	17	4.7
1-2 persons	156	43.5
More than 2 persons	186	51.8
Number of living children		
No	22	6.1
1-2 persons	169	47.1
More than 2 persons	168	46.8
Number of children living in the same house		
No one	56	15.6
1-2 persons	210	58.5
More than 2 persons	93	25.9
Residential status		

	Total (N = 359)	
	n	Percent
House owner	351	97.8
Not the house owner	8	2.2
Medical home visit		
Yes	335	93.3
No	24	6.7
Residential location		
Urban	179	49.9
Rural	180	50.1

Table 3 shows a living condition of elderly including their primary caretaker in this study. The primary caretaker of the elderly showed that there are two majority groups, their children and couple. The number of children who take care of their parent was 48.5 percent, followed by 42.9 percent of their couple, 5.6 percent of their relative and another 1.4 percent of other. The people who elderly stay with during day and night time found that 50.4 percent of their couple would be stay together, followed by 37.6 percent of their children, 5.3 percent elderly would stay alone, 4.5 percent of their relative would stay with elderly and 1.9 percent with other. The number of children of the elderly in this study found that 51.8 percent of elderly had more than 2 children, followed by 43.5 of the elderly had 1 to 2 children and 4.7 percent of the elderly had no children. The number of children of the elderly population still alive of elderly showed that 47.1 percent still alive 1 to 2 person, followed by 46.8 percent still alive more than 2 persons and 6.1 percent has been died. The number of children of the elderly population living in the same house showed that 58.5 percent had 1 to 2 children living in the same house, followed by 25.9 percent had more than 2 children living in the same house and 15.6 percent had no one of children living with elderly in the same house. The residential status of elderly house found that 97.8 percent was a house owner and 2.2 percent was not a house owner. The residential location of elderly house found that 50.1 percent was located in rural area or Wapipathum district and another 49.9

percent was located in urban area or Umphur Muang district .The medical home visit to elderly house showed that 93.3 percent of the elderly has been visited by medical home visit program and another 6.7 percent of the elderly has not been visited by medical home visit program.

4.2 Health care utilization, transportation barriers and elderly perception on transportation barrier

In this part the descriptive data on the overall healthcare utilization in the elderly living in the 2 study area, collected as out-patient visit in this last 2 months' period if only they need in this case, also collected type of insurance elderly used officially, and for each disease where elderly received healthcare regularly. As presented in the table 4



Table 5 Health care utilization of participated elderly in Mahasarakham provinces

	Total (N = 359)		Urban (N = 179)		Rural (N=180)	
	n	Percent	n	Percent	n	Percent
Out-patient visit during last 2 months (if needed)						
Yes	115	32	49	27.4	66	36.7
No	244	68	130	72.6	114	63.3
Type of insurance						
Universal Healthcare coverage	303	84.4	155	87	148	82.2
Civil servant medical benefits scheme (CSMBS)	21	5.8	18	10	3	1.7
Social security scheme (SSS)	7	1.9	6	3	1	0.6
Self-Payment	25	7	0	0	25	13.9
Other	3	0.8	0	0	3	1.7
Chronic disease receiving care						
<i>High Blood Pressure (n=65)</i>						
health promoting hospital	33	50.8	13	48.1	20	52.6
Community Hospital	6	9.2	1	3.7	5	13.2
General Hospital	18	27.7	12	44.4	6	15.8
Other	6	9.2	1	3.7	5	13.2
Not received any care	2	3.1	0	0.0	2	5.3
<i>Heart disease (n=23)</i>						
health promoting hospital	3	13	2	18.2	1	8.3
Community Hospital	4	17.4	0	0.0	4	33.3
General Hospital	14	60.9	7	63.6	7	58.3
Other	2	8.7	2	18.2	0	0.0
<i>Diabetes (n=55)</i>						
health promoting hospital	27	49.1	15	44.1	12	57.1
Community Hospital	4	7.3	0	0.0	4	19.0
General Hospital	24	43.6	19	55.9	5	23.8
<i>Asthma (n=12)</i>						
health promoting hospital	4	33.3	2	50	2	25

	Total (N = 359)		Urban (N = 179)		Rural (N=180)	
	n	Percent	n	Percent	n	Percent
Community Hospital	6	50	0	0	6	75
General Hospital	2	16.7	2	50	0	0

The number of out-patient visit during last 2 months if the elderly needed showed that 32 percent of the elderly in this study had visited as out-patient and another 68 percent had not visited as out-patient. The type of health insurance that elderly used for health utilization showed that 84.4 percent of overall elderly used an universal healthcare coverage, followed by 7 percent self-payment, 5.8 percent used a civil servant medical benefits scheme, 1.9 percent used a social security scheme, and 0.8 percent used other method. The chronic disease receiving care was explained the frequency of health promoting, district and general hospital visited due to the chronic disease receiving care. High blood pressure health promoting hospital visited was 50.8 percent, followed by general hospital visited for 27.7 percent, community hospital visited for 9.2 percent, other place visited for 9.2 percent, and not received any care for 3.1 percent. Heart disease general hospital visited was 60.9 percent, followed by community hospital visited for 17.4 percent, health promoting hospital visited for 13 percent and other place visited for 8.7 percent. Diabetes health promoting hospital visited was 49.1 percent, followed by general hospital visited for 43.6 percent and community hospital visited for 7.3 percent. Asthma community hospital visited was 50 percent, followed by health promoting hospital visited for 33.3 percent and general hospital visited for 16.7 percent.

Table 6 Transportation characteristics towards healthcare utilization among elderly in Mahasarakham province

	Total (N = 359)					
	Health promoting hospital		Community hospital		General hospital	
	n	Percent	n	Percent	n	Percent
Type of transportation						
Walk	79	22.0	-	-	-	-
Bicycles	45	12.5	22	6.1	16	4.5
Motorcycle	201	56.0	175	48.7	67	18.7
Car	29	8.1	114	31.8	180	50.1
Bus	1	0.3	33	9.2	77	21.4
Other	3	0.8	14	3.9	18	5.0
Transportation Expense by elderly						
Not pay	269	74.9	235	65.5	182	50.7
Pay	90	25.1	124	34.5	177	49.3
Average payment (Bath; maximum±SD)	44.3 ± 55.5		151 ± 276.1		186.5 ± 425.4	
Min -Max	0 - 400		0 - 2000		0 - 5000	
Travel duration (mins; mean±SD)	14 ± 5.9		31 ± 10.2		46 ± 20.5	
Distance from home (km; mean±SD)	1.6 ± 1.4		6.9 ± 2.2		22.2± 19.2	
Accompany people						
Self	128	35.7	82	22.8	81	22.6
Couple	34	9.5	33	9.2	34	9.5
Children	169	47.1	211	58.8	210	58.5
Relative	28	7.8	33	9.2	34	9.5

Table 6 Transportation characteristics towards healthcare utilization among elderly in Mahasarakham province (cont.)

	Health promoting hospital		District hospital		Provincial hospital	
	n	Percent	n	Percent	n	Percent
Urban (N = 179)						
Type of transportation						
Walk	59	33.0	0	0.0	0	0.0
Bicycles	40	22.3	21	11.7	16	8.9
Motorcycle	64	35.8	86	48.0	63	35.2
Car	14	7.8	45	25.1	59	33.0
Bus	2	1.1	27	15.1	41	22.9
Other	0	0.0	0	0.0	0	0.0
Transportation Expense by elderly						
Not pay	137	76.5	105	58.7	71	39.7
Pay	42	23.5	74	41.3	108	60.3
Average payment (Bath; maximum±SD)	14.36 ± 3.4		94 ± 18		130.3 ± 31	
Min - Max	0 - 400		0 - 2,000		0 - 5,000	
Travel duration (mins; mean±SD)	11.5 ± 0.4		28.2 ± 0.6		29.2 ± 0.8	
Distance from home (km; mean±SD)	0.8 ± 0.1		6.3 ± 0.2		6.9 ± 0.3	
Accompany people						
Self	80	44.7	43	24.0	47	26.3
Couple	16	8.9	14	7.8	15	8.4
Children	74	41.3	108	60.3	103	57.5
Relative	9	5.0	14	7.8	14	7.8

Table 6 Transportation characteristics towards healthcare utilization among elderly in Mahasarakham province (cont.)

Rural (N = 180)						
Type of transportation						
Walk	20	11.1	0	0.0	0	0.0
Bicycles	5	2.8	1	0.6	0	0.0
Motorcycle	137	76.1	89	49.4	4	2.2
Car	15	8.3	69	38.3	121	67.2
Bus	1	0.6	6	3.3	36	20.0
Other	1	0.6	14	7.8	18	10.0
Transportation Expense by elderly						
Not pay	132	73.3	130	72.2	111	61.7
Pay	48	26.7	50	27.8	69	38.3
Average payment (Bath; maximum±SD)	7.9 ± 1		10.5 ± 1.5		53.8 ± 10.4	
Min - Max	0 – 30		0 – 100		0 – 600	
Travel duration (mins; mean±SD)	15.8 ± 0.4		34.4 ± 0.8		62 ± 0.9	
Distance from home (km; mean±SD)	1.93 ± 0.1		7.6		47.4 ± 0.2	
Accompany people						
Self	48	26.7	39	24.0	34	18.9
Couple	18	10	19	7.8	19	10.6
Children	95	52.8	103	60.3	107	59.4
Relative	19	10.6	19	7.8	20	11.1

Table 5 presents type of selected transportation to primary and secondary care of elderly in both urban and rural area. The type of transportation when elderly went to health promoting hospital, mostly they used motorcycle for 56 percent, followed by walk for 22 percent, by used bicycles for 12.5 percent, by used car for 8.1 percent, by used other way for 0.8 percent and by used bus for 0.3 percent. The type of transportation when elderly went to community hospital, mostly they used motorcycle and car for 48.7 and 31.8 percent respectively, followed by used bus for 9.2 percent, by used bi-cycles for 6.1 percent and by used other way for 3.9 percent. The type of transportation when elderly went to general hospital, mostly they used car for 50.1 percent, followed by used bus for 21.4 percent, by used motorcycle for 18.7 percent, by used other way for 5 percent and by used bicycles for 4.5 percent. The transportation expense by the elderly when elderly went to health promoting hospital, mostly they did not pay for transportation expense for 74.9 percent, followed by paid less than 30 baht for 20.9 percent, and paid more than 30 baht for 4.2 percent. The transportation expense by the elderly when elderly went to community hospital, mostly they did not pay for transportation expense for 65.5 percent, followed by paid more than 30 baht for 17.5 percent and paid less than 30 baht for 17 percent. The transportation expense by the elderly when elderly went to general hospital, mostly they did not pay for transportation expense for 50.7 percent, followed by paid more than 30 baht for 28.4 percent and paid less than 30 baht for 20.9 percent. Then the average maximum payment when the elderly went to the health promoting, district, and general hospital were 44.3, 151, 186.5 baht with the standard deviation 55.5, 276.1, and 425.4 respectively. The travel durations when elderly went to health promoting, district and general hospital were 14, 31, 46 minutes with the standard deviation 5.9, 10.2 and 20.5 respectively. Then travel distance from elderly home to the health promoting, district, and general hospital were 1.6, 6.9, and 22.2 kilometer with the standard deviation 1.4, 2.2, 19.2 respectively. The accompany people when elderly went to health promoting hospital showed that 47.1 percent of elderly population went to health promoting hospital with their children, followed by 35.7 percent went by themselves, 9.5 percent went with their couple and 7.8 percent went with their relative. The accompany people when elderly went to community hospital showed that 58.8 percent of elderly population went to health promoting hospital with their children, followed by 22.8 percent went by themselves,

9.2 percent went with their couple and relative. The accompany people when elderly went to community hospital showed that 58.5 percent of elderly population went to health promoting hospital with their children, followed by 22.6 percent went by themselves, 9.5 percent went with their couple and relative.

Table 7 Satisfaction and perception of transportation on health care among 359 respondents

	Total (N = 359)		
	Health promoting hospital	Community hospital	General hospital
	mean \pm SD	mean \pm SD	mean \pm SD
Traveling time	4.2 \pm 0.7 (High)	3.8 \pm 0.8 (High)	3.6 \pm 0.9 (Medium)
Convenience	3.9 \pm 0.8 (High)	3.5 \pm 0.8 (Medium)	3.6 \pm 0.9 (Medium)
Transporation cost	2.9 \pm 1.2 (Medium)	2.6 \pm 1.2 (Medium)	2.5 \pm 1.1 (Medium)
Taveling vehicle	3.9 \pm 0.8 (High)	3.7 \pm 0.8 (High)	3.5 \pm 1.1 (Medium)
Total expense	3.5 \pm 1.2 (Medium)	3.3 \pm 1.1 (Medium)	3.2 \pm 1.2 (Medium)
Ability to pay for expenses	3.8 \pm 1.0 (High)		

The satisfactions and perceptions in transportation on healthcare which included transit time from home, convenience of traveling, important of transportation cost, convenience of vehicles for traveling, satisfaction of expense, and ability to pay for expense were presented in table 6.

For the transit time from elderly home to health promoting hospital, average score was 4.2 unit with the 0.7 standard deviation which was classified into a high level of satisfaction in transit time. For transit time from elderly home to community hospital, average score was 3.8 unit with the 0.8 standard deviation which was classified into a high level of satisfaction in transit time. For transit time from elderly home to general hospital, average score was 3.6 unit with 0.9 standard deviation which was classified into a medium level of satisfaction in transit time.

For the convenience of traveling from elderly home to health promoting hospital, average score was 3.9 unit with the 0.8 standard deviation. which was classified into a high level of satisfaction in convenience of traveling. For the convenience of traveling from elderly home to community hospital, average score was 3.5 unit with the 0.8 standard deviation. which was classified into a medium level of satisfaction in convenience of traveling. For the convenience of traveling from elderly home to general hospital, average score was 3.6 unit with the 0.9 standard deviation. which was classified into a medium level of satisfaction in convenience of traveling.

For the importance of transportation cost when elderly went to health promoting hospital, average score was 2.9 unit with the 1.2 standard deviation which was classified into a medium level of importance in transportation cost. For the importance of transportation cost when elderly went to community hospital, average score was 2.6 unit with the 1.2 standard deviation. which was classified into a medium level of access to health care. For the importance of transportation cost when elderly went to general hospital, average score was 2.5 unit with the 1.1 standard deviation. which was classified into a medium level of access to health care.

For the convenience of vehicles for traveling when elderly went to health promoting hospital, average score was 3.9 unit with the 0.8 standard deviation. which was classified into a high level of access to health care. For the convenience of vehicles for traveling when elderly went to community hospital, average score was 3.7 unit with the 0.8 standard deviation. which was classified into a high level of access to health care. For the convenience of vehicles for traveling when elderly went to general hospital, average score was 3.5 unit with the 1.1 standard deviation. which was classified into a medium level of access to health care.

For the satisfaction of expense when elderly went to health promoting hospital, average score was 3.5 unit with the 1.2 standard deviation. which was classified into a medium level of access to health care. For the satisfaction of expense when elderly went to community hospital, average score was 3.3 unit with the 1.1 standard deviation. which was classified into a medium level of access to health care. For the satisfaction of expense when elderly went to general hospital, average score was 3.2 unit with the 1.2 standard deviation. which was classified into a medium level of access to health care.

For the ability to pay for expenses of elderly family in term of transportation expenses, average score was 3.8 with the 1.0 standard deviation. which was classified into a high level of access to health care.

4.3 A comparison of healthcare utilization between urban and rural elderly

In this part, the comparison data on the health care utilization between urban and rural area will separated in two areas and described the rate of out-patient visit and also type of insurance elderly used regularly. As presented in the table 7

Table 8 Association between health care utilization and residential area (Urban and Rural)

	Urban area (n = 179)		Rural area (n = 180)		Chi-square	p-value
	n	Percent	n	Percent		
Out-patient visit during last 2 months, if needed					3.6	0.06
Yes	49	27.4	66	36.7		
No	130	72.6	114	63.3		
Type of insurance					40.6 ^a	<0.001
Universal Healthcare coverage	155	86.6	148	82.2		
CSMBS /SSS and other	24	13.4	7	3.9		
Self-Payment	0	0	25	13.9		
^a Fisher's exact test						

Table 7 presents characteristic of healthcare utilization among urban and rural elderly. The association between healthcare visit as outpatient during last two months and urban area was equal to 49 from all of 179 persons or equal to 27.4 percent. Therefore 130 persons or 72.6 percent from all of elderly in this area were not be outpatient visited during last two months. On the other side, the association between

healthcare visit as outpatient during last two months and rural area was equal to 66 from all of 180 persons or equal to 36.7 percent. Therefore 114 persons or 63.3 percent from all of elderly in this area were not be outpatient visited during last two months. However out-patient visit during last 2 months, if needed was statistically insignificant (p -value = 0.06) in relation to residential area (urban and rural). Then type of insurance that elder-ly used in urban area showed that 155 elderly or 86.6 percent used universal healthcare coverage, followed by the 24 elderly which equal to 13.4 percent used civil servant medical benefits scheme (CSMBS), social security scheme (SSS) and other scheme and no one of self-payment. Therefore, type of insurance that elderly used in rural area showed that 148 elderly or 82.2 percent used universal healthcare coverage, followed by the 25 elderly which equal to 13.9 percent pay by themselves and another 7 elderlies which equal to 3.9 percent used civil servant medical benefits scheme (CSMBS), social security scheme (SSS) and other scheme and no one of self-payment. Thereby type of insurance showed that there are strong relationships to residential area since type of insurance was statistically significant in relation to urban and rural area (p -value < 0.001).



4.4 An association between transportation barriers, satisfaction and perception of transportation facilities and health care utilization

In this part, the association between transportation barriers and health care utilization will be explained by compare all of three hospital include health promoting, district, and general hospital out-patient visited in the last 2 months with the representative of transportation barriers in this study include transportation expense by the elderly, travel duration from start until arrive hospital, distance from elderly house to hospital and also accompany people who took elderly to hospital.



Table 9 reveals an association between healthcare utilization and transportation barriers among elderly in current study. The association between transportation expense by elderly and healthcare utilization when elderly went to health promoting hospital showed that elderly who was not pay for transportation expense and received healthcare equal to 88 persons or 76.5 percent, but did not receive healthcare equal to 181 persons or 74.2 percent. On the other side, elderly who paid for transportation expense and received healthcare equal to 27 persons or 23.5 percent, but did not receive healthcare equal to 63 persons or 25.8 percent. Thereby transportation expense by elderly when elderly went to health promoting hospital showed that there are no relationships to healthcare utilization since type of insurance was statistically insignificant in relation to urban and rural area (p -value = 0.63). The association between transportation expense by elderly and healthcare utilization when elderly went to the community hospital showed that elderly who was not pay for transportation expense and received healthcare equal to 77 persons or 67 percent, but did not receive healthcare equal to 158 persons or 64.8 percent. On the other side, elderly who paid for transportation expense and received healthcare equal to 38 persons or 33 percent, but did not receive healthcare equal to 86 persons or 35.2 percent.

Thereby transportation expense by elderly when elderly went to the community hospital showed that there are no relationships to healthcare utilization since type of insurance was statistically insignificant in relation to urban and rural area (p -value = 0.68). The association between transportation expense by elderly and healthcare utilization when elderly went to the general hospital showed that elderly who was not pay for transportation expense and received healthcare equal to 69 persons or 60 percent, but did not receive healthcare equal to 113 persons or 46.3 percent. On the other side, elderly who paid for transportation expense and received healthcare equal to

46 persons or 40 percent, but did not receive healthcare equal to 131 persons or 53.7 percent. Thereby transportation expense by elderly when elderly went to the general hospital showed that there are strong relationships to healthcare utilization since type of insurance was statistically significant in relation to urban and rural area (p-value = 0.02).

For travel duration, the timer in this study was identify by google map application, the association between travel duration and healthcare utilization found that when elderly received healthcare at health promoting hospital elderly took time about 15 minutes 30 seconds with the 5 minutes 30 seconds standard deviation. On the other side, for the elderly who did not receive healthcare at health promoting hospital the travel duration from their house was about 12 minutes 48 seconds with the 5 minutes 54 seconds standard deviation. Hence travel duration showed that there are strong relationships to healthcare utilization since travel duration was statistically significant in relation to healthcare utilization (p-value < 0.001). Thereby when elderly received healthcare at community hospital elderly took time about 33 minutes 54 seconds with the 12 minutes 36 seconds standard deviation. On the other side, for the elderly who did not receive healthcare at community hospital the travel duration from their house was about 30 minutes with the 8 minutes 30 seconds standard deviation. Hence travel duration showed that there are strong relationships to healthcare utilization since travel duration was statistically significant in relation to healthcare utilization (p-value = 0.004). Thereby when elderly received healthcare at general hospital elderly took time about 51 minutes 6 seconds with the 23 minutes 36 seconds standard deviation. On the other side, for the elderly who did not receive healthcare at general hospital the travel duration from their house was about 43 minutes with the 18 minutes 18 seconds standard deviation. Hence travel duration showed that there are strong relationships to

healthcare utilization since travel duration was statistically significant in relation to healthcare utilization (p-value < 0.001).

For the distance from elderly home, the distance in this study was identify by google map application, the association between distance from elderly home and health utilization when the elderly went to health promoting hospital found that when elderly received healthcare at health promoting hospital, the distance from their home was about 2 kilometers 300 meters with 1 kilometer 400 meters standard deviation, on the other side if elderly who are not received healthcare at health promoting hospital, the distance from their home was about 12 kilometers 800 meters with 5 kilometers 900 meters standard deviation. Hence distance from elderly home showed that there are strong relationships to healthcare utilization at health promoting hospital since distance from elderly home was statistically significant in relation to healthcare utilization (p-value < 0.001). Thereby when the elderly went to community hospital found that when elderly received healthcare at community hospital, the distance from their home was about 7 kilometers 600 meters with 3 kilometers 600 meters' standard deviation, on the other side if elderly who are not received healthcare at health promoting hospital, the distance from their home was about 6 kilometers 700 meters with 1 kilometer 300 meters' standard deviation. Hence distance from elderly home showed that there are strong relationships to healthcare utilization at community hospital since distance from elderly home was statistically significant in relation to healthcare utilization (p-value = 0.01). Thereby when the elderly went to general hospital found that when elderly received healthcare at general hospital, the distance from their home was about 27 kilometers 300 meters with 18 kilometers 800 meters' standard deviation, on the other side if elderly who are not received healthcare at health promoting hospital, the distance from their home was about 20 kilometers 400 meters with 19 kilometers 200 meters' standard deviation. Hence distance from elderly home showed that there are strong

relationships to healthcare utilization at general hospital since distance from elderly home was statistically significant in relation to healthcare utilization (p -value < 0.001).

For the accompany people, the association between accompany people and health utilization when the elderly went to health promoting hospital found that when elderly received healthcare at health promoting hospital, the accompany people that took elderly to hospital were children, couple or relative and went by themselves which equal to 58, 25, 32 persons or 50.4, 21.7, 27.8 percent respectively, on the other side if elderly who are not received healthcare at health promoting hospital, the accompany people that took elderly to hospital were children, couple or relative and went by themselves which equal to 111, 37, 96 persons or 45.5, 15.2, 39.3 percent respectively. Hence accompany people showed that there are no relationships to healthcare utilization at health promoting hospital since accompany was statistically insignificant in relation to healthcare utilization (p -value = 0.07). Thereby when elderly received healthcare at community hospital, the accompany people that took elderly to hospital were children, couple or relative and went by themselves which equal to 67, 24, 24 persons or 58.3, 20.9, 20.9 percent respectively, on the other side if elderly who are not received healthcare at community hospital, the accompany people that took elderly to hospital were children, couple or relative and went by themselves which equal to 144, 42, 58 persons or 59, 17.2, 23.8 percent respectively. Hence accompany people showed that there are no relationships to healthcare utilization at community hospital since accompany was statistically insignificant in relation to healthcare utilization (p -value = 0.65). Thereby when elderly received healthcare at general hospital, the accompany people that took elderly to hospital were children, couple or relative and went by themselves which equal to 69, 24, 22 persons or 60, 20.9, 19.1 percent respectively, on the other side if elderly who are not received healthcare at general hospital, the accompany people that took elderly to hospital were children, couple or relative and

went by themselves which equal to 141, 44, 59 persons or 57.8, 18, 24.2 percent respectively. Hence accompany people showed that there are no relationships to healthcare utilization at general hospital since accompany was statistically insignificant in relation to healthcare utilization (p-value = 0.53)



Table 10 An association between perception of transportation facilities on healthcare and healthcare utilization among elderly in Mahasarakham province

	Total (N = 359)											
	Health promotion hospital				District hospital				Provincial hospital			
	Yes (n=115)		No (n=244)		Yes (n=115)		No (n=244)		Yes (n=115)		No (n=244)	
	mean±SD	mean±SD	p-value	mean±SD	mean±SD	p-value	mean±SD	mean±SD	p-value	mean±SD	mean±SD	p-value
Transit time from home	4.22 ± 0.7	4.25 ± 0.7	0.72	3.71 ± 0.8	3.86 ± 0.8	0.10	3.57 ± 1.0	3.67 ± 0.8	0.35			
Convenience of traveling	3.96 ± 0.7	3.95 ± 0.8	0.95	3.57 ± 0.7	3.58 ± 0.8	0.88	3.56 ± 1.0	3.6 ± 0.9	0.66			
Importance of transportation cost	2.86 ± 1.2	2.87 ± 1.2	0.95	2.57 ± 1.1	2.62 ± 1.2	0.66	2.52 ± 1.1	2.5 ± 1.2	0.87			
Convenience of vehicles for traveling	3.94 ± 0.9	3.89 ± 0.8	0.64	3.65 ± 0.9	3.77 ± 0.8	0.23	3.35 ± 1.1	3.5 ± 1.0	0.21			
Satisfaction of expense	3.57 ± 1.1	3.46 ± 1.2	0.44	3.47 ± 1.1	3.26 ± 1.1	0.10	3.36 ± 1.2	3.14 ± 1.2	0.12			

Table 10 shows a result of satisfaction and perception of transportation facilities on healthcare and healthcare utilization among elderly in this study stratified by level of care (primary and secondary care). The association between transit time from home satisfaction and healthcare utilization at health promoting hospital showed that there are no relationships to healthcare utilization since transit time from home satisfaction was statistically insignificant in relation to healthcare utilization at health promoting hospital (p-value = 0.72). Then association between the convenience of traveling satisfaction and healthcare utilization at health promoting hospital showed that there are no relationships to healthcare utilization since convenience of traveling satisfaction was statistically insignificant in relation to healthcare utilization at health promoting hospital (p-value = 0.95)

The association between the Importance of transportation cost and healthcare utilization at health promoting hospital showed that there are no relationships to healthcare utilization since Importance of transportation cost was statistically insignificant in relation to healthcare utilization at health promoting hospital (p-value = 0.95). The association between the Convenience of vehicles for traveling and healthcare utilization at health promoting hospital showed that there are no relationships to healthcare utilization since convenience of vehicles for traveling was statistically insignificant in relation to healthcare utilization at health promoting hospital (p-value = 0.64). The association between the Satisfaction of expense and healthcare utilization at health promoting hospital showed that there are no relationships to healthcare utilization since Satisfaction of expense was statistically insignificant in relation to healthcare utilization at health promoting hospital (p-value = 0.44). Hence the association between transit time from home satisfaction and healthcare utilization at community hospital showed that there are no relationships to healthcare utilization

since transit time from home satisfaction was statistically insignificant in relation to healthcare utilization at community hospital (p-value = 0.10). Then association between the convenience of traveling satisfaction and healthcare utilization at community hospital showed that there are no relationships to healthcare utilization since convenience of traveling satisfaction was statistically insignificant in relation to healthcare utilization at community hospital (p-value = 0.88). The association between the Importance of transportation cost and healthcare utilization at district hospital showed that there are no relationships to healthcare utilization since Importance of transportation cost was statistically insignificant in relation to healthcare utilization at community hospital (p-value = 0.66).

The association between the convenience of vehicles for traveling and healthcare utilization at community hospital showed that there are no relationships to healthcare utilization since convenience of vehicles for traveling was statistically insignificant in relation to healthcare utilization at community hospital (p-value = 0.23). The association between the Satisfaction of expense and healthcare utilization at community hospital showed that there are no relationships to healthcare utilization since Satisfaction of expense was statistically insignificant in relation to healthcare utilization at community hospital (p-value = 0.10). Hence the association between transit time from home satisfaction and healthcare utilization at general hospital showed that there are no relationships to healthcare utilization since transit time from home satisfaction was statistically insignificant in relation to healthcare utilization at general hospital (p-value = 0.35). Then association between the convenience of traveling satisfaction and healthcare utilization at general hospital showed that there are no relationships to healthcare utilization since convenience of traveling satisfaction was statistically insignificant in relation to healthcare utilization at general hospital (p-value

= 0.66). The association between the Importance of transportation cost and healthcare utilization at general hospital showed that there are no relationships to healthcare utilization since Importance of transportation cost was statistically insignificant in relation to healthcare utilization at general hospital (p-value = 0.87). The association between the Convenience of vehicles for traveling and healthcare utilization at general hospital showed that there are no relationships to healthcare utilization since Convenience of vehicles for traveling was statistically insignificant in relation to healthcare utilization at general hospital (p-value = 0.21). The association between the Satisfaction of expense and healthcare utilization at general hospital showed that there are no relationships to healthcare utilization since Satisfaction of expense was statistically insignificant in relation to healthcare utilization at general hospital (p-value = 0.12).

Table 11 An association between ability to pay for healthcare expense and healthcare utilization among elderly in Mahasarakham province

	Yes (n=115)	No (n=244)	
	mean±SD	mean±SD	p-value
Ability to pay for expenses	3.61 ± 1.0	3.83 ± 1.0	0.05
Overall satisfaction and perception of transportation facilities on healthcare	55.47 ± 7.22	55.74 ± 7.01	0.73

The association between the ability to pay for healthcare expense and healthcare utilization in every healthcare utilization unit which were health promoting, district, and provincial health showed that there are relationships to healthcare utilization since ability to pay for healthcare expense was statistically significant in relation to overall healthcare utilization (p-value = 0.05). After sum up every satisfaction and perception of transportation facilities which were transit time from home, convenience of traveling, importance of transportation cost, convenience of vehicles for traveling, satisfaction of expense, and ability to pay for expenses to see the association between overall satisfaction and perception of transportation facilities and healthcare utilization in elderly. The result showed that there are no relationships to healthcare utilization since overall satisfaction and perception was statistically insignificant in relation to overall healthcare utilization (p-value = 0.73) (Table 11)

CHAPTER V

DISCUSSION, CONCLUSION AND RECOMMENDATION

The result of the transportation barriers on healthcare utilization among elderly population living in Mahasarakham province, Thailand will be described by following the research structure and research question.

The total population in this study, which are both of male and female elderly, seems to have average age equal to 70 years old with the standard deviation for 7.1 years. The range of age is divided in 3 groups: 60-69 years, 70-79 years and more than 80 years with the rate of 54.6, 34.3 and 11.1 percent in these 3 groups respectively. This result is consistent with (NSO 2014) that there are the in line trend of the elderly in the range of three group which are 56.5, 29.9, 13.6 percent respectively. These results represent the change of Thailand population structure to be the completed elderly social. Thus, the gender proportion from the data collecting can be divided in two genders: male and female with the proportion of 40.7 percent and 59.3 percent respectively. This result is in accordance with previous study of the 2014 survey of the older persons in Thailand by the ministry of information and communication technology that elderly population in Thailand had 45.1 male and 54.9 female.

The overall education level of elderly in this study showed that 88.9 percent of all elderly graduated from primary school and lower which related to the information from the (NSO 2014) that the elderly who are graduated in primary school and lower was equal to 66.1 percent. We can see that the proportion of elderly. Since the elderly population in this study almost 90 percent have lower than primary education if

compares to the national data, it's possible that elderly in this study has minimal rate in health utilization because of the low education majority. In particular, as (Matsumura and Gubhaju 2001) pointed out, the important of the education in Nepal women, that probability of educated women who used prenatal care is higher for both urban and rural areas. This shows that education has a significant influence on utilization behavior. For the marital status in the elderly, we can see that the proportion of the couple status is the majority for 64.1 percent following by widow for 30.4 percent and single or divorce for 5.6 percent. This result is consistent with (NSO 2014) that there are the in line trend of national marital status of Thailand as couple for 61.8 percent, widow 33.4 percent and single for 3.6 percent. For the exercise status in the elderly of this study showed that 13.9 percent of overall elderly had exercise everyday interesting that while the national information showed that 32.4 percent of all of elderly in Thailand had exercise every day. It is possible that in this study most of the elderly had the physical activity around than 57 percent majority of the elderly in both urban and rural area were agriculture worker before 60 years' old after that they are still working for help their children. So, rice farming and agriculture activity would be classifying as physical activity. For the smoking status in the elderly seems have the percentage of the still smoking every day for 10.9 percent and this result was in line of the national data that the elderly that still smoking every day in north-eastern of Thailand was equal to 12.5 percent which is the maximum rate compared to the other sector. For the drinking status in the study elderly showed that 13.9 percent of the elderly had drinking every

day while the result data from the national survey showed that there are only 2.8 percent of Thailand elderly consumed alcohol drinking. The huge difference between the number of the alcohol consuming probably because the statistic of the national data collecting showed that northeastern is the number two in elderly alcohol consuming which the number one is north. For the information of the current job in the study elderly showed that the elderly still working and got income in daily life was equal to 36.2 percent which is in the same line of the national data that from the overall elderly in Thailand in 2014, 38.4 percent of all elderly in Thailand still have job currently. In term of the average income of the elderly seems that there are two group of total income per month which are 600 to 1,000 baht per month for 48.5 percent and more than 1000 baht per month for 41.2 percent while income per month from national statistic in 2014 reported only 4.2 percent had income less than 1600 baht per month. Since the overall of income of the elderly in this study seems lower than standard of the country so it is possible that lower in income average per month can affect to the lower in health care utilization too. (Listl 2011) reported that the study gives strong evidence for income-related inequalities in the utilization of dental services by several elderly populations residing in Europe.

5.1 Primary and secondary healthcare utilization among urban and rural elderly in Mahasarakham province Thailand

The rate of utilization in this study elderly has health care utilization for 32 percent as out-patient during last 2 months from overall elderly reported (27.4 % of elderly in urban area and 36.7 % of elderly in rural area) while more than half of them had underlying disease (53.5%) and moderate health status (56.5%). This event

illustrates the imbalance of the need for health utilization to the real number of health visited of elderly. Similarly, a study done by National statistical office, Ministry of information and communication technology in 2013 found that only 33.5 % of Thai elderly had been utilized the healthcare service when they were seeking for treatment (NSO 2014)

(Netithanakul and Soonthorndhada 2009) reported that Thai elderly in Kanchanaburi used healthcare services an average of 3.7 times per year. This argument can be supported by the fact of (Hibbard and Jewett 1996) there are strong old people, they believe that they need medical care and use of health care services even healthy.

The utilization in chronic disease care, the elderly in this study had high blood pressure for 65 persons (27 elderlies in urban and 38 elderlies in rural area). Most of the elderly in both area is receiving care at health promoting hospital. Heart disease for 23 persons (11 elderlies in urban and 12 elderlies in rural area). Most of the elderly in both area is receiving care at general hospital. Diabetes for 55 persons (34 elderlies in urban and 21 elderlies in rural area). Most of the elderly in both area is receiving care at health promoting hospital and general hospital. Asthma for 12 persons (4 elderlies in urban and 8 elderlies in rural area). Most of the elderly in both area is receiving care at community hospital. However, the rate of health care utilization that quite low can be explain that there are the group of the healthy elderly due to the majority of elderly in this study had physical activity which they are not necessary to receive health care at all. This reason is in the line of (Troosters, Gosselink et al. 1999) that the six-minute walking

distance can be predicted adequately using a clinically useful model in healthy elderly subjects.

5.2 Association between primary and secondary healthcare utilization of elderly and their living among urban and rural elderly in Mahasarakham province Thailand

Our study hypothesized that elderly healthcare utilization as out-patient visit during last 2 months in Mahasarakham province had different in the rate of healthcare visit among urban and rural area. We found that rural elderly seemed to utilize out-patient for 36.7 percent which more than elderly who live in urban area for 27.4 percent. However, this association of the healthcare utilization and residential area did not show statistic significant association. Several studies noted that geography is a significant determinant of health. It has also come to explain an amount of medical care patients receive (Newhouse and Garber 2013). Our study found a lower rate of healthcare utilization in urban area than rural area. In contrast, (Netithanakul and Soonthorndhada 2009) found people who live in urban areas use health care services more frequently than those in rural areas. A possible explanation is that elderly in urban area is able to access to some other health cares for their treatment such as drugstores and private clinic. National statistical office had been reported that more than 10 percent of elderly in Thailand bought their own drug from drug store (NSO 2014) Additionally, health promoting hospital, a primary care, in Thailand may play its role in rural area than urban area because our study had not identified the level of care from interview.

In the other side, there are statistically significant in association between type of insurance and residential area which p-value is less than 0.001. It was in line to the

study of (Eberhardt and Pamuk 2004) which the result show that place of residence was associated to the quantity of health insurance. However, the study of (Nemet and Bailey 2000) showed that The most important contribution of this study is the relationship between utilization and location of physicians relative to the activity area.

5.3 Associations between transportation barriers and primary and secondary healthcare utilization among elderly in Mahasarakham province Thailand

Transportation for access to healthcare-related services is a critical component for maintaining high levels of health and well-being among older adults. Our study found that the travel duration showed a strong relationship to healthcare utilization since travel duration was statistically significant in relation to healthcare utilization at health promoting hospital, community hospital and general hospital. Elderly who spend longer transportation duration to access healthcare services reported to utilize healthcare service more than the one who spend less. Additionally, we found that distance from elderly home to healthcare services was associated with their healthcare utilization. Elderly whose house located far away from healthcare services was tended to utilize more healthcare.

Our study was contradicted with other studies. Theoretically, increased distance between residents and health care providers is commonly thought to decrease the utilization of health care (Nemet and Bailey 2000); (Syed, Gerber et al. 2013) found that relying on distance as the only spatial determinant of utilization resulted in inaccurate designations of access and underserved areas. It suggests that distance may play a

complex role in mediating behavior. Distance may take on different meanings for different individuals. Having demonstrated that distance alone is an insufficient marker of utilization among the elderly. Our study was similar to (Nemet and Bailey 2000) found that use of cardiac revascularization services in New Jersey decreased as distance to the service increased. The study suggested that it is unlikely that those living in communities distant from hospitals are healthier, the results suggest they are less likely to seek hospitalization. Additionally, a study in Honduras found that walking time to the clinic negatively impacted primary health care utilization (Baker and Liu 2006)

The result of this study on the association between healthcare utilization and transportation expense to health promoting hospital and community hospital was statistically insignificant at p-value equal to 0.68 which mean that there is no relationship between transportation expense by elderly and rate of health care utilization. It was in line to the study of (Su, Kouyaté et al. 2006), which the result showed transport costs accounted for only 3.2 percent of the total health expenditure and surprisingly that the expenses were related to treatment costs. Additionally, we found that the transportation expense when elderly went to the general hospital had strong relationship to the health care utilization in both rural and urban area at p-value equal to 0.02.

However, from the face to face interview to elderly found that the transportation expense when the elderly went to the hospital by public transportation was equal to range of expense mean in that kind of hospital. But in some case, for rural area elderly who tend to pay much more than mean of expense because they choose to use taxi services that why the maximum of the transportation expense was rather high. Moreover

for urban area some of the elderly tend to pay much more than reasonable price which made the doubt to researcher, so we tried to ask and got the interesting answer that the reason that elderly pay more than reasonable price because they did not pay to taxi driver but they pay for their children or descendant that help them in transit to hospital, another reason from some of elderly who pay more than reasonable price told that amount of money they paid to their children or descendant, almost of income elderly got from them so it's reasonable to pay back to their family members. Thus, after we noticed in transportation expense in some group of elderly in urban area which elderly did not get main income from their family members but they got by their current job. Most of them were merchandise who living around the sub-district fresh food market and they had the constantly income every day and month so they have the ability to pay for taxi driver. Moreover, after their children came back for their job to take care of parent in sick period, elderly in this group tried to pay in higher price for take care them because their children had to leave of absence for 2 or 3 days which mean that their children will loss daily income. So, this amount of expense will be the compensated money. These findings therefore confirm the previous results that the maximum expense for the transportation cost in total elderly population in urban area is very high.

From the observation in the study on the duration of travel to the hospital and all the distance in this average trip showed that the elderly answered “yes” which is the elderly that be an out-patient during 2 months before have rate of travel distance and also travel time more than the elderly who said “no”. It is possible that some of the elderly who are out-patient had complicated chronic disease so they had to travel more longer to receive care at more advanced hospital such as central hospital or medical school hospital in other province.

5.4 An association between satisfaction and perception of transportation facilities and primary and secondary healthcare utilization among elderly Mahasarakham province Thailand

The result of the study in the satisfaction and perception of transportation facilities on healthcare and healthcare utilization showed five from six satisfaction and perception had statistically insignificant to the healthcare utilization which include of transit time from home to health promoting hospital, community hospital, and general hospital.

The transit time was not associated with healthcare utilization. We found that satisfaction and perception of elderly on time was contradicted with the actual duration which elderly spend from home to healthcare services. A possible reason to support this finding is that most of the elderly who participate in this study was unemployed if compare to the elderly who had work. Satisfaction and perception on spending time may play less role on healthcare utilization. Convenience of traveling satisfaction was not associated with healthcare utilization. The reason to support was that most of the elderly had accompany people which is their children to help and bring them to healthcare services.

Our study found satisfaction and perception on importance of transportation cost was not significantly associated with healthcare utilization but not for satisfaction and perception elderly ability to pay for transportation cost. The result demonstrated that elderly paid their attention on an importance of transportation cost but they concerned on there afford to pay for transpotation. The possible explanation was that our previous results indicated that more than sixty percent of elderly did not pay transportation cost by themselves to access health promoting hospital and community hospital. Moreover previous result showed that if the elderly went to any kind of

hospital, their children who are the majority of accompany person would pay the transportation cost. So, the elderly would not pay. However, almost half of respondents who access healthcare service at general hospital had to pay transportation cost by themselves. Therefore, this result finding may influence their satisfaction and perception on ability to pay.

One of the transportation facilities on healthcare satisfaction and perception, ability to pay, the result demonstrated showed that an association between ability to pay for healthcare expense and healthcare utilization among elderly in Mahasarakham province there are relationships to healthcare utilization since ability to pay for health care expense was statistically significant in relation to overall healthcare utilization (p-value = 0.05). But this argument can be supported by the fact that there are no consistent relationships were observed between increased copayments per dispensing and medical care utilization and expense (Johnson, Goodman et al. 1997)

Conclusion

The research of transportation barriers on healthcare utilization among elderly population living in Mahasarakham province Thailand: a comparison study of urban and rural area was finished by the face to face interview and asked the question follow the pattern of preparing questionnaires which the objective from all of the question set were to estimate health care utilization among urban and rural elderly in Mahasarakham province Thailand, compare average healthcare visit outpatient in primary, secondary, and tertiary unit among urban and rural elderly population in Mahasarakham province Thailand, access an association between transportation barriers and average healthcare visit outpatient in primary, secondary, and tertiary unit among elderly population in MAHASARAKHAM province Thailand, and access an association between satisfaction and perception of transportation facilities on healthcare and health care utilization among elderly population in MAHASARAKHAM province THAILAND. Study population was both male and female elderly who are the member and using of

health care services and live more than one year in both urban and rural area, after sampling technique, the Umphur Muang and Wapi Pathum district were the representative of the urban and rural area respectively. Then 359 sets of questionnaires have been recovered from interview survey. The materials were consisted of 3 main parts: 1) the set of 26 questions related to the demographic characteristic of the elderly. 2) the set of 6 questions related to transportation barriers when elderly went to receive healthcare services. 3) the set of 6 questions related to the satisfaction and perception of healthcare facilities on transportation. The questionnaires were assessed on the reliability and accuracy by three experts. These questionnaires have been used to screen the aging physical ability and basic healthcare utilization behavior. The research was described by the statistical analysis which include of average, percentage, standard deviation, independent t- test, fisher exact test and chi- squares test. Thus, the respondents are the elderly in the urban and rural areas.

Section 1. The demographic characteristic of the elderly.

The overall participant was from 2 districts, 49.9 percent from urban area or Umphur Muang and another 50.1 percent from rural area or Umphur Wapipathum.

The average age of the participant was 70 years while the majority of the participants was female for 59.3 percent, overall education status showed that participants were graduated primary school and lower 88.9 percent, secondary school 4.5 percent and high school and above 6.6 percent. Every participant were Buddhists. The marital status

of the elderly found 64.1 percent married, 30.4 percent widow, and 5.6 percent single or divorced.

Concerning the elderly exercise status, elderly had physical activity (but not exercise) for 57.1 percent, had exercise every day for 13.9 percent, had exercise less than 3 days per week for 10 percent, and had exercise 3 to 4 days per week for 18.9 percent. Thus, elderly smoking status found that 86.4 percent of the elderly had never smoking, but 10.9 percent still smoking, and 2.8 percent was quit smoking. Therefore, elderly drinking status found that 82.5 percent of the elderly had never drinking, but 13.9 percent still drinking, and 3.6 percent was quit drinking.

Since the elderly working status showed that 36.2 percent were still working but 63.8 were un-employment. Surprisingly, there were only 13.4 percent received income from their work as main revenue, while 66 percent received income from allowance elderly as main route, 17.5 percent received income from their children, 1.7 percent received from their couple, and 1.4 percent re-ceived from other source. According to the income data, 33.4 percent of the elderly had sufficient income to consume in everyday life, moreover 0.8 percent had retained income for daily consumption but 65.7 percent had insufficient income.

For the research on the health conditions of elderly in Mahasarakham province found that 56.5 percent of elderly had moderate health status, 28.1 percent had good health status, but 15.3 per-cent had poor health status. Thus, in side of chronic disease

showed that 53.5 percent of the elderly had chronic disease and another 46.5 percent had no chronic disease. Therefore, from the chronic disease status elderly in this study had high blood pressure for 25.6 percent, diabetes for 21.7 percent, heart disease for 9.1 percent asthma for 4.7 and other chronic diseases which include of osteoarthritis, Osteoporosis, eyes disease and hearing disease for 39 percent. For the information on the elderly caretaker seem that majority in primary care taker was their children and couple which is equal to 48.5 and 42.9 percent respectively, also 5.6 percent was relative and another 1.9 percent was other person. From this information, not surprisingly that 50.4 percent of their couple stay together in the house, following by 37.6 percent was children since their children have to do the work during day times, 5.6 percent stay alone, 4.5 percent stay with relative and 1.9 percent stay with another person. Concerning on the number of children, 51.8 percent of the total elderly had more than 2 children, 43.5 percent had 1 to 2 children and 15.6 percent do not have children. After we know the number of children information, we would like to know the real number of children who still take care their parent, so the number alive children found that 47.1 percent still alive for 1 to 2 persons, following by 46.8 percent still alive more than 2 persons, and 6.1 percent don't have children which mean that in this study there are 5 persons of children died before their parent. For the number of children who stay with the elderly in the same house showed that 58.5 percent of 1 to 2 person staying together with elderly, following by 25.9 percent of more than 2 person staying together with elderly, and 15.6 percent of no one stay with elderly. For the residential status, 97.8

percent elderly was the owner of house and another 2.2 percent was not house owner. For the medical home visit in this study seem that 93.3 percent from all of elderly had medical home visit program and another 6.7 percent never.

For the healthcare utilization of elderly seem that 32 percent of the elderly have been visited as out-patient during last 2 months but another 68 percent have not been visited. In side of the type of insurance showed that 84.4 percent of the elderly used Universal Healthcare coverage, follow-ing by 5.8 percent used Civil Servant Medical Benefits Scheme, 1.9 percent used Social Security Scheme, 7 percent self-payment and 0.8 percent used other insurance. For the receiving care of chronic disease, 65 persons from 359 elderlies had received care because of high blood pressure disease, 50.9 percent from 65 persons received care at health promoting hospital, 27.7 percent received care at general hospital, 9.2 percent received care at community hospital, and 9.2 percent received care at another place eg. private clinic. Thus 23 persons from 359 elderlies had received care because of heart disease, 60.9 percent from 23 persons received care at general hospital, 17.4 percent received care at community hospital, 13 percent received care at health promoting hospi-tal, and 8.7 percent received care at other place. Therefore 55 persons from 359 elderlies had re-ceived care because of diabetes disease, 49.1 percent from 55 persons received care at health promoting hospital, 43.6 percent received care at general hospital, and 7.3 percent received care at community hospital. And 12 persons from 359 elderlies had received care because of

asthma disease, 50 percent from 12 persons received care at community hospital, 33.3 percent received care at health promoting hospital, and 16.7 percent received care at general hospital.

Section 2. Transportation barriers when elderly went to receive healthcare services.

For the transportation characteristics towards healthcare utilization among elderly, mostly elderly went to health promoting hospital by motorcycle for 56 percent, following by walk for 22 percent, by bicycles for 12.5 percent, by car for 8.1 percent, by other vehicle for 0.8 percent, and by bus for 0.3 percent. For community hospital, mostly elderly went to community hospital by motorcycle for 48.7 percent, following by car for 31.8 percent, by bus for 9.2 percent, by bicycles for 6.1 percent, and by other vehicle for 3.9 percent. For general hospital, mostly elderly went to general hospital by car for 50.1 percent, following by bus for 21.4 percent, by motorcycle for 18.7 percent, by other vehicle for 5 percent, and by bicycles for 4.5 percent.

Concerning on the transportation expense only by elderly 25.1 percent from all of participant was paid for transportation cost but 74.9 percent was not paid. The average payment when elderly went to health promoting hospital was about 44 baht, minimum payment was 20 baht and maximum payment was 400 baht, travel duration was about 14 minutes, distance from elderly house was about 1.6 kilometers. When elderly went to community hospital was about 151 baht, minimum payment was 10 baht and maximum payment was 2,000 baht, travel duration was about 31 minutes, distance from elderly house was about 7 kilometers. When elderly went to general hospital was

about 186 baht, minimum payment was 10 baht and maximum payment was 5,000 baht, travel duration was about 46 minutes, distance from elderly house was about 22 kilometers. From all of three health hospital mostly their children were a majority accompany people that went to hospital together with elderly.

Section 3. The satisfaction and perception of healthcare facilities on transportation.

For the satisfaction and perception of transportation on health care, the satisfaction on transit time from elderly house to health promoting, district, and general hospital was evaluated as high, high, and medium level of satisfaction respectively. The satisfaction in convenience of traveling from elderly house to health promoting, district, and general hospital was evaluated as high, medium, and medium level of satisfaction respectively. The important of transportation cost when elderly went to health promoting, district, and general hospital was evaluated as medium, medium, and medium level of satisfaction respectively. The satisfaction in convenience of vehicles for traveling to health promoting, district, and general hospital was evaluated as high, high, and medium level of satisfaction. The satisfaction of expense when elderly went to health promoting, district, and general hospital was evaluated as medium, medium, and medium level of satisfaction. And the ability to pay for overall transportation expense was evaluated as high level of satisfaction.

Recommendation

Research recommendation

Further research on the transportation barriers on the health care utilization would have to be a nationality survey in every single province of Thailand, to see the real elderly

health utilization situation in that time period. The chronic illness and acute illness should review the follow up schedule to see the frequency of doctor appointment and its will present the out-patient rate of the elderly in study.

Policy recommendation

An elderly healthcare utilization promoting strategy should be recognized to enhance elderlies' health to reduce the rate of health visiting due to the excess of patients in public hospital. Further basic insurance; universal healthcare coverage, strategy may consider to partially support transportation expenses for elderly to lessen their ability to pay perception and also expand the support payment covers especially in complex disease and kind of co-payment. Another strategy should be recognized to enhance transportation facilities especially in rural area which elderly must travel longer than who living in urban. Further basic public transit; municipal cars, should consider to set standard to receive of health care case in referring patient to the area to district bus station which will drive to the general hospital. For lessen their travel duration and distance from elderly home to healthcare services and utilization in primary and secondary care.

Limitation

1. The study was conducted only two districts and one province which the result cannot be de-cribe to the whole population of the elderly in Thailand.
2. Healthcare utilization in this study was based on elderly satisfaction and perception. Further research should be considered healthcare utilization together with elderly underlying disease

3. The study didn't get the information of health care condition of patient which is elderly because most of them can not remember the frequency of visiting to each hospital in that 2 months period.
4. Comparisons between transportation barrier and satisfaction and perception of transportation on healthcare may need further study analysis.



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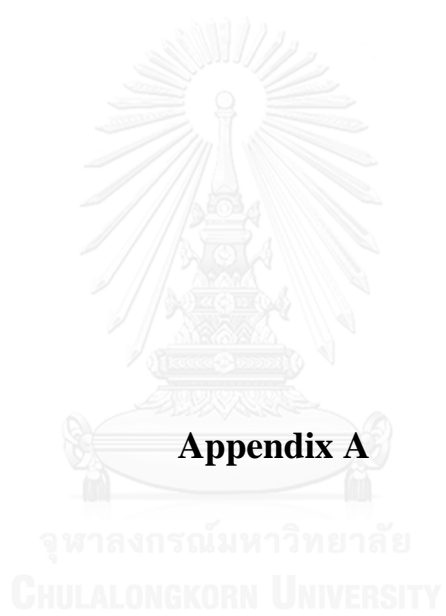
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APPENDIX

จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY





โรงพยาบาลมหาสารคาม
หนังสือฉบับนี้ให้ไว้เพื่อแสดงว่า

- โครงการวิจัยเรื่อง** : อุปสรรคในการเดินทางต่อการใช้บริการสุขภาพของผู้สูงอายุในจังหวัดมหาสารคาม ประเทศไทย: การศึกษาเปรียบเทียบพื้นที่เขตเมืองและพื้นที่เขตชนบท
Transportation barriers on healthcare utilization among elderly population living in Maha Sarakham province Thailand: a comparison study of urban and rural area
- เลขที่โครงการวิจัย** : MSKH_REC ๖๐-๐๒-๐๒๓
- ผู้วิจัยหลัก** : นายอภิสิทธิ์ กุลนิตย์
- สังกัดหน่วยงาน** : วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย
- เอกสารรับรอง** : ๑. แบบเสนอเพื่อขอรับการพิจารณาจริยธรรมการวิจัยในมนุษย์
๒. โครงการวิจัยฉบับสมบูรณ์
๓. หนังสือยินยอมตนให้ทำการวิจัยหรือเอกสารชี้แจงผู้เข้าร่วมการวิจัย
๔. แบบการเก็บรวบรวมข้อมูล/โปรแกรมหรือกิจกรรม

ได้ผ่านการรับรองจากคณะกรรมการจริยธรรมการวิจัยในมนุษย์โรงพยาบาลมหาสารคาม โดยยึดหลักเกณฑ์ตามคำประกาศเฮลซิงกิ (Declaration of Helsinki) และแนวทางการปฏิบัติการวิจัยทางคลินิกที่ดี (ICH GCP) และขอให้รายงานความก้าวหน้าของโครงการวิจัยทุก ๖ เดือน และส่งรายงานฉบับสมบูรณ์หากดำเนินโครงการเสร็จสิ้น

ให้ไว้ ณ วันที่ ๑๒ เดือน กรกฎาคม พ.ศ. ๒๕๖๐

(นายแพทย์ธันัน รุติพรรณกุล)

ประธานคณะกรรมการจริยธรรมการวิจัยในมนุษย์
โรงพยาบาลมหาสารคาม

COA No ๖๐/๐๒๓
MSKH_REC ๖๐-๐๒-๐๒๓

วันที่รับรอง : วันที่ ๑๒ เดือน กรกฎาคม พ.ศ. ๒๕๖๐
วันหมดอายุ : วันที่ ๑๑ เดือน กรกฎาคม พ.ศ. ๒๕๖๑

สำนักงานคณะกรรมการจริยธรรมการวิจัยในมนุษย์

ชั้น ๒ อาคารศูนย์แพทยศาสตรศึกษาชั้นคลินิก โรงพยาบาลมหาสารคาม ๑๖๘ ถนนผดุงวิทย์ ตำบลตลาด อำเภอเมือง จังหวัดมหาสารคาม ๔๔๐๐๐ โทรศัพท์ ๐ ๔๓๗๔ ๐๙๙๓ ต่อ ๔๒๐ โทรสาร ๐ ๔๓๗๑ ๑๔๓



Appendix B

จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY

แบบสอบถาม

เรื่อง “ปัจจัยที่มีความสัมพันธ์กับการเข้าถึงบริการสุขภาพระดับปฐมภูมิ ทติยภูมิ และตติยภูมิของผู้สูงอายุของผู้สูงอายุ

คำชี้แจง

แบบสอบถามประกอบด้วยคำถาม 3 ส่วน ได้แก่

ส่วนที่ 1 ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม

ส่วนที่ 2 อุปสรรคในการเดินทาง

ส่วนที่ 3 ความเข้าใจในการเดินทางเข้าถึงบริการสุขภาพในเรื่องการเดินทาง ระดับปฐมภูมิ ทติยภูมิ และ ตติยภูมิ ของผู้สูงอายุ

ส่วนที่ 1 ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม

1. ที่อยู่ปัจจุบันของท่านตั้งอยู่ในเขตอำเภอใด

() 1. อำเภอเมือง () 2. อำเภอบ้านโป่ง

2. เพศ

() 1. ชาย () 2. หญิง

3. ขณะนี้ท่านมี อายุปี (จำนวนเต็มเป็นปี)

4. ระดับการศึกษาสูงสุด

() 1. ไม่ได้ศึกษา () 2. ต่ำกว่าประถมศึกษา

() 3. ประถมศึกษา () 4. มัธยมศึกษาตอนต้น

() 5. มัธยมศึกษาตอนปลาย () 6. อาชีวศึกษา/อนุปริญญา

() 7.ปริญญาตรี () 8. สูงกว่าปริญญาตรี

() 9. อื่นๆ ระบุ.....

5. ศาสนา

() 1. พุทธ () 2. อิสลาม () 3. คริสต์ () 4. อื่นๆระบุ.....

6. สถานภาพสมรส

- () 1. โสด () 2. คู่/สมรส () 3. หม้าย () 4. หย่า () 5. แยกกันอยู่

7. การออกกำลังกาย (หมายถึง การขยับร่างกายอย่างต่อเนื่องอย่างน้อย 30 นาที)

- () 1. ทุกวันต่อสัปดาห์ () 2. 3-4 วันต่อสัปดาห์
() 3. น้อยกว่า 3 วันต่อสัปดาห์ () 4. กิจกรรมทางกาย เช่น การเดิน, การทำนา

8. การสูบบุหรี่

- () 1. ไม่สูบ () 2. เลิกสูบ มาเป็นระยะเวลา.....ปี
() 3. ยังสูบบุหรี่อยู่ มาเป็นระยะเวลา.....ปี

8.1 หากปัจจุบันท่านยังสูบบุหรี่อยู่ ท่านสูบบุหรี่ประมาณวันละ _____ มวน

9. การดื่มเครื่องดื่มที่มีส่วนผสมของแอลกอฮอล์

- () 1. ไม่ดื่ม () 2. เลิกดื่ม มาเป็นระยะเวลา.....ปี
() 3. ยังดื่มอยู่ มาเป็นระยะเวลา.....ปี

9.1 หากปัจจุบันท่านยังดื่มเครื่องดื่มที่มีส่วนผสมของแอลกอฮอล์ ท่านดื่มประมาณสัปดาห์ละ _____ แก้ว

10. สถานะทางด้านสุขภาพ

10.1 ท่านคิดว่าสถานะทางด้านสุขภาพของท่าน อยู่ในระดับใด

- () 1. ดี () 2. ปานกลาง () 3. ควรได้รับการดูแล

10.2 ท่านมีโรคประจำตัว (เฉพาะการวินิจฉัยของแพทย์)

- () 1. ไม่มี (ข้ามไปข้อ 11)
() 2. มี โปรดระบุ
() 1. โรคความดันโลหิตสูง () 2. โรคหัวใจ () 3. โรคเบาหวาน
() 4. โรคหอบหืด () 5. โรคมะเร็ง () 6. โรคข้อเสื่อม

() 7. โรคกระดูกผุ () 8. โรคเกี่ยวกับสายตา ระบุ.....

() 9. โรคเกี่ยวกับการได้ยิน ระบุ..... () 10. อื่นๆระบุ

10.3 ตามโรคประจำตัวที่ท่านระบุข้างต้น ท่านเข้ารับการรักษาที่ใด (สามารถเลือกได้มากกว่า 1 ข้อ)

โรคความดันโลหิตสูง () 1. อนามัย () 2. รพ.อำเภอ () 3. รพ.จังหวัด () 4. ที่อื่น ระบุ

2. โรคหัวใจ () 1. อนามัย () 2. รพ.อำเภอ () 3. รพ.จังหวัด () 4. ที่อื่น ระบุ

3. โรคเบาหวาน () 1. อนามัย () 2. รพ.อำเภอ () 3. รพ.จังหวัด () 4. ที่อื่น ระบุ

4. โรคหอบหืด () 1. อนามัย () 2. รพ.อำเภอ () 3. รพ.จังหวัด () 4. ที่อื่น ระบุ

5. โรคเมเร็ง () 1. อนามัย () 2. รพ.อำเภอ () 3. รพ.จังหวัด () 4. ที่อื่น ระบุ

6. โรคข้อเสื่อม () 1. อนามัย () 2. รพ.อำเภอ () 3. รพ.จังหวัด () 4. ที่อื่น ระบุ

7. โรคกระดูกผุ () 1. อนามัย () 2. รพ.อำเภอ () 3. รพ.จังหวัด () 4. ที่อื่น ระบุ

8. โรคเกี่ยวกับสายตา () 1. อนามัย () 2. รพ.อำเภอ () 3. รพ.จังหวัด () 4. ที่อื่น ระบุ

9. โรคเกี่ยวกับการได้ยิน () 1. อนามัย () 2. รพ.อำเภอ () 3. รพ.จังหวัด () 4. ที่อื่น ระบุ

10. อื่นๆ () 1. อนามัย () 2. รพ.อำเภอ () 3. รพ.จังหวัด () 4. ที่อื่น ระบุ

10.4 ตามโรคประจำตัวที่ท่านระบุข้างต้น แพทย์นัดหมายให้ท่านเข้ารับการรักษาเป็นประจำโดยเฉลี่ย

() เดือนละครั้ง

() 2-3 เดือนครั้ง

() มากกว่า 3 เดือนครั้ง

() ไม่ได้ไปพบแพทย์

11. การใช้ประโยชน์ด้านการดูแลสุขภาพ

11.1 ใน 2 เดือนที่ผ่านมา ท่านได้เข้ารับบริการการรักษาที่เป็นผู้ป่วยนอก

() ใช่ () ไม่ใช่ (ข้ามไปข้อ 12)

- ก. ในโรงพยาบาลส่งเสริมสุขภาพประจำตำบล.....ครั้ง เพราะ.....(เช่น รับ ยา, ทำ
แผล)
- ข. ในโรงพยาบาลประจำอำเภอ.....ครั้ง เพราะ.....(เช่น รับยา, ทำแผล)
- ข. ในโรงพยาบาลประจำจังหวัด.....ครั้ง เพราะ.....(เช่น รับยา, ทำแผล)
12. จำนวนบุตร ทั้งหมด.....คน
มีชีวิตอยู่.....คน
อาศัยอยู่ด้วยภายในครัวเรือนเดียวกัน.....คน
13. ท่านอาศัยอยู่ร่วมบ้านเดียวกับใคร
() 1. คนเดียว () 2. คู่สมรส () 3. บุตร () 4. ญาติพี่น้อง
() 5. อื่นๆระบุ.....
14. ลักษณะของบ้านที่อยู่อาศัย
() 1. บ้านตนเอง () 2. บ้านญาติ () 3. บ้านเช่า () 4. อื่นๆระบุ.....
15. บุคคลที่คอยดูแลช่วยเหลือท่านอย่างไรก่ลี้ชีวิตในการดำเนินชีวิต
() 1. คู่สมรส () 2. บุตร () 3. ญาติพี่น้อง () 4. ไม่มี
() 5. อื่นๆระบุ.....
16. ท่านประกอบอาชีพ (ก่อนเกษียณอายุงาน)
() 1. เกษตรกรรม () 2. ค้าขาย () 3. รับจ้าง
() 4. ข้าราชการ/บำนาญ () 5. ไม่มีอาชีพ () 6. อื่นๆระบุ
17. ปัจจุบันท่านยังทำงาน/ประกอบอาชีพ (ที่มีรายได้) หรือไม่
() 1. ทำ () 2. ไม่ได้ทำงาน (ข้ามไปข้อ 20)
18. อาชีพหลักหรืองานที่ใช้เวลาทำส่วนใหญ่ (อาชีพ/งานที่สร้างรายได้) คือ ระบุ.....
() 1. เกษตรกรรม () 2. ค้าขาย () 3. รับจ้าง
() 4. ข้าราชการ/บำนาญ () 5. ไม่มีอาชีพ () 6. อื่นๆระบุ

อาชีพรอง (ถ้ามี) คือ ระบุ.....

19. ในเดือนที่ผ่านมา ท่านใช้เวลาในการทำงาน/ประกอบอาชีพ (ทั้งหลักและรอง) เฉลี่ยทั้งสิ้น
.....ชั่วโมง/สัปดาห์

20. หากไม่ได้ทำงานประกอบอาชีพ (ที่มีรายได้) ท่านใช้เวลาส่วนใหญ่ทำอะไร (ตอบได้มากกว่า 1
ข้อ)

- () 1. ช่วยธุรกิจ การค้า การเกษตรของครอบครัวโดยไม่ได้ค่าจ้าง
- () 2. ทำความสะอาด/ดูแลบ้าน
- () 3. ดูแลลูกหลาน
- () 4. ปลูกต้นไม้/เลี้ยงสัตว์เลี้ยง
- () 5. อยู่เฉยๆ
- () 6. งานอาสาสมัคร (ไม่มีรายได้)
- () 7. อ่านหนังสือ/เขียนหนังสือ
- () 8. อื่นๆ ระบุ.....

21. อาชีพหลักของครอบครัวท่าน (พิจารณาจากแหล่งที่มาของรายได้ที่มากที่สุดในการครัวเรือน)

- () 1. เกษตรกรรม
- () 2. ค้าขาย
- () 3. รับจ้าง
- () 4. ข้าราชการ/บำนาญ
- () 5. อื่นๆ ระบุ.....

22. รายได้ของท่านต่อเดือน.....บาท (รายได้ในภาพรวมทั้งหมด)

23. แหล่งที่มาของรายได้ที่ท่านได้รับมากที่สุดในแต่ละเดือน

- () 1. ประกอบอาชีพเอง
- () 2. คู่สมรส
- () 3. บุตร
- () 4. ญาติ
- () 5. เบี้ยยังชีพผู้สูงอายุ
- () 6. อื่นๆระบุ

24. รายได้ที่ท่านได้รับต่อเดือนมีความเพียงพอหรือไม่

- () 1. เพียงพอ
- () 2. ไม่เพียงพอ
- () 3. เหลือเก็บ

25. ท่านใช้สิทธิด้านการรักษาพยาบาลใด ในการเข้ารับบริการสุขภาพ

- () 1. บัตรทอง (30บาท) () 2. สิทธิข้าราชการ/รัฐวิสาหกิจ
 () 3. ประกันสังคม () 4. จ่ายเงินด้วยตนเอง
 () 5. สิทธิอื่นๆ ระบุ.....

26. ในพื้นที่ของท่านมีโครงการเยี่ยมบ้าน โดยเจ้าหน้าที่ทางสาธารณสุข เช่น เจ้าหน้าที่อนามัย

- () 1. มี () 2. ไม่มี

ส่วนที่ 2 อุปสรรคในการเดินทาง

1.1 ระยะทางจากบ้านของท่านถึงโรงพยาบาลส่งเสริมสุขภาพประจำตำบลที่ท่านใช้บริการมากที่สุด ระยะทาง.....กิโลเมตร

1.2 ระยะทางจากบ้านของท่านถึงโรงพยาบาลประจำอำเภอที่ท่านใช้บริการมากที่สุด ระยะทาง.....กิโลเมตร

1.3 ระยะทางจากบ้านของท่านถึงโรงพยาบาลประจำจังหวัดที่ท่านใช้บริการมากที่สุด ระยะทาง.....กิโลเมตร

2.1 พาหนะที่ท่านใช้ในการเดินทางเข้ารับบริการ ณ โรงพยาบาลส่งเสริมสุขภาพประจำตำบลที่ท่านใช้บริการมากที่สุด

- () 1. เดินเท้า () 2. รถจักรยาน () 3. รถจักรยานยนต์
 () 4. รถยนต์ () 5. รถประจำทาง () 6. อื่นๆระบุ

2.2 พาหนะที่ท่านใช้ในการเดินทางเข้ารับบริการ ณ โรงพยาบาลประจำอำเภอที่ท่านใช้บริการมากที่สุด

- () 1. เดินเท้า () 2. รถจักรยาน () 3. รถจักรยานยนต์
 () 4. รถยนต์ () 5. รถประจำทาง () 6. อื่นๆระบุ

2.3 พาหนะที่ท่านใช้ในการเดินทางเข้ารับบริการ ณ โรงพยาบาลประจำจังหวัดที่ท่านใช้บริการมากที่สุด

- () 1. เดินเท้า () 2. รถจักรยาน () 3. รถจักรยานยนต์

- () 4. รถยนต์ () 5. รถประจำทาง () 6. อื่นๆ ระบุ

3.1 ค่าใช้จ่ายทั้งหมดที่ผู้สูงอายุจ่ายด้วยตนเอง ในการเดินทางเข้ารับบริการ ณ โรงพยาบาลส่งเสริมสุขภาพประจำตำบลที่ท่านใช้บริการมากที่สุดต่อครั้ง จำนวน.....บาท

3.2 ค่าใช้จ่ายทั้งหมดที่ผู้สูงอายุจ่ายด้วยตนเอง ในการเดินทางเข้ารับบริการ ณ โรงพยาบาลประจำอำเภอที่ท่านใช้บริการมากที่สุดต่อครั้ง จำนวน.....บาท

3.3 ค่าใช้จ่ายทั้งหมดที่ผู้สูงอายุจ่ายด้วยตนเอง ในการเดินทางเข้ารับบริการ ณ โรงพยาบาลประจำจังหวัดที่ท่านใช้บริการมากที่สุดต่อครั้ง จำนวน.....บาท

4.1 ระยะเวลาในการเดินทางจากบ้านพักถึง โรงพยาบาลส่งเสริมสุขภาพประจำตำบลศูนย์สุขภาพชุมชนที่ท่านใช้บริการมากที่สุด เป็นเวลา.....นาที

4.2 ระยะเวลาในการเดินทางจากบ้านพักถึง โรงพยาบาลประจำอำเภอที่ท่านใช้บริการมากที่สุดเป็นเวลา.....นาที

4.3 ระยะเวลาในการเดินทางจากบ้านพักถึง โรงพยาบาลประจำจังหวัดที่ท่านใช้บริการมากที่สุดเป็น เวลา.....นาที

5.1 ลักษณะการเดินทางไปรับบริการสุขภาพ โรงพยาบาลส่งเสริมสุขภาพประจำตำบลส่วนใหญ่ ท่านต้องให้ใครพาไปรับบริการสุขภาพ

- () 1. สามารถไปได้เองคนเดียว () 2. คู่สมรสพาไป
 () 3. บุตรพาไป () 4. นญาติพาไป
 () 5. อื่นๆ ระบุ.....

5.2 ลักษณะการเดินทางไปรับบริการสุขภาพ โรงพยาบาลประจำอำเภอส่วนใหญ่ท่านต้องให้ใครพาไปรับบริการสุขภาพ

- () 1. สามารถไปได้เองคนเดียว () 2. คู่สมรสพาไป
 () 3. บุตรพาไป () 4. นญาติพาไป
 () 5. อื่นๆ ระบุ.....

5.3 ลักษณะการเดินทางไปรับบริการสุขภาพ โรงพยาบาลประจำจังหวัดส่วนใหญ่ท่านต้องให้ใครพาไปรับบริการสุขภาพ

- () 1. สามารถไปได้เองคนเดียว () 2. คู่สมรสพาไป

() 3. บุตรพาไป

() 4. ญาติพาไป

() 5. อื่นๆ ระบุ.....

ส่วนที่3 ความเข้าใจในการเดินทางเข้าถึงบริการสุขภาพระดับปฐมภูมิ ทติยภูมิ และตติยภูมิของ
ผู้สูงอายุ

คำชี้แจง ส่วนนี้เป็นการศึกษาระดับการเข้าถึงบริการสุขภาพระดับปฐมภูมิของผู้สูงอายุ คำถามแต่ละข้อจะมีระดับคำตอบ 5 ระดับ คือ “มากที่สุด” “มาก” “ปานกลาง” “น้อย” “น้อยที่สุด” โดยให้ท่านทำเครื่องหมาย ถูก ลงในช่องใดช่องหนึ่งที่ตรงกับความรู้สึกของท่าน

ข้อความ	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
1.1 ท่านพอใจระยะเวลาที่ใช้ในการเดินทางจากบ้านถึง โรงพยาบาลส่งเสริมสุขภาพประจำตำบล					
1.2 ท่านพอใจระยะเวลาที่ใช้ในการเดินทางจากบ้านถึง โรงพยาบาลประจำอำเภอ					
1.3 ท่านพอใจระยะเวลาที่ใช้ในการเดินทางจากบ้านถึง โรงพยาบาลประจำจังหวัด					
2.1 ท่านมีความสะดวกในการเดินทางเข้ารับบริการในโรงพยาบาลส่งเสริมสุขภาพประจำตำบล					
2.2 ท่านมีความสะดวกในการเดินทางเข้ารับบริการในโรงพยาบาลประจำอำเภอ					

ข้อความ	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
2.3 ท่านมีความสะดวกในการเดินทางเข้ารับบริการในโรงพยาบาลประจำจังหวัด					
3.1 ท่านคิดว่าค่ายานพาหนะเป็นภาระสำคัญในการเดินทางเข้ารับบริการสุขภาพ ใน โรงพยาบาลส่งเสริมสุขภาพประจำตำบล					
3.2 ท่านคิดว่าค่ายานพาหนะเป็นภาระสำคัญในการเดินทางเข้ารับบริการสุขภาพ ใน โรงพยาบาลประจำอำเภอ					
3.3 ท่านคิดว่าค่ายานพาหนะเป็นภาระสำคัญในการเดินทางเข้ารับบริการสุขภาพ ใน โรงพยาบาลประจำจังหวัด					
4.1 ท่านมียานพาหนะที่สะดวกในการเดินทางเข้ารับบริการจากบ้านพักถึงโรงพยาบาลส่งเสริมสุขภาพประจำตำบล					
4.2 ท่านมียานพาหนะที่สะดวกในการเดินทางเข้ารับบริการจากบ้านพักถึงโรงพยาบาลประจำอำเภอ					
4.3 ท่านมียานพาหนะที่สะดวกในการเดินทางเข้ารับบริการจากบ้านพักถึงโรงพยาบาลประจำจังหวัด					
5.1 ท่านพอใจกับค่าใช้จ่าย (เช่น ค่ารถในการเดินทาง ค่าอาหารและค่าใช้จ่ายอื่นๆ) ในการเข้ารับบริการด้านสุขภาพ ณ โรงพยาบาลส่งเสริมสุขภาพประจำตำบล					

ข้อความ	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
5.2 ท่านพอใจกับค่าใช้จ่าย (เช่น ค่ารถในการเดินทาง ค่าอาหารและค่าใช้จ่ายอื่นๆ) ในการเข้ารับบริการด้านสุขภาพ ณ โรงพยาบาลประจำอำเภอ					
5.3 ท่านพอใจกับค่าใช้จ่าย (เช่น ค่ารถในการเดินทาง ค่าอาหารและค่าใช้จ่ายอื่นๆ) ในการเข้ารับบริการด้านสุขภาพ ณ โรงพยาบาลประจำจังหวัด					
6. ท่านและครอบครัวมีความสามารถในการจ่ายค่าใช้จ่าย (เช่นค่ารถในการเดินทาง ค่าอาหารและค่าใช้จ่ายอื่นๆ) ในการเข้ารับบริการด้านสุขภาพ					

Questionnaire

Factors related to access to primary, secondary and tertiary healthcare services among the elderly

Explanation

The questionnaire consists of 2 parts

Part 1 General information

Part 2 Transportation barrier

Part 3 Satisfaction and perception of healthcare facilities on transportation to primary and secondary tertiary healthcare for the elderly

Part 1 General information

1. Where is your current address?

1. Amphoe Mueang 2. Amphoe Wapipatum

2. Sex

1. Male 2. Female

3. Current age years old

4. Education Background

1. Did not study 2. Less than primary
 3. Primary school 4. Junior high school
 5. High School 6. Vocational / Diploma
 7. Bachelor degree 8. Higher than a bachelor's degree
 9. Others

5. Religion

- (....) 1. Buddhist (....) 2. Islam/Muslim (....) 3. Christianity
(....) 4. Other

6. Marital status

- (....) 1. Single (....) 2. Couple (....) 3. Widow (....) 4. Divorce
(....) 5. Separated

7. Exercise (mean continuous body movement at least 30 minutes)

1. Everyday per week 2. 3-4 days per week

3. Less than 3 days per week 4. Physical activity eg. walking, agriculture

8. Smoking

1. Never smoke 2. Stop smoking for.....years

3. Still smoking for.....years

8.1 If you currently smoke. You are smoke about.....roll/day.

9. Alcohol drinking

1. Never drink 2. Stop drinking for.....years

3. Still drinking for.....years

9.1 If you are currently drink. You are drink about.....glass per week.

10. Health status

10.1 Do you think you health status is in what level?

1. Good 2. Moderate 3. Should be cared

10.2 Chronic disease (doctor's diagnosis)

No (skip to question 11)

Yes (please specify)

1. High blood pressure 2. Heart disease 3. Diabetes

4. Asthma 5. Cancer 6. Osteoarthritis

7. Osteoporosis 8. Eye disease specify.....

9. hearing disease specify.....(10. other specify.....

10.3 From your chronic disease, where do you receive healthcare.(can choose more than 1)

High blood pressure

1. Health promoting hospital 2. Community hospital 3. General hospital

4. Other specify.....

Heart disease

1. Health promoting hospital 2. Community hospital 3. General hospital
 4. Other specify.....

Diabetes

1. Health promoting hospital 2. Community hospital 3. General hospital
 4. Other specify.....

Asthma

1. Health promoting hospital 2. Community hospital 3. General hospital
 4. Other specify.....

Cancer

1. Health promoting hospital 2. Community hospital 3. General hospital
 4. Other specify.....

Osteoarthritis

1. Health promoting hospital 2. Community hospital 3. General hospital
 4. Other specify.....

Osteoporosis

1. Health promoting hospital 2. Community hospital 3. General hospital
 4. Other specify.....

Eye disease

1. Health promoting hospital 2. Community hospital 3. General hospital
 4. Other specify.....

hearing disease

1. Health promoting hospital 2. Community hospital 3. General hospital
 4. Other specify.....

other

1. Health promoting hospital 2. Community hospital 3. General hospital
 4. Other specify.....

10.4 According to the disease you listed above. The doctor appoints you to receive regular treatment on an average basis.

- () once a month
 () once in 2-3 month
 () once in more than 3 month
 () Did not see a doctor.

11. Health care utilization

In the past two month, you are receiving treatment as an outpatient ()Yes () No skip to question 12

At health promoting hospitaltimes because.....(eg.get medicine, bandage)

At community hospitaltimes because.....(eg.get medicine, bandage)

At general hospital.....times (eg.get medicine, bandage)

12. Total number of children person

That alive person

Living the same house person

Not living in the same house person

13. Who do you live in house?

(...) 1. Single (....) 2. Spouse (....) 3. Child (....) 4. Relatives (....) 5. Other.....

14. Characteristics of your residence

(....) 1. Self home/Owner (....) 2. House relative (....) 3. Rental house (....) 4. Other

15. Caretaker

(....) 1. Spouse (....) 2. Child (....) 3. Relatives (....) 4. No (....) 5. Other

16. Occupation (Before retirement)

(....) 1. Agriculture (....) 2. Trading/ Business owner

(....) 3. Company Employee

(....) 4. Government employee/State Enterprises

(...) 5. No Occupation (...) 6. Specify

17. Currently working / occupation. (With income)?

(...) 1. do (...) 2. do not work skip to 20

18. The main job (Career /Income Generation) is

(...) 1. Agriculture (...) 2. Trading /Business owner

(...) 3. Company Employee (...) 4. Government employee/State Enterprises

(...) 5. No occupation (...) 6. Other

Secondary career (if any) is stated

19. In the past month. You spend time at work / occupation. (Both primary and secondary) averaged over hours / week

20. If not working professionally. (With income) What do you spend most of your time doing? (More than one answer)

(...) 1. Help the family farm business without paying

(...) 2. House keeper

(...) 3. care for grandchildren

(...) 4. Tree planting / pet husbandry

(...) 5. Dormant

(...) 6. Volunteer work (no income)

(...) 7. Read books / write books

(...) 8. Others

21. The main occupation of your family. (Considering from income)

(...) 1. Agriculture (...) 2. Trading /Business owner

(...) 3. Company Employee (...) 4. Government employee/State Enterprises

(...) 5. Other

22. Your income per month Baht (Total revenue as a whole)

23. The source of income you receive the most each month.

(...) 1. Self-employed (...) 2. Spouse (...) 3. Child

(...) 4. Relatives (...) 5. Seniors allowance (...) 6. Others

24. Is your monthly income sufficient?

(...) 1. Enough (...) 2. Not enough (...) 3. Retained

25. Which treatment right/privilege do you use when you use medical services?

- (...) 1. Universal Coverage (30 baht) (...) 2. Civil Servant Medical Benefits Scheme (CSMBS)
 (...) 3. Social Security Scheme (SSS) (...) 4. Self Payment
 (...) 5. Other

26. In your area have home visit project by public health officer eg. Health center officer?

- (...) 1. Yes (...) 2. No

Part 2 Transportation barrier

1.1 Distance from home to health promoting hospital. Most frequently used
Kilometer

1.2 Distance from home to community hospital. Most frequently used Kilometer

1.3 Distance from home to general hospital. Most frequently usedKilometer

2.1 The vehicle you use to travel to the health promoting hospital, you use mostly

- (...) 1. Foot (...) 2. Bicycle (...) 3. Motorcycle
 (...) 4. Car (...) 5. Bus (...) 6. Other.....

2.2 The vehicle you use to travel to community hospital, you use mostly

- (...) 1. Foot (...) 2. Bicycle (...) 3. Motorcycle
 (...) 4. Car (...) 5. Bus (...) 6. Other.....

2.3 The vehicle you use to travel to public general hospital, you use mostly

- (...) 1. Foot (...) 2. Bicycle (...) 3. Motorcycle
 (...) 4. Car (...) 5. Bus (...) 6. Other.....

3.1 Total expenses that you have to pay by yourself for travel to the health promoting hospital, you use most services amount..... baht

3.2 Total expenses that you have to pay by yourself for travel to the community hospital, you use most services amount..... baht

3.3 Total expenses that you have to pay by yourself for travel to the public general hospital, you use most services amount..... baht

4.1 Travel time from your household to health promoting hospital, you mostly use minutes

4.2 Travel time from your household to community hospital, you mostly use minutes

4.3 Travel time from your household to public general hospital, you mostly useminutes

5.1 Who normally accompany you to health promoting hospital?.

(...)1. by yourself (...) 2. spouse
(...) 3. By children (...) 4. By Relatives (...) 5. Other

5.2 Who normally accompany you to community hospital?

(...)1. by yourself (...) 2. spouse
(...) 3. By children (...) 4. By Relatives (...) 5. Other

5.3 Who normally accompany you to public general hospital?

(...)1. by yourself (...) 2. spouse
(...) 3. By children (...) 4. By Relatives (...) 5. Other

Part 3 Satisfaction and perception of healthcare facilities on transportation to primary and secondary tertiary healthcare for the elderly

Explanation This is a study of the level of access to primary, secondary and tertiary care services in the elderly. Each question has a 5-level answer, "Most", "Very", "Moderate", "Minor", "Least". Tick one of the boxes that match your senses.

Passage	Most	Very	Moderate	Minor	Least
1.1 You are satisfied with transit time from your home to health promoting hospital					
1.2 You are satisfied with transit time from your home to community hospital					
1.3 You are satisfied with transit time from your home to general hospital					
2.1 You have the convenience of traveling to get into the health services at health promoting hospital					
2.2 You have the convenience of traveling to get into the health services at community hospital					
2.3 You have the convenience of traveling to get into the health services at general hospital					
3.1 You think that transportation cost is an important burden to get into the health services at health promoting hospital					

Passage	Most	Very	Moderate	Minor	Least
3.2 You think that transportation cost is an important burden to get into the health services at community hospital					
3.3 You think that transportation cost is an important burden to get into the health services at general hospital					
4.1 You have the convenient vehicles to traveling from your home to health promoting hospital					
4.2 You have the convenient vehicles to traveling from your home to community hospital					
4.3 You have the convenient vehicles to traveling from your home to general hospital					
5.1 You are satisfied with expenses (eg. transportation, food cost and other expenses) to get into the health services at health promoting hospital					
5.2 You are satisfied with expenses (eg. transportation, food cost and other expenses) to get into the health services at community hospital					
5.3 You are satisfied with expenses (eg. transportation, food cost and other expenses) to get into the health services at general hospital					

Passage	Most	Very	Moderate	Minor	Least
6. You and your family have the ability to pay for expenses (eg. transportation, food cost and other expenses) to get into the health services					



VITA

PERSONAL DATA

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EDUCATION

Graduated Study: 2016 – 2017 : Chulalongkorn University

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Undergraduated 2012 – 2014 : Srinakharinwirot University

Study : School of Economics and Public Policy (English Program) GPA. 3.03

Higher Vocational : 2006 – 2012 : Triamudomsuksapattanakarn Ratchada School

Certificate : High School Certificate in Science-Mathematician Program.

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EXPERIENCE

Work Experience : 2015 As a research assistant in The World Bank project:
Closing the Health Gap for The Elderly in Thailand.

2014 As a volunteer in Public Service Mind Program Summer course at
Office of the Royal Development Project Huaysai, Phetchaburi

PERFORMANCE 2013 Won the the bronze medal in the table tennis

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Srinakharinwirot university

2009 Certificates with grades was perfect GPA. 3.82.,

Triamudomsuksapattanakarn Ratchada School

2006 Participated in and completed the SES 2006 English Camp,
Triamudomsuksapattanakarn Ratchada School

2005 Certificates of achievement in Academics and Ethics.,