

Self-Management of Older Thai People with Diabetes Mellitus Type 2

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This study explores illness perception and illness management of older people living with diabetes mellitus in a rural context. Fourteen older people diagnosed with diabetes mellitus and living in the northeastern part of Thailand were invited to participate and share their experiences through in-depth interviews, participants' observations and field notes also made during the field work. Interviews were recorded and transcribed. **Yoo-dee-mee-haeng: Healthy living** emerged from the data as the basic social psychological process of older persons living with diabetes mellitus type 2. This comprises of three categories: knowing diabetes mellitus, modifying ways of life and network for illness management which enable older people to manage to live with diabetes mellitus with the fewest diabetes symptoms and free from disease complications. This management is a consequence of the desire to live with chronic illness and have a maximum level of well-being, performing normal functions and living with a good quality of life. The findings from this study are significant for understanding older peoples' self-management. This understanding should support the appropriate healthcare focus on the needs and expectation of clients. As the need and expectation is met, this should encourage older people with diabetes mellitus to participate and cooperate in illness management.

Keywords: healthy living, self-management, diabetes mellitus, grounded theory

Worldwide the number of people with diabetes is increasing, with prevalence projections indicating that by 2030, the number of people with diabetes mellitus likely to be 180 million (World Health Organization [WHO], 2010). In Thailand, the pattern of chronic disease among Thai older people is quite similar to that in developed countries. According to the National surveys and community study which include the National Survey of the Welfare of the elderly in Thailand and Thailand Health Research Institute, National health foundation, diabetes is one of the most common important health problems among Thai older people (WHO, 2011). In 2008, mortality rate of people age over 60 years with diabetes mellitus was 73.3 per 100,000 population (Ministry of Public Health [MOPH], 2009).

Diabetes mellitus causes high numbers of people with chronic illness in the northeastern part of Thailand. The incidence and prevalence rate of diabetes mellitus gradually increased and people living in the northeastern region accounted for the highest mortality rate (19.2 per 100,000 in the population) (MOPH, 2009). The prevalence of diabetes mellitus in Kalasin province was 164.1 per 100,000 in the population and in Yangtalad district was 237.8 per 100,000 in the population (which was the highest incidence of diabetes mellitus in Kalasin province) (Kalasin Public Health Office, 2010).

Diabetes mellitus is a major health care burden as the disease causes a range of complications. Diabetes mellitus leads to other health problems such as chronic kidney disease, cardiovascular disease and stroke (WHO, 2010) causing chronic problems and early death. The complications of Type 2 diabetes result in loss of physical capacity and quality of life (Hernandez, Antone & Cornelli, 1999). This causes a burden on the national economic as the health care expenditure needed to care for people with diabetes and its complication is high. In 2008, the total cost of diabetes and its complications in Thailand was 418,696 USD (Chatterjee, Reiwpaiboon, Piyauthakit, Riewpaiboon, Boupaijit, et al., 2011). To reduce this burden, strategies to prevent diabetes complications need to be addressed. A numbers of

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studies have stated that the most important thing for diabetes care is to encourage participation and cooperation of people with diabetes, their family and community (Lu, Lin, Tzeng, Huang & Chang, 2006; Mullen & Kellen, 2006; Rusenzweig, 2010; Sturt, Whitlock & Hearnshaw, 2006).

Self-management is crucial to the life of a person with diabetes mellitus type 2 and is a significant factor to prevent development of diabetes' complications. Self-management is defined as "the individual's ability to manage the symptoms, treatment, physical and psychological consequences and lifestyle changes inherent in living with a chronic condition" (Newman, Steed & Mulligan, 2004). Diabetes self-management includes dietary and physical activity behavior, medication regimens, and self-monitoring of blood glucose levels (American Diabetes Association, 2007). It is evident that care focus only on clinic-based treatments leads to ineffective diabetes self-management and that community-based interventions lead to improved health behaviors and health outcomes (McNabb, Quinn, Kerver, Cook & Karrison, Yanek, Becker, Moy, Gittelsohn & Koffman, 2001).

The meaning of the illness needs to be addressed to help people with chronic illness develop and adhere to illness management. Giving meaning to an illness is an influencing factor of illness management, for example, a personal goal for blood glucose level may affect dietary control, this may lead to some diabetes patients who were not controlling dietary intake strictly to do so (Keeratiyutawong, Thampanichwat, Melkus, Khuwatsamrit & Youngpradith, 2003). People's perception about the disease and its effects on physical, psychological and social lead those living with diabetes mellitus to focus on the development of self-management to deal with the illness in a way which fits with their lifestyle and context. According to Hernandez, Antone and Cornelius (1999) indigenous people with diabetes prefer to share information and learn from someone with diabetes rather than believe the information or follow the advice of health professionals. This phenomenon is related to the difference of meaning of diabetes and its management between health professionals and lay persons. The important recommendation from this study is that understanding the point of view of people with diabetes is a significant part of providing health education which aims at support self-management. In Thailand, the cultural aspect is also a major factor to integrate to provide effective illness management in the community (Nakagasien, Nuntaboot & Sangchart, 2008).

Understanding how diabetes mellitus is explained to people and how they manage the illness is essential for nurses to develop proper nursing care to support and maintain continuing illness management. Health care services which are based on this understanding is likely to enhance more participation and cooperation of clients which ensures a better quality of life for older people living with diabetes mellitus. Because of the significance of understanding clients' perspectives, this study was conducted to explore the perception of older people living with diabetes mellitus illness and the management strategies used. Information obtained from the study can be a foundation to develop appropriate healthcare to fit with the context of rural people in the northeastern part of Thailand.

Research Objectives

This study aims to explore illness perception and illness management of older people living with diabetes mellitus.

Methodology

Research Design

This qualitative research employed aspects of grounded theory approaches to explore older people's perception about illness and their self-management techniques for live with diabetes mellitus in the northeastern part of Thailand.

Research Setting and Participants

This study was conducted in a community hospital in the northeastern part of Thailand. Following human ethics approval, older people with diabetes mellitus were invited to participate in this study by purposive sampling. The participants were 14 people who were followed up at the diabetic clinic. The inclusion criteria were: 1) diagnosed with diabetes mellitus, 2) able to communicate and understand the Thai language, and 3) willing to participate in this study.

Research Implementation

1. The research proposal was submitted to and approved by the Nursing Faculty, Mahasarakham University. Permission was obtained from the director of the community hospital. The researchers also met with older people with diabetes mellitus to explain the nature of the study and study procedures.

2. Data collection was by in-depth interviews and direct observations, and field notes which were made during home visits between July 2009 and February 2010. At the time of the interview, all participants readily agreed to audio recording of the interviews. All interviews were conducted using a semi structured interview technique.

Data Analysis

Interviews were transcribed and the transcripts were reviewed by the researchers. The transcripts were read line by line and transcribed into code. Data saturation, where themes occurred and recurred, was reached after fourteen people were interviewed. Themes generated by the analysis were checked and rechecked. The themes were inducted relevant to the participants' point of views. A summary of the emergent themes was taken to validation by the participants. This technique is accepted as a method of member checking (Mays & Pope, 1995).

Results

The basic social psychological process (BSPP) is a core category which emerges from grounded theory study (Glaser, 1978; Glaser, 1996). In this study healthy living is viewed as a progressive movement process involving three phases include, knowing diabetes, modifying way of life, and networking for illness management. Figure 1 illustrates the interactive dynamic processes of the three phases of BSPP theory

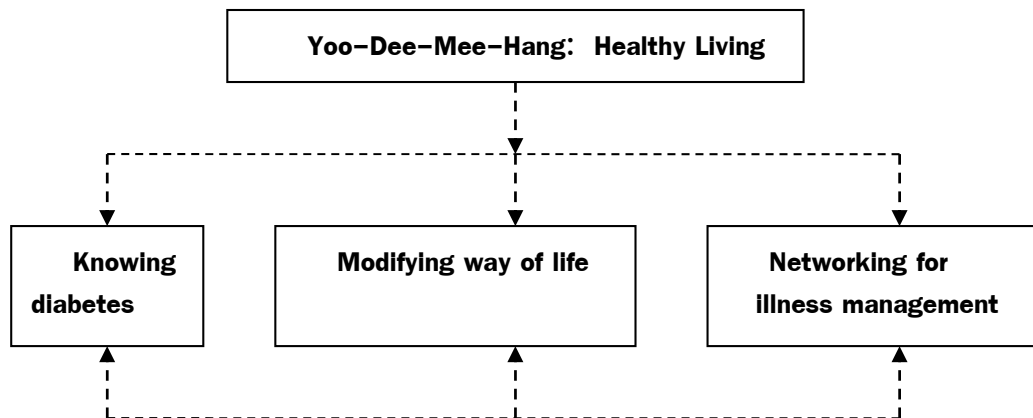


Figure 1. Basic Social Psychological Process and Core Categories

Healthy Living

In the Isan language (local language of people living in the northeastern part of Thailand), the words “yoo-dee-mee-haeng” means healthy living. Healthy living is the core variable that draws together the stages of the process reflected in the core categories and illuminates the strategies used by older people to manage living with diabetes mellitus. One participant clearly described healthy living is an important component of illness management. In this study a substantive theory reflects the views of older people living with diabetes mellitus type 2 about the meaning of the disease and illness management behaviors.

Knowing Diabetes Mellitus

The commencement of self-management to live with diabetes mellitus of all participants was at the time they realize that they have got the disease. Some participants sought help because of the occurrence of abnormal symptoms. The physical symptoms of diabetes are the emotional factors which made participants felt uncertainty and needed help. The concepts include *recognizing symptoms*, *ruksa-bor-souw (incurable disease)*, *bou-wan-paeng/bou-wan-haeng (wet/dry diabetes)*, and *consuming imbalance*.

Recognizing Symptoms

All of participants were alerted by symptoms and sought support from healthcare professionals. They observed symptoms and sought disease diagnosis and also support from healthcare providers to deal with their health problems.

I had frequent voiding and weakness of both legs. Ants came and gather around a spot of my urine. I wondered what was wrong. I went to see a doctor. The doctor said I had diabetes mellitus. Drugs were prescribed to control blood sugar.

Older people with diabetes mellitus gave a range of meanings to diabetes mellitus which focused on bio-medical, clinical characteristics, health behavior, consuming too many sweet things, and making a merit.

Ruksa- bor -souw (incurable disease)

The concept 'ruksa-bor-souw (incurable disease)' encompassed the time of diagnosis. Some participants recalled the events surrounding the time knowing that they had the diabetes and reported experiences of preparing to manage to deal with the illness.

I knew that diabetes mellitus is raksa- bor -souw (incurable). My friends said that people with diabetes must take medication and visit the doctor regularly. I made-up my mind to accept this.

Diabetes is viewed as an incurable disease which leads the participants to develop self-management to live with diabetes. The participants were also concerned about managing the disease so that they would avoid complications. As they perceived that they could live longer with appropriate self-management.

Bou-wan-paeng/bou-wan-haeng (wet/dry diabetes)

The difference in diabetes symptoms is used by the participants to identify the meaning diabetes mellitus. By the participants' observations, they relate symptoms and patients characteristics and use this description to define diabetes mellitus.

I think that there are two types of Bou-wan (diabetes). Bou- wan- haeng (dry diabetes) means diabetes which occurs in thin people and they do not have diabetes wounds. I contrast that with, bou-wan-paeng (wet diabetes) which occur in fat people and usually results in diabetes wounds.

Signs of the disease are significant for people to knowing about illness. In this study, the participants based the diabetes meaning mainly on physical characteristics of persons with diabetes.

Consuming Imbalance

The participants tried to figure out what could be the cause of diabetes and indicated that food consumption behavior relate to diabetes mellitus. Some participants indicated:

I wonder why currently people in rural areas get diabetes the same as people who live in urban areas.

I think may be eating oily food. In the past the villagers ate a lot of vegetables but now are changing to eat a lot of oily food. By my experience, when I was young, I went to work in Bangkok. At that time I ate a lot of oily foods. I think that this eating behavior lead me to get diabetes.

Participants learned from their direct experience that food consumption behaviors closely relate to their eating behavior. This would be influenced by existing information about diabetes that a major cause of diabetes is over intake of high energy foods.

Modifying Way of Life

As the participants set their goal to get yoo-dee-mee-haeng (healthy living), the participants used a range of strategies to foster their life to achieve a better quality of life. The concepts around this intention include *balancing food consumption, focusing on exercise,*

observing the body, controlling taking medication, preventing complications, and making merit.

Balancing Food Consumption

Participants' stories revealed that they manage and adjust food intake to normalize blood sugar. As the participants recognized their life would be harmed by low or high blood sugar levels. A participant expressed an opinion about this harm.

I try to eat enough to prevent low blood sugar as well as not too much to prevent high blood sugar. Both high and low blood sugar can lead to Koob (unconscious caused by low or high blood sugar). Koob is very dangerous and can lead to death.

Participants recognized the harm of low and high blood sugar which can lead them to face the life threatening event which is named koob. This facilitates the willingness of the participants to avoid risk to their life; which is a significance driving force for the participants to adjust their eating behavior to maintain normal blood sugar as much as possible.

Focusing on Exercise

Participants integrate exercise to be a part of daily living. They viewed physical exercise as a tool to control blood sugar. Some participants do exercise alongside with their work.

Exercise, I do it a lot. I did regular exercise every day. I walked to rice field to pull out grass from the rice field. Sometimes, I went to digging to get jee-poom (small insect) all day.

The participants based their view of the meaning of exercise on physical activities and view continuous movement of the body refers as exercise. They modified and integrate exercise into their daily living.

Observing the Body

Participants learned by the direct experiences and by the observing, some participants can relate symptoms to blood sugar level. One of the participants clearly expressed this point of view.

I noticed the symptoms and found that from eye vision, I can tell the blood sugar level. In the case of high blood sugar I couldn't see clearly (ta-mooe) all day. In contrast, if the blood sugar is low I didn't see for just a moment and then it disappeared. I stop taking medication to prevent complications of low blood level. I also ate some more fruit such as orange, papaya and pineapple.

Experiencing abnormal blood sugar is a source of learning to live with this disease without taking risk. They used the symptom to monitor and adjust their blood sugar. This attempt is to live with the disease from a fear for the risk to their life.

Controlling Taking Medication

Taking medication as prescribed was view by the participants as a key to living with normal blood sugar level. The reasons for maintaining the medication regimen was also to prevent fatal complications.

I take diabetes drug regularly as prescribed because I don't want to treat with injection drug. Taking medication is much easier than have to inject a drug every day.

I inject insulin 10 units in the morning and 6 units in the evening. I am always concern to get the same dose. I am worried that if I get more than the doctor order, I will go into shock which will me lead to die.

Participants make an effort to avoid too much burden of living with diabetes mellitus by restricting medication taking. Participants view injections as making living with diabetes more difficult than taking medication orally. Fear of dying from dose errors also leads the participants to comply with the drug prescription.

Preventing Complications

The participants managed to avoid disease complications. They followed the advice from health professionals and also developed means to protect themselves while doing daily activities and working.

I wore the boots when I going to rice field regularly and never go to the rice field where I could be poisoned by weed killers or pesticides. Contact with these poisons can lead to kha-pioy (dirty wound at legs). I also clean my feet and legs after I went to the rice field to prevent infectious wounds.

Living with diabetes without complications is the important goal of older people with diabetes. Participants viewed diabetes with complications which can lower the level of yoo-dee-mee-haeng (healthy living). Living without diabetes complications enables them to be normal and healthy.

Making Merit

The participants view making merit as one of significant mean to help them achieve Yoo-dee-mee-hang (healthy living). A range of means of making merit includes meditation, praying, donating and letting it go. One participant stated that

I do meditation before going to bed. This make me happy and I don't think too much and it helps me to live without took (problems). I am sa-bay-jai (mellow mind) after I do meditation.

Spiritual well-being is viewed as an essential part of yoo-dee-mee-haeng (healthy living) among older persons with diabetes. They believe a strong mind can help them to live with the disease with less distress.

Networking for Illness Management

Social support is necessary for older people who living with diabetes mellitus in a rural context with limited support from health professionals. All participants expressed that they needed support to live more comfortable with the disease. The concepts include *Learning from neighbors, Support from lay healthcare providers, Support from family, and support from community, Support from health professionals,*

Learning from Lay People

Lay people were viewed by the participants as one of key people who they can ask for information for developing illness management. Some participants also share their illness management experiences to others.

The neighbors came to visit me at home when I was sick. They told me that you do not need to be worry about the disease. They also shared their illness experiences which can help me to develop means to deal with my health problems.

Direct experience is provided as significance information for the participants used to decide and choose means to live with diabetes.

Support from Family

Mostly, older people with diabetes mellitus in this study were retired from working as a consequence of the disease. Some of them had to live on their own. Financial security is needed; being support by family members is necessary for older living with diabetes mellitus. The support includes emotional supports and financial support.

My children gave me some money and I use it for going to the hospital. At the time that I was not well, they helped with everything. They cooked for me and cleaned my body.

In Thai culture, it is expected that children will support their parents when they get old, in particular among older people with chronic illness. Moreover, normally parents gave their children, their inheritance and have limit resources and rely on their children.

Support from Lay Healthcare Providers

Ooa-soa-moa (village health volunteers) were one of the reliable supports for participants as they live in a rural community. They were visited by the healthcare providers when they were normal and when they were getting worse.

Ooa-soa-moa (village healthcare providers) visited and advise me to avoid taking too many sweet things, oily food, or spicy food, and to do regular exercise, avoid buying drugs without the doctors order, and to take medication only by the doctors order.

Living a long distance from the health care setting means healthcare support from local healthcare providers is needed. In this study some participants relied on this support to manage to live with the illness to attain and maintain yoo-dee-mee-haeng (healthy living).

Support from Community

Community support was one of significant networks to develop proper illness management and was an opinion for the participants. The support of the community ranged from emotional support to tangible support.

People in the village went to visit me at the hospital when I was admitted. They also ask about my health. They also gave some money to someone who gets ill and does not have any money.

The community is an extended healthcare resource that can facilitate self-management for rural people with diabetes. People in the community share information and resources to manage chronic illness to fill the gap of shortage of health professionals in their community.

Support from Health Professionals

Health professionals were viewed as necessary supports for living with diabetes mellitus. The participants reflected their view that health professionals helped them to manage the illness.

Nurses told me how to eat properly and how to do exercise. They also advised me to take exercise regularly...they told me everything for look after myself to prevent heart disease, high blood pressure and kidney disease. The doctor gave advice about taking medication ...sometime, they went to our village to visit diabetes patients.

Health professionals are key people who provide essential information which enables the participants to develop appropriate self-management. The participants view health professionals as a reliable source of valid health information and support.

Discussions

This exploration of older peoples' self-management has identified illness perception and illness management. In order to live with diabetes mellitus, older people modified illness management which was provided by health professionals to fit with their lifestyle in a rural context. Participants in this study viewed diabetes as an incurable disease and this finding concurs with the study of cultural care for rural Thai people in the northeastern part of Thailand (Nakagasien, et al., 2008). This meaning enables them to develop self-management. The participants developed self-management based on the meaning of diabetes, adjusted and modified their way living by integrating illness management as one part of their lives to achieve healthy living with chronic conditions. This concurs with the result of a research report of self-care process in Thai people with hypertension that illness perception, symptoms experiences, and evaluating outcomes of self-care influenced self-care management (Panpakdee, Hanucharunkul, Sritanyarat, Kompayak & Tanomsup, 2003).

Self-management is a necessary strategy to attain a maximum level of well-being for people living with chronic illness. As the aim of participants in this study was healthy living and viewing diabetes as an incurable disease lead the older people to seek means to manage to live with the chronic conditions. According to self-care processes of people with HIV and AIDS, the focus of self-care of people with AIDS was to live as normally as possible (Siriwatanamethanon, Boddy, Dignam & Nuntaboot, 2009). In order to gain healthy living

older people with diabetes focused self-management on physical, psychological and spiritual dimensions. Following the treatment regimen was essential to maintaining physical health as a controlled blood sugar level is the central part of diabetes management. Symptoms are a major concern of people and a focus of management of people living with chronic illness (Spirig, Moody, Bategay & De Geest, 2005). In this study symptoms are at the core of self-management. The participants also modified eating behavior and increase physical activity to control blood sugar level and monitoring their management by observing symptoms related to low and high blood sugar. Which lead to effective of diabetes management (Charuruks, Sarasiengsunk, Suwanwalaikorn, Pothisiri & Wongboonsin, 2006).

Spiritual strength is a significant aspect of self-management of people with chronic illness as they point out that the mind and spirit is a core of the whole life. According to Chinouya and O'Keefe (2005), inner strength ensuring from religious belief helped Africans living with HIV to become better at coping, which is necessary to develop self-management. It is believed that people with strong spiritual beliefs are likely to have less stress which can predict better self-management. According to Soo and Lam (2009) stress is an indirect disruption of self-management activities.

Social support was viewed by the participants as an important factor to maintain illness management to meet a better health outcome. According to McEwen, Pasvogel, Gallegos, and Barrera (2010) stated that social support was powerful to facilitate people with diabetes type 2 to increase self-management activities and diabetes knowledge and also improve psychological health of people with diabetes. Lay people were one form of valuable support for people with diabetes to develop means to deal with the problems of living with chronic condition. Sharing information among people with diabetes based on direct experiences was viewed by diabetes suffers as reliable information to guide self-management (Hernandez et al., 1999). Participants in this study indicated that the community can support their self-management which concurs with the community-based care that improved quality of care and health status of those living with diabetes type 2 (Samuel-Hodge, Keyserling, Park, Johnston, Gizlice et al., 2009).

Recommendations

The grounded theory used in this study was employed to describe how older Thai people in rural areas with diabetes type 2 gave the meaning to the disease and how they manage to live with diabetes mellitus. The findings reveal that the basic tenet that underpins successful self-management is the basic social psychological process named yoo-dee-mee-haeng: healthy living enabling older people with diabetes type 2 to develop and modify their ways of life to live successfully with diabetes, with a maximum quality of life.

According to the results from this study, health professionals need to concern with how people with diabetes view diabetes and how they manage to live with diabetes. It is evident that participants were concerned with hypoglycemic symptoms because some of the participants experience unconsciousness. Some of them indicate that hyperglycemia is rarely a risk to their life. To mainly focus on hypoglycemia may lead people with diabetes to get a high risk of complications. Therefore, health professionals should provide and raise awareness of focusing on hyperglycemic control. Information about diabetes complications and the effects of complications and means to control hyperglycemic should be made available and useable for older persons with diabetes living in rural areas.

Nursing curriculums also need to be developed to preparing nursing students to develop essential skills to help people with chronic illness, family and community to develop and maintain self- management. Nursing students also need to be prepared to ground their practice with cultural sensitivity which is crucial to supporting people to gain and maintain their illness management skills.

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