# Benefits of a Self-Help Group for Rural Thai Elders with Type-2 Diabetes

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**Abstract:** The objectives of this participatory action research, with rural Thai elders with type-2 diabetes, were to: (a) explore perspectives of the elders with respect to how taking part in a self-help group on diabetes affected their self-care ability and quality of life; and, (b) compare self-efficacy and quality of life scores, and blood glucose levels, of the elders, before and after participation in a self-help group on diabetes. The research was undertaken in light of the fact that: Thailand's 2007-2011 national health plan promotes identification of needs for, and development of, community self-help groups for rural elders; and, rural Thai elders, with type-2 diabetes, face multiple self-care barriers and complications, which put them at risk for poor health and decreased quality of life.

Critical Social Theory was used as the guiding framework for the study. Data were gathered through use of a self-help group and questionnaires. Twenty participants were selected, from a database of elders with type-2 diabetes, who were registered at the community health care center of a rural village, in central Thailand. Participants took part in the self-help group, every other week, for 6 months. Qualitative data, from the self-help group meetings and observations, were analyzed via content analysis. Quantitative data, including fasting blood sugar levels and data from questionnaires assessing the elders' self-efficacy and quality of life, obtained prior to and after completion of the self-help group, were analyzed through use of paired-samples t-test.

Upon completion of the self-help group, four themes emerged from the qualitative data. The themes included: obtained culturally-sensitive knowledge; perceived social support; perceived sense of empowerment; and, perceived self-efficacy. The results revealed positive self-efficacy enabled participants to improve their self-care activities. In addition, the quantitative data suggested participants, after completion of the self-help group, had higher self-efficacy and quality of life scores, as well as lower fasting blood sugar levels. Thus, the use of a community-based self-help group appeared to be an effective health promotion strategy for rural Thai elders with type-2 diabetes.

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**Key words:** Type-2 Diabetes; Quality of life; Self-efficacy; Self-help group; Blood glucose levels.

## Introduction

The increasing number of individuals with type 2 diabetes (T2D) is a global public health concern. It has been predicted that over 5 million Thais will have type-2 diabetes by 2030; twice the number reported in 2000.[1] Among those diabetics, 99% will

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have type-2, with the majority being over 65 years of age.[2] Throughout Thailand, T2D has been found to: be more prevalent among women than men; have a greater prevalence in rural areas;[3] and, be one of the top three causes of early mortality among elders.[4] Complications Thai elders are known to experience, secondary toT2D, include negative impacts on their: physical and psychological health;[5,6] economic status;[7] social connectedness;[8] and, quality of life (QOL).[9] Thus, it appears rural Thais elders with T2D need more effective means of health management.

Although prior studies have revealed self-care is the most effective means of managing the health of persons with T2D, [11] rural Thai elders with T2D have been unable to fully engage in self-care because they often have: a low level of education; limited financial resources; lack of family support; and limited access to healthcare services.[12,13] Also, positive outcomes, in terms of self-care and quality of life, have been found among diabetics involved in self-help groups.[14,15,16] Therefore, utilizing Critical Social Theory (CST)[17] and participatory action research (PAR),[18] implementation of a self-help group, for 20 rural Thai elders with T2D, was undertaken.

## Review of Literature

The prevalence of T2D is increasing throughout the world.[1] In addition, there appears to be a greater incidence of T2D among older persons in rural areas.[2,3] Medically, T2D has been recognized as the leading cause of blindness, kidney failure, heart disease, lower-limb amputations and erectile dysfunction.[5] In addition, since individuals with T2D often experience severe complications when their diabetes is uncontrolled, they often experience depression.[6] Management and hospitalization, required to treat complications of T2D, also may cost two to four times more than does medical care for non-diabetics.[7] In addition, persons with T2D often experience a decline in functional ability, secondary to blindness or an amputation, which may alter their body-image and impact their social life, relationships and quality of life.[8,9]

Self-care requires those with T2D to maintain their weight, eat a diabetic diet, exercise, monitor their blood glucose, be conscious of foot care and obtain medical care as needed. Thus, it is not surprising self-care has the capacity to foster health and well-being, and be a key component in the management of T2D.[6,10,13]

However, rural Thai elders, with T2D, face numerous barriers that can influence engagement in self-care.[12,13] They are known to experience difficulty accessing health information due to having a low level of education or being illiterate.[19] In addition, over 90% of such individuals live below the poverty line, with insufficient funds to purchase healthy foods, transportation to a health center and/or necessities for daily living.[20] With rural Thailand changing from an agrarian to an industrial environment, rural elders' adult children often decrease their support of their parents while seeking work outside their ancestral homes.[21] Furthermore, recent evaluations of the healthcare system has revealed a chronic undersupply of needed healthcare providers and services in rural Thailand.[22] Thus, there appears to be an ever increasing need for mechanisms and processes to help rural Thai elders effectively cope with and/or overcome conditions that pose barriers to self-care.

Disadvantageous circumstances (i.e. social isolation and poverty) have been theorized as constraining one's ability to take action to better one's life.[23] However, Critical Social Theory (CST) seems to support drawing attention to, and helping, those living in disadvantageous circumstances.[17] In addition, CST seems to encourage emancipation from one's current circumstances, so as to help him/her gain control of life in order to achieve necessary change.[18]

Participatory action research (PAR), a research method wherein the investigator and participants collaborate, espouses the value of emancipation and empowerment to help identify and explore constraints affecting participants' lives, as well as to brainstorm about ways to overcome such barriers.[18] The key features of PAR are to: plan for change; initiate action for change; observe processes and consequences of change; reflect on the processes and consequences; revise the plan; and, continue in the cycle.[18]

Since the overall purpose of self-help groups is to afford mutual assistance in accomplishing set goals,[24] such groups have been considered forms of PAR that can help disadvantaged individuals learn ways to overcome their circumstances and improve their lives.[14] Evidence suggests self-help groups empower older people with diabetes to better manage their disease through mutual sharing of illness-related information and experiences.[25] Similarly, the emotional support generated, within self-help groups, has been found to reduce stress, anxiety, depression and feelings of isolation,[16] as well as increase one's perceived confidence or efficacy related to undertaking self-care activities.[26] In addition, not only has self-efficacy been found to predict individuals' adherence to and capacity for self-care, positive association has been noted between self-efficacy and self-care ability of persons with T2D.[10, 27]

The performance of diabetic self-care is complex and requires one to have the capacity to monitor, plan and carry out diabetic-related activities of daily living (i.e. exercise, diet, medication management and blood glucose monitoring)[10] Previous studies, related to self-help groups for diabetics, primarily have used experimental designs with researcher-determined goals and activities within hospital settings.[15, 28, 29] Such approaches have been criticized because they lack cultural accommodations and life conditions that may inhibit continuance of self-care over time.[30] However, collaboration between an investigator and participants, within a community setting, using a PAR-based self-help group process, may enhance the self-care abilities and QOL of rural Thai elders with T2D.

The promotion of self-care management and QOL among Thai elders is important in context of Thailand's 10th National Health Development Plan.[31] The national health plan's goals focus on supporting communities in development of healthcare services (i.e. self-help groups) that enhance elders' social participation.[14, 31]

Therefore, the overall aim of this study was to gain a better understanding of the process and perceived benefits for rural Thai elders, with T2D, participating in a self-help group on diabetes. The objectives of this PAR were to: (a) explore the elders' perspectives with respect to how taking part in a self-help group on diabetes affected their self-care ability and QOL; and, (b) compare the elders' self-efficacy and QOL scores, and blood glucose levels, before and after participation in a self-help group on diabetes.

## Method

***Design:*** This participatory action research (PAR) involved the use of both qualitative and quantitative methods. Qualitative data were collected through self-help group discussions and observations, while quantitative data were obtained, at two points in time, via fasting blood sugar (FBS) levels, and questionnaires regarding self-efficacy and QOL.

***Ethical Considerations:*** Ethical approval was attained from the Mahidol University Institutional Review Board (MU-IRB) on human rights, prior to commencing the study. In addition, the leaders of the community healthcare center, where data were gathered, also granted approval for the primary investigator (PI) to access potential participants.

Potential participants were informed about: the study's purpose; what study participation would entail; voluntary participation; confidentiality and anonymity issues; the right to withdraw at any time without repercussions; the tape-recording of all self-help group sessions; and, participation not affecting their quality of, or access to, diabetic care or any other services at the community healthcare center. Informed consent was obtained from each participant prior to his/her participation in the study. Through informed consent, the participants gave the PI permission to obtain their most recent FBS results from their medical records at the community healthcare center.

***Setting:*** The study took place in a rural village, in central Thailand, located five kilometers (3 miles) from the closest community hospital and a community healthcare center that provided services to diabetics. Elders of the community generally were alone during the day, while their adult children worked outside the home. Public transportation services were lacking, in the village, so residents relied on personal motorbikes/cars or friends/neighbors for transportation.

***Participants:*** Potential participants consisted of Thais, registered at the community health care center, who were: diagnosed with controllable or uncontrollable T2D; 60 years of age or older; and, able to attend at least 10 of 12 self-help group sessions. Elders who appeared to have cognitive impairments were excluded from the study. Potential participants were identified and asked to participate in the study, by a registered nurse, at the community health care center, who was aware of the study's purpose and inclusion criteria. The initial 20 potential participants, who volunteered and met the inclusion criteria, completed the study.

The 20 participants primarily: were female (n = 17; 85%); were between 60 and 75 years of age (mean = 66.5 years); had an educational level of primary school (n = 19; 95%); engaged in household work (n = 11; 55%); had a monthly income of 2000 to 4000 Baht [$60 to $120 USD] (n = 10; 50%); lived with two to three others in the household (n = 9; 45%); received most healthcare from the community healthcare center (n = 19; 95%); relied on others for transportation (n = 15; 75%); and, were covered by public health insurance (n = 15; 75%). The fact the majority of participants were female was not surprising given the 2000 population survey found the prevalence of T2-D to be highest among rural women.[3]

***Participatory Action Research Process:*** The PAR process, in this study, involved 5-interactive stages: a) planning; b) action; c) observation; d) reflection; and, e) revising the plan.[14] The PI and participants worked collaboratively, throughout each of these stages.

Planning: During this stage, the PI worked to build relationships with: participants; participants' family members; the abbot of a local temple; the headmaster of a local school; the sub-district administrator; village volunteers; and, nurses at the community healthcare center. Relationship building was implemented via visits with each individual in his/her home or at a public place (i.e. healthcare center, sub-district office, temple, school, weekend market, or local grocery store). In addition, the PI joined participants in community activities (i.e. religious events and/or funeral ceremonies). Involving all of these individuals and attending community activities was necessary in order for the PI to pay cultural respect, build trusting relationships within the community and alert members of the community about the formation of the self-help group. Building respect and trusting relationships, and informing significant community members about the self-help group, increased the likelihood of the PI being able to access necessary information, conduct the self-help group and possibly obtain community services for the group.

The planning stage also involved the PI working with the community health center nurses to coordinate dates, times and location, within the center, for the self-help group sessions. The dates and times for the sessions were planned on a two-week basis, with participant agreement. Each session was anticipated to take approximately two hours.

In addition to establishing relationships within the community and arranging the logistics for the self-help sessions, the planning stage involved the creation of guidelines, by the PI, for use during the PAR self-help group sessions. The initial guidelines addressed evaluation of participants' perceptions about: self-care abilities and quality of life; disadvantageous conditions that hindered participants' ability to manage their diabetes; and, things participants wanted to change in order to improve their individual disadvantageous conditions. Content of the guidelines were assessed for appropriateness by five nurse experts in diabetes, health promotion, community nursing and gerontological nursing, as well as the MU-IRB who looked for potentially sensitive topics that may cause undue stress or embarrassment for the participants. No content was removed. Rather, content was added regarding: a) participants' perceptions about things they could do, as individuals, to improve their situations; and, b) things the group could do to improve disadvantageous situations.

Action: Throughout the PAR process, the action stage was implemented with participants attending 10 to 12 self-help group sessions. The overall foci of the self-help group sessions were to: (a) assess participants' abilities to manage their diabetes; (b) ascertain difficulties participants encountered in regards to self-care of their diabetes; and, (c) determine what participants believed would improve their health-care situations. Group goals were set during the first session and refined, as needed, at the beginning of each subsequent session. In addition, a group leader was selected at each session. To enhance ongoing participation, group sessions, lasting over a 6-month timeframe, met every other week on the same day, except holidays, at the same time. A six month timeframe was selected because it was believed to be a sufficient period of time for noting change in participants' lifestyles.[27] Group sessions were held in the community health center and lasted approximately two hours. Group activities included participants sharing their experiences, information and problem-solving techniques related to diabetes management (i.e. dietary control, medication adherence, foot care and exercise). Problem-solving related to diabetes management was noted to be the most meaningful activity, for the participants, during the group sessions. Throughout the 12 group sessions, the PI served as a group member, consultant and facilitator.

Observation: Like the action stage, the observation stage was implemented throughout the PAR process. The PI participated as a group member during each group session, while simultaneously listening to the group discussions and observing participants' behavior. The PI also wrote field notes and memos so as to be able to: retain the participants' actual comments; capture the group process; and, note how group members worked together. In addition, the PI tape-recorded the group sessions for further qualitative data analysis.

Reflection: This stage involved examination of how the self-help group sessions were benefiting the participants with respect to their diabetes self-care abilities and QOL. Reflection was conducted at the end of every self-help group session. The participants discussed: how the sessions were conducted; what they had learned; changes they would make in regards to management of their diabetes; and, their perceptions about their QOL. As part of the stage of reflection, the PI assessed their diabetes self-care ability by examining each participant's monthly FBS level, obtained by the community health center nurses. The FBS levels were thought to reflect, in part, the participants' ability to self-manage their T2D.

Revising: This stage also occurred throughout the PAR process. At the end of each group session, participants discussed the benefits they gained from the session. They also evaluated whether the goals of each session were achieved. In addition, the participants indicated whether the group structure and process needed to be revised. Revisions in the group structure and process were discussed within the session until all participants were in agreement about what should be

done. This stage was important in moving the group activities forward in a positive and productive manner.

***Measurements:*** In addition to the 12 self-help group sessions being used to generate qualitative data, quantitative data were collected through use of four instruments. These included: a Demographic Data Questionnaire (DDQ); the World Health Organization Quality of Life-BREF-THAI (WHOQOL-BREF-THAI); [32] the Diabetes Self-efficacy Scale (DSES),[27] and, FBS levels.

The PI-developed *Demographic Data Questionnaire* (DDQ) was used to determine each participant's: gender; age; educational level; type of occupation; monthly household income; number of household residents; healthcare facility used; mode of transportation; and, type of health care insurance.

The *World Health Organization Quality of Life-BREF-THAI (WHOQOL-BREF-THAI)*, [32] was used to measure, over the past two weeks, the participants' perceptions of their health and QOL. The WHOQOL-BREF-THAI, from the World Health Organization Quality of Life-BREF (WHOQOL-BREF),[33] was translated into Thai, by the Thai Ministry of Public Health.[32] The WHOQOL-BREF-THAI contained 26 items, two of which measured global health and QOL. The remaining 24 items fell under 4 domains: physical health (n = 7); psychological health (n = 6); social relationships (n = 3); and, environment (n = 8).[32] Items from the physical domain included: activities of daily living (ADL); sleep and rest; and, work capacity. Items from the psychological domain included: physical image; negative and positive feelings; and, memory. Items in the social domain pertained to: personal relationships; social support; and, sexual activity. Items in the environmental domain focused on: financial resources; health and social care in terms of accessibility and quality; and, physical environment. Examples of questions from two of the domains (psychological and social) included, respectively: "How satisfied are you with yourself?" and "How satisfied are you with the support you get from friends?" All questions were measured on a 5-point rating scale ranging from 1 = "not at all" to 5 = "an extreme amount." A total score was determined by summing scores across all items. Thus, scores on the WHOQOL-BREF-THAI could range from 26 to 130. Interpretations of the total score provided a measure of: low QOL (26 to 60); moderate QOL (61 to 95); and, high QOL (96 to 130).[32] The content validity of the WHOQOL-BREF-THAI previously was determined by education experts.[32] The instrument's internal consistency reliability, in this study, was found to be 0.89.

The *Diabetes Self-efficacy Scale-THAI (DSES-THAI)* was used to measure participants' confidence in their ability to perform self-care activities. The PI, in this study, translated the DSES-THAI into Thai from the Diabetes Self-efficacy Scale (DSES).[27] The Thai version was then back-translated into English following Brislin's model of translation.[34] The back-translated version was compared to the original English version for linguistic congruence and cultural relevancy. The self-care activities were captured by 18 items housed within 5 domains: following a diabetic diet; self-treatment; diabetic routines; certainty about self-care; and, ability to exercise. An item from the diabetic diet domain was, "I can stay on my diabetic diet when I eat in familiar places away from home, such as a friend's house." An item from the self-treatment domain was, "I can figure out when to call my doctor about problems with my feet." Each item was measured on a 6-point rating scale ranging from 1 = "strongly disagree" to 6 = "strongly agree."[27] A total score, which could range from 18 to 108, was determined by summing response scores across all items. Interpretations of the total score provided a determination of: low self-efficacy (18 to 48); moderate self-efficacy (49 to 79); and, high self-efficacy (80 to 108).[27] Content validity of the DSES-THAI was assessed, prior to use in the study, by five experts in diabetes, gerontology and community health nursing. The experts assessed the average

content validity index (CVI) to be 0.96. The internal consistency reliability of the instrument, in this study, was found to be 0.91.

*Fasting blood sugar (FBS)* was used to assess the level of control of each participant's diabetes. Diabetes is diagnosed when blood glucose is above normal (i.e. the $HbA_{1C}$ >7%, a FBS >126 mg/dl or a non-FBS>200 mg/dl).[35] The $HbA_{1C}$ (glycosylated hemoglobin) and FBS are measured after a minimum of six to eight hours of fasting. Venous blood is used to determine the $HbA_{1C}$, while capillary blood is used to assess the FBS. One's FBS levels are known to potential vary, depending upon current food consumption.[2] Therefore, assessment of a person's $HbA_{1C}$ is considered more accurate because the number of red blood cells with attached blood glucose, brought on by food consumption over the last 8 weeks, are measured.[2] However, the community health center, used in this study, performed FBSs instead of $HbA_{1C}$s because a person's FBS was less expensive to measure than his/her $HbA_{1C.}$

***Procedure***: One month prior to the start of the PAR process, each participant was administered the: *DDQ; WHOQOL-BREF-THAI;* and, *DSES-THAI.* The questionnaires were administered, individually, to each participant in the diabetic clinic of the community health center (CHC). During the 6-month PAR process, each participant's FBS level was assessed, during his/her monthly healthcare appointment, by the CHC nurses. The PI retrieved each participant's *FBS* values from the respective health records, prior to each self-help group session. During the last self-help group session, each participant again was administered the *WHOQOL-BREF-THAI* and *DSES-THAI.*

***Data analysis:*** Content analysis [36] was used to assess transcripts of the tape-recorded self-help group sessions, field notes and memos. The content of these materials were coded, word-by-word, in terms of their meaning. The codes then were compared and sorted, according to their differences and similarities, into sub-categories. Similar sub-categories then were sorted into categories. Finally, tentative categories were formulated into key themes.[36]

Descriptive statistics were used to assess the participants' demographic characteristics and calculate their scores on the *WHOQOL-BREF-THAI* and *DSES-THAI.* A paired-samples t-test (the assumption of normality was tested to be reasonable before analysis) was used to compare, before and after participation in the self-help group, the participants' self-efficacy and QOL scores, and FBS values.

***Trustworthiness:*** The research process was audited, to ensure it was logical, perceptible and clear. During content analysis, 3 experts in qualitative research were asked to review the proposed and actual data collection process.[37] As a form of *peer debriefing*,[38] these experts were asked to provide feedback regarding the categories, subcategories and themes derived from the transcripts, field notes and memos. In doing so, agreement was sought regarding the substantive meaning of the three steps in the content analysis.[39] *Member checking* consisted of seeking feedback from the participants to better interpret the intended substantive meaning of the transcripts.[38] The PI also used *data source triangulation,* by gathering information from multiple data sources (e.g. discussion and observational data from the self-help group sessions, and FBS values). The PI used multiple sources for *method triangulation,* to address information (i.e., group discussion, observations, survey and fasting blood sugar levels). This study also fulfilled *investigator triangulation,* by using more than one person to collect, analyze and interpret the data.[37]

## Results

***Qualitative findings:*** All participants expressed satisfaction with participating in the self-help group. During the group's activities, feelings, experiences and recommendations, related to managing diabetes, were noted. As a result of the qualitative analysis of

data obtained from the self-help group session, four themes emerged: obtained culturally-sensitive knowledge; perceived social support; perceived sense of empowerment; and, perceived self-efficacy.

Obtained culturally-sensitive knowledge: The culturally-sensitive knowledge gained from shared experiences, among participants, appeared to enhance acceptance of diabetes and understanding of the need for self-care diabetes management. Barriers noted by participants included: having limited education; being impoverished; having lack of satisfaction with QOL; needing effective and accessible health care services; not having assistance with day-to-day management of diabetes; not having transportation to healthcare facilities; having lack of support from adult children; and, feeling lonely.

Most participants expressed knowing more about the causes of T2D, after participating in the self-help group sessions, than before taking part in the group sessions. Explanations provided by members of the group, with respect to managing diabetes, resonated well and made sense to others. Peer explanations were easy to grasp and were important given the group's limited educational background. One participant commented:

> *I received helpful knowledge and information from the group. I only finished fourth grade. I read only simple words. I don't know what caused my diabetes. Right now, I know when we grow old your pancreas also gets older and can't work well. It has a hard time dealing with the sugar we eat. It's pretty good to sit and listen to friend's personal stories related to diabetes management. I can apply this knowledge to better control my blood sugar level.*

The knowledge and information gained from taking part in the self-help group appeared to affect the participants' QOL. Participants' success in controlling their blood sugar levels was attributed to following other members' recommendations. For example, positions for exercising, created by group members, were thought to be suitable and appropriate for enhancing further exercise. After exercising, some participants reported sleeping better. One self-help group member remarked:

> *Exercising with the group has made me stronger than in the past. As you know, I originally tired after walking 10 minutes. Right now, I can exercise half an hour without taking a break. I think moving one's arms, legs and waist is good for elders. It's easier to use an elastic belt as an equipment aide. After exercising, I feel invigorated and get a good night's sleep.*

Perceived social support: Social support, gained from mutual group assistance, appeared to foster the participants' self-confidence and willpower to manage their diabetes. Some participants thought having a group of friends was simply a good thing because it fostered a sense of belonging, as well as was motivating. As a result of the self-help group sessions, participants no longer felt alone in their struggle to manage their diabetes. This was reflected in one participant's comments:

> *I'm not the only one with diabetes. I have friends with diabetes. It's our group and we share willpower with one another. I'm not the only one with high blood sugar. Other people in the group also have the same thing. We motivate one another on limiting our eating of sweet snacks.*

The social support received from the group appeared to affect the participants' QOL in that it brought meaning to their lives and extended their network of support. This was reflected by one participant's statements:

> *My self-help group friends visited me when I was in the hospital. For once, I felt my life was*

*meaningful. My daughter couldn't stay with me, because she had to work overtime. Instead, one of my self-help group friends stayed, all day, to take care of me.*

Perceived sense of empowerment: A sense of empowerment, or an ability to make a decision, was found to occur as a result of participation in the group sessions. Recommendations and information sharing among the participants enhanced their sense of control over, and confidence in, managing their diabetes. There was a sense of felt certainty with respect to using what they had learned about daily diabetes self-care. For example, if they had high blood sugar levels, they would plan to exercise more often than usual and limit overeating favorite foods. One participant remarked:

*I know what to do if my blood sugar gets high. I haven't ridden my bike this month, for several days, because there has been so much rain. Anyhow, I think about group reminders and the fact exercise should be performed continuously. So I try to exercise my arms and legs at home. I didn't eat much since my friend told me I had gained one kilogram. My children bought me so many of my favorite foods. I just ate a bit. The group told me to keep strength of mind and not eat much, especially the favorite foods.*

The perceived sense of empowerment appeared to influence the participants' QOL. This was reflected in them feeling better able to access health services, take part in leisure activities and manage their home environments. Some participants recounted:

*This morning the sub-district administrator, who was visiting our group, announced that anyone who wanted to have a cataract removed should inform him. It's a free service by the government. I mean, he is concerned about us when we're in a group. I don't know if we would have conveniences like this if we weren't in a group.*

*Last month, we went to make merit at nine temples in the province. Our group received this support for a bus service from the village fund. If we were just one person, rather than a group, we may not get a chance like this.*

*There are numerous mosquitoes in our village and our skin is full of bites. Ten adults in our village have died of dengue fever. We dealt with the mosquitoes by asking our villager leader for help. We've convinced others to destroy enormous used tires by using them as flowerpots and we rarely see mosquitoes now.*

Perceived self-efficacy: Taking part in the self-help group sessions appeared to enhanced the participants' sense of self-efficacy (i.e. capacity to more fully engage in self-care behaviors). For example, one participant pointed out being in the group motivated her to exercise on a regular basis:

*In the past, I feared exercise. I had a problem with my knees. Someone in the group advised me to massage my knees with a type of hot balm. When my knees were better, she told me to walk slowly around my home. This time I had no problem with my knees. I got to exercise with the group every time. Thanks to her for giving me advice and motivation.*

The participants' enhanced sense of self-efficacy also appeared to affect their QOL with respect to their psychological health. The participants struggled with exercising and dietary control, but were motivated to overcome such difficulties due to group friendship ties. The need to conform to peer pressure, about exercising and controlling blood sugar levels, resulted in participants appearing more confident about managing their diabetes. As some participants described:

*I'm satisfied with my life now. My legs are stronger than before. I feel confident to walk around and exercise with the group. I thought my legs were too weak to exercise, until the group told me I could.*

*This month my blood sugar decreased. I feel confident. I'm similar to others. The motivated me to limit eating sweets and to exercise every day.*

The detailed summarization of the participants' perceptions of participating in the self-help group is shown in **Table 1.**

***Quantitative findings***: As noted in **Table 2,** after 6 months of taking part in the self-help group sessions, the participants' self-efficacy and QOL scores significantly increased, compared to their self-efficacy and QOL scores prior to participating in the self-help group sessions. In addition, after 6 months of taking part in the self-help group sessions, the participants' FBS levels significantly decreased compared to their FBS levels prior to taking part in the self-help group sessions.

**Table 1** Summarization of Participants' Perceptions regarding Involvement in a Self-help Group

| Benefits gained from the group | Positive changes | |
|---|---|---|
| | Self-care ability | Quality of life |
| *Culturally-sensitive knowledge* | | |
| Understanding | Understand knowledge and information on managing diabetes. | Received knowledge and information for day-to-day life. |
| Belief | Believe in using traditional remedies to control diabetes. | Satisfied with self and feel life is meaningful. |
| Acceptance | Accept knowledge and information suitable for use in day-to-day life. | Have sufficient energy to exercise, feel invigorated and sleep well. |
| *Social support* | | |
| Self-confidence | Confident in managing diabetes in day-to-day life. | Satisfied with self and enjoy life. Have a chance to join activities with friends. |
| Willpower | Have ability to manage diabetes and provide willpower to friends. | Have decreased stress, anxiety and nervousness. Feel relaxed. Satisfied with having support from friends. |
| *Empowerment* | | |
| Self-control | Feel control in managing diabetes and feel certain about using what was learned. | Have a sense of control and ability to make decisions. |
| Power | Feel powerful to share knowledge and advice with others. Have problem-solving skills to manage diabetes. | Have ability to search for health services, be involved in leisure activities and manage home environment. |
| *Self-efficacy* | | |
| Motivation | Motivated to increase effort to deal with self-care barriers and follow diabetic routines. | Have increased self-confidence and sense of control over life. |
| Conformity | Conformed to friends' advice about doing self-care. | Have increased self-confidence by doing and having things like others. |

**Table 2** Self-efficacy and QOL Scores, and Blood Glucose Levels Before and After Participation in a Self-help Group

| Paired differences (before-after) | Mean (before-after) | Std. deviation of the difference | 99% confidence interval of the Difference | | t | df | Sig. (1-tailed) |
|---|---|---|---|---|---|---|---|
| | | | Lower | Upper | | | |
| Self-efficacy | 60.20 - 87.40 | 15.900 | 17.029 | 37.371 | 7.651 | 19 | .000 |
| Fasting blood sugar | 151.80 - 127.50 | 36.487 | .959 | 47.641 | 2.978 | 19 | .004 |
| Quality of life | 84.65 - 93.40 | 5.609 | 5.162 | 12.338 | 6.977 | 19 | .000 |

## Discussion

The PI's use of CST as a guiding framework drew attention to the disadvantageous life circumstances of Thai elders and the number of perceived self-care barriers to self-managing their diabetes.[17] Use of a self-help group, as a form of mutual aid,[14] aligned well with PAR in that participants worked together to share information and experiences to overcome their self-care barriers. The acquisition of culturally-sensitive knowledge helped participants overcome their limited education. The Thai elders' inability to fully engage in self-care to better manage their illness stemmed from the presence of the self-care barriers (i.e., limited education, poverty, limited family support and lack of access to health services).

Taking part in the self-help group was beneficial for enhancement of participants' self-care capacity and QOL. This finding is consistent with prior studies wherein self-help groups have been found to enhance self-care behaviors and QOL.[15,16,28,29] Implementing the self-help group in the participants' community ensured coherence with Thai cultural values and beliefs. Thai elders generally reside in a collective society which directs their behaviors to follow the behaviors of others.[40] Therefore, use of a self-help group to enhance diabetes self-care behavior was culturally appropriate. Many participants reported living alone. Hence, the self-help group, likely, provided supplementary informal social support and, as a result, a safe learning environment. Similar to the findings of DeCoster and George,[25] learning from peers enhanced the participants' sense of empowerment and autonomy, particularly with respect to continuing to exercise and adjust their diet. Thus, being part of the group motivated the participants to better control their blood sugar levels as did the perceived need for them to conform to peer pressure. Similar to prior research,[15, 25,29] the quantitative findings showed significant improvements in the participants' self-efficacy and QOL scores, and FBS levels after completion of the self-help group sessions. These findings further support the contention that use of a self-help group, to improve self-efficacy, QOL, and blood glucose levels, is beneficial for rural Thai elders with T2D.

## Limitations

Like most studies, this study has limitations. The majority of participants were females, thus, perceptions about positive changes in self-care and QOL were likely to be derived, primarily, from a female viewpoint. Such gender bias limits the generalizability of the findings. Data on perceptions were gathered through group discussions, rather than on a one-to-one interaction. Although the group discussion guide was screened by a number of qualitative experts and received ethical approval, the participants may not have felt comfortable discussing

personal challenges or struggles within the group. The amount of time participants had to share their perspectives also was limited, due to the number of participants. The study took place in only one rural community in Thailand, which limits generalizability to rural communities across the country. While the findings report significant improvements in the participants' self-efficacy and QOL scores, and a decrease in their FBS levels, post-completion of the self-help group activities, there may be factors not addressed in this study that have potential for enhancing these variables.

## Conclusions and Recommendations

The positive findings demonstrated a self-help group can serve as a form of mutual aid, under the auspice of the CST, for the purpose of improving the self-care ability and diabetes management of rural Thai elders. Thus, establishing self-help groups in rural settings, for the purpose of fostering self-care ability and diabetes management among elders, is recommended.

Future studies need to consider developing and assessing the effectiveness of self-help groups for Thai elders with T2D that: include more male participants; are implemented in other rural areas of Thailand; include variables not addressed in this study that potentially could influence self-efficacy, quality of life and blood sugar levels; and, assess blood glucose levels using $HbA_{1C}$, a more accurate measurement than blood glucose levels.

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# ประโยชน์ของกลุ่มช่วยเหลือตนเองต่อผู้สูงอายุไทยในชนบทที่เป็นโรคเบาหวานชนิดที่ 2

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**บทคัดย่อ:** วัตถุประสงค์ของการวิจัยเชิงปฏิบัติการแบบมีส่วนร่วมในผู้สูงอายุไทยในชนบทที่เป็นโรคเบาหวานชนิดที่ 2 นี้เพื่อ: (1) ศึกษาการรับรู้เกี่ยวกับประสบการณ์การมีส่วนร่วมในกลุ่มช่วยเหลือตนเองว่าส่งผลต่อความสามารถดูแลตนเองและคุณภาพชีวิตอย่างไรและ (2) เปรียบเทียบคะแนนความสามารถดูแลตนเอง คุณภาพชีวิตและระดับน้ำตาลในเลือดก่อนและหลังการมีส่วนร่วมในกลุ่มช่วยเหลือตนเอง การวิจัยนี้ได้แนวคิดจากแผนพัฒนาระบบสุขภาพแห่งชาติ พ.ศ. 2550-2554 ที่ส่งเสริมให้มีการสำรวจความต้องการและพัฒนากลุ่มช่วยเหลือตนเองสำหรับผู้สูงอายุในชนบท ประกอบกับการที่ผู้สูงอายุไทยในชนบทที่เป็นโรคเบาหวานชนิดที่ 2 ได้ประสบกับภาวะแทรกซ้อนของโรคและอุปสรรคหลายประการในการดูแลตนเองอันก่อให้เกิดผลเสียต่อสุขภาพและคุณภาพชีวิต ได้มีการนำทฤษฎีวิพากษ์สังคม (Critical Social Theory) มาเป็นกรอบแนวคิดสำหรับการทำวิจัย เก็บข้อมูลจากการมีส่วนร่วมในกลุ่มช่วยเหลือตนเองและแบบสอบถาม ผู้ร่วมวิจัย 20 คนถูกคัดเลือกจากรายชื่อผู้ป่วยที่เป็นโรคเบาหวานชนิดที่ 2 ที่ขึ้นทะเบียนผู้ป่วยไว้ที่สถานีอนามัยของหมู่บ้านหนึ่งในจังหวัดหนึ่งของภาคกลาง ผู้ร่วมวิจัยได้เข้าร่วมกลุ่มช่วยเหลือตนเองทุกสองสัปดาห์เป็นเวลา 6 เดือน ข้อมูลเชิงคุณภาพจากการประชุมกลุ่มและการสังเกตถูกนำมาวิเคราะห์เชิงเนื้อหา ข้อมูลเชิงปริมาณอันประกอบด้วยระดับน้ำตาลในเลือด แบบสอบถามเกี่ยวกับความสามารถดูแลตนเองและคุณภาพชีวิตทั้งก่อนและหลังเข้าร่วมกลุ่มช่วยเหลือตนเองได้นำมาวิเคราะห์หาค่าความแตกต่างด้วยสถิติ paired-samples *t* test

จากการเข้ากลุ่มช่วยเหลือตนเองพบประโยชน์ที่ผู้ร่วมวิจัยได้รับ 4 ด้านคือ ความรู้ที่สอดคล้องกับวัฒนธรรมท้องถิ่น (culturally-sensitive knowledge) การช่วยเหลือทางสังคม ความมีพลังอำนาจและการรับรู้ความสามารถตนเอง (self-efficacy) ผลการวิจัยแสดงให้เห็นว่าการรับรู้ความสามารถตนเองได้ส่งเสริมให้ผู้ร่วมวิจัยมีกิจกรรมการดูแลตนเองเมื่อเป็นโรคเบาหวานชนิดที่ 2 มากขึ้น นอกจากนี้พบว่าการเข้ากลุ่มช่วยเหลือตนเองทำให้ผู้ร่วมวิจัยมีคะแนนความสามารถดูแลตนเองและคุณภาพชีวิตเพิ่มขึ้นและมีระดับน้ำตาลในเลือดก่อนรับประทานอาหารเช้าลดลง กลุ่มช่วยเหลือตนเองนับว่าเป็นประโยชน์อย่างยิ่งสำหรับการส่งเสริมสุขภาพผู้สูงอายุไทยในชนบทที่เป็นโรคเบาหวานชนิดที่สอง

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