# THE ASSOCIATION BETWEEN THE PERCEPTION TOWARD AGE-FRIENDLY CITY FEATURES AND MENTAL HEALTH STATUS OF THE ELDERLY IN PHOTARAM DISTRICT RATCHABURI PROVINCE THAILAND

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A Thesis Submitted in Partial Fulfillment of the Requirements
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# ความสัมพันธ์ระหว่างการรับรู้เกี่ยวกับคุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุและสถานะของสุขภาพจิตในผู้สูงอายุที่อำเภอโพธาราม จังหวัดราชบุรี ประเทศไทย

นางสาวสุพัตรา อัศวไมตรี



วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาสาธารณสุขศาสตรมหาบัณฑิต
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| Thesis Title | THE ASSOCIATION BETWEEN THE PERCEPTION TOWARD AGE-FRIENDLY CITY FEATURES AND MENTAL HEALTH STATUS OF THE ELDERLY IN PHOTARAM DISTRICT RATCHABURI PROVINCE THAILAND |
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สุพัตรา อัศวไมตรี : ความสัมพันธ์ระหว่างการรับรู้เกี่ยวกับคุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุและสถานะของสุขภาพจิตในผู้สูงอายุที่อำเภอโพธาราม จังหวัดราชบุรี ประเทศไทย (THE ASSOCIATION BETWEEN THE PERCEPTION TOWARD AGE-FRIENDLY CITY FEATURES AND MENTAL HEALTH STATUS OF THE ELDERLY IN PHOTARAM DISTRICT RATCHABURI PROVINCE THAILAND) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: ศ. ดร.ประเทือง หงสรานากร, 101 หน้า.

เนื่องจากสถิติประชากรผู้สูงอายุมีแนวโน้มเพิ่มขึ้นอย่างต่อเนื่อง องค์การอนามัยโลกจึงได้เสนอแนวคิดการจัดเตรียมเมืองให้เอื้อต่อผู้สูงอายุขึ้นในปี พ.ศ. 2550 เพื่อตอบสนองต่อสังคมผู้สูงอายุ มุ่งเน้นให้ผู้สูงอายุมีสุขภาวะที่ดี การศึกษาในครั้งนี้เป็นการสำรวจแบบตัดขวาง มีวัตถุประสงค์เพื่อศึกษาความสัมพันธ์ระหว่างลักษณะทางประชากร การรับรู้คุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุกับสถานะทางสุขภาพจิตของผู้สูงวัยในพื้นที่ อ.โพธาราม จ.ราชบุรี ประเทศไทย มีกลุ่มตัวอย่างเป็นผู้สูงอายุจำนวน 432 คน เพศชายและหญิง อายุ 60-79 ปี ใช้การเก็บข้อมูลโดยการสัมภาษณ์ แบบ face-to-face interview แบบสัมภาษณ์แบ่งออกเป็น 3 ส่วน ได้แก่ ลักษณะทางประชากร การรับรู้คุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุ และสถานะสุขภาพจิตของผู้สูงอายุ การวิเคราะห์ข้อมูลใช้สถิติพรรณนา และสถิติอ้างอิงคือ ไคสแควส์ สำหรับทดสอบความสัมพันธ์ ผลการศึกษาพบว่า ระดับการรับรู้คุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุอยู่ในระดับกลางๆในทุกองค์ประกอบ เช่นเดียวกับสถานะของสุขภาพจิต ด้านความสัมพันธ์พบว่า ระดับการศึกษา รายได้ และโรคประจำตัว มีความสัมพันธ์กับสถานะทางสุขภาพจิตของผู้สูงอายุอย่างมีนัยสำคัญทางสถิติ ($p < 0.05$) และด้านการรับรู้คุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุในทุกองค์ประกอบมีความสัมพันธ์กับสถานะทางสุขภาพจิตของผู้สูงอายุอย่างมีนัยสำคัญทางสถิติ ($p < 0.05$) โดยอาคารสถานที่ และบริเวณภายนอก ($p=0.014$) ระบบขนส่ง ($p=0.05$) ที่อยู่อาศัย ($p=0.012$) การเข้าร่วมกิจกรรมทางสังคม ($p=0.008$) การให้ความเคารพ และการยอมรับ ($p=0.008$) การมีส่วนร่วมทางพลเมืองและการจ้างงาน ($p=0.030$) การสื่อสารและข้อมูลสารสนเทศ ($p=0.002$) และการบริการชุมชนและสุขภาพ ($p=0.015$) ซึ่งผลการศึกษาในครั้งนี้จะช่วยสนับสนุนการวางแผนเพื่อพัฒนา อ.โพธาราม จ.ราชบุรี ประเทศไทย ให้เป็นเมืองที่เอื้อต่อผู้สูงอายุต่อไปในอนาคต

สาขาวิชา สาธารณสุขศาสตร์ ลายมือชื่อนิสิต .....

ปีการศึกษา 2559 ลายมือชื่อ อ.ที่ปรึกษาหลัก .....

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SUPATTRA ASSAWAMAITREE: THE ASSOCIATION BETWEEN THE PERCEPTION TOWARD AGE-FRIENDLY CITY FEATURES AND MENTAL HEALTH STATUS OF THE ELDERLY IN PHOTARAM DISTRICT RATCHABURI PROVINCE THAILAND. ADVISOR: PROF.PRATHURNG HONGSRANAGON, Ph.D., 101 pp.

Since the elderly population statistics is on a continuingly increasing trend, the World Health Organization has proposed the concept of the age-friendly city in 2007 as a response to the aging society with an aim for healthy life among the elderly. This study was a cross-sectional research design with the goal to learn about the association between demographic characteristics and the perception toward the age-friendly city with the mental health status of the elderly in Photaram District, Ratchaburi province, Thailand. The respondents were 432 elderly both male and female with an age between 60-79 years. Data collection tool was a face-to-face interview questionnaire. The interview questions were divided into three parts: demographic characteristics, the perception toward the age-friendly city, and the mental health status of the elderly. For the data analysis, descriptive statistics was used and inferential statistics of the Chi-square for testing of the association was also employed. The results indicated that the level of the perception toward the age-friendly city was on the moderate level in all components, which was also true for the mental health status. As for the association, it was found that the level of education, income, and chronic disease, were associated with the mental health status of the elderly with statistical significance ($p < 0.05$). The perception toward the age-friendly city in all components was associated with the mental health status of the elderly with statistical significance ($p < 0.05$) also: outdoor space and building ($p=0.014$), transportation ($p=0.05$), housing ($p=0.012$), social participation ($p=0.008$), respect and social inclusion ($p=0.008$), civil participation and employment ($p= 0.030$), communication and information ($p=0.002$), as well as community support and health service ($p=0.015$). This study result could help in planning for the development of Photaram District, Ratchaburi province, Thailand, to become an age-friendly city in the future.



Field of Study: Public Health Student's Signature .....

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# INTRODUCTION

## 1.1 Background and rational

The world population aging is increasing 56 percent from 2015 to 2030 around 901 million to 1.4 billion. Other from this it will double increase in 2015 to be 2.1 billion. The number of the people aged 80 years or over is rising up quicker than the number of older people overall. The predication in 2050 shows the people aged 80 years or over is increasing triple in number since 2015 nearby 125 million. In the next 15 years, the number of older people are increasing fastest in Latin America and Caribbean with 71 percent in the population aged 60 years or over followed by Asia 66 percent, Africa 64 percent, Oceania 47 percent, Northern America 41 percent and Europe 23 percent. By growing up fast in urban area more than rural area. The worldwide picture in 2000 to 2015 show the number of people aged 60 years or over is rising up to 68 percent in urban area and 25 percent in rural area (United Nations, 2015).

For mental health, over 20 percent of elderly in the world trends suffer from a mental or neurological disorder and 6.6 percent of all disability (disability adjusted life years-DALYs) among over 60s is attributed to neurological and mental disorders. The most common neuropsychiatric disorders in this group are dementia and depression. Elderly lose their ability to live independently because of limited of mobility, chronic pain, frailty or other mental or physical problems, and require some form of long-term care. Similarly, the elderly is sadness, drop in socioeconomic status with retirement, or a disability. All of these factors can result in isolation, loss of independence, loneliness and psychological distress in elderly. According to this problem the challenge of the health provider is to train the health workforce in care the elderly, prevent and manage age-associated chronic disease including mental, design sustainable policies on long-term and palliative care, develop age-friendly service and setting for support the elderly to live longer (The World Health Organization, 2013).

The World Health Organization generated the Age Friendly City concept to raising chances for health, participation and security in life of the elderly with 8 domains that are Outdoor Spaces and Buildings, Transportation, Housing, Social

Participation, Respect and Social Inclusion, Civic Participation and Employment, Communication and Information and Community and Health Services. Moreover, they have the network like United State, Canada to implement the age-friendly concept in there city (The World Health Organization, 2007).

Meanwhile, the population structure in Thailand is decreasing in people aged under 15 years (Youth) and people aged 15-59 years (Working-age), but increasing in people aged 60 or over (Elderly) continuously. The percentage of elderly will be gradually increase from 13.2 in 2010 to 32.1 in 2040. The people aged 80 or over will grow up 12.7 percent of the total elderly population. From the prediction, the elderly population will grow up in urban area from 39.7 percent in 2010 to 59.8 percent in 2040 or around 3.3 million people to 11.6 million people (Foundation For Older Persons' Development, 2015).

Furthermore, Department of Mental Health have the policies in 2015-2016 for supporting the aging society in Thailand by training the heath workforce who works with the elderly, create the club in the community for the elderly to join and set the program for improving the elderly who has depression inside and outside health care unit. The aim of this policy is to bring in the elderly to the community and have the participation (Department of Health, 2016). For support the elderly so that they can go outside with secure and can help themselves in daily life activities. They should have the feature that provided from family and community. That is why Thailand's government setting the National Plan on the elderly (2002-2021) for encourage the elderly on wellbeing and have longevity (Ministry of Social Development and Human Security Thailand, 2009).



At Mueang Ratchaburi District in Ratchaburi province, one of the place that provided the features for the elderly with age-friendly city concept. There are 7 domains of age-friendly city features in good level of satisfactory; outdoor space and building, transportation, housing, social participation, respect and social inclusion, communication and information, community support and health services. Just only one domain that is in fair level which is civil participation and employment (Wang, 2015). The Photaram district that have the context similarly with Mueang Ratchaburi District and have the size of elderly population at 3rd ranked. The proportion of elderly in Photaram district is 15.51 percent it means that this area is the "Aging Society" as same

as Mueang Ratchaburi District because the proportion of the elderly more than 10 percent (Ministry of Social Development and Human Security Thailand, 2013). Moreover, the elderly and disable plan 2016 in Photaram District Public Health Office that point to improve health of the elderly including physical health, mental health and the environment for protecting the problem of the elderly that can occur in the future by the stakeholder as participation from family, community, local government and public health center. In part of the environment that point in the feature that support the elderly can live in home and community with safe and have the features to support them to live. For the mental health that point to the depression in the elderly if the elderly cannot go outside then the elderly will be sad and it will be effect to physical health too (Photaram District Public Health Office, 2016). From this reason, it is very important to find the association between the perception toward age-friendly city features and mental health status of the elderly. Furthermore, this study will support the plan and policy in this place to provide the feature for them.

***Table 1*** *Distribution of the population aged 60 or over in Ratchaburi in 2013*

| Rank | District | Population | Population aged 60 and over | | | |
|---|---|---|---|---|---|---|
| | | All of Age | Male | Female | Total | % |
| | Total | 2,482,467 | 165,004 | 209,096 | 374,100 | 15.07 |
| 1 | Mueang Ratchaburi | 532,508 | 38,138 | 48,988 | 87,126 | 16.36 |
| 2 | Banphong | 545,830 | 36,098 | 45,304 | 81,402 | 14.91 |
| 3 | Photaram | 368,154 | 24,378 | 32,715 | 57,093 | 15.51 |
| 4 | Damnuen Saduak | 299,958 | 21,492 | 29,255 | 50,747 | 16.92 |
| 5 | Phaktor | 216,315 | 13,096 | 15,506 | 28,602 | 13.22 |
| 6 | Bangpae | 129,820 | 8,454 | 10,970 | 19,424 | 14.96 |
| 7 | Jombueng | 148,771 | 8,655 | 10,135 | 18,790 | 12.63 |
| 8 | Banka | 124,036 | 7,401 | 7,586 | 14,987 | 12.08 |
| 9 | Suanpueng | 77,838 | 4,235 | 4,348 | 8,593 | 11.04 |
| 10 | Wadplaeng | 39,201 | 3,057 | 4,279 | 7,336 | 18.71 |

***Source:*** *(Ministry of Social Development and Human Security Thailand, 2013)*

### 1.2 Research Questions

1) What is the demographic data, the perception toward age-friendly city features, and mental health status of the elderly in Photaram district, Ratchaburi province?

2) Is there an association among demographic data, the perception toward age-friendly city features, and mental health status of the elderly in Photaram district, Ratchaburi province?

### 1.3 Research Objectives

1) To describe the demographic data, the perception toward age-friendly city features, and mental health status of the elderly in Photaram district, Ratchaburi province.

2) To find an association among demographic data, the perception toward age-friendly city features, and mental health status of the elderly in Photaram district, Ratchaburi province.

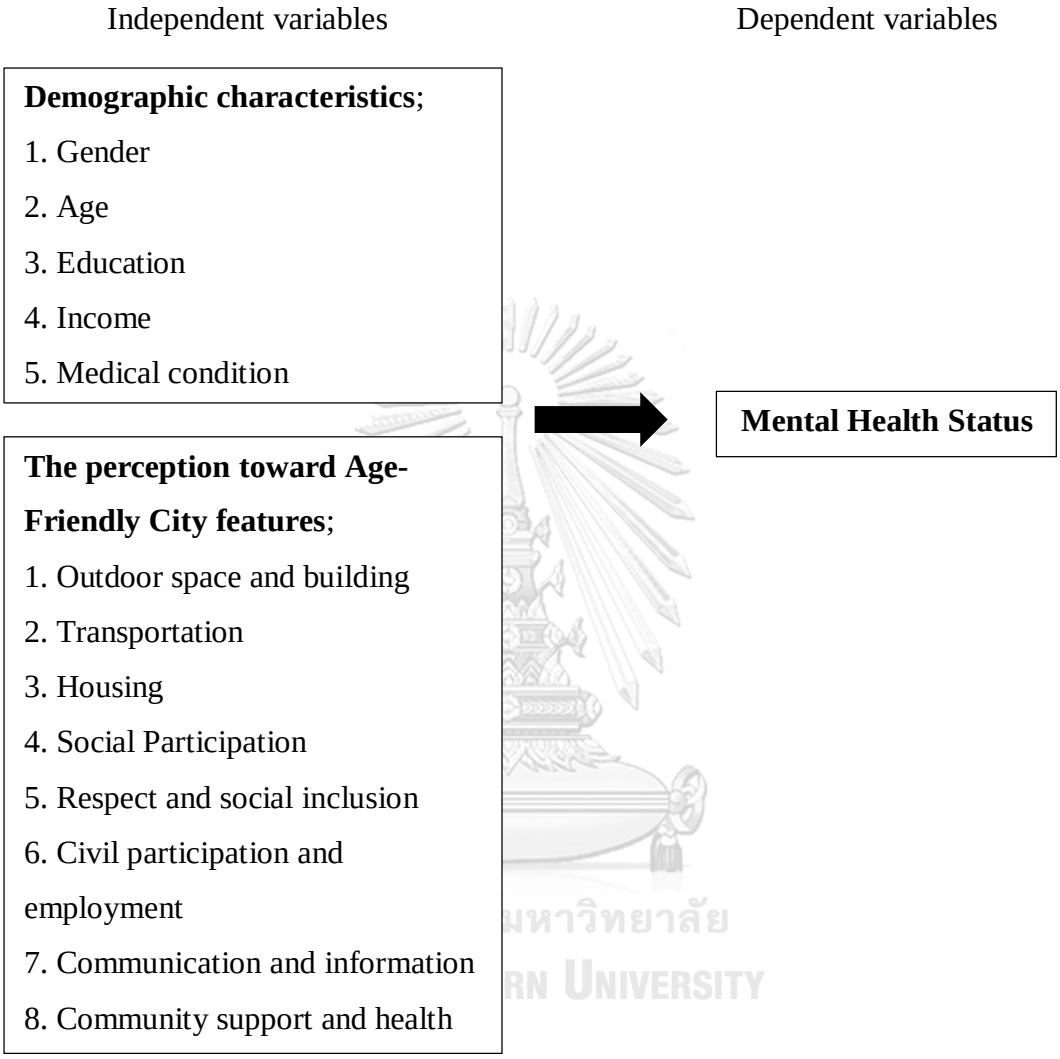
### 1.4 Research Hypothesis

1) There is an association between the demographic data and mental health status in the elderly.

2) There is an association between the perception toward Age-Friendly City feature and mental health status in the elderly.

## 1.5 Conceptual Framework

***Figure 1*** *Conceptual Framework*




## 1.6 Operational Definitions

**1) Elderly** refers to Thai people aged 60-79.

**2) Perception** refers to the way you think about or understand someone or something.

**3) Outdoor space and building** refers to public places, pavements, pedestrian crossing, building and public toilets that have to be clean and pleasant, sufficient in number, free of obstructions and also situated together and are accessible.

**4) Transportation** refers to the public transportation that provide within the community which are settle at the safety place which is easy to access, having a specialized transportation available for disabled people, and always have a maintenance for a walk way for the safety. Also traffic has to be adjust for the flow and road safety and the traffic sign has to be in the place that it won't block the traffic of the driver view.

**5) Housing** refers to sufficient, affordable housing that is available in areas that are safe and close to services and the rest of the community. The housing well-constructed, clean, well-maintained, and affordable. Besides, community have to provide the shelter or services for take care the elderly.

**6) Social Participation** refers to clubs or activities for elderly that came from community participation. They will receive the support from their family or community by providing the transportation and also the place for the activity. All the information of the activity will be announcing through the community media

**7) Respect and social inclusion** refers to elderly must be loved, respect and have a good care from family or community. Community's activities appropriate for everyone in every age group.



**9) Civil participation and employment** refers to decision-making bodies in public, private and voluntary sectors encourage and facilitate membership of older people A range of flexible and appropriately paid opportunities for older people to work is promoted.

**10) Communication and information** refers to both print and spoken communication by staff in both private and public sector must use simple, familiar words in short, straightforward sentences. Which all the printed information has good size for elderly, yet Public and commercial services provide friendly, person-to-person service on request.

**11) Community support and health services** refers to health and social services that are conveniently located and accessible by all means of transport. All staff are respectful, helpful and trained to serve older people. The community will encourage

and support the volunteer to look after the elderly. Health and social service for elderly who is disabled are provided.

**12) Mental health Status** refers to the degree of competence shown by a person in psychological, emotional, knowledgeable, and personality functioning. There are 3 group of Mental Health Status; good, moderate and poor.

# CHAPTER II
# LITERATURE REVIEW

## 2.1 Aging Society

The world population aging are increasing 56 percent from 2015 to 2030 around 901 million to 1.4 billion. Other from this it will double increasing in 2015 around 2.1 billion. The number of the people aged 80 years or over is rising up quicker than the number of older people overall. The predication in 2050 show the people aged 80 years or over is increasing tripled in number since 2015 nearby 125 million. In the next 15 years, the number of older people are increasing fastest in Latin America and Caribbean with 71 percent in the population aged 60 years or over followed by Asia 66 percent, Africa 64 percent, Oceania 47 percent, Northern America 41 percent and Europe 23 percent. By increasing fast in urban area more than rural area. At the worldwide picture in 2000 to 2015 show the number of people aged 60 years or over is growing up 68 percent in urban area and 25 percent in rural area (United Nations, 2015).

In Thailand, the population are decreased in people aged under 15 years (Youth) and people aged 15-59 years (Working-age) but increased in people aged 60 or over (Elderly) continuously. The percentage of elderly grow up from 13.2 in 2010 to 32.1 in 2040. The people aged 80 or over will grow up 12.7 percent of the total elderly population. From predication, the elderly population will grow up in urban area by increased 39.7 percent in 2010 to 59.8 percent in 2040 around 3.3 million to 11.6 million (Foundation For Older Persons' Development, 2015).

At Ratchaburi province, all of districts are the “Aging Society” because the proportion of the elderly more than 10 percent (Ministry of Social Development and Human Security Thailand, 2013). The size of population in top 3 are Mueang Ratchaburi district, Banphong district and Photaram district so this trend is the challenge of the public health provider in this place to plan or set the strategies for the elderly.

## 2.2 Elderly and Mental Health Status

Mental health is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community. The mental health in the elderly almost get the depression or anxiety because they live alone and didn't have the activity outside. WHO Mental Health action plan 2013-2020 focus on the government set the policy to provide comprehensive, integrated and responsive mental health and social care services in community-based settings and implement strategies for promotion and prevention in mental health (The World Health Organization, 2013).

Furthermore, in Thailand the policies in 2015-2016 for support the aging society in Thailand by training the heath workforce who work with the elderly, create the club in the community for the elderly can join, and set the program for improvement the elderly who get the depression inside and outside health care unit. The aim of this policy that for drive the elderly to the community and have the participation (Department of Health, 2016).

## 2.3 Age-Friendly City Features

Age-Friendly City is concept created by The World Health Organization to support the government to developing social policies. The policy is "optimizing opportunities for health, participation and security in order to enhance quality of life as people age". From this concept, the leader can develop the community to be good aging society. It is the key for help the elderly access to the community. Likewise, improving health and support them to live longer (The World Health Organization, 2016b).

Nowadays, the number of The WHO Global Network for Age-friendly Cities and Communities (the Network) are increasing continuously. The city or the countries that success to place the age- friendly city concept in the strategic plan or action plan or national policy such as New York City, London, Dublin city. For example; New York City, the government start with assess the age-friendly city features by participation of the citizen and then set the committee from the government and non-government including academic as the specialist or expert to analyze the data. The result from the data become to the input for the policy marker to set the strategic plan

to provide the features and improving the environment for improving health in the elderly and adding the opportunity to get long live (Blasio, 2015).

In Thailand, the government is improving the quality of life of the people not only the elderly, but including the disable person, pregnant woman, sick people and children by improvement the environment and provide the facilities support. The government began to develop the Ko Kret in Pak Kret district, Nonthaburi province as the universal design community model by the participant to provide the opportunity for people to access the services and will expand to other district (The Government Public Relations Department, 2016). The road map in the strategic plan of the elderly are provided the service with equity and easy to access including participation in the community to improving mental health (Ministry of Public Health, 2014). There are two cities; Mueang Pattaya and Mueang Nonthaburi that have agreement with Department of Health to develop the city with age-friendly city concept based on the participation and context of the community. The goal of this agreement is to drive the elderly to the social and improving their health (Department of Health, 2016). There are 8 domains of age-friendly city follow by;

**2.3.1 Outdoor space and building**

The outside environment that the main impact to quality of lie including physical and mental health and independent movement in the elderly. The environment should be clean and there are no distractions and have the green space for relaxation including clearly the way between car and people. In the building have the feature to support elderly for helping themselves and sufficient toilet for service. Moreover, all of this will service with safety and easy to access (The World Health Organization, 2007). As mention earlier, the study in United Kingdom state that exposure to the environment as the green space and gardens was associated with a lower odds of anxiety and depression in the elderly (Wu, Prina, Jones, Matthews, & Brayne, 2015). As well as the greater stress in the elderly will reduce when stay in the garden environment (Rodiek, 2014). Meanwhile, the study in Malaysia show the correlation between the well-being of the residents of the elderly care center with a well-designed outdoor space. The landscaping and greenly around the compound is well kept and these to certain extent do relieve the stress among the elderly (Othman & Fadzil, 2014).

### 2.3.2 Transportation

The transportation is the key to make the active aging because it supports the elderly to join in the community activity or access to health service. The public transport should ready to serve and have the clear signs for showing the information. The schedule of transportation is adequate for use. In transportation have provide the seating for the elderly. Moreover, having the regular check for the quality of vehicles. About location of parking it will be near the building and transportation station as well as having the importance landmark for support elderly such as hospital, temple. In part of services, the driver will serve with safety, polite and concern about the accident that can occur in elderly. If this domain is not working then the elderly will not able to go outside because they don't have the son or family member to take them to community (The World Health Organization, 2007). As same as the previous study, the lack of accessible and affordable transportation options in the elderly was mentioned in all regional in the Canada as one of the most importance issues to create the active aging society (National Senior Council, 2013). Also one study in Australia said lacking of transportation was negatively affect the ability of elderly to access a variety of health services (Corcoran, McNa, Girgis, & Colagiuri, 2012). The other study in Europe reference the assess to transportation can help the elderly to gain themselves of goods, services, employment and other activities as well as containing sense of freedom and independence in life (B.P. Shrestha et al., 2016).

### 2.3.3 Housing



The housing is support the elderly with safety and be the key factor that link the elderly to the community. The home will be designed with facilities for the elderly and made from standard equipment to ensure the accident will not occur when elderly use. Home will have an updated assessment and always maintained. In the house for rent, it must be low cost with safety because some of elderly has low income, therefore they will not be able to afford. However, the home should located within the community for driving the elderly to participate in activity (The World Health Organization, 2007). For aging in place, the design that seamlessly incorporate the necessary support devices such as grab bars and handrails in an unobtrusive manner (Perkins, 2015). Mental Health America did mentioned that having a safe and secure home to live is an

important part of recovery, along with access to services that enable those with mental health illnesses to live as independently as possible (Mental Health America, 2017).

**2.3.4 Social Participation**

The community organized the activity for elderly with facilitate support such as chair and toilets. The activity should integrate the international culture because the elderly can exchange ideas with each other or set the activity that under the interesting of elderly as dancing or cooking. The pattern of activity is not complicated and easy to join by the elderly and have the people in community to join with. The information of activity should be clear about agenda and date (The World Health Organization, 2007). For example, paying the money to the central fund in the community for support the weakness group, join in the elderly club in the community (Kamonthip Tanglakmankhong & Kanchana Panyathorn, 2017). The previous study in Japan reference the social participation had defensive effects on depression and increase the chances for recover older people's health (Katsunori Kondo & Ichiro Kawachi, 2013). As the study in America show elderly touch members in the community had a decrease in depression and improvement in dimensions of social, physical , and mental health functioning (National Council on Aging, 2017).

**2.3.5 Respect and Social inclusion**

The elderly often as a consultant to people in the community and willing to share the knowledge and good experience to people who is the next generation. The services should provide the facilities according to the needs of the elderly. About health service will train the family to take care the elderly in the right way and encouraged the elderly to participate in the activities. The public service should be provided for elderly who have low-income too (The World Health Organization, 2007). The report from the Canada show if the elderly isolation from the social it's mean the social skills in the elderly will decrease including affects the psychological and perceptive of heath. Moreover, the social isolation is associated with higher levels of depression and suicide (National Senior Council, 2013).

**2.3.6 Civil participation and employment**

The volunteer and employment are the programs for improving the skill in the elderly. Before program is given the knowledge and training is measure to ensure the elderly can work in the organization because some organization use the high technology

for supporting the elderly by set the transportation to work. Moreover, the elderly can be the policy marker or consultant in the community (The World Health Organization, 2007). The community provide the occupation, social-work and volunteer for the elderly that can decrease the social isolation in the elderly and increase the satisfaction in life (National Senior Council, 2013).

**2.3.7 Communication and information**

The pattern of communication for the elderly should be simple and easy to understand. In the mass media, it should set with the interesting of elderly, in verbal communication the elderly can be talk in the public meeting, in print out information should be in large alphabets and short wording to understand and in the high technology information should have the guideline to use (The World Health Organization, 2007). The good information is the great tool to help the elderly stay the connected as well as actively involved in decision making (National Senior Council, 2013). Also, good communication was positively impact on stress and mental health problems (Deakin University, 2017).

**2.3.8 Community support and health services**

In this component is very important for support the elderly well-being because the elderly cannot live without the social support if they have the social support they will improving their health and mental health. In health service, should provide the facilities for support all people located in near elderly community aimed at they can access easily (The World Health Organization, 2007). Linking with the study in Canada show the lack of a supportive social network is linked to a 60 percent increase in the risk of dementia and cognitive decline; while socially-integrated lifestyles protect against the dementia in the elderly (National Senior Council, 2013).



## 2.4 Demographic Characteristic and Mental Health Status

**2.4.1 Age**

Age of the elderly is the factor that very important for the family and community for set the facilities for them because there are 3 stages of the elderly begin, moderate and older so the different stage their movement and mental health are different too. The elderly in begin and moderate stage can join activity outside and good daily activity

more than older stage also less than risk of mental health problem (Faculty of Medicine Ramathibodi Hospital, 2015).

**2.4.2 Income**

Income is the factors support the elderly for living. They want to work and get the salary like the working group. Income is the factor that affected the different level of mental health statistically significant at the 0.05 level and the elderly in group of high income are good mental health than elderly no income. For protect this problem from this cause, the community should provide the work for the elderly. Moreover they have income they will have the good relationship in the community too (Kasorn Muijeen, 2015 ).

**2.4.3 Gender**

Gender is a serious determinant of mental health and mental illness. The morbidity associated with mental illness has received substantially more attention than the gender specific determinants and mechanisms that promote and protect mental health and foster resilience to stress and adversity. From the depressive disorder account show the 41.9 percent of the disability from neuropsychiatric disorders among women compared to 29.3 percent among men. The cause of mental health problem in women that created by multiple roles, gender discrimination and associated factors of poverty, hunger, malnutrition, overwork, domestic violence and sexual abuse. There are 3 mains of factors that can protect these problems. First by having sufficient autonomy to exercise some control in response to severe events. Second, access to some material resources that allow the possibility of making choices in the face of severe events. Third is psychological support from family, friends, or health providers is powerfully protective (The World Health Organization, 2016a). In the same time, the study in Nonthaburi province, Thailand show the women living with the depression more than men and the social support from the family or the community can protect this problem (Napa Paungrod, 2015). So, from this fact that is the reason to study the mental health status in the elderly by gender.



**2.4.4 Education**

Education one of the factor support of the elderly. The elderly who have the high level of the education will have the mental health status in good level more than the elderly in low level because they have the knowledge to finding the way to solve

the problem and can control their emotional when facing with the unexpected situation like the health status. So, from this reason the education will come to be the factor that effect the mental health in the elderly. To protect this problem the community can train or set the workshop for them to work or can join in the activity (San Klinwichit, Wethaka Klinwichit, Puangthong Incha, & Klinwichit, 2015). Linkage to the one study in China that show there is a significantly negative relation between education and depression. Compared to those without any schooling, older people who have an elementary education or above are less likely to suffer from depression (Bai, Pong, & Liu, 2015). Moreover, one study in Spain that present a higher education level amplifies significantly the inverse association between income and disability in the Spanish elderly (Abella´n, Rodrı´guez-Laso, Pujol, & Barrios, 2015). Meanwhile, the study from American Psychological Association that present elderly with less than a high school education are at greater risk for depression and low educational achievement has consistently been associated with a higher incidence of Alzheimer's disease later in life (American Psychological Association, 2017).

**2.4.5 Medical condition**

About the medical condition, the depression was associated with the chronic disease. This association between depression and chronic disease appears attributable to depressive disorders precipitating chronic disease and to chronic disease exacerbating symptoms of depression (Justin G. Trogdon et al., 2015). The people with other chronic medical conditions such as diabetes hypertension and cardiovascular disease have a higher risk of depression as well as the people with depression have an increased risk of cardiovascular disease, diabetes, stroke, and Alzheimer's disease because they may have a harder time caring for their health. However, access to the good medical care is the way to decrease the depression (The National Institute of Mental Health, 2016). Besides, the study from National Center for Chronic Disease Prevention and Health Promotion (2012) that present people who suffer from a chronic disease are more likely to also suffer from depression but not identify if having a chronic disease increases the prevalence of depression or depression increases the risk of obtaining a chronic disease (National Center for Chronic Disease Prevention and Health Promotion, 2012).

## 2.5 Perception

Perception is the clarification of sensory information in command to represent and understand the environment. All perception includes signals in the nervous system, which in turn result from physical or chemical stimulation of the sense organs. Perception is not the passive receipt of these signals but is molded by learning, memory, expectation, and attention. Perception can be divided into two processes. First, the sensory input, which change the low-level information to higher-level information. Second, linked with a person's concepts and knowledge including attention that influence perception. Perception depends on complex functions of the nervous system, but subjectively seems mostly effortless because this processing happens outside sensible awareness (Epstein & Dember, 2017).

## 2.6 The perceptions of the elderly toward age-friendly city feature

One study in Busan Metropolitan City show mean score of the perception of the elderly toward age-friendly city features was highest in outdoor spaces and buildings followed by those of transportation, community support and health, housing, respect and social inclusion, communication and information, and social participation. The civic participation and employment was the lowest among the eight domains of age-friendly city features. Meanwhile, there were significant differences by participant gender, age, living arrangements, education level, marital status, self-rated health, and financial adequacy (Lee & Kyeongmo, 2016).

In Malaysia, the transportation and housing domain is known as the most important feature of age-friendly. The transportation and housing would enable the elderly to participate in local community social events, exercise in parks, receive adequate healthcare, and visit family and friends, which would help promote social connectedness and participation. Followed by, outdoor spaces and buildings play an important role in the adaptability of adults in their living environment. Safe outdoor spaces equipped with the appropriate facilities help ease the mobility of adults, especially older adults. The community support and health services domain is perceived as another significant age-friendly feature. It serves as a proactive intervention in light of increasing healthcare cost resulting from poor health and chronic diseases among

aging people. These findings are strongly in line with the need for a reform in the local healthcare system. It is worth noting that the other four domains of the age-friendly features are perceived to be not significant in the Malaysian context. They are respect and social inclusion, social participation, civic participation and employment, and communication and information (Lai, Lein, Lau, & Lai, 2016).

As the result, of the eight-domain elderly mostly known about the domain that relate with physical equipment such as outdoor space and building, transportation and housing because it is what they have been seen and used. On other hand, the domain that is about social or something that elderly can join like social participation, civic participation and employment, and community and health service all these domain the elderly tend to know less. Because elderly often think that they are older, so they don't have the potential to do work or join the activity.

## 2.7 Conclusion

The world trends of the elderly are increasing 56 % from 2015 to 2030 around 901 million to 1.4 billion and in 2000 to 2015 show the number of older people increasing 68 % in urban area and 25 % in rural area (United Nations, 2015). Besides, over 20 % of elderly in the world trends suffer from a mental or neurological disorder (Dementia and depression) (The World Health Organization, 2013).

Meanwhile, the predication of the elderly in Thailand will grow up in urban area by increased 39.7 % in 2010 to 59.8 % in 2040 around 3.3 million to 11.6 million (Foundation For Older Persons' Development, 2015). Also, the proportion of elderly in Photaram district is 15.51 % its mean this area is the "Aging Society" because the proportion of the elderly more than 10 percent (Ministry of Social Development and Human Security Thailand, 2013). About mental health of the elderly in Thailand, the government created the policies in 2015-2016 for support the aging society (Department of Health, 2016). Also in Photaram district have the elderly and disable plan 2016 (Photaram District Public Health Office, 2016).

For support the aging society (physical and mental health), The World Health Organization create the Age-Friendly City concepts with eight domains; outdoor space and building, transportation, housing, social participation, respect and social inclusion, civil participation and employment, communication and information, community

support and health services (The World Health Organization, 2007). As same as implement this concept in Thailand by top to down policy (Department of Health, 2016). So this study try to find the association between the perception of age-friendly city features and mental health status of the elderly in Photaram district because this concept mention that for improving the mental health problem of the elderly.

# CHAPTER III
# RESEARCH METHODOLOGY

## 3.1 Research Design

The quantitative and qualitative methods (methodological triangulation) were used in this study by cross sectional study pointing to describe the perception toward age-friendly city features and mental health status in the elderly at Photaram district, Ratchaburi province, Thailand.

## 3.2 Study Area and Study Period

The study area was located at Photaram district, Ratchaburi province, Thailand. The period of study was from mid-May to mid-June 2017.

## 3.3 Study Population

The participants of this study were the people who was 60-79 years old, both male and female, who lived in Photaram district, Ratchaburi province more than 6 months.

### 3.3.1 Inclusion Criteria

1) The participants aged of 60-79.

2) Male and female, who live in Photaram district, Ratchaburi province more than 6 months.



### 3.3.2 Exclusion Criteria

1) The participants who hearing loss because the researcher cannot communicate with the participants

2) The participants who is the bedridden person.

3) The participants who have cognitive and dementia impairment based on doctor diagnosis. The researcher has screened them by the documents from health center staff.

### 3.4 Sample and Sample Size

Yamane formula was used to calculate the sample size in this study and the sample size included people aged 60-79 who passed the inclusion criteria of the study;

$$\text{Sample size (n)} = \frac{N}{1+(Ne^2)}$$

When n = sample size

N = the number of people aged 60 or over Photaram district, Ratchaburi province.

e = the error of sampling (= 0.05)

In this study, the total number of people aged 60-79 in Photaram district, Ratchaburi province was 19,196 people (Photaram District Public Health Office, 2016). The calculation show;

$$\text{Sample size (n)} = \frac{19196}{1+(19196\ (0{,}05)^2)} = 391.84 = 392$$

The sample size of this study was 392 people from 19,196 of population. And added 10% in case of non-response or non-complete response, so the final sample size was 432 people from the total.



### 3.5 Sampling Technique

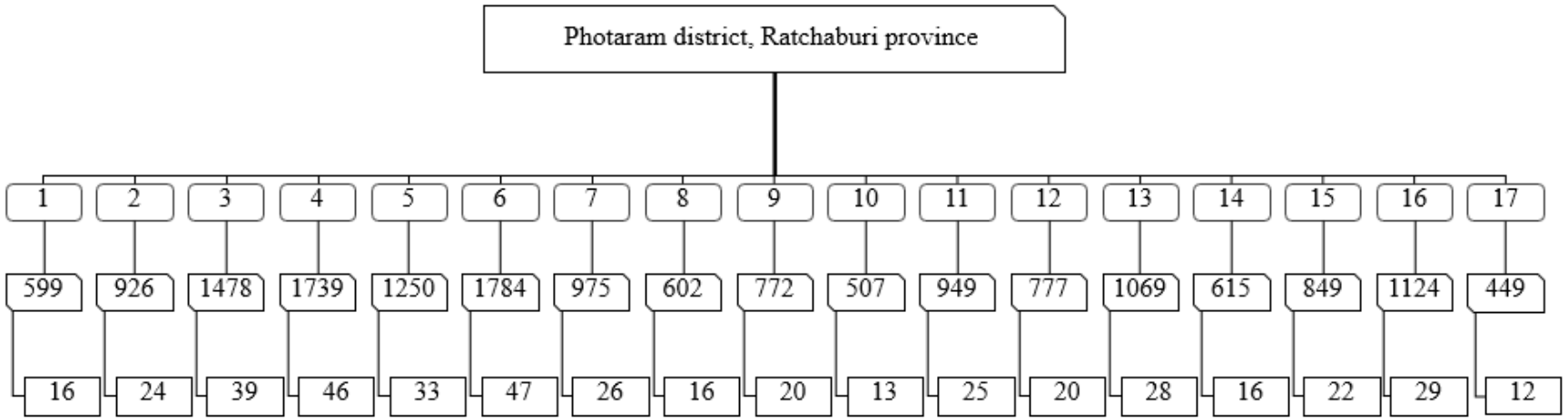
The sampling technique in this study was the Multi Sampling as show in the figure 2. First, focused on the whole population of people aged 60-79 at Photaram district, Ratchaburi province, Thailand.

Second, separated each sub-district and calculated the population of the people aged 60-79 in that sub-district both male and female except Photaram sub-district and Chet Samian sub-district because they didn't have the Sub-District Health Promoting Hospital that was the limitation in the step of collecting data. The researcher request has been approved to have the name list from the Head of Sub-District Health Promoting Hospital of each districts.

Third, did the proportion to size technique to find the representative population from each sub-district by used the population size of 432 people aged 60-79 as participants.

Fourth, the simple random sampling technique was used to select the first participants of each group. Then the rest of the participants the researcher selected by interval technique such as Don Krabueang sub-district total population is 599 people and the target population was 16 people so the total population divided with the target population, 599/16, therefore the interval of this group was 38. Every 38 people count after the first participants from simple random sampling technique.

***Figure 2*** *Sampling Technique of people aged 60-79 at Photaram district, Ratchaburi province, Thailand*




= Sub-district = N = n

1. Don Krabueang
2. Nong Pho
3. Ban Lueak
4. Khlong Ta Khot
5. Ban Khong
6. Ban Sing
7. Don Sai
8. Khlong Khoi
9. Chamrae
10. Soi Fa
11. Tha Chumphon
12. Bang Tanot
13. Tao Pun
14. Nang Kaeo
15. Thammasen
16. Khao Cha-ngum
17. Nong Kwang

### 3.6 Measurement Tool

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

**3.6.1 The demographic characteristics**: 5 questions

The demographic characteristics included gender, age, education background, income and medical condition.

**3.6.2 The perception toward age-friendly city features:** 39 questions

In this part, the questionnaire of the perception toward age-friendly city features was developed from the checklist age-friendly city by The World Health Organization (2017) and the criteria of age-friendly city in Thailand by Department of Health (2015) based on the context of Photaram district, Ratchaburi Province, Thailand with opinion or feeling scale from very good, good, fair, poor and very poor (Brown, 2010).

There are 8 domains as below;

Domain1: Outdoor spaces and buildings (7 questions)

Domain 2: Transportation (6 questions)

Domain 3: Housing (4 questions)

Domain 4: Social participation (4 questions)

Domain 5: Respect and social inclusion 4 questions)

Domain 6: Civic participation and employment (4 questions)

Domain 7: Communication and information (4 questions)

Domain 8: Community and health services (6 questions)

**3.6.3 Mental health**: 56 questions

Thai Geriatric Mental Health Assessment (T-GMHA-56) was used in this study that was developed by team from Khon Kaen Rajanagarindra Psychiatric Hospital, Department of Medical Sciences Ministry of Public Health and Somdet Chaopraya Institute Psychiatry in year 2015 with opinion or feeling scale from strongly disagree, sometime agree, agree and strongly agree (Prapat Ukranan et al., 2015).

The researcher was made an official request to the World Health Organization for the use of age-friendly city check-list questionnaire in this study. An official request have sent to Prapat Ukranan et. al. (2015) for the use of the mental health status questionnaire in the study.

### 3.6.4 Validity

The researcher was referred the questionnaires to four experts for review and checking validity of questionnaires. After experts checked, the researcher was developed the questionnaires again follow as the experts comment and recommend. Then the researcher sent back to the experts for approval.

### 3.6.5 Reliability

The research sent out for 30 sets of questionnaire at Banphong sub-district, Banphong district, Ratchaburi province, Thailand because the context of this place was similar to Mueang Ratchaburi/Photaram district. The sample size was both male and female people aged 60 -79. The Cronbach's Alpha more than 0.7 indicate the reliability for the item in the questionnaires. So, the result of reliability of the variables show as the table below;

***Table 2*** *The reliability of the variables*

| **Items** | **Cronbach's Alpha** |
|---|---|
| The perception toward age-friendly city features (39 questions) | 0.948 |
| Domain1: Outdoor spaces and buildings (7 questions) | 0.928 |
| Domain 2: Transportation (6 questions) | 0.845 |
| Domain 3: Housing (4 questions) | 0.770 |
| Domain 4: Social participation (4 questions) | 0.867 |
| Domain 5: Respect and social inclusion 4 questions) | 0.805 |
| Domain 6: Civic participation and employment (4 questions) | 0.720 |
| Domain 7: Communication and information (4 questions) | 0.873 |
| Domain 8: Community and health services (6 questions) | 0.738 |
| Mental health (56 questions) | 0.920 |

### 3.7 Data Collection

The pattern of collecting data was “Face-to-Face interview” about 30-45 minutes per person. The Village Health Volunteers in Photaram district about 50 person were the researcher assistance. The criteria of researcher assistance shown as follow;

1) Read and write Thai fluently

2) At least have Grade 9 diploma

3) First, the researcher trained the researcher assistance by explain all the criteria of the questionnaire. Then the researcher observed the researcher assistance when he/she did an interview workshop until the researcher confident that the researcher assistance was ready for the field.

The researcher informed the Head of Sub-District Health Promoting Hospital that the data collection was from mid-May to mid-June 2017. Therefore, the researcher asked the head of Sub-District Health Promoting Hospital to form a team for the researcher so that they can bring the researcher team to the community.

The researcher informed the purpose of this study and clarified the questionnaires before data were collected including got the agreement from the participants by signed in the consent form. During interview, the questions were asked and recorded by researcher or researcher assistance and carefully rechecked the questionnaires. In case the elderly aged 60-79 who lived in the same house more than 1 person, the researcher or researcher assistance were collected the data based on the name list from simple random sampling technique.



In case the participants exhausted and loss focus from the interview, the researcher has paused the interview and started a conversation to make the participants relax or did some activity. When the research sure that the participants was ready then the interview continue.

### 3.8 Data Analysis

The data was analyzed by using Statistical Package for the Social Science version 17 licensed for Chulalongkorn University.

### 3.8.1 The demographic characteristics

The demographic characteristics collect the data in nominal scale, ordinal scale and ratio scale. The descriptive statistic was used to analyze the frequency and percentage in gender, education, age in group, income and medical condition. The variable of age that collecting the data with ratio scale for analyze mean, standard deviation, maximum and minimum values and then divided in group of the stage in the elderly – early and middle– as shown in the table below;

***Table 3*** *Data scale and categories of the demographic characteristics*

| Variables | Scale | Categories |
|---|---|---|
| 1. Gender | Nominal Scale | 1= Male<br>2= Female |
| 2. Age | Ratio Scale | The current age of the elderly, |
| | Ordinal Scale | 1= aged 60-69<br>2= aged 70-79 |
| 3. Education Background | Ordinal Scale | 1= Not educated<br>2= Primary School<br>3= Secondary School<br>4= Vocational School<br>5= Bachelor's degree<br>6=Master degree or above |
| 4. Income | Ordinal Scale | 1= Less than 5,000<br>2= 5,000 – 9,999<br>3= 10,000-14,999<br>4=15,000-19,999<br>5= 20,000 and above |
| 5. Medical Condition | Nominal Scale | 1=None<br>2=Hypertension<br>3=Diabetes<br>4=Cardiovascular disease<br>5=Other…… |

### 3.8.2 The perception toward age-friendly city features

The perception toward age-friendly city features collected the data in Likert scale. The rating scales are;

| Opinion | Scores |
|---|---|
| Very poor | 1 |
| Poor | 2 |
| Fair | 3 |
| Good | 4 |
| Very good | 5 |

The descriptive statistic was used to analyze frequency, percentage, max, min, mean, standard deviation including divide the total scores of all domains and in each domain in 3 group of perception; good, fair and poor by used mean and standard deviation to calculate the range of score (Lai et al., 2016).

### 3.8.3 Mental Health Status

The mental health status was collected the data in Likert scale based on feeling or opinion of the participant with 56 questions. The rating scales are;

| Feeling/ Opinion | Scores |
|---|---|
| Strongly disagree | 1 |
| Sometime agree | 2 |
| Agree | 3 |
| Strongly agree | 4 |



Except the questions no.7-14 and 26-28 because there were the negative questions. The rating scales are;

| Feeling/ Opinion | Scores |
|---|---|
| Strongly disagree | 4 |
| Sometime agree | 3 |
| Agree | 2 |
| Strongly agree | 1 |

The descriptive statistic was used to analyze frequency, percentage, max, min, mean, standard deviation including divide the total scores in 3 group of mental health (Prapat Ukranan et al., 2015);

| Group | Score range |
|---|---|
| Good | 182-224 |
| Moderate | 160-181 |
| Poor | ≤ 159 |

**3.8.4 The association between the perception toward age friendly city features and mental health status**

The Chi-square test or fisher's exact test was used as the inferential statistics to test the association between the perceptions toward age-friendly city features and mental health status as same as describe the association between demographic characteristic with mental health status in the elderly.

**3.9 Ethical Consideration**

This study was approved by the Ethical Committee of Chulalongkorn University (Reference no. 067.1/60). Before collecting the data, the researcher must clarify and inform the participants about the purpose and process of the study. The researcher started the interview only if the participants is willing to participate by signing the consent form. The participants can reject and withdraw from the study anytime if they feel that the study didn't give any benefit for them or they feel like it is useless. All the information of the participant was kept secretly and only use in this research. Moreover, during the interview, if the researcher observed that the participant has the high risk of mental health problems such as crying while interviewing. Researchers was update the information to the health staff for follow up closely.

### 3.10 Limitation

There were four limitations of this study. First, the number of the elderly was not up to date. The sample size calculated from the last available data on the elderly population by Ministry of Social Development and Human Security was record in year 2012. Now, the population structure in Thailand was increasing in people aged 60 or over from 13.2 percent in 2010 to 32.1 percent in 2040 (Foundation For Older Persons' Development, 2015).

Second, there were 19 sub-districts in Photaram district, but in the process of data collecting the researcher cannot cover all of sub-districts because two sub-districts, Photaram and Chet Samian, didn't have the District Health Promoting Hospital. Therefore, it didn't have the Village Health Volunteer to bring the researcher to the community.

Third, the sample size came from the population in Photaram district, Ratchaburi province, therefore, the result cannot support the planned or projected in Ratchaburi province as a whole.

Fourth, this study just described the perception toward age-friendly city features that not the assessment.

### 3.11 Obstacles and Strategies to Solve the Problem

There were two obstacles in this study. First, the climate change, raining. The researcher cannot collect the data in working hour. (8.00 am – 5.00 p.m.) The strategy to solve this problem was change the time to collecting data from working hour to be in the early morning and evening.

Second, because of the questionnaire had a lot of questions. Therefore, the elderly was not focus in the interview. The strategy to solve this problem was to pause the interview and started a conversation to make the elderly relax or did hand exercise. When the elderly was ready then the interview continues.

# CHAPTER IV
# RESULTS

## 4.1 The demographic characteristics

The data of the demographic characteristics show there are 277 (64.1%) females and 155 (35.9%) males. The mean of age is 66.94 years old, standard deviation 6.055 years old, maximum 79 years old and minimum 60 years old. There are 295 (68.3%) of the participant aged 60-79 and 137 (31.7%) aged 70-79. The education background shows that 194 (44.9%) of the participants has finished in primary school, follow by not educated 83 (19.2%) and the master degree or above least 10 (2.3%). In monthly personal income shows that 235 (54.4%) of the participants has income less than 5,000 baht, follow by 5,000 – 9,999 baht with 91 (21.1%) and 20,000 baht and above least 19 (4.4%). There are 264 (61.1%) of the participants have medical condition-hypertension 174 (65.2%), diabetes 88 (33.0%), cardiovascular disease 46 (17.2%) and other: thyroid disease, cancer, allergic rhinitis and hypercholesterolemia 27 (10.1%).

***Table 4*** *The demographic characteristics of the participants*

| The demographic characteristics | n = 432 | Percent |
|---|---|---|
| **Gender** | | |
| Male | 155 | 35.9 |
| Female | 277 | 64.1 |
| **Age** | | |
| Aged 60-69 | 295 | 68.3 |
| Aged 70-79 | 137 | 31.7 |
| Mean 66.94 years old, S.D. 6.055 years old, Max 79 years old, Min 60 years old | | |
| **Education Background** | | |
| Not educated | 83 | 19.2 |
| Primary School | 194 | 44.9 |
| Secondary School | 73 | 16.9 |
| Vocational School | 37 | 8.6 |
| Bachelor’s degree | 35 | 8.1 |
| Master degree or above | 10 | 2.3 |

***Table 4*** *(continue)*

| The demographic characteristics | n = 432 | Percent |
|---|---|---|
| **Income** | | |
| Less than 5,000 Baht | 235 | 54.4 |
| 5,000 – 9,999 Baht | 91 | 21.1 |
| 10,000-14,999 Baht | 51 | 11.8 |
| 15,000-19,999 Baht | 36 | 8.3 |
| 20,000 Baht and above | 19 | 4.4 |
| **Medical Condition** | | |
| No | 168 | 38.9 |
| Yes | 264 | 61.1 |
| Hypertension | 174 | 65.2 |
| Diabetes | 88 | 33.0 |
| Cardiovascular disease | 46 | 17.2 |
| Other | 27 | 10.1 |

**4.2 The perception toward age-friendly city features**

The result show by items with perception rated from very good, good, fair, poor and very poor. Meanwhile, divide the total score of the perception by three groups; good, fair and poor (Lai et al., 2016).

**4.2.1 Outdoor spaces and buildings**

The perception of outdoor space and building by items, the participants rate in good level of all. Most of participants rate in item 2 the public place has provided outdoor seating which is sufficient in number, well-maintained and safe 200 (46.3%), follow by item 1 the public place has to be clean and pleasant 196 (45.4%). Item 4 pedestrian crossings are sufficient in number and safe for people with different levels and types of disability, with nonslip markings, visual and audio cues and adequate crossing times 196 (45.4%). Item 3 pavements are well-maintained, free of obstructions and reserved for pedestrians 192 (44.4%). Item 5 buildings are well-signed outside and inside, with sufficient seating and toilets, accessible elevators, ramps, railings and stairs, and non-slip floors 184 (42.6%). Item 6 public toilets outdoors and indoors are

sufficient in number, clean, well-maintained and accessible 172 (39.8%). Lastly, item 7 public place are situated together and are accessible 169 (39.1%). [Table 5]

The perception toward outdoor space and buildings is having a mean of 28.48 points, standard deviation 5.317 points, maximum 35 points and minimum 8 point. The total scores grouped into 3 level; good, fair and poor by use mean score ± standard deviation (28 ± 5). The data show the perception most in fair level (23-33 point) with 250 (57.9%), follow by good level (more than 33 points) with 117 (27.1%) and poor level (less than 23 points) with 65 (15.0%). [Table 6]

***Table 5*** *Participants' perception toward outdoor space and building*

| **Items** | **Perception (n=432)** | | | | |
|---|---|---|---|---|---|
| | **Very good** | **Good** | **Fair** | **Poor** | **Very poor** |
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| 1. The public place have to be clean and pleasant. | 155 (35.9) | 196 (45.4) | 66 (15.3) | 14 (3.2) | 1 (0.2) |
| 2. The public place have provide outdoor seating which is sufficient in number, well-maintained and safe. | 140 (32.4) | 200 (46.3) | 79 (18.3) | 12 (2.8) | 1 (0.2) |
| 3. Pavements are well-maintained, free of obstructions and reserved for pedestrians. | 132 (30.6) | 192 (44.4) | 92 (21.3) | 15 (3.5) | 1 (0.2) |
| 4. Pedestrian crossings are sufficient in number and safe for people with different levels and types of disability, with nonslip markings, visual and audio cues and adequate crossing times. | 163 (37.7) | 196 (45.4) | 54 (12.5) | 16 (3.7) | 3 (0.7) |

***Table 5*** *(continue)*

| Items | Perception (n=432) | | | | |
|---|---|---|---|---|---|
| | **Very good** | **Good** | **Fair** | **Poor** | **Very poor** |
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| 5. Buildings are well-signed outside and inside, with sufficient seating and toilets, accessible elevators, ramps, railings and stairs, and non-slip floors. | 154 (35.6) | 184 (42.6) | 72 (16.7) | 19 (4.4) | 3 (0.7) |
| 6. Public toilets outdoors and indoors are sufficient in number, clean, well-maintained and accessible. | 150 (34.7) | 172 (39.8) | 84 (19.4) | 21 (4.9) | 5 (1.2) |
| 7. Public place are situated together and are accessible. | 142 (32.9) | 169 (39.1) | 95 (22.0) | 26 (6.0) | 0 (0.0) |

***Table 6*** *Group of participants' perception toward outdoor spaces and building*

| Group of the perception | n | % |
|---|---|---|
| Good (> 33 points) | 117 | 27.1 |
| Fair (23-33 points) | 250 | 57.9 |
| Poor (< 23 points) | 65 | 15.0 |
| Mean 28.48 points, S.D. 5.317 points, Max 35 points, Min 8 points | | |



**4.2.2 Transportation**

The perception of transportations by items, most of participant rate in item 4 there will always have a maintenance for a walk way for the safety in good level with 143 (33.1%). Follow by item 1 in the community have the public transportation - good level. Item 2 the route of the public transportation in the community and it will settle at the safety place which is easy to access - fair level and item 5 the traffic has to be adjust for the flow and road safety –good level equally with 142 (32.9%). Meanwhile, rate the

item 6 the traffic sign has to be in the place that it won't block the traffic of the driver view in good level with 135 (31.3%) and item 3 specialized transportation is available for disabled people or elderly people in very good level with 129 (29.9%). [Table 7]

The perception toward transportation has the mean of 22.28 points, standard deviation 5.397 points, maximum 30 points and minimum 7 points. The total scores grouped into 3 level; good, fair and poor by use mean score ± standard deviation (22 ± 5). The data show the perception most in fair level (17-27 points) with 262 (60.6%), follow by good level (more than 27 points) with 111 (25.7%) and poor level (less than 17) with 59 (13.7%). [Table 8]

***Table 7*** *participants' perception toward transpartation*

| **Items** | **Perception (n=432)** | | | | |
|---|---|---|---|---|---|
| | **Very good** | **Good** | **Fair** | **Poor** | **Very poor** |
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| 1. In the community have the public transportation | 108 (25.0) | 142 (32.9) | 130 (30.1) | 48 (11.1) | 4 (0.9) |
| 2. The route of the public transportation in the community and it will settle at the safety place which is easy to access. | 112 (25.9) | 129 (29.9) | 142 (32.9) | 47 (10.8) | 2 (0.5) |
| 3. Specialized transportation is available for disabled people or elderly people. | 129 (29.9) | 108 (25.0) | 119 (27.5) | 57 (13.2) | 19 (4.4) |
| 4. There will always have a maintenance for a walk way for the safety. | 117 (27.1) | 143 (33.1) | 128 (29.6) | 40 (9.3) | 4 (0.9) |

***Table 7*** *(continue)*

| Items | Perception (n=432) | | | | |
|---|---|---|---|---|---|
| | **Very good** | **Good** | **Fair** | **Poor** | **Very poor** |
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| 5. The traffic has to be adjust for the flow and road safety. | 108 (25.0) | 142 (32.9) | 140 (32.4) | 38 (8.8) | 4 (0.9) |
| 6. The traffic sign has to be in the place that it won't block the traffic of the driver view. | 125 (28.9) | 135 (31.3) | 131 (30.3) | 32 (7.4) | 9 (2.1) |

***Table 8*** *Group of participants' perception toward transportation*

| Group of the perception | n | % |
|---|---|---|
| Good (> 27 points) | 111 | 25.7 |
| Fair (17-27 points) | 262 | 60.6 |
| Poor (< 17 points) | 59 | 13.7 |
| Mean 22.28 points, S.D. 5.397 points, Max 30 points, Min 7 points | | |

**4.2.3 Housing**

The perception of housing by items, participant mostly fall in item 2 the house is well constructed that provides safe and comfortable shelter from the weather in very good level with 189 (43.8%), follow by item 3 housing is clean, well-maintained, safe, and supplies are available and affordable in very good level with 175 (40.5%). Item 1 sufficient, affordable housing is available in areas that are safe and close to services and the rest of the community in fair level with 171 (39.6%) and item 4 the community have to provide the shelter or services for take care the elderly in very good level with 151 (35.0%). [Table 9]

The perception toward housing has mean of 16.17 points, standard deviation 3.248 points, maximum 20 points and minimum 6 points. The total scores grouped into 3 level; good, fair and poor by use mean score ± standard deviation (16 ± 3). The data

show the perception mostly in fair level (13-19 points) with 228 (52.8%), follow by good level (more than 19 points) with132 (30.6%) and poor level (less than 13 points) with 72 (16.6%). [Table 10]

***Table 9*** *Participants' perception toward housing*

| Items | Perception (n=432) | | | | |
|---|---|---|---|---|---|
| | **Very good** | **Good** | **Fair** | **Poor** | **Very poor** |
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| 1. Sufficient, affordable housing is available in areas that are safe and close to services and the rest of the community. | 151 (35.0) | 171 (39.6) | 83 (19.2) | 24 (5.6) | 3 (0.6) |
| 2. The house is well constructed that provides safe and comfortable shelter from the weather. | 189 (43.8) | 169 (39.1) | 54 (12.5) | 20 (4.6) | 0 (0.0) |
| 3. Housing is clean, well-maintained, safe, and supplies are available and affordable. | 175 (40.5) | 144 (33.4) | 90 (20.8) | 19 (4.4) | 4 (0.9) |
| 4. The community have to provide the shelter or services for take care the elderly. | 151 (35.0) | 131 (30.3) | 91 (21.1) | 51 (11.7) | 8 (1.9) |



***Table 10*** *Group of participants' perception toward housing*

| Group of the perception | n | % |
|---|---|---|
| Good (> 19 points) | 132 | 30.6 |
| Fair (13-19 points) | 228 | 52.8 |
| Poor (< 13 points) | 72 | 16.6 |
| Mean 16.17 points, S.D. 3.248 points, Max 20 points, Min 6 points | | |

### 4.2.4 Social participation

The perception of social participation by items, the participants rate in good level of all. The most of participants rate in item 2 the elderly can join the activity and they will receive the support from their family or community by providing the transportation and also the place for the activity with 155 (35.9%), follow by item 1 there are a clubs or activities for elderly that came from community participation with 153 (35.4%). Item 3 all the information of the activity will be announcing through the community media with 145 (33.6%) and item 4 when joining the activity, they will receive the support from their family or community with 143 (33.1%) [Table 11]

The perception toward social participation with mean of 14.59 points, standard deviation 3.650 points, maximum 20 points and minimum 4 points. The total scores grouped into 3 level; good, fair and poor by use mean score ± standard deviation (15 ± 4). The data show the perception most in fair level (11-19 points) with 302 (69.9%), follow by good level (more than 19 points) with 68 (15.7%) and poor level (less than 11 points) with 62 (14.4%). [Table 12]

***Table 11*** *Participants' perception toward social participation*

| **Items** | **Perception (n=432)** | | | | |
|---|---|---|---|---|---|
| | **Very good** | **Good** | **Fair** | **Poor** | **Very poor** |
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| 1. There are a clubs or activities for elderly that came from community participation. | 98 (22.7) | 153 (35.4) | 125 (28.9) | 48 (11.1) | 8 (1.9) |
| 2. The elderly can join the activity and they will receive the support from their family or community by providing the transportation and also the place for the activity. | 89 (20.6) | 155 (35.9) | 124 (28.7) | 59 (13.7) | 5 (1.1) |

***Table 11*** *(continue)*

| Items | Perception (n=432) | | | | |
|---|---|---|---|---|---|
| | **Very good** | **Good** | **Fair** | **Poor** | **Very poor** |
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| 3. All the information of the activity will be announcing through the community media | 87 (20.1) | 145 (33.6) | 130 (30.1) | 55 (12.7) | 15 (3.5) |
| 4. When joining the activity, they will receive the support from their family or community | 122 (28.2) | 143 (33.1) | 124 (28.7) | 37 (8.6) | 6 (1.4) |

***Table 12*** *Group of participants' perception toward social participation*

| Group of the perception | n | % |
|---|---|---|
| Good (> 19 points) | 68 | 15.7 |
| Fair (11-19 points) | 302 | 69.9 |
| Poor (< 11 points) | 62 | 14.4 |
| Mean 14.59 points, S.D. 3.650 points, Max 20 points, Min 4 points | | |



**4.2.5 Respect and social inclusion**

The perception of respect and social inclusion by items, most of participant responded in item 2 public or private services are suitable with elderly in good level with 155 (35.9), follow by item 3 elderly must be loved, respect and have a good care from family or community in very good level with 153 (35.4%). Item 4 most of the community's activities is appropriate for everyone in every age group in very good level with 148 (34.3%). Item 1 elderly can be the consultant or mentor in the community or other organization to help in managing the community activities in good level with 145 (33.6%). [Table 13]

The perception toward respect and social inclusion with mean of 15.33 points, standard deviation 3.595 points, maximum 20 points and minimum 4 point. The total

scores grouped into 3 level; good, fair and poor by use mean score ± standard deviation (15 ± 4). The data show the perception most in fair level (11-19 points) with 293 (67.8%), follow by good level (more than 19 points) with 103 (23.8%) and poor level (less than 11 points) with 36 (8.4%). [Table 14]

***Table 13*** *Participants' perception toward respect and social inclusion*

| Items | Perception (n=432) | | | | |
|---|---|---|---|---|---|
| | **Very good** | **Good** | **Fair** | **Poor** | **Very poor** |
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| 1. Elderly can be the consultant or mentor in the community or other organization to help in managing the community activities. | 119 (27.5) | 145 (33.6) | 119 (27.5) | 34 (7.9) | 15 (3.5) |
| 2. Public or private services are suitable with elderly. | 106 (24.5) | 155 (35.9) | 127 (29.4) | 36 (8.3) | 8 (1.9) |
| 3. Elderly must be loved, respect and have a good care from family or community. | 153 (35.4) | 134 (31.0) | 115 (26.6) | 21 (4.9) | 9 (2.1) |
| 4. Most of the community's activities is appropriate for everyone in every age group. | 148 (34.3) | 147 (34.0) | 103 (23.8) | 29 (6.7) | 5 (1.2) |



***Table 14*** *Group of participants' perception toward respect and social inclusion*

| Group of the perception | n | % |
|---|---|---|
| Good (> 19 points) | 103 | 23.8 |
| Fair (11-19 points) | 293 | 67.8 |
| Poor (> 11 points) | 36 | 8.4 |
| Mean 15.33 points, S.D. 3.595 points, Max 20 points, Min 4 points | | |

### 4.2.6 Civic participation and employment

The perception of civic participation and employment by items, most of participant rate in item 2 workplaces are adapted to meet the needs of all people in good level with 170 (39.4%), follow by item 4 decision-making bodies in public, private and voluntary sectors encourage and facilitate membership of older people in very good level with 162 (37.5%). For item 1 options for older volunteers is available, with training, recognition, guidance and compensation for personal costs in good level with 149 (34.5%). Item 3, a range of flexible and appropriately paid opportunities for older people to work is promoted in good level with 138 (32.0%). [Table 15]

The perception toward civic participation and employment has mean of 14.90 points, standard deviation 3.257 points, maximum 20 points and minimum 5 points. The total scores grouped into 3 level; good, fair and poor by use mean score ± standard deviation (15 ± 3). The data show the perception most in fair level (12-18 points) with 300 (69.4%), follow by good level (more than 18 points) with 85 (19.7%) and poor level (less than 12 points) with 47 (10.9%). [Table 16]

***Table 15*** *Participants' perception toward civic participation and employment*

| Items | Perception (n=432) | | | | |
|---|---|---|---|---|---|
| | **Very good** | **Good** | **Fair** | **Poor** | **Very poor** |
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| 1. Options for older volunteers is available, with training, recognition, guidance and compensation for personal costs. | 96 (22.2) | 149 (34.5) | 124 (28.7) | 48 (11.1) | 15 (3.5) |
| 2. Workplaces are adapted to meet the needs of all people. | 99 (22.9) | 170 (39.4) | 131 (30.3) | 28 (6.5) | 4 (0.9) |
| 3. A range of flexible and appropriately paid opportunities for older people to work is promoted. | 84 (19.4) | 138 (32.0) | 133 (30.8) | 63 (14.6) | 14 (3.2) |

***Table 15*** *(continue)*

| Items | Perception (n=432) | | | | |
|---|---|---|---|---|---|
| | **Very good** | **Good** | **Fair** | **Poor** | **Very poor** |
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| 4. Decision-making bodies in public, private and voluntary sectors encourage and facilitate membership of older people. | 162 (37.5) | 148 (34.2) | 97 (22.5) | 21 (4.9) | 4 (0.9) |

***Table 16*** *Group of participants' perception toward civic participation and employment*

| Group of the perception | n | % |
|---|---|---|
| Good (> 18 points) | 85 | 19.7 |
| Fair (12-18 points) | 300 | 69.4 |
| Poor (< 12 points) | 47 | 10.9 |
| Mean 14.90 points, S.D. 3.257 points, Max 20 points, Min 5 points | | |

**4.2.7 Communication and information**

The perception of communication and information by items, the most of participant rate in item 4 public and commercial services provide friendly, person-to-person service on request in good level with 173 (40.0%), follow by item 3 regular and widespread distribution of information is assured and a coordinated, centralized access is provided in good level with 153 (35.4%), item 1 printed information has large lettering and the main ideas are shown by clear headings and bold-face type in fair level with 148 (34.3%), and item 2 print and spoken communication by staff in both private and public sector must use simple, familiar words in short, straightforward sentences in good level with 143 (33.1%). [Table 17]

The perception toward communication and information with mean of 14.93 points, standard deviation 3.460 points, maximum 20 points and minimum 4 point. The total scores grouped into 3 level; good, fair and poor by use mean score ± standard

deviation (15 ± 3). The data show the perception most in fair level (12-18 points) with 278 (64.4%), follow by good level (more than 18 points) with 100 (23.1%) and poor level (less than 12 points) with 54 (12.5%). [Table 18]

***Table 17*** *Participants' perception toward communication and information*

| Items | Perception (n=432) | | | | |
|---|---|---|---|---|---|
| | **Very good** | **Good** | **Fair** | **Poor** | **Very poor** |
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| 1. Printed information has large lettering and the main ideas are shown by clear headings and bold-face type. | 104 (24.1) | 145 (33.6) | 148 (34.3) | 30 (6.8) | 5 (1.2) |
| 2. Print and spoken communication by staff in both private and public sector must use simple, familiar words in short, straightforward sentences. | 111 (25.7) | 143 (33.1) | 142 (32.9) | 31 (7.2) | 5 (1.1) |
| 3. Regular and widespread distribution of information is assured and a coordinated, centralized access is provided. | 95 (22.0) | 153 (35.4) | 134 (31.0) | 41 (9.5) | 9 (2.1) |
| 4. Public and commercial services provide friendly, person-to-person service on request. | 106 (24.6) | 173 (40.0) | 118 (27.3) | 31 (7.3) | 4 (0.9) |

***Table 18*** *Group of participants' perception toward communication and information*

| Group of the perception | n | % |
|---|---|---|
| Good (> 18 points) | 100 | 23.1 |
| Fair (12-18 points) | 278 | 64.4 |
| Poor (< 12 points) | 54 | 12.5 |
| Mean 14.93 points, S.D. 3.460 points, Max 20 points, Min 4 points | | |

**4.2.8 Community support and health services**

The perception of community support and health service by items, the most of participant rate in item 1 an adequate range of health and community support services is offered for promoting, maintaining and restoring health in very good level with 184 (42.6%), follow by item 4 all staff are respectful, helpful and trained to serve older people in very good level with 179 (41.4%). For item 2 health and social services are conveniently located and accessible by all means of transport in good level with 177 (41.0%). Item 3 health and social service for elderly who is disabled are provided in good level with 174 (40.3%). Item 5 the community will encourage and support the volunteer to look after the elderly in good level with 161 (37.3%). Lastly, item 6 community emergency planning takes into account the vulnerabilities and capacities of older people in fair level with 126 (29.2%) [Table 19]

The perception toward community support and health service has mean of 22.99 points, standard deviation 4.663 points, maximum 30 points and minimum 9 point. The total scores grouped to 3 level; good, fair and poor by use mean score ± standard deviation (23 ± 5). The data show the perception most in fair level (18-28 points) with 307 (71.0%), follow by good level (more than 28 points) with 72 (16.7%) and poor level (less than 18 points) with 53 (12.3%). [Table 20]

***Table 19*** *Participants' perception toward community support and health services*

| Items | Perception (n=432) | | | | |
|---|---|---|---|---|---|
| | **Very good** | **Good** | **Fair** | **Poor** | **Very poor** |
| | n (%) | n (%) | n (%) | n (%) | n (%) |
| 1. An adequate range of health and community support services is offered for promoting, maintaining and restoring health. | 184 (42.6) | 160 (37.0) | 55 (12.7) | 28 (6.5) | 5 (1.2) |
| 2. Health and social services are conveniently located and accessible by all means of transport. | 149 (34.5) | 177 (41.0) | 66 (15.3) | 34 (7.9) | 6 (1.3) |
| 3. Health and social service for elderly who is disabled are provided. | 137 (31.7) | 174 (40.3) | 88 (20.4) | 30 (6.9) | 3 (0.7) |
| 4. All staff are respectful, helpful and trained to serve older people. | 179 (41.4) | 165 (38.3) | 55 (12.7) | 33 (7.6) | 0 (0.0) |
| 5. The community will encourage and support the volunteer to look after the elderly. | 71 (16.4) | 161 (37.3) | 133 (30.8) | 51 (11.8) | 16 (3.7) |
| 6. Community emergency planning takes into account the vulnerabilities and capacities of older people. | 80 (18.5) | 110 (25.5) | 126 (29.2) | 75 (17.4) | 41 (9.4) |

***Table 20*** *Group of participants' perception toward community support and health services*

| Group of the perception | n | % |
|---|---|---|
| Good (> 28 points) | 72 | 16.7 |
| Fair (18-28 points) | 307 | 71.0 |
| Poor (< 18 points) | 53 | 12.3 |
| Mean 22.99 points, S.D. 4.663 points, Max 30 points, Min 9 points | | |

**4.2.9 All of domains of age-friendly city features**

The perception toward age-friendly city features mean is 149.68 points, standard deviation 27.714 points, maximum 195 points and minimum 65 point. The total scores grouped into 3 level; good, fair and poor by use mean score ± standard deviation (150 ± 28). The data show the perception most in fair level (122-178 points) with 307 (71.1%), follow by good level (more than 178 points) with 70 (16.2%) and poor level (less than 122 points) with 55 (12.7%). [Table 21]

***Table 21*** *Group of participants' perception toward domain of age-friendly city*

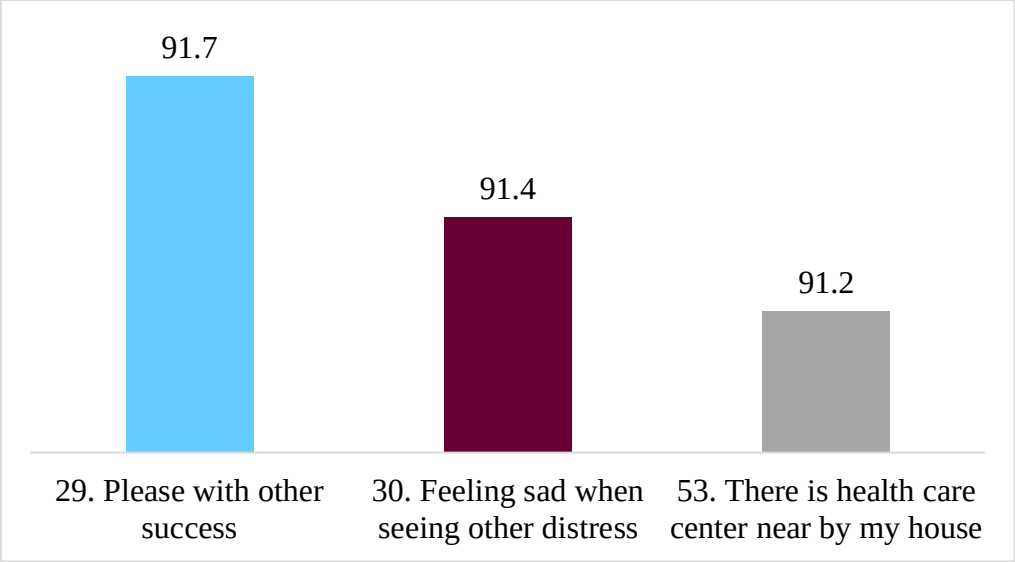
| Group of the perception | n | % |
|---|---|---|
| Good (> 178 points) | 70 | 16.2 |
| Fair (122-178 points) | 307 | 71.1 |
| Poor (< 122 points) | 55 | 12.7 |
| Mean 149.68 points, S.D. 27.714 points, Max 195 points, Min 65 points | | |



**4.3 Mental Health Status**

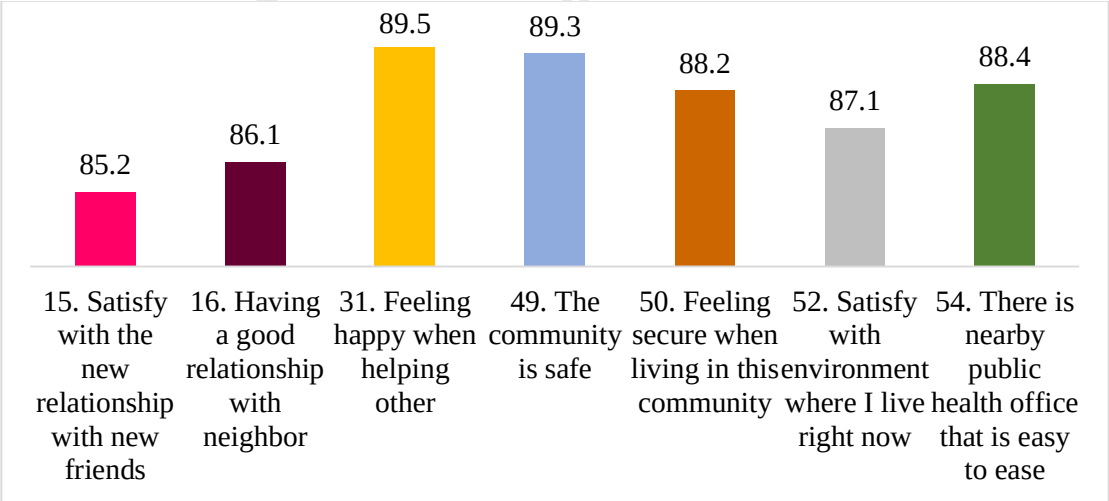
The participation rates the feeling/opinion with 4 scales from strongly agree, agree, sometime agree and strongly disagree. The data of mental health by the items show the feeling/opinion of the participant from strongly agree to agree that more than 90% in item 29 “please with other success”, item 30 “feeling sad when seeing other distress” and item 53 “there is health care center near by my house". [Figure 3]

***Figure 3*** *Participants' opinion from strongly agree to agree that more than 90%*



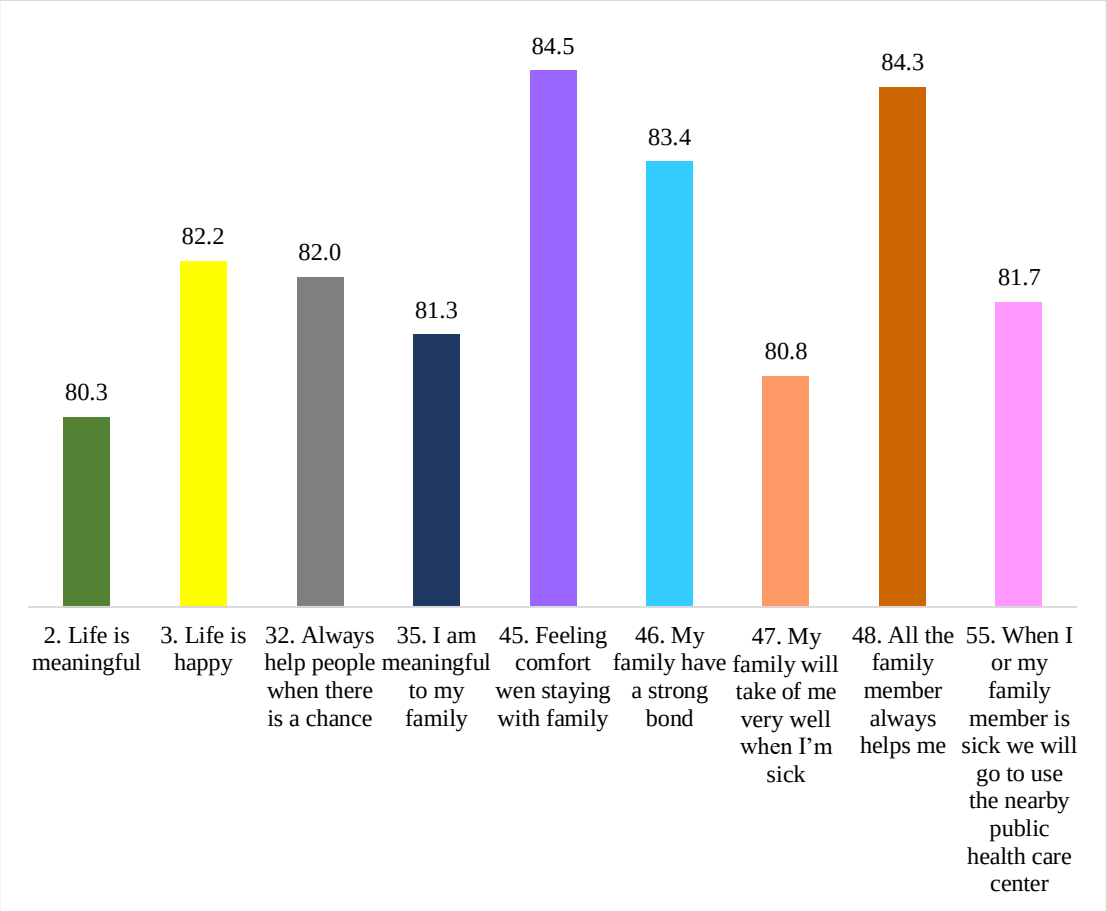

Therefore, more than 85% in item 4 life is lively, item 15 satisfy with the new relationship with new friends, item 16 having a good relationship with neighbor, item 31 feeling happy when helping other, item 49 the community is safe, item 50 feeling secure when living in this community, item 52 satisfy with environment where I live right now and item 54 there is nearby public health office that is easy to ease. [Figure 4]

***Figure 4*** *Participants' opinion from strongly agree to agree that more than 85%*



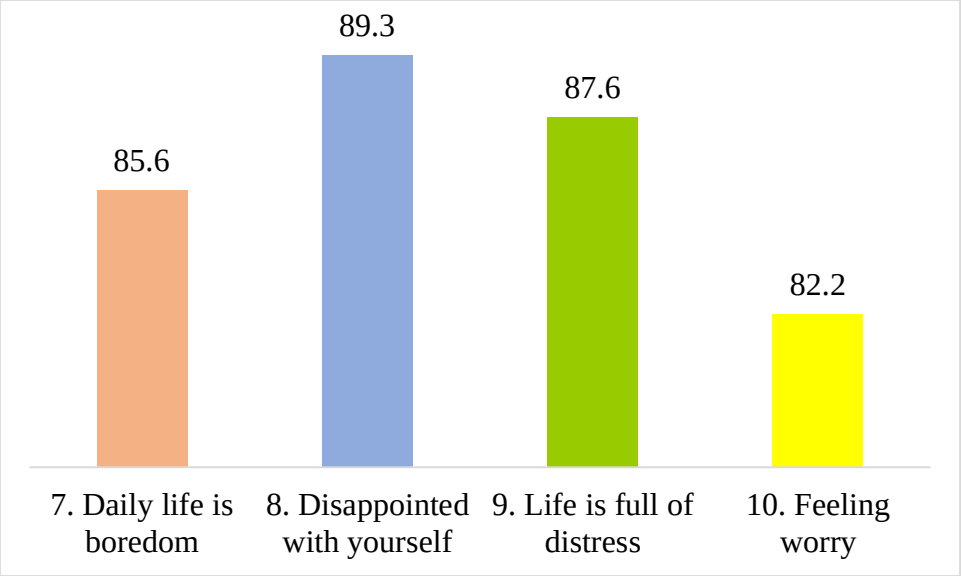
Meanwhile, more than 80% in item 2 life is meaningful, item 3 life is happy, item 32 always help people when there is a chance, item 35 I am meaningful to my family, item 45 feeling comfort wen staying with family, item 46 my family have a strong bond, item 47 my family will take of me very well when I'm sick, item 48 all the family member always helps me and item 55 when I or my family member is sick we will go to use the nearby public health care center. [Figure 5]

***Figure 5*** *Participants' opinion from strongly agree to agree that more than 80%*




However, there are some negative questions in this part, no.7-14 and 26-28. Also, the negative questions that feedback the mental health problem. The result shows the participants rate their opinion from strongly agree to agree that more than 80% in item 7 daily life is boredom, item 8 disappointed with yourself, item 9 life is full of distress and item 10 feeling worry. [Figure 6]

***Figure 6*** *Participants' opinion from strongly agree to agree that more than 80% in negative questions*




In conclusion, there are three groups of mental health status. The most of participant are in moderate mental health status with 168 (38.9%), follow by poor mental health status with 133 (30.8%) and good mental health status with 131 (30.3%). [Table 22]

***Table 22*** *Group of mental health status*

| Group of the Mental Health | N | % |
|---|---|---|
| Good (182-224 scores) | 131 | 30.3 |
| Moderate (160-181 scores) | 168 | 38.9 |
| Poor (≤ 159 scores) | 133 | 30.8 |
| Mean 167.48 points, S.D. 26.029 points, Max 221 points, Min 73 points | | |

**4.4 The association between the demographic characteristics and mental health status**

There are three variables of the demographic characteristics significant associate with mental health status. Firstly, education background (p=0.000), secondly income (p=0.000) and the last medical condition (p=0.007). [Table 23]

For education background, not educated are poor mental health status with 50 (60.2%). Therefore, primary school 81 (41.8%), secondary school 30 (41.1%) and vocational school 20 (54.1%) are moderate. Meanwhile, bachelor's degree 20 (57.1%) and master degree or above 9 (90%) are good.

For income, personal monthly income between 5,000 – 9,999 baht 34 (37.4%) are poor mental health status. Meanwhile, less than 5,000 baht 91 (38.7%) and between 10,000- 14,999 baht 27 (52.9%) are moderate. Moreover, between 15,000-19,999 baht and 20,000 baht or above are good.

For medical condition, 100 (37.9%) of the participants have the medical condition are in group of moderate as same as 68 (40.5%) of the participants that don't have the medical condition.

***Table 23*** *The association of the demographic charecteristic with mental health status*

| **The demographic Characteristics** | **Mental Health Status** | | | | **p - value** |
|---|---|---|---|---|---|
| | **All (n=432)** | **Good** | **Mode-rate** | **Poor** | |
| | **n (%)** | **n (%)** | **n (%)** | **n (%)** | |
| **Gender** | | | | | |
| Male | 155 (35.9) | 41 (26.4) | 68 (43.9) | 46 (29.7) | 0.242 |
| Female | 277 (64.1) | 90 (32.5) | 100 (36.1) | 87 (31.4) | |
| **Age** | | | | | |
| Early stage of the elderly | 295 (68.3) | 87 (29.5) | 123 (41.7) | 85 (28.8) | 0.195 |
| Middle stage of the elderly | 137 (31.7) | 44 (32.2) | 45 (32.8) | 48 (35.0) | |

***Table 23*** *(continue)*

| The demographic Characteristics | Mental Health Status | | | | p - value |
|---|---|---|---|---|---|
| | All (n=432) | Good | Mode-rate | Poor | |
| | n (%) | n (%) | n (%) | n (%) | |
| **Education Background** | | | | | |
| Not educated | 83 | 9 | 24 | 50 | 0.000* |
| | (19.2) | (10.9) | (28.9) | (60.2) | |
| Primary School | 194 | 61 | 81 | 52 | |
| | (44.9) | (31.4) | (41.8) | (26.8) | |
| Secondary School | 73 | 25 | 30 | 18 | |
| | (16.9) | (34.2) | (41.1) | (24.7) | |
| Vocational School | 37 | 7 | 20 | 10 | |
| | (8.6) | (18.9) | (54.1) | (27.0) | |
| Bachelor's degree | 35 | 20 | 12 | 3 | |
| | (8.1) | (57.1) | (34.3) | (8.6) | |
| Master degree or above | 10 | 9 | 1 | 0 | |
| | (2.3) | (90.0) | (10.0) | (0.0) | |
| **Income** | | | | | |
| Less than 5,000 Baht | 235 | 57 | 91 | 87 | 0.000* |
| | (54.4) | (24.3) | (38.7) | (37.0) | |
| 5,000 – 9,999 Baht | 91 | 27 | 30 | 34 | |
| | (21.1) | (29.6) | (33.0) | (37.4) | |
| 10,000-14,999 Baht | 51 | 16 | 27 | 8 | |
| | (11.8) | (31.4) | (52.9) | (15.7) | |
| 15,000-19,999 Baht | 36 | 19 | 13 | 4 | |
| | (8.3) | (52.8) | (36.1) | (11.1) | |
| 20,000 Baht or above | 19 | 12 | 7 | 0 | |
| | (4.4) | (63.2) | (36.8) | (0.0) | |

***Table 23*** *(continue)*

| The demographic Characteristics | Mental Health Status | | | | p - value |
|---|---|---|---|---|---|
| | All (n=432) | Good | Mode-rate | Poor | |
| | n (%) | n (%) | n (%) | n (%) | |
| **Medical Condition** | | | | | |
| No | 168 (38.9) | 62 (36.9) | 68 (40.5) | 38 (22.6) | 0.007* |
| Yes | 264 (61.1) | 69 (26.1) | 100 (37.9) | 95 (36.0) | |

**4.5 The association between the perception toward age friendly city features and mental health status**

The perception of participants toward domain of age-friendly city features are significant associate with mental health status by outdoor spaces and buildings (p=0.014), transportation (p=0.005), housing (p=0.012), social participation (p=0.008), respect and social inclusion (p=0.008), civic participation and employment (p=0.030), communication and information (p=0.002), community and health service (p=0.015) and all of domain of age-friendly city (p=0.000) [Table 24]

For the perception toward domain of outdoor spaces and buildings, the participant perceive in good level are moderate in mental health status with 49 (41.9%) as same as perceive in fair level with 95 (38.0%). While, perceive in poor level are poor mental health status with 30 (46.2%).

For the perception toward domain of transportation, the participant perceive in good level are moderate in mental health status with 44 (39.6%) as well as perceive in fair level with 104 (39.6%). While, perceive in poor level are poor mental health status with 29 (49.2%).

For the perception toward domain of housing, the participant perceive in good level are having good mental health status as same as are moderate equally with 48 (36.4%). Therefore, perceive in fair level are moderate mental health status with 93 (40.8%). While, perceive in poor level are poor mental health status with 33 (45.8%).

For the perception toward domain of social participation, the participant perceive in good level are moderate in mental health status with 27 (39.7%) same as perceive in fair level with 121 (40.1%). While, perceive in poor level are poor mental health status with 31 (50.0%).

For the perception toward domain of respect and social inclusion, the participant perceive in good level are in good mental health status as same as are moderate equally with 38 (36.9%) Therefore, perceive in fair level are moderate mental health status with 116 (39.6%). While, perceive in poor level are poor mental health status with 19 (52.8%).

For the perception toward domain of civic participation and employment, the participant perceive in good level are good mental health status with 34 (40.0%). On the other hand, perceive in fair level are moderate mental health status with 124 (41.4%). While, perceive in poor level are poor mental health status with 22 (46.8%).

For the perception toward domain of communication and information, the participant perceive in good level are moderate in mental health status with 41 (41.0%) as same as perceive in fair level with 110 (39.6%). While, perceive in poor level are poor mental health status with 29 (53.7%).

For the perception toward domain of community support and health service, the participant perceive in good level are good mental health with 28 (38.9%). Meanwhile, perceive in fair level are moderate mental health status with 124 (40.4%). And perceive in poor level are poor mental health status with 26 (49.1%).



Finally, for the perception toward age-friendly city feature, the participant perceive in good level are moderate in mental health status with 28 (40.0%) as same as perceive in fair level with 124 (40.4%). While, perceive in poor level are poor mental health status with 31 (56.4%). For the perception toward all of domains of age-friendly city feature, the participant perceive in good level are moderate in mental health status with 28 (40.0%) as same as perceive in fair level with 124 (40.4%). While, perceive in poor level are poor mental health status with 31 (56.4%).

***Table 24*** *The association of the perception toeard domain of age-friendly city with mental health status*

| The perception of age-friendly city features | Mental Health Status | | | | p - value |
|---|---|---|---|---|---|
| | All (n=432) | Good | Mode-rate | Poor | |
| | n (%) | n (%) | n (%) | n (%) | |
| **1. Outdoor spaces and buildings** | | | | | |
| Good | 117 | 41 | 49 | 27 | 0.014* |
| | (27.1) | (35.0) | (41.9) | (23.1) | |
| Fair | 250 | 79 | 95 | 76 | |
| | (57.9) | (31.6) | (38.0) | (30.4) | |
| Poor | 65 | 11 | 24 | 30 | |
| | (15.0) | (16.9) | (36.9) | (46.2) | |
| **2. Transportation** | | | | | |
| Good | 111 | 42 | 44 | 25 | 0.005* |
| | (25.7) | (37.8) | (39.6) | (25.6) | |
| Fair | 262 | 79 | 104 | 79 | |
| | (60.6) | (30.2) | (39.6) | (30.2) | |
| Poor | 59 | 10 | 20 | 29 | |
| | (13.7) | (16.9) | (33.9) | (49.2) | |
| **3. Housing** | | | | | |
| Good | 132 | 48 | 48 | 36 | 0.012* |
| | (30.6) | (36.4) | (36.4) | (27.2) | |
| Fair | 228 | 71 | 93 | 64 | |
| | (52.8) | (31.1) | (40.8) | (28.1) | |
| Poor | 72 | 12 | 27 | 33 | |
| | (16.6) | (16.7) | (37.5) | (45.8) | |

***Table 24*** *(continue)*

| The perception of age-friendly city features | Mental Health Status | | | | p - value |
|---|---|---|---|---|---|
| | All (n=432) | Good | Mode-rate | Poor | |
| | n (%) | n (%) | n (%) | n (%) | |
| **4. Social participation** | | | | | |
| Good | 68 | 20 | 27 | 21 | 0.008* |
| | (15.7) | (29.4) | 39.7) | (30.9) | |
| Fair | 302 | 100 | 121 | 81 | |
| | (69.9) | (33.1) | (40.1) | (26.8) | |
| Poor | 62 | 11 | 20 | 31 | |
| | (14.4) | (17.7) | (32.3) | (50.0) | |
| **5. Respect and social inclusion** | | | | | |
| Good | 103 | 38 | 38 | 27 | 0.008* |
| | (23.8) | (36.9) | (36.9) | (26.2) | |
| Fair | 293 | 90 | 116 | 87 | |
| | (67.8) | (30.7) | (39.6) | (29.7) | |
| Poor | 36 | 3 | 14 | 19 | |
| | (8.4) | (8.3) | (38.9) | (52.8) | |
| **6. Civic participation and employment** | | | | | |
| Good | 85 | 34 | 28 | 23 | 0.030* |
| | (19.7) | (40.0) | (32.9) | (27.1) | |
| Fair | 300 | 88 | 124 | 88 | |
| | (69.4) | (29.3) | (41.4) | (29.3) | |
| Poor | 47 | 9 | 16 | 22 | |
| | (10.9) | (19.2) | (34.0) | (46.8) | |

***Table 24*** *(continue)*

| The perception of age-friendly city features | Mental Health Status | | | | p - value |
|---|---|---|---|---|---|
| | All (n=432) | Good | Mode-rate | Poor | |
| | n (%) | n (%) | n (%) | n (%) | |
| **7. Communication and information** | | | | | |
| Good | 100 (23.1) | 34 (34.0) | 41 (41.0) | 25 (25.0) | 0.002* |
| Fair | 278 (60.4) | 89 (32.0) | 110 (39.6) | 79 (28.4) | |
| Poor | 54 (12.5) | 8 (14.8) | 17 (31.5) | 29 (53.7) | |
| **8. Community support and health service** | | | | | |
| Good | 72 (16.7) | 28 (38.9) | 25 (36.1) | 18 (25.0) | 0.015* |
| Fair | 307 (71.0) | 94 (30.6) | 124 (40.4) | 89 (29.0) | |
| Poor | 53 (12.3) | 9 (17.0) | 18 (34.0) | 26 (49.1) | |
| **9. All of domains** | | | | | |
| Good | 70 (16.2) | 24 (34.3) | 28 (40.0) | 18 (25.7) | 0.000* |
| Fair | 307 (71.1) | 99 (32.2) | 124 (40.4) | 84 (27.4) | |
| Poor | 55 (12.7) | 8 (14.5) | 16 (29.1) | 31 (56.4) | |

### 4.6 Interview and observation

#### 4.6.1 Interview

From interviewing the health staffs, head of villages and some elderly about social status they mention that both male and female are equally in social status by having role on decision making in the family and community. About eating behavior, they mention most of the elderly didn't cooking because they still working and the cost of homemade food are expensive than buying.

For the perception toward age-friendly city feature they mention that the age-friendly city in Photaram district is in process. They implement some of domain based on community context. For domain 1, outdoor space and buildings, the elderly perceive that each Sub-District Health Promoting Hospital is having the slope way for wheelchair, handle in the toilets, an exercise area and equipment provided for everybody. However, the process of improving the building with age-friendly city feature are difficult based on insufficient resources and lack of expert for consult.

For domain 2, transportation, they mentioned about the area that have the public transportation and they know how to get there. While, when the community have the event, the officer will provide the car for bring them to join such as monthly financial support from the local government in every month, New Year party or Thai New Year. However, some of location to access the public transportation are not secure.

For domain 3, housing, they mentioned the elderly perceive and request their member family to improving their house with the age-friendly city feature, in fact in each elderly household they adapted the local wisdom to create the age-friendly city. Some household, the health staff provide the feature for them. Linkage with the study in Canada show for aging in place, the design that seamlessly incorporate the necessary support devices such as grab bars and handrails in an unobtrusive manner. (Perkins, 2015)

For domain 4, social participation, they mentioned that in Photaram district they have the aging school for elderly to join including have the club as the dancing and making the soap for sales. The family member of the elderly will support them to join as same as the community that provide the staff, resources for them. Meanwhile, about news of activity in the community they always perceive from health staffs and village health volunteers.

For domain 5, respect and social inclusion, they mentioned some elderly come to be head of club also leader in the community after they retired. The community have the cultures' day that represent to pray respect for adult such as Thai New Year. Moreover, changing the pattern of the projects that separate by age group to cover all to increase the chance for elderly to join.

For domain 6, civic participation and employment, they mentioned this domain linked with domain 4 because the domain 4, social participation, the club will teach the elderly to making the soap, shampoo, Chan-flowers. By participating the club, the elderly will have a chance to use the knowledge to make and sell those product, therefore they can earn some extra money. Meanwhile, about the election an elderly should use his/ her voice to vote. Moreover, most of elderly come to be Village Health Volunteer or charity work.

For domain 7, communication and information, they mentioned the elderly perceive the information that related with them by health staff, village health volunteer, community radio and community newspaper as well as the health staff in District Health Promoting Hospital by seeing information posters with big front size.

In domain 8, community support and health service, is the most perceptible domain among elderly because they come to the health center for follow up their health regularly. Meanwhile, the emergency response system in the community is not yet stable because the limitation of staff and equipment.



**4.6.2 Observation**

The observation's data has showed that the food that buying outside was too oily, salty and high in carbohydrate. This was concerned by the researcher that the elderly is lack of the awareness on their health. [Figure 7]

***Figure 7*** *Unhealthy food from observation*

# CHAPTER V
# DISCUSSION, CONCLUSION AND RECOMMENDATIONS

The quantitative and qualitative methods (methodological triangulation) were used in this study by cross sectional study pointing to describe the perception toward age-friendly city features and mental health status in the elderly at Photaram district, Ratchaburi province, Thailand. The population are people aged 60-79. The sample size is 432, both male and female. The sampling technique is multi sampling. For data analyzing, the researcher used the descriptive statistics and Chi-square for finding the associate between variables with significant of p-value < 0.05.

## 5.1 Discussion

### 5.1.1 The demographic characteristic

Most of participants are female with 64.1%. There are 68.3% in aged of 60-69 years old. For education background, most of them finished in primary school with 44.9% and 19.2% were not educate. Meanwhile, have income per month less than 5,000 baht with 54.4%. Therefore, the study showed the elderly in Photaram district, Ratchaburi province are having a financial problem that might due to each of elderly education background. Similar with one previous study in Spain that present a higher education level amplifies significantly the inverse association between income and disability in the Spanish elderly (Abella´n et al., 2015). About medical condition, 61.1% of participants have medical condition that linked the data from observation and interview, the elderly didn't have homemade food because some of them mention they still working so they don't have time to cook food and some elderly mention cooking by themselves are more expensive than buying outside food.

### 5.1.2 The perception towards age-friendly city features

The perception of the participants toward all domains of age-friendly city features are in fair to good level. Highest in respect and social inclusion with 91.6% follow by civic participation and employment with 89.1%, community support and health service with 87.7%, communication and information with 87.5%, transportation

with 86.3%, social participation with 85.6%, outdoor spaces and buildings with 85.0% and housing 83.4%.

As a result, this study shows the differences from the study in Busan Metropolitan City, South Korea. In Busan showed that the elderly perceived highest in domain of outdoor spaces and buildings, while in this study highest in respect and social inclusion(Lee & Kyeongmo, 2016). The researcher had made a comparison table as shown in Table 25.

The contrast between the perceptions toward age-friendly city in Photaram district, Thailand and Busan Metropolitan City, South Korea that can explain by the data from interviewing;

Respect and social inclusion is the highest perception because the community have the cultures' day that represent to pray respect for adult such as Thai New Year. Moreover, the pattern of the projects that cover all for increasing the chance of elderly to join after they retirement some of them come to be the head of club or leader in the community. Follow by civic participation and employment, the data show that the community have the club that teach the elderly to make some products for sell. For community support and health service, they perceived by assess health care center and for emergency response system is not yet stable because the limitation of staff and equipment. Communication and information, they perceive the information from health staff, village health volunteer, community radio and community newspaper as well as the health staff change the label of the drugs and information posters in big front size. Transportation, this area has the public transportation also when the community have the event, the officer will provide the car for take them to join. Social participation, in Photaram district have the aging school for elderly to join including have the club. The family member of the elderly is supporting them to join as same as the community that provide the staff, resources for them. Outdoor space and buildings the elderly perceive that have the slope way for wheelchair and handle in the toilets including in each Sub-District Health Promoting Hospital have the exercise area and equipment provided for everybody. However, the process of improving the building with age-friendly city feature are not smooth based on insufficient resources and lack of expert for consult. For example, the angular of the slope way that didn't support the wheelchair deliver. Finally housing, the elderly perceives and request their member family to improving

their house with the age-friendly city feature, in fact in each elderly household they adapted the local wisdom to create the age-friendly city. However, the process of install the features that without the expert for suggestion so that not safe and secure.

***Table 25*** *The comparison of order's perception toward age-friendly city in Photaram district, Thailand and Busan Metropolitan City, South Korea*

| Rank | Photaram district | Busan Metropolitan City |
|---|---|---|
| 1 | Respect and social inclusion | Outdoor spaces and buildings |
| 2 | Civic participation and employment | Transportation |
| 3 | Community support and health service | Community support and health service |
| 4 | Communication and information | Housing |
| 5 | Transportation | Respect and social inclusion |
| 6 | Social participation | Communication and information |
| 7 | Outdoor spaces and buildings | Social participation |
| 8 | Housing | Civic participation and employment |

### 5.1.3 Mental Health Status

The most participants have the mental health status in moderate group with 38.9%. Follow by in poor group with 30.8% while in good group with 30.3%. So, in poor mental health status it can be explain from the mental health questionnaire. In question number 7-14 and 26-28 are the negative questions. For question number 7-10 the feedback from the elderly showed that about 80% of the elderly answer agree and strongly agree and the question was asking about boredom, disappointment, distress and worry. The result of negative questions can explain by the question no.22-23 that asked about elderly have a way to solve the problem and can accept with the problem that will occur. For "have a way to solve", in good group, the elderly rate in agree to strongly agree with 97.7%, moderate group with 80.9% and in poor group at with 39.8%. The similar result for "can accept with the problem that will occur" shows the elderly is in good group rate in agree to strongly agree with 96.2%, moderate group

with 66.0% and in poor group with 28.6%. Moreover this result can reflex the way of how elderly manage the problem by presenting in good, moderate and poor.

**5.1.4 The association between the demographic characteristics and mental health status**

There are three variables of the demographic characteristic that significant association with mental health status – education background (p = 0.000), income (p = 0.000) and medical condition (p = 0.007). First, the education background in this study show the similarity with the previous study by showing the elderly who have the high level of the education will have the mental health status in good level more than poor level because they can control their can control their emotional when face the unexpected situation good well (San Klinwichit et al., 2015). Moreover, linkage to the one study in China that show there is a significantly negative relation between education and depression. Compared to those without any schooling, older people who have an elementary education or above are less likely to suffer from depression (Bai et al., 2015).

Second, income in this study show the elderly who have high income are good mental health status more than low income as well as the previous study that show income is the factor that affected the different level of mental health statistically significant at the 0.05 level, the elderly in group of high income are good mental health than elderly no income (Kasorn Muijeen, 2015 ). Furthermore, the study from American Psychological Association that present elderly with less than a high school education are at greater risk for depression and low educational achievement has consistently been associated with a higher incidence of Alzheimer's disease later in life (American Psychological Association, 2017).

Third, medical condition in this study show the elderly who have the medical condition are poor mental health status than group of without so related with The National Institute of Mental Health (2016) that claimed that people with other chronic medical conditions such as diabetes hypertension and cardiovascular disease have a higher risk of depression as well as the people with depression have an increased risk of cardiovascular disease, diabetes, stroke, and Alzheimer's disease (The National Institute of Mental Health, 2016). Besides, the study from National Center for Chronic

Disease Prevention and Health Promotion (2012) that present people who suffer from a chronic disease are more likely to also suffer from depression, but not identify if having a chronic disease increases the prevalence of depression or depression increases the risk of obtaining a chronic disease (National Center for Chronic Disease Prevention and Health Promotion, 2012).

Meanwhile, gender and age are not associate with mental health status. About gender, from observation and interview the head of village that show both male and female are equally in social status and part of decision making in the family and community. Therefore about age, in this study most 65% in group of early stage of the elderly and mean of age is 66.94 years old so one study that said the same group of age are same activity movement and mental health status (Faculty of Medicine Ramathibodi Hospital, 2015).

**5.1.5 The association between the perception toward age friendly city features and mental health status**

The statistically significant association was found in the perception toward age-friendly city with mental health status in all of domains by domain 1 outdoor spaces and buildings ($p = 0.014$), domain 2 transportation ($p = 0.005$), domain 3 housing ($p = 0.012$), domain 4 social participation ($p = 0.008$), domain 5 respect and social inclusion ($p = 0.008$), domain 6 civic participation and employment ($p = 0.030$), domain 7 communication and information ($p = 0.002$) and domain 8 community support and health service ($p = 0.015$). Similarly, the previous study in Malaysia, the transportation and housing domain is known as the most important feature of age-friendly. The transportation and housing would enable the elderly to participate in local community social events, exercise in parks, receive adequate healthcare, and visit family and friends, which would help promote social connectedness and participation. Followed by, outdoor spaces and buildings play an important role in the adaptability of adults in their living environment. Safe outdoor spaces equipped with the appropriate facilities help ease the mobility of adults, especially older adults. The community support and health services domain is perceived as another significant age-friendly feature. It serves as a proactive intervention in light of increasing healthcare cost resulting from poor health and chronic diseases among aging people. These findings are strongly in line with the need for a reform in the local healthcare system. It is worth

noting that the other four domains of the age-friendly features are perceived to be not significant in the Malaysian context. They are respect and social inclusion, social participation, civic participation and employment, and communication and information (Lai, Lein, Lau, & Lai, 2016). Even though the study in Malaysia is not significant associate in respect and social inclusion, social participation, civic participation and employment, and communication and information but the previous study show in domain respect and social inclusion that related with the mental health status because social inclusion is a powerful determinant of mental health and wellbeing. Evidence shows that belonging to a social network acts as a buffer against stress, promotes positive mental health and supports healthy behavior patterns. Supportive relationships help people to feel cared for, loved, esteemed and valued (The European Commission and Portuguese Ministry of Health with the support of the Belgian Presidency of the EU, 2010), domain social participation related with the study in Iran that show the mental health status of the elderly in Iran was significantly associated with social participation. (P = 0.01, r = 0.54) (Rashedi, Gharib, & Yazdani, 2014), civic participation and employment that present the social-work and volunteer for the elderly that can decrease the social isolation in the elderly and increase the satisfaction in life (National Senior Council, 2013), and communication and information that show the good information is the great tool to keep the elderly in the connection (National Senior Council, 2013) including if they don't understand they will get stress and fade away from the social (The World Health Organization, 2007).



**5.2 Conclusion**

As a result, most of the participants are female. The participants are in the early and middle stage of elderly then it is obvious that those people will have the better movement than older stage. About 44.9% had primary school background and 19.2% didn't have a chance to study. While the cost of daily life expense is increasing, 54.4% of them getting monthly income less than 5,000 baht per month. For the perception toward age-friendly city feature, the participant is in fair level in all of domain as same as the mental health status in moderate level. However, 30% of participant mental health are in poor level that is the challenge of the community to solve this problem in the future.

Moreover, the demographic characteristics data (education background, income and medical condition) are significantly associated with mental health status ($p < 0.05$) that result confirm the first hypothesis of this study, there is an association between the demographic data and mental health status in the elderly.

Lastly, the perception toward age-friendly city features (outdoor space and buildings, transportation, housing, social participation, respect and social inclusion, civic participation and employment, communication and information, community support and health services) are significantly associated with mental health status ($p < 0.05$) that result also confirm the second hypothesis, there is an association between the perception toward age-friendly city features and mental health status in the elderly.

## 5.3 Recommendations

### 5.3.1 Suggestion for application from the research

There are five suggestions for application from this study. Therefore;

First, the perception toward all domain of age-friendly city features are significantly associated with mental health status ($p < 0.05$) that can be the information for supporting the age-friendly city's policy implementation in this area. Because age-friendly city concept that can improve and protect mental health problem in the elderly.

Second, some of elderly try to apply the local wisdom with the age friendly city features and have to make sure that feature works, the health staff or the local government need to bring in the expert to involve with this development. Also, this information for support the process of implement the age-friendly city policy

Third, some of elderly are in poor level of mental health status so the health staff and village health volunteer can help to screening them again when they come to the District Health Promoting Hospital or create the program such as matching the elderly with the kid and let them have some conversation and take care each other so that the elderly will not be lonely, therefore the elderly also receive the respect from that kid (Peeungjun Sweatsriskul, 2012). Also, the health staff promote of how to manage the problem when it occur to the elderly.

Fourth, the result of this study shows 61.1% of the participants have the medical condition and from the observation, the researcher saw many elders show the lack of

concern about their diet. Therefore, it will be great if the health staff can promote how to be healthy by having a good diet.

Fifth, the data from interview showed that some of location to access the public transportation in the community was not secure. Therefore, it would be great if the health staff and the local government consider this information to find the way to solve this problem in the community.

**5.3.2 Suggestion for future study**

There are two suggestions for future study. Therefore;

First, study as compare the perception of the staff in health center and local government toward age-friendly city feature by one in the place that is the model of age-friendly city for example Pattaya City or Nonthaburi province (Department of Health, 2016) with the other place because the age-friendly feature are in process to action policy in Thailand in 2016 for active aging society (The Government Public Relations Department, 2016).

Second, might finding the association of the perception toward age-friendly city with the quality of life because this concept that created for increasing the daily activity of the elderly also support them living long life (The World Health Organization, 2007).

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# APPENDIX

## -Appendix I-

***Table 26*** *Activity and Time*

| Activity | 2016 | | | | | 2017 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | August | September | October | November | December | January | February | March | April | May | June | July |
| 1. Literature Review | ← | — | — | — | — | — | — | — | — | — | → | |
| 2. Develop proposal | | ← | — | — | — | — | → | | | | | |
| 3. Proposal examination | | | | | | ↔ | | | | | | |
| 4. Survey for develop the questionnaires | | | | | | ↔ | | | | | | |
| 5. Ethical Consideration | | | | | | | ↔ | | | | | |
| 6. To respond to the comments from research ethics review | | | | | | | ↔ | | | | | |
| 7. Try-out the questionnaires | | | | | | | | | ↔ | | | |
| 8. Set and train the team for collecting data | | | | | | | | | ↔ | | | |
| 9. Data collection | | | | | | | | | | ↔ | | |
| 10. Data entry and analysis | | | | | | | | | | ↔ | | |
| 11. Final examination | | | | | | | | | | | ↔ | |
| 12. Revise and publication | | | | | | | | | | | | ↔ |

***Table 27*** *Activity and Budget*

| Activity | Budget (Baht) |
|---|---|
| 1. Trip to try-out the questionnaires | 1,500.00 |
| 2. The coffee break for training data collection team (Village Health Volunteer) (The reference from the Public health Officer who work in Photaram district, Ratchaburi province) | 2,000.00 |
| 3. Souvenir to data collection team (Village Health Volunteer) (As the cloth bags to reduce the plastic bags) | 12,000.00 |
| 4. Souvenir to research participation like balm herb, smelling salts | 12,000.00 |
| 5. Trip to collect the questionnaires form | 1,500.00 |
| 6. Printing and photo copy cost | 1,000.00 |
| **Total** | 30,000.00 |

**All data collection expenses were self-funded

**-Appendix II-**

***Table 28*** *Participants' opinioin on mental health by items*

| Items | Feeling/ Opinion | | | |
|---|---|---|---|---|
| | **Strongly agree** | **Agree** | **Sometime agree** | **Strongly disagree** |
| | n (%) | n (%) | n (%) | n (%) |
| 1. Life satisfaction | 104 (24.1) | 240 (55.6) | 71 (16.4) | 17 (3.9) |
| 2. Life is meaningful | 101 (23.4) | 246 (56.9) | 74 (17.2) | 11 (2.5) |
| 3. Life is happy | 113 (26.2) | 242 (56.0) | 65 (15.0) | 12 (2.8) |
| 4. Life is lively | 83 (19.2) | 201 (46.5) | 124 (38.7) | 24 (5.6) |
| 5. Appreciate the succeed in life | 88 (20.4) | 249 (57.6) | 83 (19.2) | 12 (2.8) |
| 6. There is a reason to live | 126 (29.2) | 196 (45.4) | 90 (20.8) | 20 (4.6) |
| 7. Daily life is boredom | 163 (37.7) | 207 (47.9) | 47 (10.9) | 15 (3.5) |
| 8. Disappointed with yourself | 236 (54.6) | 150 (34.7) | 40 (9.3) | 6 (1.4) |
| 9. Life is full of distress | 243 (56.3) | 135 (31.3) | 45 (10.4) | 9 (2.0) |
| 10. Feeling worry | 175 (40.5) | 180 (41.7) | 67 (15.5) | 10 (2.3) |
| 11. Feeling lonely or isolate | 188 (34.5) | 164 (38.0) | 73 (16.9) | 7 (1.6) |

| Items | Feeling/ Opinion | | | |
|---|---|---|---|---|
| | **Strongly agree** | **Agree** | **Sometime agree** | **Strongly disagree** |
| | n (%) | n (%) | n (%) | n (%) |
| 12. Feeling annoyed that cannot move actively like before | 192 (44.4) | 134 (31.0) | 90 (20.8) | 16 (3.8) |
| 13. Feeling annoyed of the change in the body such as eye sight, hearing, and memory | 128 (29.6) | 172 (39.8) | 93 (21.5) | 39 (9.1) |
| 14. Feeling worry with the ability in daily life | 149 (34.5) | 173 (40.0) | 86 (19.9) | 24 (5.6) |
| 15. Satisfy with the new relationship with new friends | 125 (28.9) | 243 (56.3) | 58 (13.4) | 6 (1.4) |
| 16. Having a good relationship with neighbor | 137 (31.7) | 235 (54.4) | 54 (12.5) | 6 (1.4) |
| 17. Have the sense of humor and joyful | 113 (26.2) | 200 (46.3) | 98 (22.7) | 21 (4.8) |
| 18. Join activity with friends often | 86 (19.9) | 170 (39.4) | 126 (29.2) | 50 (11.5) |
| 19. Having an expected social status | 74 (17.1) | 232 (53.7) | 105 (24.3) | 21 (4.9) |
| 20. Satisfy with the success and improvement in life | 68 (15.7) | 223 (51.6) | 120 (27.8) | 21 (4.9) |
| 21. Satisfy with my social status | 84 (19.4) | 231 (53.5) | 95 (22.0) | 22 (5.1) |
| 22. All the problems there are a solution | 88 (20.4) | 229 (53.0) | 98 (22.7) | 17 (3.9) |
| 23. When there is a problem I am willing to accept it | 61 (14.2) | 214 (49.5) | 112 (25.9) | 45 (10.4) |

| Items | Feeling/ Opinion | | | |
|---|---|---|---|---|
| | **Strongly agree** | **Agree** | **Sometime agree** | **Strongly disagree** |
| | n (%) | n (%) | n (%) | n (%) |
| 24. When there is an emergency event I can keep down myself | 72 (16.7) | 175 (40.5) | 132 (30.6) | 53 (12.2) |
| 25. Confidently face with the future problem | 50 (11.6) | 179 (41.4) | 139 (32.2) | 64 (14.8) |
| 26. Feeling annoyed with thing goes wrong not the same as I expected to be | 119 (27.5) | 189 (43.8) | 100 (23.1) | 24 (5.6) |
| 27. Always feel annoying with every single thing | 106 (24.5) | 194 (44.9) | 109 (25.2) | 23 (5.4) |
| 28. Always feel worry with everything that come in my life | 139 (32.2) | 175 (40.5) | 102 (23.6) | 16 (3.7) |
| 29. Please with other success | 153 (35.4) | 243 (56.3) | 36 (8.3) | 0 (0.0) |
| 30. Feeling sad when seeing other distress | 160 (37.0) | 235 (54.4) | 34 (7.9) | 3 (0.7) |
| 31. Feeling happy when helping other | 173 (40.0) | 214 (49.5) | 42 (9.7) | 3 (0.8) |
| 32. Always help people when there is a chance | 148 (34.3) | 206 (47.7) | 73 (16.9) | 5 (1.1) |
| 33. Satisfy with my ability | 104 (24.1) | 228 (52.8) | 85 (19.7) | 15 (3.4) |
| 34. Proud of myself | 111 (25.7) | 216 (50.0) | 95 (22.0) | 10 (2.3) |
| 35. I am meaningful to my family | 139 (32.2) | 212 (49.1) | 76 (17.6) | 5 (1.1) |

| Items | Feeling/ Opinion | | | |
|---|---|---|---|---|
| | **Strongly agree** | **Agree** | **Sometime agree** | **Strongly disagree** |
| | n (%) | n (%) | n (%) | n (%) |
| 36. There is thing to count on in my life | 123 (28.5) | 219 (50.7) | 65 (15.0) | 25 (5.8) |
| 37. When the problem come there will be thing that can help to move on. | 101 (23.4) | 211 (48.8) | 88 (20.4) | 32 (7.4) |
| 38. Doing good thing will have a good feedback | 179 (41.4) | 157 (36.3) | 73 (16.9) | 23 (5.4) |
| 39. Once there is a problem in life but the thing that I count on can help me get through the bad thing | 78 (18.1) | 199 (46.1) | 18 (27.3) | 37 (8.5) |
| 40. Want to improve something that already have been done | 38 (8.9) | 169 (39.1) | 125 (28.9) | 100 (23.1) |
| 41. Happy with new job and will put all effort to finish it | 53 (12.3) | 138 (31.9) | 133 (30.8) | 108 (25.0) |
| 42. Having the eager to learn the new thing | 48 (11.0) | 145 (33.6) | 126 (29.2) | 113 (26.2) |
| 43. Having friend who can help when needed | 87 (20.2) | 208 (48.1) | 112 (25.9) | 25 (5.8) |
| 44. Having some friends to count on | 88 (20.4) | 195 (45.1) | 110 (25.5) | 39 (9.0) |
| 45. Feeling comfort wen staying with family | 144 (33.3) | 221 (51.2) | 60 (13.9) | 7 (1.6) |
| 46. My family have a strong bond | 151 (35.0) | 209 (48.4) | 64 (14.8) | 8 (1.8) |

| Items | Feeling/ Opinion | | | |
|---|---|---|---|---|
| | **Strongly agree** | **Agree** | **Sometime agree** | **Strongly disagree** |
| | n (%) | n (%) | n (%) | n (%) |
| 47. My family will take of me very well when I'm sick | 148 (34.3) | 201 (46.5) | 78 (18.1) | 5 (1.1) |
| 48. All the family member always helps me | 148 (34.3) | 216 (50.0) | 64 (14.8) | 4 (0.9) |
| 49. The community is safe | 178 (41.2) | 208 (48.1) | 44 (10.2) | 2 (0.5) |
| 50. Feeling secure when living in this community | 174 (40.3) | 207 (47.9) | 47 (10.9) | 4 (0.9) |
| 51. I have enough money to spend for my need | 92 (21.3) | 206 (47.7) | 92 (21.3) | 42 (9.7) |
| 52. Satisfy with environment where I live right now | 174 (40.3) | 202 (46.8) | 52 (12.0) | 4 (0.9) |
| 53. There is health care center near by my house | 206 (47.7) | 188 (43.5) | 37 (8.6) | 1 (0.2) |
| 54. There is nearby public health office that is easy to ease | 195 (45.1) | 187 (43.3) | 45 (10.4) | 5 (1.2) |
| 55. When I or my family member is sick we will go to use the nearby public health care center | 188 (43.5) | 165 (38.2) | 64 (14.8) | 15 (3.5) |
| 56. When I'm in the trouble, there will be a public sector come in to help | 88 (20.4) | 157 (36.3) | 107 (24.8) | 80 (18.5) |

## -Appendix III-

There are four experts for review and checking validity of questionnaires. The expert sheets will show as below;

### First expert

**แบบประเมินสำหรับผู้เชี่ยวชาญ**

ข้าพเจ้า **ผศ.ดร.สุภาพร แก้วกอ เลี่ยวไพโรจน์** ภาควิชานวัตกรรมอาคาร คณะสถาปัตยกรรมศาสตร์ มหาวิทยาลัยเกษตรศาสตร์ได้ทบทวนแบบสอบถามในโครงการวิจัยเรื่อง ความสัมพันธ์ระหว่างการรับรู้เกี่ยวกับคุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุและสถานะของสุขภาพจิตในผู้สูงวัยที่อำเภอโพธาราม จังหวัดราชบุรี ประเทศไทยของนางสาวสุพัตรา อัศวไมตรี นิสิตระดับ ปริญญาโท วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย แล้ว

ในการนี้ ข้าพเจ้าเห็นสมควรให้นิสิตนำแบบสอบถามดังกล่าวเก็บข้อมูลเพื่อดำเนินการเขียนวิทยานิพนธ์ระดับมหาบัณฑิตต่อไป

(ผศ.ดร.สุภาพร แก้วกอ เลี่ยวไพโรจน์)

วันที่ ...22...../.....02...../.....2560.....

**Second expert**

**แบบประเมินสำหรับผู้เชี่ยวชาญ**

ข้าพเจ้า **รองศาสตราจารย์ นายแพทย์อัมพล สูอำพัน** ภาควิชาจิตเวชศาสตร์ คณะแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย ได้ทบทวนแบบสอบถามในโครงการวิจัยเรื่อง ความสัมพันธ์ระหว่างการรับรู้เกี่ยวกับคุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุและสถานะของสุขภาพจิตในผู้สูงวัยที่อำเภอโพธาราม จังหวัดราชบุรี ประเทศไทย ของนางสาวสุพัตรา อัศวไมตรี นิสิตระดับ ปริญญาโท วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย แล้ว

ในการนี้ ข้าพเจ้าเห็นสมควรให้นิสิตนำแบบสอบถามดังกล่าวเก็บข้อมูลเพื่อดำเนินการเขียนวิทยานิพนธ์ระดับมหาบัณฑิตต่อไป

.....

(รองศาสตราจารย์ นายแพทย์อัมพล สูอำพัน)

วันที่ 24/ กพ./ 60

**Third expert**

**แบบประเมินสำหรับผู้เชี่ยวชาญ**

ข้าพเจ้า **นายแพทย์บุญชัย นวมงคลวัฒนา** กลุ่มที่ปรึกษา กรมสุขภาพจิต กระทรวงสาธารณสุข ได้ทบทวนแบบสอบถามในโครงการวิจัยเรื่อง ความสัมพันธ์ระหว่างการรับรู้เกี่ยวกับคุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุและสถานะของสุขภาพจิตในผู้สูงวัยที่อำเภอโพธาราม จังหวัดราชบุรี ประเทศไทย ของนางสาวสุพัตรา อัศวไมตรี นิสิตระดับ ปริญญาโท วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย แล้ว

ในการนี้ ข้าพเจ้าเห็นสมควรให้นิสิตนำแบบสอบถามดังกล่าวเก็บข้อมูลเพื่อดำเนินการเขียนวิทยานิพนธ์ระดับมหาบัณฑิตต่อไป

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(นายแพทย์บุญชัย นวมงคลวัฒนา)

วันที่ 7 / มีค / 60

**Fourth expert**

**แบบประเมินสำหรับผู้เชี่ยวชาญ**

ข้าพเจ้า **ดร.นวลวรรณ ทวยเจริญ** ภาควิชานวัตกรรมอาคาร คณะสถาปัตยกรรมศาสตร์ มหาวิทยาลัยเกษตรศาสตร์ ได้ทบทวนแบบสอบถามในโครงการวิจัยเรื่อง ความสัมพันธ์ระหว่างการรับรู้เกี่ยวกับคุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุและสถานะของสุขภาพจิตในผู้สูงวัยที่อำเภอโพธาราม จังหวัดราชบุรี ประเทศไทย ของนางสาวสุพัตรา อัศวไมตรี นิสิตระดับ ปริญญาโท วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย แล้ว

ในการนี้ ข้าพเจ้าเห็นสมควรให้นิสิตนำแบบสอบถามดังกล่าวเก็บข้อมูลเพื่อดำเนินการเขียนวิทยานิพนธ์ระดับมหาบัณฑิตต่อไป

.....

(ดร.นวลวรรณ ทวยเจริญ)

วันที่ 2 / เมษายน / 2560

# -Appendix IV-

## แบบสัมภาษณ์

**วัตถุประสงค์ของการสำรวจ**

เพื่อหาความสัมพันธ์ระหว่างการรับรู้เกี่ยวกับคุณลักษณะเมืองที่เอื้อต่อผู้สูงอายุและสถานะของสุขภาพจิตในผู้สูงวัยที่อำเภอโพธาราม จังหวัดราชบุรี ประเทศไทย โดยนิสิตมหาบัณฑิต วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย

เลขที่แบบสอบถาม.....

วันที่...../...../.....

**คำชี้แจง:**

แบบสัมภาษณ์ชุดนี้จัดทำขึ้นเพื่อศึกษาความสัมพันธ์ระหว่างการรับรู้เกี่ยวกับคุณลักษณะเมืองที่เอื้อต่อผู้สูงอายุและสถานะของสุขภาพจิตในผู้สูงวัยที่อำเภอโพธาราม จังหวัดราชบุรี ประเทศไทย โดยข้อมูลที่ได้จากการตอบแบบสัมภาษณ์จะนำไปใช้สำหรับการนำเสนอโครงการที่เกี่ยวข้องกับการจัดการเมืองให้เอื้อต่อผู้สูงอายุและสุขภาพจิตของผู้สูงอายุต่อไป

ข้อมูลของท่านภายในแบบสัมภาษณ์จะถูกเก็บเป็นความลับ และจะนำเสนอผลการวิเคราะห์ข้อมูลเป็นภาพรวม ข้อมูลที่สามารถระบุถึงตัวท่านได้จะไม่ถูกเปิดเผย

แบบสัมภาษณ์มีทั้งหมด 10 หน้า แบ่งเป็น 3 ส่วน ดังนี้

ส่วนที่ 1 ข้อมูลทั่วไปของผู้สูงอายุ จำนวน 5 ข้อ

ส่วนที่ 2 แบบสัมภาษณ์การรับรู้เกี่ยวกับคุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุ จำนวน 39 ข้อ

ส่วนที่ 3 แบบประเมินสุขภาพจิตผู้สูงอายุ ฉบับสมบูรณ์ จำนวน 56 ข้อ



**********  **ขอขอบพระคุณทุกท่านในความร่วมมือในการตอบแบบ*แบบสัมภาษณ์*** **********

**แบบสัมภาษณ์เลขที่.....**

**วันที่...../...../.....**

**ผู้สัมภาษณ์.....**

**ส่วนที่ 1 ข้อมูลทั่วไปของผู้สูงอายุ**

| | |
|---|---|
| 1. เพศ | **สำหรับนักวิจัย** |
| ☐ ชาย | SEX [ ] |
| ☐ หญิง | |
| 2. ปัจจุบันท่านอายุ..... ปี | AGE [ ] [ ] |
| 3. ระดับการศึกษา | EDU [ ] |
| ☐ ไม่ได้รับการศึกษา | |
| ☐ ระดับประถมศึกษา | |
| ☐ ระดับชั้นมัธยมศึกษา | |
| ☐ ระดับ ปวช. / ปวส. | |
| ☐ ระดับปริญญาตรี | |
| ☐ ระดับปริญญาโท หรือสูงกว่า | |
| 4. รายได้ต่อเดือนของท่าน | INCOME [ ] |
| ☐ ต่ำกว่า 5,000 บาท | |
| ☐ 5,000 – 9,999 บาท | |
| ☐ 10,000 - 14,999 บาท | |
| ☐ 15,000 - 19,999 บาท | |
| ☐ 20,000 หรือมากกว่า | |
| 5. โรคประจำตัว | MD [ ] |
| ☐ ไม่มีโรคประจำตัว | |
| ☐ โรคความดันโลหิตสูง | |
| ☐ โรคเบาหวาน | |
| ☐ โรคหัวใจ | |
| ☐ อื่นๆ ระบุ..... | |

**ส่วนที่ 2 แบบสัมภาษณ์การรับรู้ต่อคุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุ**

**คำชี้แจง** โปรดใส่เครื่องหมาย √ ลงในช่องว่างที่ตรงกับความคิดเห็นของท่านมากที่สุด

5 หมายถึง การรับรู้อยู่ในระดับมากที่สุด

4 หมายถึง การรับรู้อยู่ในระดับมาก

3 หมายถึง การรับรู้อยู่ในระดับปานกลาง

2 หมายถึง การรับรู้อยู่ในระดับน้อย

1 หมายถึง ไม่ทราบ

| คุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุ | ระดับการรับรู้ | | | | | สำหรับนักวิจัย |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | |
| **อาคารสถานที่และบริเวณภายนอก** | | | | | | |
| 1. ท่านรับรู้ว่าสถานที่สาธารณะ เช่น โรงพยาบาล รพ.สต. วัด ลานออกกำลังกาย โรงเรียน ศาลาอเนกประสงค์ ถนน ทางเดินเท้า จะต้องสะอาด น่าอยู่ และปลอดภัย | | | | | | B1 [ ] |
| 2. ท่านรับรู้ว่าสถานที่สาธารณะ จะต้องมีการจัดบริการเก้าอี้นั่งอย่างเหมาะสม เพียงพอ และมีการดูแลรักษาอย่างสม่ำเสมอ เพื่อความปลอดภัย และความสะดวกสบายของผู้ใช้บริการ | | | | | | B2 [ ] |
| 3. ท่านรับรู้ว่าทางข้ามถนนจะต้องอยู่ในตำแหน่งที่สามารถนำคนเดินเท้าไปสู่จุดหมายได้อย่างปลอดภัย และสะดวกสบาย | | | | | | B3 [ ] |
| 4. ท่านรับรู้ว่าถนน ทางเดินเท้า และทางข้าม จะต้องมีไฟแสงสว่างที่เพียงพอและปลอดภัยในเวลากลางคืน | | | | | | B4 [ ] |
| 5.ท่านรับรู้ว่าอาคารต่างๆ จะต้องได้รับการออกแบบและก่อสร้างเป็นอย่างดีทั้งภายนอกและภายใน สะดวกสบาย ง่ายต่อการใช้บริการ และปลอดภัย เช่น มีทางลาดบริเวณทางเข้าออกอาคาร บันไดขึ้นลงง่ายไม่สูงหรือชันเกินไป และมีราวจับ หรือมีลิฟต์สำหรับขึ้นลงอาคาร | | | | | | B5 [ ] |
| 6. ท่านรับรู้ว่าห้องน้ำสาธารณะจะต้องมีจำนวนที่เพียงพอ ทั้งในอาคารและสถานที่สาธารณะ สามารถเข้าถึงได้ง่าย รวมทั้งจะต้องมีการดูแลรักษาให้สะอาดและปลอดภัยอยู่เสมอ และมี | | | | | | B6 [ ] |

| คุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุ | ระดับการรับรู้ | | | | | สำหรับนักวิจัย |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | |
| สิ่งอำนวยความสะดวกที่พร้อมใช้งานให้กับผู้สูงอายุ และผู้พิการ | | | | | | |
| 7. ท่านรับรู้ว่าสถานที่สำคัญต่างๆ เช่น โรงพยาบาล รพ.สต. วัด โรงเรียน จะต้องตั้งอยู่ในตำแหน่งใกล้เคียงกัน และมีเส้นทางการเดินทางเชื่อมโยงกัน สามารถเข้าใช้บริการได้ง่าย | | | | | | B7 [ ] |
| **ระบบขนส่ง/ยานพาหนะ** | | | | | | |
| 1. ท่านรับรู้ว่าในชุมชนจะต้องมีรถสาธารณะให้บริการ เช่น รถตู้ รถประจำทาง รถสองแถว ฯลฯ | | | | | | T1 [ ] |
| 2. ท่านรับรู้ว่าการให้บริการของรถสาธารณะจะต้องมีเส้นทางการเดินรถชัดเจน เพียงพอ ตั้งอยู่ในตำแหน่งที่ปลอดภัย ง่ายต่อการใช้บริการของผู้สูงอายุ และราคาเหมาะสม | | | | | | T2 [ ] |
| 3. ท่านรับรู้ว่ารถบริการสาธารณะ จะต้องมีจัดที่นั่งสำหรับผู้สูงอายุ | | | | | | T3 [ ] |
| 4.ท่านรับรู้ว่าจะต้องมีการบำรุงรักษาถนนและทางเดินเท้าอย่างสม่ำเสมอ เพื่อความปลอดภัยของผู้สัญจร | | | | | | T4 [ ] |
| 5. ท่านรับรู้ว่าจะต้องมีการจัดการทางถนน เพื่อความคล่องตัวของการจราจรและความปลอดภัยของผู้สัญจร | | | | | | T5 [ ] |
| 6. ท่านรับรู้ว่าป้ายสัญลักษณ์จราจรจะต้องตั้งอยู่ในจุดที่เหมาะสม สามารถมองเห็นได้ชัดเจน และไม่กีดขวางการสัญจรหรือการมองเห็นของผู้สัญจร | | | | | | T6 [ ] |
| **ที่อยู่อาศัย** | | | | | | |
| 1. ท่านรับรู้ว่าบ้านจะต้องอยู่ใกล้สถานที่ให้บริการต่างๆในชุมชน เช่น โรงพยาบาล รพ.สต. ร้านค้า วัด ลานออกกำลังกาย หรือสามารถเดินทางเพื่อไปรับบริการต่างๆ ได้สะดวก | | | | | | H1 [ ] |
| 2. ท่านรับรู้ว่าบ้านจะต้องสร้างขึ้นจากวัสดุที่แข็งแรง มั่นคง ปลอดภัยได้มาตรฐาน เหมาะแก่การอยู่อาศัยในทุกสภาพอากาศ | | | | | | H2 [ ] |

| คุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุ | ระดับการรับรู้ | | | | | สำหรับนักวิจัย |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | |
| 3. ท่านรับรู้ว่าบ้านจะต้องสะอาดอยู่เสมอ ปลอดภัย และมีสิ่งอำนวยสะดวกที่เอื้อต่อการใช้บริการของผู้สูงอายุ เช่น ราวจับในห้องน้ำ | | | | | | H3 [ ] |
| 4. ท่านรับรู้ว่าชุมชนจะต้องมีการจัดบริการบ้านพักและสถานที่ดูแลผู้สูงอายุที่อ่อนแอหรือไม่มีผู้ดู รวมถึงมีการให้บริการที่เหมาะสม | | | | | | H4 [ ] |
| **การมีส่วนร่วมทางสังคม** | | | | | | |
| 1. ท่านรับรู้ว่า ควรมีการสร้างชมรมผู้สูงอายุ หรือจัดกิจกรรมสำหรับผู้สูงอายุ เช่น โรงเรียนผู้สูงอายุ เพื่อให้ผู้สูงอายุได้ออกกำลังกาย ได้เรียนรู้ ได้ช่วยเหลือสังคม จะได้รับการสนับสนุนจากชุมชน เช่น เจ้าหน้าที่ทางด้านสาธารณสุข เทศบาล อบต. | | | | | | P1 [ ] |
| 2. ท่านรับรู้ว่า การสนับสนุนให้ผู้สูงอายุสามารถเข้าร่วมกิจกรรมได้ง่าย และครอบคลุมนั้น จะต้องได้รับการสนับสนุนจากชุมชนและครอบครัว เช่น การจัดเตรียมสถานที่ รถรับส่ง | | | | | | P2 [ ] |
| 3. ท่านรับรู้ว่า ข้อมูลเกี่ยวกับงานและกิจกรรมต่างๆจะต้องมีการแจ้งผ่านหลายช่องทางในชุมชน เช่น หนังสือพิมพ์ชุมชน หอกระจายข่าว แผ่นพับ | | | | | | P3 [ ] |
| 4. ท่านรับรู้ว่าการเข้าร่วมกิจกรรมต่างๆของท่านในชุมชนจะต้องได้รับความสนับสนุนจากคนในครอบครัว หรือผู้ดูแล | | | | | | P4 [ ] |
| **การให้ความเคารพและยอมรับ** | | | | | | |
| 1. ท่านรับรู้ว่า ผู้สูงอายุสามารถเป็นที่ปรึกษา หรือคณะกรรมการในชุมชน องค์กร หรือหน่วยงานต่างๆได้ เพื่อร่วมวางแผนและตัดสินใจกิจกรรมต่างๆที่มีในชุมชน | | | | | | R1 [ ] |
| 2. ท่านรับรู้ว่า การให้บริการสาธารณะโดยราชการหรือเอกชนจะต้องมีการปรับรูปแบบการให้บริการให้เหมาะสมกับผู้สูงอายุ | | | | | | R2 [ ] |
| 3. ท่านรับรู้ว่า ผู้สูงอายุจะต้องได้รับความรัก ความเคารพ และการดูแลอย่างดีจากครอบครัว และชุมชน | | | | | | R3 [ ] |

| คุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุ | ระดับการรับรู้ | | | | | สำหรับนักวิจัย |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | |
| 4. ท่านรับรู้ว่า กิจกรรมส่วนใหญ่ภายในชุมชนเป็นกิจกรรมสำหรับทุกกลุ่มวัย ที่ผู้สูงอายุสามารถเข้าร่วมได้ | | | | | | R4 [ ] |
| **การมีส่วนร่วมในฐานะพลเมืองและการจ้างงาน** | | | | | | |
| 1. ท่านรับรู้ว่า ผู้สูงอายุสามารถเป็นอาสาสมัครในการช่วยเหลือสังคม ตามความสามารถ ทักษะ ความสนใจได้ เช่น อสม. กลุ่มสภาองค์กรชุมชนโดยได้รับการสนับสนุนจากชุมชนและมีค่าตอบแทนแก่อาสาสมัครในอัตราที่เหมาะสม | | | | | | E1 [ ] |
| 2. ท่านรับรู้ว่า สถานที่ทำงานจะต้องมีสภาพแวดล้อมเหมาะสำหรับลูกจ้างทุกวัย | | | | | | E2 [ ] |
| 3. ท่านรับรู้ว่า ชุมชนจะต้องมีการเตรียมความพร้อมชีวิตหลังวัยเกษียณ เพื่อส่งเสริมให้ผู้สูงอายุมีงานทำและมีรายได้ เช่น การสอนให้ผู้สูงอายุทำสบู่ ดอกไม้จันทน์ ยาสระผม ฯลฯ สำหรับจำหน่าย | | | | | | E3 [ ] |
| 4. ท่านรับรู้ว่า ผู้สูงอายุเป็นผู้มีส่วนร่วมในการเลือกตั้ง หรือการตัดสินใจต่างๆทั้งภาครัฐและเอกชน | | | | | | E4 [ ] |
| **การสื่อสารและข้อมูลสารสนเทศ** | | | | | | |
| 1. ท่านรับรู้ว่า อุปกรณ์ ปุ่มกด หรือตัวหนังสือบนป้าย ป้ายประกาศต่างๆ ในสถานที่ราชการ/เอกชน จะต้องมีขนาดเหมาะสมที่ผู้สูงอายุสามารถใช้งาน และอ่านได้ | | | | | | C1 [ ] |
| 2. ท่านรับรู้ว่า การสื่อสารของเจ้าหน้าที่ในหน่วยงานสาธารณะหรือเอกชนหรือชุมชน ทั้งการพูดและเขียน จะต้องใช้ภาษาที่เข้าใจง่าย กระชับ ชัดถ้อยชัดคำ | | | | | | C2 [ ] |
| 3. ท่านรับรู้ว่า แหล่งข้อมูลในชุมชน เช่น หนังสือพิมพ์ชุมชน หอกระจายข่าว แผ่นพับ บอร์ดประชาสัมพันธ์ จะต้องมีการนำเสนอข้อมูลที่เป็นประโยชน์ และอยู่ในความสนใจของผู้สูงอายุอย่างสม่ำเสมอ ต่อเนื่อง เช่น การรับเบี้ยยังชีพ การดูแลตนเอง เป็นต้น | | | | | | C3 [ ] |

| คุณลักษณะของเมืองที่เอื้อต่อผู้สูงอายุ | ระดับการรับรู้ | | | | | สำหรับนักวิจัย |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | |
| 4. ท่านรับรู้ว่า การเข้าถึงข้อมูลข่าวสารของผู้สูงอายุจะต้องผ่านช่องทางที่ง่าย ไม่ซับซ้อน และหลากหลาย | | | | | | C4 [ ] |
| **บริการชุมชนและบริการสุขภาพ** | | | | | | |
| 1. ท่านรับรู้ว่า การจัดบริการสุขภาพและบริการชุมชนจะต้องครอบคลุม ทั่วถึง เท่าเทียมในทุกระดับ | | | | | | S1 [ ] |
| 2. ท่านรับรู้ว่าหน่วยงานต่างๆในชุมชน อาทิ เทศบาล อบต. รพ. สต. วัด โรงเรียน จะต้องตั้งอยู่ในบริเวณที่ประชาชนสามารถเดินทางเข้ามารับบริการได้อย่างสะดวก ปลอดภัย และค่าใช้จ่ายในการเดินทางไม่สูงหรือไม่มีค่าใช้จ่าย | | | | | | S2 [ ] |
| 3. ท่านรับรู้ว่า การจัดบริการสุขภาพและบริการชุมชนจะต้องมีการให้บริการพิเศษแก่ผู้สูงอายุที่ไม่สามารถช่วยเหลือตนเองได้ หรือมีอุปสรรคในการเข้าถึง เช่น ผู้สูงอายุที่ป่วยที่ไม่สามารถไปรับบริการสุขภาพได้ ผู้สูงอายุที่ไม่สามารถเดินทางมารับเบี้ยยังชีพได้ เป็นต้น | | | | | | S3 [ ] |
| 4. ท่านรับรู้ว่า ผู้ให้บริการจะต้องมีความเคารพ ยินดีให้ความช่วยเหลือ แก่ผู้สูงอายุ | | | | | | S4 [ ] |
| 5. ท่านรับรู้ว่า ชุมชนจะต้องมีการส่งเสริมอาสาสมัคร หรือผู้ดูแลผู้สูงอายุ | | | | | | S5 [ ] |
| 6. ท่านรับรู้ว่า ชุมชนจะต้องมีระบบการดูแลและส่งต่อผู้สูงอายุในภาวะฉุกเฉิน | | | | | | S6 [ ] |

**ส่วนที่ 3 แบบสัมภาษณ์สุขภาพจิตผู้สูงอายุ ฉบับสมบูรณ์**

**คำชี้แจง**

1. กรุณากาเครื่องหมาย √ ลงในช่องที่มีข้อความตรงกับตัวท่านมากที่สุด และขอความร่วมมือตอบคำถามทุกข้อ

2. คำถามต่อไปนี้จะถามถึงประสบการณ์ของท่าน ในช่วง 1 เดือนที่ผ่านมา จนถึงปัจจุบัน ให้ท่านสำรวจตัวท่านเอง และประเมินเหตุการณ์ อาการ ความคิดเห็น และความรู้สึกของท่าน ว่าอยู่ในระดับใด แล้วตอบลงในช่องคำตอบที่ เป็นจริงกับตัวท่านมากที่สุด โดยคำตอบจะมี 4 ตัวเลือก คือ

ไม่เลย หมายถึง ไม่เคยมีเหตุการณ์ อาการ ความรู้สึก หรือไม่เห็นด้วย กับเรื่องนั้นๆ

เล็กน้อย หมายถึง เคยมี เหตุ การณ์ อาการ ความรู้สึกในเรื่องนั้นๆ เพียงเล็กน้อย หรือเห็นด้วยกับเรื่องนั้นๆ เพียงเล็กน้อย

มาก หมายถึง เคยมีเหตุการณ์ อาการ ความรู้สึกในเรื่องนั้นๆ มาก หรือเห็นด้วยกับเรื่องนั้นๆ มาก

มากที่สุด หมายถึง เคยมีเหตุการณ์ อาการ ความรู้สึกในเรื่องนั้นๆ มากที่สุด หรือเห็นด้วยกับเรื่องนั้นๆ มากที่สุด

| ข้อ | คำถาม | ไม่เลย | เล็กน้อย | มาก | มากที่สุด | สำหรับนักวิจัย |
|---|---|---|---|---|---|---|
| 1 | ท่านรู้สึกพึงพอใจในชีวิตที่เป็นอยู่ทุกวันนี้ | | | | | |
| 2 | ท่านรู้สึกว่าชีวิตท่านมีความหมาย (มีคุณค่า มีประโยชน์) | | | | | |
| 3 | ท่านรู้สึกว่าชีวิตของท่านมีความสุข | | | | | |
| 4 | ท่านรู้สึกว่ามีชีวิตชีวา | | | | | |
| 5 | ท่านรู้สึกยินดีกับความสำเร็จในชีวิตที่ผ่านมา | | | | | |
| 6 | ท่านรู้ว่าจะมีชีวิตอยู่ไปเพื่ออะไร | | | | | |
| 7 | ท่านรู้สึกเบื่อหน่ายท้อแท้กับการดำเนินชีวิตประจำวัน | | | | | |
| 8 | ท่านรู้สึกผิดหวังในตัวเอง | | | | | |
| 9 | ท่านรู้สึกว่าชีวิตของท่านมีแต่ความทุกข์ | | | | | |
| 10 | ท่านรู้สึกกังวลใจ | | | | | |
| 11 | ท่านรู้สึกเหงา โดดเดี่ยว | | | | | |

| ข้อ | คำถาม | ไม่เลย | เล็กน้อย | มาก | มากที่สุด | สำหรับนักวิจัย |
|---|---|---|---|---|---|---|
| 12 | ท่านรู้สึกหงุดหงิดรำคาญใจที่ไม่สามารถเคลื่อนไหวร่างกายได้ดังใจ | | | | | |
| 13 | ท่านรู้สึกหงุดหงิดรำคาญใจกับการเปลี่ยนแปลงของร่างกายที่เสื่อมลง (ตาฝ้าฟาง หูตึง ความคิด ความจำลดลง) | | | | | |
| 14 | ท่านรู้สึกหงุดหงิด กังวลใจกับความสามารถในการดำรงชีวิตประจำวัน | | | | | |
| 15 | ท่านพอใจต่อการผูกมิตรหรือเข้ากับบุคคลอื่น | | | | | |
| 16 | ท่านมีสัมพันธภาพที่ดีกับเพื่อนบ้าน | | | | | |
| 17 | ท่านเป็นคนมีอารมณ์ขัน สนุกสนาน | | | | | |
| 18 | ท่านได้ทำกิจกรรมร่วมกับเพื่อนบ่อยๆ | | | | | |
| 19 | ท่านคิดว่าท่านมี ความเป็นอยู่และฐานะทางสังคมตามที่ ท่านได้คาดหวังไว้ | | | | | |
| 20 | ท่านรู้สึกประสบความสำเร็จและความก้าวหน้าในชีวิต | | | | | |
| 21 | ท่านรู้สึกพึงพอใจกับฐานะความเป็นอยู่ของท่าน | | | | | |
| 22 | ท่านเห็นว่าปัญหาส่วนใหญ่เป็นสิ่งที่ท่านสามารถแก้ไขได้ | | | | | |
| 23 | ท่านสามารถทำใจยอมรับได้สำหรับปัญหาที่ยากจะแก้ไข (เมื่อมีปัญหา) | | | | | |
| 24 | ท่านมั่นใจว่าจะสามารถควบคุมอารมณ์ได้เมื่อมีเหตุการณ์คับขันหรือ ร้ายแรงเกิดขึ้น | | | | | |
| 25 | ท่านมั่นใจที่จะเผชิญกับเหตุการณ์ร้ายแรงที่เกิดขึ้นในชีวิต | | | | | |
| 26 | ท่านจะรู้สึกหงุดหงิดถ้าสิ่งต่างๆ ไม่เป็นไปตามที่คาดหวัง | | | | | |

| ข้อ | คำถาม | ไม่เลย | เล็กน้อย | มาก | มากที่สุด | สำหรับนักวิจัย |
|---|---|---|---|---|---|---|
| 27 | ท่านรู้สึกหงุดหงิดกังวลใจกับเรื่องเล็กๆ น้อยๆ ที่เกิดขึ้นเสมอ | | | | | |
| 28 | ท่านรู้สึกกังวลใจกับเรื่องทุกเรื่องที่มากระทบตัวท่าน | | | | | |
| 29 | ท่านรู้สึกยินดีกับความสำเร็จของคนอื่น | | | | | |
| 30 | ท่านรู้สึกเห็นอกเห็นใจเมื่อผู้อื่นมีทุกข์ | | | | | |
| 31 | ท่านรู้สึกเป็นสุขในการช่วยเหลือผู้อื่นที่มีปัญหา | | | | | |
| 32 | ท่านให้ความช่วยเหลือแก่ผู้อื่นเมื่อมีโอกาส | | | | | |
| 33 | ท่านพึงพอใจกับความสามารถของตนเอง | | | | | |
| 34 | ท่านรู้สึกภูมิใจในตนเอง | | | | | |
| 35 | ท่านรู้สึกว่าท่านมีคุณค่าต่อครอบครัว | | | | | |
| 36 | ท่านมีสิ่งยึดเหนี่ยวสูงสุดในจิตใจที่ทำให้จิตใจมั่นคงในการดำเนินชีวิต | | | | | |
| 37 | ท่านมีความเชื่อมั่นว่าเมื่อเผชิญกับความยุ่งยากท่านมีสิ่งยึดเหนี่ยว สูงสุดในจิตใจ | | | | | |
| 38 | ท่านเชื่อมั่นว่าการทำดีย่อมได้รับผลตอบแทนที่ดี | | | | | |
| 39 | ท่านเคยประสบกับความยุ่งยาก และสิ่งยึดเหนี่ยวสูงสุดในจิตใจช่วยให้ ท่านผ่านพ้นไปได้ | | | | | |
| 40 | ท่านต้องการทำบางสิ่งที่ใหม่ในทางที่ดีขึ้นกว่าที่เป็นอยู่เดิม | | | | | |
| 41 | ท่านมีความสุขกับการริเริ่มงานใหม่ๆ และมุ่งมั่นที่จะทำให้สำเร็จ | | | | | |
| 42 | ท่านมีความกระตือรือร้นในการที่จะเรียนรู้สิ่งใหม่ๆ | | | | | |

| ข้อ | คำถาม | ไม่เลย | เล็กน้อย | มาก | มากที่สุด | สำหรับนักวิจัย |
|---|---|---|---|---|---|---|
| 43 | ท่านมีเพื่อนหรือคนอื่นในสังคมคอยช่วยเหลือเมื่อท่านต้องการ | | | | | |
| 44 | ท่านมีคนที่สามารถปรับทุกข์ได้ | | | | | |
| 45 | ท่านรู้สึกสบายใจเมื่ออยู่ในครอบครัว | | | | | |
| 46 | ครอบครัวของท่านมีความรักและผูกพันต่อกัน | | | | | |
| 47 | ถ้าท่านป่วย ท่านมั่นใจว่าครอบครัวของท่านจะดูแลท่านเป็นอย่างดี | | | | | |
| 48 | สมาชิกของครอบครัวให้ความช่วยเหลือท่าน | | | | | |
| 49 | ท่านมั่นใจว่าชุมชนที่ท่านอาศัยอยู่มีความปลอดภัยต่อท่าน | | | | | |
| 50 | ท่านรู้สึกมั่นคงปลอดภัยในทรัพย์สินเมื่ออาศัยอยู่ใน ชุมชนนี้ | | | | | |
| 51 | ท่านมีเงินพอใช้จ่ายตามความจำเป็น | | | | | |
| 52 | ท่านรู้สึกพึงพอใจในสภาพแวดล้อมที่อาศัยอยู่ในปัจจุบัน | | | | | |
| 53 | มีหน่วยงานสาธารณสุขใกล้บ้านที่ท่านสามารถไปใช้บริการได้ | | | | | |
| 54 | มีหน่วยงานสาธารณสุขใกล้บ้านให้บริการได้เมื่อท่านต้องการ | | | | | |
| 55 | เมื่อท่านหรือญาติเจ็บป่วย ท่านไปใช้บริการจากหน่วยงานสาธารณสุข ใกล้บ้าน | | | | | |
| 56 | เมื่อท่านเดือดร้อนจะมีหน่วยงานในชุมชน (เช่น มูลนิธิ ชมรม สมาคม วัด สุเหร่า ฯลฯ) มาช่วยเหลือดูแลท่าน | | | | | |

**-Appendix V-**

**Questionnaire in English (Face to face interview)**

No._____ Date_____

Interviewer_____

**Part I: The demographic characteristics**

| | **For researcher** |
|---|---|
| 1. Gender | |
| □ Male | SEX [ ] |
| □ Female | |
| 2. Age..... | AGE [ ] [ ] |
| 3. Education Background | EDU [ ] |
| □ Not educated | |
| □ Primary School | |
| □ Secondary School | |
| □ Vocational School | |
| □ Bachelor's degree | |
| □ Master degree or above | |
| 4. Monthly Income | INCOME [ ] |
| □ No income | |
| □ Less than 5,000 baht | |
| □ 5,000 – 9,999 baht | |
| □ 10,000 - 14,999 baht | |
| □ 15,000 - 19,999 baht | |
| □ 20,000 baht or above | |
| 5. Medical condition | MD [ ] |
| □ No | |
| □ Hypertension | |
| □ Diabetes | |
| □ Cardiovascular disease | |
| □ Other..... | |

**Part II: The perception toward age-friendly city features**

**Direction:** Please put the / in the box hat most suite your opinion

5 =very good 4 = good 3 = fair

2 = poor 1 = very poor

| Age-friendly city features | Perception | | | | | For researcher |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | |
| **Outdoor space and building** | | | | | | |
| 1. The public place have to be clean and pleasant. | | | | | | B1 [ ] |
| 2. The public place have provide outdoor seating which is sufficient in number, well-maintained and safe. | | | | | | B2 [ ] |
| 3. Pavements are well-maintained, free of obstructions and reserved for pedestrians. | | | | | | B3 [ ] |
| 4. Pedestrian crossings are sufficient in number and safe for people with different levels and types of disability, with nonslip markings, visual and audio cues and adequate crossing times. | | | | | | B4 [ ] |
| 5. Buildings are well-signed outside and inside, with sufficient seating and toilets, accessible elevators, ramps, railings and stairs, and non-slip floors. | | | | | | B5 [ ] |
| 6. Public toilets outdoors and indoors are sufficient in number, clean, well-maintained and accessible. | | | | | | B6 [ ] |
| 7. Public places are situated together and are accessible. | | | | | | B7 [ ] |
| **Transportation** | | | | | | |
| 1. In the community have the public transportation | | | | | | T1 [ ] |
| 2. The route of the public transportation in the community and it will settle at the safety place which is easy to access. | | | | | | T2 [ ] |

| Age-friendly city features | Perception | | | | | For researcher |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | |
| 3. Specialized transportation is available for disabled people or elderly people. | | | | | | T3 [ ] |
| 4. There will always have a maintenance for a walk way for the safety. | | | | | | T4 [ ] |
| 5. The traffic has to be adjust for the flow and road safety. | | | | | | T5 [ ] |
| 6. The traffic sign has to be in the place that it won't block the traffic of the driver view. | | | | | | T6 [ ] |
| **Housing** | | | | | | |
| 1. Sufficient, affordable housing is available in areas that are safe and close to services and the rest of the community. | | | | | | H1 [ ] |
| 2. The house is well constructed that provides safe and comfortable shelter from the weather. | | | | | | H2 [ ] |
| 3. Housing is clean, well-maintained, safe, and supplies are available and affordable. | | | | | | H3 [ ] |
| 4. The community have to provide the shelter or services for take care the elderly. | | | | | | H4 [ ] |
| **Social participation** | | | | | | |
| 1. There are a clubs or activities for elderly that came from community participation. | | | | | | P1 [ ] |
| 2. The elderly can join the activity and they will receive the support from their family or community by providing the transportation and also the place for the activity. | | | | | | P2 [ ] |
| 3. All the information of the activity will be announcing through the community media | | | | | | P3 [ ] |
| 4. When joining the activity, they will receive the support from their family or community | | | | | | P4 [ ] |

| Age-friendly city features | Perception | | | | | For researcher |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | |
| **Respect and social inclusion** | | | | | | |
| 1. Elderly can be the consultant or committee in the community or other organization to help in managing the community activities. | | | | | | R1 [ ] |
| 2. Public or private services are suitable with elderly. | | | | | | R2 [ ] |
| 3. Elderly must be loved, respect and have a good care from family or community. | | | | | | R3 [ ] |
| 4. Most of the community's activities is appropriate for everyone in every age group. | | | | | | R4 [ ] |
| **Civic participation and employment** | | | | | | |
| 1. Options for older volunteers is available, with training, recognition, guidance and compensation for personal costs. | | | | | | E1 [ ] |
| 2. Workplaces are adapted to meet the needs of all people. | | | | | | E2 [ ] |
| 3. A range of flexible and appropriately paid opportunities for older people to work is promoted. | | | | | | E3 [ ] |
| 4. Decision-making bodies in public, private and voluntary sectors encourage and facilitate membership of older people. | | | | | | E4 [ ] |
| **Communication and information** | | | | | | |
| 1. Printed information has large lettering and the main ideas are shown by clear headings and bold-face type. | | | | | | C1 [ ] |
| 2. Print and spoken communication by staff in both private and public sector must use simple, familiar words in short, straightforward sentences. | | | | | | C2 [ ] |

| Age-friendly city features | Perception | | | | | For researcher |
|---|---|---|---|---|---|---|
| | 5 | 4 | 3 | 2 | 1 | |
| 3. Regular and widespread distribution of information is assured and a coordinated, centralized access is provided. | | | | | | C3 [ ] |
| 4. Public and commercial services provide friendly, person-to-person service on request. | | | | | | C4 [ ] |
| **Community support and health services** | | | | | | |
| 1. An adequate range of health and community support services is offered for promoting, maintaining and restoring health. | | | | | | S1 [ ] |
| 2. Health and social services are conveniently located and accessible by all means of transport. | | | | | | S2 [ ] |
| 3. Health and social service for elderly who is disabled are provided. | | | | | | S3 [ ] |
| 4. All staff are respectful, helpful and trained to serve older people. | | | | | | S4 [ ] |
| 5. The community will encourage and support the volunteer to look after the elderly. | | | | | | S5 [ ] |
| 6. Community emergency planning takes into account the vulnerabilities and capacities of older people. | | | | | | S6 [ ] |



**Part III: Thai Geriatric Mental Health Assessment (T-GMHA)**

Thai Geriatric Mental Health Assessment (T-GMHA) from Prapat Ukaranan and his team (Prapat Ukranan et al., 2015).

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