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The Social Ecology of Older Thai Adults Living with Non-Communicable Disease in Urban Congested Communities

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This study aimed to investigate the social ecology of Thai older adults living with non-communicable diseases (NCDs) in urban congested communities. Using the data obtained from in-depth interviews, a content analysis was conducted to demonstrate the interactions between the older adults and their social environment in terms of: (1) the perception of aging in the context of a congested community, (2) the perception of non-communicable diseases among older adults, and (3) the multi-level interactions with the social environment. The study findings indicated multi-level interactions between older adults and their closed persons (i.e., family members, friends, and neighbours), health service providers, communities, and the policies that determined their health-related behaviours specific to NCDs management. It is suggested that health promotion activities for older adults should be designed to cover all levels of social ecology and with an emphasis on the empowerment of not only the older adults, but also their families, the public health personnel, and the community, as a whole, to better support and maintain a desirable environment for the health management of older adults.

Keywords: *Older adult, Non-communicable diseases, Social ecology.*

Introduction

The non-communicable diseases (NCDs) which occur among the older adult population are public health problems in both the developed and developing worlds. According to data from the World Health Organisation (WHO, 2008), it was reported that more than 36 million people died due to NCDs, especially those in low- and middle-income countries (LMICs). In Thailand, the World Health Organisation, revealed that the country ranked second in South East Asia for its mortality rate from NCDs, which accounted for around 71 per cent of all deaths (WHO, 2014), and may reflect an increase in the severity of the disease.

Non-communicable diseases are related to lifestyle, and health behaviour (Daniel et al., 2013; Sazlina et al., 2012). Therefore, medical treatment alone is not enough. Health promotion for older adults with NCDs can be a factor that enables older adults to appropriately take care of themselves and eventually control the disease progress. At the same time, the lifestyle, and health management of older adults is still related to living together with their family members, interaction with communities, and the roles of public health providers and personnel in the affected areas (Stokols et al., 1996). This shows that the adaptation of lifestyle, and behaviour at the individual level cannot be absolutely separated from the environmental context of older adults.

Older adults living in urban congested communities are a complicated fragile group of people with both physical risks, and health problems, thus leading to NCDs (Sarode, 2018) and social vulnerabilities, which make them prone to diseases and difficult to control (Synder et al., 2017; Angkurawaranon et al., 2015; WHO, 2008). Many studies related to NCDs among older adults and in the context of an urban congested community have mainly focussed on perception, and behaviour. For example, a study explored the causes of NCDs as perceived by people living in slums, and found that the life context plays an important role in determining their lifestyles which were related to NCDs, including financial hardship, urbanised lifestyles, consumption of tobacco and sweetened tea for socialisation, and limited local health resources (Al-Shoaibi et al., 2018). Thus, to promote healthier lifestyles for older adults, all aspects of their health, particularly a capacity building upon self-care, should be focussed, with the implementation and collaboration among families, healthcare providers, and communities (Ucharattana, 2011).

Numerous research studies conducted on health promotion mainly focussed on individual behavioural changes using health education activities (Bierbauer, 2017; Nigg et al., 2012). In fact, the health behaviours of an individual are related to the environment or other surrounding people (Stokols, 1996). Health promotion activities which are based on health education principles and with a concept of one program that can be used for all (one-size-fits-all), might not be appropriate for older adults in a context with specific and complex

characteristics. To the best of our knowledge, there has been limited investigation into the social ecology of older adults with NCDs, specifically in the context of an urban congested community, which is an area that contains vulnerable people who have difficulty in establishing appropriate health behaviours due to social exclusion, stress, and lack of social support (Pawar, Mohan & Bansal, 2008).

This study presents the social ecology of Thai older adults living with NCDs and in the specific context of urban congested communities. The purpose of this study was to understand how the interactions between older adults and different levels of the social environment would contribute to their perceptions of aging, perceptions of NCDs, and their health-related lifestyles.

Methodology

Study Setting and Participants

This study was based on fieldwork conducted in the communities of Phrom Samrit, Soi Suan Ngoen, and Khlong Toei from March to October 2018. The study participants were older adults aged 60 or over who lived in one of the three communities for at least one year and had been diagnosed with at least one of four diseases, including hypertension, diabetes mellitus, cerebrovascular accident, and cardiovascular diseases. We contacted the public health personnel in the area to introduce the researcher to the first few participants in each community. The snowball sampling method was employed to identify a total of 30 participants, who met the inclusion criteria.

Data Collection and Data Analysis

In-depth interviews were conducted with each of the participants to explore their perception of aging, illness, and interaction with other people in the community. Each interview took approximately 40–60 minutes. All conversations were recorded and transcribed.

The descriptive data was collected and managed by licensed software MS Word, and MS Excel. The participants' characteristics were described. The transcribed data was interpreted and validated via a triangulation technique, and the data was validated with the participants. Incorrect or inconsistent data was corrected, while additional information provided by the participants was added to complete the data analysis. Subsequently, all data was analysed using a content analysis method. Wherein, the researcher read and comprehended with supportive field data to obtain the significant phrases or statements that related to the attributions of Thai older adults' 'social ecology', coding, classifying, and statement analysing, with verification for a conclusion.

This study was certified by the Committee for Research Ethics (Social Sciences), Mahidol University, IRB No. 2018/026 (B1), dated 6 February 2018.

Results

There were thirty participants recruited from the three urban congested communities, which included 12 males, and 18 females. Their ages ranged from 61–82 years old, with a mean of 67.9 years. The average length of having an NCD was 9.76 years. Four participants reported living with diabetes; nine with hypertension; 12 had diabetes with hypertension; three had hypertension with coronary artery heart disease; and two had diabetes with hypertension, and cerebrovascular disease. The average number of family members in a household was four persons. Twenty-one of the participants were home-bound, eight were social-bound, and one was bed-bound.

Table 1: Demographic of participants (n=30)

Demographic	**Number (persons)**	**Percentage**
Age (average 67.9 years)		
60–69	15	50.00
70–79	13	43.33
80–89	2	6.67
Gender		
Female	18	60
Male	12	40
Marital Status		
Single	3	10.00
Married	16	53.33
Widowed	7	23.33
Divorced	1	3.34
Separated	3	10.00
Number of diseases		
1	13	43.33
2	15	50
3	2	6.37
>3	0	0
Duration of an illness (average 9.76 years)		
1–5	11	36.67
6–10	9	30
11–15	7	23.33
16–20	3	10

Demographic	Number (persons)	Percentage
>20	0	0
Number of family members (average 4 persons)		
1–2	1	3.33
3–4	19	63.33
>4	10	33.34

The results identified three aspects of the older adults' perception, including: (1) the perception of aging in the context of a congested community, (2) the perception of NCDs in older adults, and (3) the multi-level interactions between older adults and their social environment.

Aging in the Context of a Congested Community: Limited Physical Ability but Still Independent

Aging can be an obstacle in life due to decreased physical activity. Hence, it seems that a majority of elderly persons may require supervision and restriction of their activities, as their daily life is controlled by the people around them, especially family members. However, some older adults are still active and quite independent.

In this study, the older adults who live in the urban congested communities were different from the older adults living in other types of communities. The participants indicated that economic status was low in most households, and people in the community are primarily living and pursuing a career. Thus, the older adults in the congested communities had to be adaptive with living by themselves or being left alone at home. Some older adults, in addition to taking care of themselves, also played a role in caring for a weaker family member, such as children or family members who were seriously ill and unable to work. Some older adults were respected as the head of the family and still worked to earn a major income for the household. Therefore, aging appeared to minimally affect older adults in the urban congested areas, specifically in terms of financial, and social activities. They revealed that in many situations they could not rely on anyone. Therefore, a majority of the older adults tried to take care of themselves, as much as possible:

"I tried to look after myself. I do not want to make [myself] a burden to my children. I have a son who has to work every day. He leaves in the early morning and comes back in the evening. I am alone every day. In the morning, the children would leave the rice for me. As for the medication I usually take, everything can take care of myself, almost all. I do as much as possible. Most of the day I sleep lying on the bed, [as] there is nothing to do but take care

of myself. Even though I am old, I have certain medical conditions [and am] not quite as strong as before, [I] cannot walk anywhere, but I still want to help myself" (Female, 76 years old, diabetes and hypertension).

Many older adults in the congested communities, in addition to living independently, had their own personality. The older adults could make decisions about their own daily lives, according to their individual preferences. The retirees, and those who did not work, indicated that they had different daily activities and used free time to do as many activities as they could. For older adults who were especially old and were physically fragile because of chronic illnesses, they spent time for relaxation, and lived their life through each day, without any burden. There were many participants who were more independent and informed, which were happy living with aging.

The Perception of Non-Communicable Diseases among Older Adults: It Occurs Due to Aging, and is Not Curable but is Manageable

Many older adults had been diagnosed or knew that they had NCDs since adulthood. There were also some who only knew that they had the diseases after they had aged considerably. The progression of most NCDs is quite slow at the beginning and may not recognisable until symptoms or complications arise, which pushes individuals to seek care. The issue of health awareness could be a problem, particularly for older adults living with lower socio-economic conditions, as they paid more attention to earning for a living than to their health. Thus, this could cause different perceptions about NCDs among those living in urban congested areas, as compared to those with better living conditions who have a higher education and income, in general. Many of the older adults in this study did not realise they may develop a NCD until the symptoms got severe, nor that they could only take medication to control the progression for the rest of their lives:

“I have high blood pressure. I just knew that I had it only a few years ago. The doctor told me that it happened due to older age and it was not curable. I have to take medication for the rest of my life and control the blood pressure as well. I have to [stay away] from salty, oily things. At the early stage, I had frequent dizziness and headache[s]. Taking medicine was a little helpful, but it wasn't cured, so I decided to see a doctor at the hospital. At first, I didn't think that would be blood pressure, but [more likely] due to a hot weather [event] or lack of sleep. Until I saw the pressure gauge raised over 200, I was shocked. After the examination, the doctor gave me a painkiller and an antihypertensive drug, telling me it was [a] blood pressure disease. I must take [the] blood pressure medication regularly. I now know that it is not curable. The medication will only help to control it. I do not want to have a stroke” (Female, age 65 years old, hypertension).

Most participants mentioned that NCDs did not impede living, and thus, are manageable. They perceived that NCDs were non-fatal diseases that could be treated but could not be completely recovered from. They could live a normal life without becoming ill, if the diseases were controlled well:

"My diabetes has been going up and down for over ten years. It is not a lot of pressure. I have to take medicine all the time. I also had a heart surgery, and later the doctor told me that I have blood pressure too. I always have to take medication. The disease will not disappear" (Female, 76 years old, diabetes).

"I don't have any complications. I am able to control [the] pressure, [and] take medication regularly. I [have] never missed [taking] it because I am scared of being paralysed if the pressure is too high. I have seen relatives who are paralysed because of high blood pressure" (Female, 64 years old, hypertension).

The Social Ecology of Older Adults Living with NCDs: Multi-Level Interactions

Interpersonal Level: Social interaction between individuals and close persons

The participants provided information that demonstrated the nature of interaction and in the forms of the social network, and social support for older adults' NCDs management. Family members were the first group which the older adults interacted with, and who play an especially important role to support older adults. Family relations may therefore be one factor that encourages older adults to have different health behaviours or more easily live with illness and physical vulnerability:

"Most of the time when I feel [I am] not comfortable, I must tell my children. They will take me to the hospital immediately. They take care of me very well and give me a lot of support. They never let me go to the hospital alone. I feel good that when I am aging and not as healthy, I have my children to take care of me" (Female, 76 years old, hypertension and coronary artery disease).

It can be said that family interaction or family support is the most rapid and possible interaction because family is the element and context in the area nearest to the older adults. The nature of the interaction between the older adults and family members is in the form of conversations in daily life, discussion of information related to diseases and health, other family-based activities, such as religious practices or recreations, and physical assistance. However, there were a few older adults who indicated that family members may not have much of a role because at the time of most illnesses, they managed their symptoms on their own because they did not want to cause any burdens upon other family members.

"We have to see how serious it [illness symptom] is. If it is not serious, sometimes it disappears on its own. For example, dizziness is common among aging people and we can get better without seeing the doctors. I do not want to be a burden to my children, [and] unless it does not improve, then it is time to visit a hospital" (Male, 66 years old, hypertension).

The interactions with peers, particularly in the form of social networking, also influences health practices among older adults. Communication with friends or neighbours living with the same health conditions allows them to share experiences and information about health. Most of the participants had been living in the community for a long time, and thus they had developed close relationships with their neighbours:

"I have many friends who live with the same diseases as mine. We sometimes talked about the illness and receive care from the same hospital. Our houses are also close to each other, so we can help each other" (Female, 64 years old, diabetes and hypertension).

Organisational Level: Social Interaction between Individuals and Health Service Providers

The social interaction between older adults and health service providers is mostly a formal interaction in the forms of information sharing and healthcare. The services provided by health facilities located in the communities are generally for treatment and controlling disease progression. According to the participants, healthcare for NCDs patients is quite accessible because the facilities are located close to their residences, and the care was covered by the national health insurance. There is healthcare teams, and health volunteers performing the outreach services. The satisfaction of health service quality made the older adults feel comfortable to receive care, develop trust, and follow medical advice, which would result in better outcomes:

"We have community health volunteers who regularly visit our house at least once a month. They come to check our symptoms, whether we take medicine on time, whether we eat salty food. It is like they come to remind us how we should [take care and what to] do for our health. They also measure our blood pressure every month, take notes, and bring them to report [to] the doctor" (Male, 70 years old, hypertension).

"The nurses come to check our conditions, measure blood pressure, give mental support, and give advice on healthcare. They tell us what we can and cannot eat. They usually come every month or every other month from the health centres. We tell them if we are not feeling well" (Female, 68 years old, diabetes, hypertension, and cerebrovascular diseases).

Community Level: Social Interaction between Individuals and Communities

There are activities for older adults in the congested communities which promote interaction at the community level. The participants indicated that social activities encouraged them to come out of their house and to meet up with others. The activities varied, and some communities even provided transportation services to facilitate older adults' participation:

"There is a transportation service to pick up many people at the same time. Sometimes they organise a retreat for the elderly, which I kind of like it because we have a chance to go out and meet up with many people, but somebody may not like this kind of activity. My next-door neighbour, for example, never joins any trip" (Male, 67 years old, diabetes and hypertension).

"I like it. It is fun. A lot of people. This community likes to hold activities for the elderly, such as evening exercises, [an] annual Songkran festival with free food, [and] plant[s] trees every Wednesday" (Female, 74 years old, hypertension).

The 'older adult activities' are social activities that encourage older adults to better adapt and interact with other people, which will eventually lead to a better quality of life. Some older adults stated that they were quite satisfied with the participation in the activities, while others indicated less interest in joining or having physical limitations which prevents them from actively participating in the activities:

"There are activities for the elderly, [and] many people join. I did not join [in] but [instead] stay[ed] home. During [the] Songkran festival, they came to take my name [as a participant]. At first, they offered 300 baht, and later they offered 200 baht more, 500 in total. But it is required to do something, so I did not go" (Female, 81 years old, diabetes and hypertension).

Policy Level: Social Interaction between Individuals and Government Policies

According to the multi-level of influence framework, this interaction is at the policy level, and involves interaction between the older adults and the government organisations. It may include community regulations in the form of social support for older adults, but the intensity of direct interaction is low. More often, they interact with the intermediaries at the organisational or community level, rather than through direct interaction. This level of interaction has a great influence on the health promotion of the older adults, such as the response to the rules, community regulations, and getting help and welfare from the Government, including rights to medical care in various forms. The older adults perceived the interaction at the policy level as follows:

"This community has it[s] own rules for selling food. For example, rice with braised pork leg is not allowed to sell because it has too much fat, [and is] not good for [our] health. The health volunteers will check what kind of food are sold in each restaurant" (Male, 67 years old, diabetes and hypertension).

"Sometimes we also have to make money for the community. We cannot wait for external agencies to give aids. We have a network that works on finding sponsors when we want to organise activities. Getting financial support is better than nothing" (Female, 68 years old, diabetes and hypertension).

Discussion

This study used an in-depth interview method to understand the social ecology of older adults living with NCDs, and specifically within three urban congested communities in Thailand. The perceptions of aging and illness were also explored. According to the study results, the social environment related to NCDs for older adults did not vary considerably across the three communities.

Within the context of this study, older adults had interactions with their social environment at different levels. Such interactions influenced the ways they perceived their aging status and illness, as well as their health practices. The nature of the interaction was a reciprocal exchange more than a unilateral exchange. Wherein, the more interaction, the more bonds would occur, thus creating more close connections and greater learning among one another. The social relationships between the individuals, and the ecology at each level can be presented in two different forms, namely the social network, and social support.

The social interactions between individuals and close relations was the interaction at the interpersonal level by referring to the relationship between the older adults and other people that were close to them, such as family members, peers, and neighbours. The interaction between the older adults and their family members was mostly in the form of social support, which the older adults received through psycho-social support, financial support, and physical assistance from them, particularly when the older adults had mobility limitations and illness. The interpersonal interaction also occurred in the developed social network with peers and neighbours, in which they share general and health-related information with one another.

The interactions at the organisational level (i.e., between the older adults and health services organisations) were mostly formal, as the older adults provided their personal health information and received health-related information, screening services, and medical care from health service facilities and healthcare workers (e.g., community nurses and public health volunteers). Older adults with NCDs had to rely on the medical care provided by

hospitals or public health centres, in order to monitor treatment and maintain adherence to NCDs medications. It was found that health services for those living in urban congested communities was quite accessible, as they were located close to the communities, and the medical expenses had been covered by the national universal coverage. Therefore, the participants perceived that the care they received and the relationship with healthcare workers was satisfactory, which would eventually lead to desirable health behaviours, particularly for controlling the NCDs.

The community level interaction occurred mostly through engagement in social activities organised by the community elderly club, and the local, sub-district level government or non-government agencies. Thailand's Government has been emphasising the importance of social activities for older people (Srianan & Meemon, 2017). As such, there have been various activities designed for the elderly, which have been implemented in every community. Such community level activities encourage broader opportunities to interact with more people who are not close friends or family members. This engagement claims to promote a better quality of life in psycho-social aspects (Nan Sook Park, 2009). It was noticed that the engagement in social activities varied across the older adults living in the same community. This was due to different personal interests, and mobility limitations, particularly for the adults in the older age demographics. Designing social activities for older people with different interests, and which are accessible for those with physical limitations, is considered a challenge for the communities.

The interaction at the policy level found in this was not direct but more likely an interaction between the older adults with an intermediary at the organisation or community level. For example, when older adults perceived that there was something in the community that was harmful to health (e.g., food, sanitation, physical structure), they would submit a request to the community leaders to address the issue. In this sense, it could be assumed that people who were living in urban congested communities had been empowered to participate in, and support policy decisions. This level of interaction had a great influence upon the health promotion of older adults, particularly due to the response to the regulation recommendations in the community. In terms of the national level policy, as mentioned above, the older adults received health insurance through the implementation of universal coverage, which determined their utilisation of medical care when it was needed.

Previous studies have indicated that the NCDs mortality rate is strongly associated with several social, environmental, economic, and behavioural factors (Zahra et al., 2015). This offers socio-ecological approaches to NCDs which are important, and the multi-level, which refers to contextual dynamics at usually nested levels of analysis beyond the individuals. This broadly defined environment offers socially and geographically meaningful boundaries upon which the implementation of the public health programs can be facilitated (Franco et al.,

2015; Boardman et al., 2013). The multi-dimensional environment included not only the chemical or polluted environment, but also the various domains of older adults' daily lives, such as social, economic, physical or built, institutional, and food environments (Zahra et al., 2015).

The application of a social ecology perspective to explain how individuals interact with the environment in relation to their health conditions, enables us to consider one's health that is beyond the individual level practice (Bronfenbenner, 1979; Stokol, 1996). This study's findings confirm the linkages between individuals and ecological systems, in which the relationship between older adults and social agents at different levels determines how they perceive themselves, their illness, and how they are related to others, specifically in terms of their health management. At the individual level, they believe that NCDs do not impede their living, and thus are manageable. At the interpersonal level, the older adults have social networks with their friends and neighbours, as the main source of social support. At the organisation level, they can readily access the health services. At the community level, it was found that communities had their own preventive measures, such as asking for the community food stalls not to sell high-fat or high-sugar food in the community areas, and promoting social activities for older adults. At the policy level, they received support from public funds, and they had an opportunity to voice their own needs for additional welfare. This study found that positive family and social relationships were mentioned frequently by older adults, as an essential aspect of healthy aging, and were essential to physical and psychological well-being (Andrew, 2017).

Although the findings appear to be at a preliminary stage, as it was conducted in only three communities, the characteristics of the study participants — who were older people living with NCDs — and the study context of urban congested communities, made this study unique in several senses. The participants, although they were in the older age demographics, were found not to stigmatise themselves as being incapable and dependent. This could be related to the urban livelihood that people had to earn for a living and had no retirement age, especially those facing economic hardship in congested communities. In addition, the limited space of congested communities could be an enabling condition that positions people in the same community to meet each other, allowing for more interactions and closer relationships. Moreover, accessible health services in Thailand, and vigorous policies on health promotion for the elderly, play an important role in overcoming unmet healthcare needs. The combination of these conditions creates a context that is different from our initial expectations, when selecting study sites and a population with vulnerabilities.

Conclusion

This study offers an understanding of how older adults living with NCDs are interrelated with their social environment, specifically in the context of an urban congested community. The

social ecology in this study includes the relationship between the older adults and their social environment that occurs on multiple levels, and which can be observed through the interactions with family members, peers, and neighbours; the interactions with healthcare providers; the interactions with community, and the interactions with policy. These interactions determine the older adults' perceptions towards aging and illness, as well as their health management.

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