



Community Partnership, Context-based Intervention and Diabetes Control in Thailand

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ABSTRACT

This study aimed to explore DM situation, solutions, and effecting action plans for DM control in Ang Thong, one of the top five provinces for DM prevalence in Thailand. The study was a qualitative study applying Appreciation Influence Control (AIC) as a technique to build participation among five communities. Community partnerships in each community comprised 4 groups: 1) people with DM, people at risk for DM and their family members, 2) health care volunteers, 3) local health care officers and 4) community leaders. Each group comprised 8 participants recruited for group discussion and brainstorming. Content analysis was applied as a method for data analysis from 25 group discussions. The findings showed that diabetes is difficult to control because of nonadherence in treatment, undercontrolled blood sugar levels, limited awareness, lack of exercise,

and poor knowledge about DM. The analysis also revealed the influence of cultural norms, especially, consuming food with high sugar and cholesterol content during traditional holidays among community partners. Moreover, the beliefs in karma and attitudes toward illness impede the successful rate for diabetes screening among at risk groups in communities. The community partners at the end of the study proposed 5 context based interventions to combat DM in their own context. These projects include: herb club against DM, local wisdom for DM prevention, yoga against DM, Thai ascetic yoga for health and sunchoke (Jerusalem artichoke) for DM control. The study proposed DM control strategies that give special consideration to culturally and contextually appropriate interventions.

Keywords: Community partnership, context-based intervention, DM control

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Introduction

Diabetes(DM) is a major public health problem worldwide. WHO¹ proposed that in the year 2030, 366 million people worldwide would have DM increasing from 171 million in the year 2000. More than 80% of DM deaths occur in low and middleincome countries. WHO projects that DM will be the 7th leading cause of death in 2030². Thailand is ranked-fourthin DM prevalence in the South-East Asia Region and had 1,536,000 DM patients in 2000. The WHO has projected 2,739,000 diabetics by 2030³.

The Thai government has launched a policy to establish DM clinics and related activities including health education and skill practice to enhance lifestyle modification. Coordination among multidisciplinary team personnel has been developed to improve clinical outcomes for diabetics. However, the numbers of people with DM are still rising. Thailand Statistical Record revealed that the incidence of diabetics in 2010 were 277.36:100,000 and the prevalence of diabetics was 1,394.91:100,000⁴.

Ang Thong Province is one of the top five provinces for DM prevalence in Thailand. In 2007, a rate of 294:100,000 was reported and it increased in 2012 to 314:100,000. Notably, in Pamok District, the DM prevalence was 2944.1:100,000⁵ and the mortality rate were 6.8: 100,000. Projects for DM screening

among people more than 40 years old have been conducted including the education programs for health volunteers. In addition, community surveillance was managed by the provincial public health office. However, DM prevalence is increasing and remains under-controlled.

The social ecological framework (SEF) depicts multiple sources influencing people with diabetes⁶. These sources of support range from the individual level to multimedia each exerting their direct and indirect influences on a person's ability to engage in DM-related behaviors. According to the SEF, sources of support for DM-related behaviors include the individuals with DM, interpersonal support, e.g. family members and friends, health care professionals, community members, community organizations, colleagues in the workplace, health insurance schemes, and the media. Diabetics are influenced by the community context they live in including health care system, and local religion and culture. Individuals alone cannot impede the disease successfully. Therefore, related community partnerships and social supports constitute the key for successful DM control.

Appreciation Influence Control (AIC) is the strategy used to emancipate the voice of the people affected by the issues and to create partnerships among stakeholders. AIC was designed as an alternative to "top-down"



planning. Three main steps define AIC. The first concept is termed, appreciate through listening. Health care providers appreciate the realities and possibilities of the situation by taking a step back to gain perspectives on the stakeholders and situation. The second concept is termed, influence through dialogue. The logical and strategic options for action are explored as well as the subjective feelings and values that influence the selection of strategies. The final concept is control through action. This step enables the stakeholders to take responsibility for choosing a course of action freely, based on information brought to light through workshops, meetings and activities^{7,8}. In dealing with DM, no one size fits all. Therefore, in this study, AIC was used to encourage community participation to explore the DM situation and to develop context-based interventions for DM prevention and control.

Materials and methods

Method

The study employed a qualitative design applying AIC as a technique to encourage participation among five communities in Pamok District which been reported a high prevalence in DM in 2012⁵.

Participants

Participants were recruited and voluntarily

participated in the program. Group discussion was used as a data collection method and data were collected in 2009. In each community, 4 stakeholder groups comprised 1) people with DM, at risk for DM and their family members, 2) health care volunteers, 3) local health care officers and 4) group of community leaders. Each group comprised 8 participants recruited for group discussion. Three group discussions were conducted among each group to create more awareness and appreciation (A) about DM situation and influence (I) for dealing with DM, and control (C) for planning the selected projects.

Data collection

The research was reviewed and approved by the Human Subject Review Board from the Faculty of Public Health, Mahidol University, No. MUPH 2009-146. All participants were fully informed and signed consent was obtained before investigating. Data was collected through brainstorming, group discussion, interviews, and field notes. The discussion lasted 1½ to 2 hours each. During the discussion, note taking, clarifying questions, and eliciting elaborated responses was accomplished by the principal researcher and research assistants. Upon completion of data collection, the researcher reflected on the observations, interactions, discussions and impressions from field notes, as well as the transcribed interviews



taken verbatim from audio tape-recordings.

Data Analysis

Data analysis was based on content analysis. The researcher conducted inductive content analysis by applying an open coding strategy to analyze and transcribe verbatim from 25 group discussions. With all data collected, the researcher reflected on the observations made, along with the interactions, discussion, and transcriptions from audio tape-recordings as well as the records of researcher impressions in field notes. The interpretive technique was used to examine the DM situation in each community. The examination began with reading the transcript of each discussion and looking for potential meaning in the discussions. The researcher also sorted the information according to shared experiences. Texts with similar words or phrases were arranged together and then cover terms were created for these groupings. The textual categories were then examined for relationships among categories so as to answer the research questions.

Results

The results from AIC with 5 communities groups comprising 1) people with DM, those at risk for DM and their family members, 2) health care volunteers, 3) health care officers, and 4) community leaders are described below.

A-Appreciation

Appreciation A1: Reality of DM

At the first step of AIC, similar results revealed less knowledge and less awareness about DM and the lack of exercise among community members. They indicated no social support for exercise together without knowing what the proper exercise was for their age as they thought they were too old to exercise. The participants also identified community members having DM risk behaviors such as tobacco and alcohol use, and the habit of consuming unhealthy food such as that with high sugar or cholesterol content. In this phase, the participants revealed that coconut was commonly used for all sweet dishes. Importantly, Thai sweets with high sugar and egg yolk content, for example, sweet egg floss and Thai sweet golden drop were the traditional desserts associated with their socio-economic status. Moreover, this behavior was reinforced by the cultural tradition of high sugar consumption during Thai holidays and festivals. This included “kayasart” traditional candy (Thai sweet made of rice, nuts, sesame-seeds and sugar) was normally consumed when celebrating the harvest festival in October. Consuming sticky rice with coconut cream and “kalamae” (Thai toffee-like caramel) was very common during Thai New Year festival. It is obvious that Thai sweet already plays a strong role in Thai culture. Additionally,

the results revealed nonadherence to treatment among those living with DM. The belief in karma and reincarnation influenced, their health promoting behaviors and their adherence to treatment. They tended to think that everything including their health was permanently fixed by the law of karma and that nothing could be changed.

Differences

However, some differences emerged regarding DM situations in the community. The group of people with DM agreed that DM is a hereditary tendency disease while risky behavior could trigger the disease. They revealed they used illegal anti-DM drugs that were locally advertised and chewed mitragynine (kratom) as a way to reduce blood sugar. People with DM group wished to integrate traditional and modern medicine treatment to overcome DM. However, the community leaders revealed limited funding and medical checkup instruments such as Glucostrips created a barrier. Interestingly, the DM group failed to cope during their first diagnosis. The risk group and their family members were observed not to pay attention to DM and avoided regular physical checkups because they feared pain. The result was congruent with the reports from health care personnel who noted a lack of community collaboration in DM screening activities. Importantly, young or new health care

volunteers reported distrust from community members in terms of health education and basic screening.

Appreciation A2: Ideal vision of DM

The result from focus group discussion revealed similar findings among the 5 communities regarding the ideal vision of DM. The results revealed that they wanted to see self-care management among people with DM to decrease complications. They want health volunteers to be empowered as this group report distrusted from community members. They wished to see health promotion activities in the community such as healthy eating, stress management and exercise. They want to apply local wisdom and alternative medicine for DM control and lastly they needed all stakeholders to work together.

Differences

However, some differences emerged regarding ideal visions of DM. People with DM wanted to see the compliance regimen for DM. Their vision was that DM had no complications. Whereas, the group of local health care personnel and health volunteers wanted to achieve a zero rate of DM among the at risk group. In addition, community leaders wished to see a healthy community environment and effective referral system.



I-Influence

Influence I1: Solution design

The result revealed similar findings among the 5 communities regarding the solution designs for DM prevention and control. They eventually proposed 4 themes for solution design activities. First, promoting herbs as a healthy regimen; second, DM and health promotion project; third, conducting a community contest to recognize members with the best sugar control and; forth, DM club/self-help group for people with DM.

Differences

Besides those similar projects, the community members proposed people with DM, the at risk group and family members should promote the project titled, “Changing your mind, changing your behavior” as a solution design for DM prevention and control in particular. Moreover, the group of local health care personnel and health volunteers proposed the project specific to the surveillance and screening system for DM.

Influence I2: Priority

After each community proposed many projects as a solution design for DM prevention and control. Each community was encouraged to prioritize the activities they thought were the most important and feasible projects. Stakeholders later recommended 5 health

promotion projects they thought most fitted with their context-based intervention. The 5 projects are described below.

Community 1: Herb club against DM

Community 2: Local wisdom (yoga) project for DM prevention

Community 3: Yoga against DM

Community 4: Thai ascetic yoga for health

Community 5: Sunchoke herb for DM control

Control

Control: Action plan

At the last step of AIC, the community 241 members were encouraged to plan the participatory community health development activity they chose in the previous step using a participatory process with creative brainstorming. The first community planned to manage the project named, “Herb club against DM” with educational support from the District Agricultural Extension Office. The second and the third communities planned to conduct the project named, “Yoga for DM prevention and yoga against DM” where the yoga leader was an elderly person in the community, and a well-trained health volunteer. The fourth community planned to promote the project named, “Thai ascetic yoga exercise for health” where the ascetic yoga leader was an elderly volunteer in the community.



After meeting to brainstorm the selected project, the community then implemented their project with support from the local health promoting hospital and the results of the implementation were be published elsewhere.

Discussion

DM control by community participation among lower socio-economic communities would bring local wisdom into account. It is expected that context-based intervention would be more effective in terms of DM control and prevention rather than attempting a one size fits all intervention where the intervention would focus on how to control DM in general without concerning what is most appropriate regarding local context and social environment. This is congruent with the study of GLAZIER⁹ who indicated that interventions for the general diabetic population are less suitable for lower socio-economic groups and need to be adapted to the specific barriers they facing. Encouraging community partnership participation by applying the AIC technique would bring about context-based interventions and encourage more social networking and social support for DM control among community members. As a result, it would close the gap of lower DM-related social support among lower literacy groups^{10, 11}.

In this study, the AIC dialog resulted in context-based intervention by applying Thai

herbs especially sunchoke in their cooking to promote healthy eating. Using yoga and Thai ascetic yoga for exercise was appropriate as they provided an example of local wisdom fitting their community context. Previous research results proved that healthy eating and exercising within the context of community-based participation could promote DM prevention and reduction¹² However, the results among the 5 context-based interventions in this study, i.e., herb, Thai ascetic yoga, sunchoke and two yoga interventions, would be published elsewhere.

Yoga and Thai ascetic yoga exercise were scheduled every Monday, Wednesday, and Friday evening. The community members required no budget for hiring exercise leaders as they could find local Thai ascetics and yoga volunteer leaders in their community. Those volunteer leaders were normally respected community members. They normally wore many hats (had many roles) in the community such as wife club member, elderly club member and health volunteer leader. Community members called them the “Local wisdom person”. Gathering for exercise benefitted not only individual health but benefitted peer and social support among community members. One community used the home of the health volunteer as a place for yoga while another community used the community meeting hall as a place for Thai ascetic yoga They started



their exercise activity by first praying together as they wished to integrate a Buddhist style of practice for their exercise activities. In doing so, the members would relax and maintain a peaceful mind from everyday life stress. Many studies in Asia have supported the benefits of yoga in DM control^{13, 14, 15}. While study in Thailand normally used Thai ascetics for Osteoarthritis (OA) relief pain¹⁶. Regular yoga practice can help reduce the level of blood sugar, along with lowering blood pressure, keeping the weight in check, reducing the severity of the symptoms and slowing the rate of progression of underlying disease. It also lessens the possibility of further complications. Moreover, the consistent practice of yoga and a few minutes of daily meditation can help reduce stress in the mind and protect the body from its adverse effects. This, in turn, reduced the amount of glucagon and improved the action of insulin. The practice of yoga has also been proven to lose weight and slow the process of fat accumulation. Obesity is a well-known major contributing factor for DM. For healthy eating, the community members proposed using herbs and sunchoke in their cooking. During the AIC dialog, they found a wide variety of herbs used among community members. Additionally, the community is an agricultural area fit for vegetable planting. Therefore, the social capital was taken into account by inviting

District Agricultural Extension Officers to educate community members how to plant herbs and sunchoke for cooking. Moreover, they created the planting garden competition that could encourage information sharing among the members. Sunchoke is proved to be a beneficial food for people with DM and those who want to prevent diseases while maintaining good health. The effectiveness of sunchoke in DM control is supported by many in vivo research results^{17, 18} where they reported that sunchoke could modulate energy and glucose metabolism since inulin in sunchoke improved glucose tolerance, decreased triglyceride accumulation and increased glycogen storage. Moreover, the systematic review of herbs and dietary supplements performed in 2003¹⁹ revealed a positive direction of the evidence for improved glucose control and very few adverse effects were reported.

Applying the AIC technique in this study could create community participation on practical DM control and prevention projects fitting the community context and enhancing use of social environment resources⁷. This could encourage higher levels of support from friends and local health care professionals that have been associated with improved DM management and glycemic control^{20, 21}. The literature also supports the important role that environmental and community sources of

support are related to DM prevention and control behaviors²² Individuals with DM living in neighborhoods with suitable environments for physical activity and healthy food options are more likely to engage in physical activity and consume healthier foods. The study is supported by the social ecological framework (SEF)⁶ which depicts multiple sources influencing people with diabetes range from the individual level, interpersonal support, health care professionals, community members, and community organizations. This study is also congruent with research conducted in Thailand by Siriliang²³ who applied the AIC technique to encourage community participatory planning on health. The result showed similar social capital and community resources consisting of the local health care officer, volunteer groups and local wisdom groups in the village could help design context-based programs to reduce the risk of DM in community.

Conclusion

DM in communities is difficult to control because of limited knowledge among community members about DM and a lack of awareness about the disease, as well as a lack of proper exercise within the community context. The analysis also revealed the influence of cultural norms, especially, consuming food with high sugar and cholesterol content during traditional holidays among community partners.

The community partners proposed effecting action plans for DM control and prevention by encouraging the use of sunchoke for DM control, healthy eating together with applying yoga and Thai ascetic yoga for exercise as strategies that give special consideration to culturally and contextually appropriate interventions

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การมีส่วนร่วม บริบทของชุมชน และการควบคุมเบาหวานในไทย

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บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่อศึกษาสถานการณ์ การแก้ปัญหา และการควบคุมเบาหวานที่มีประสิทธิภาพ ในอ่างทองซึ่งเป็นจังหวัดหนึ่งในห้าที่มีอัตราป่วยด้วย โรคเบาหวานสูงสุด โดยประยุกต์ใช้กระบวนการ Appreciation Influence Control (AIC) ในการสร้าง การมีส่วนร่วมของชุมชน 5 ชุมชน ซึ่งในแต่ละชุมชน ประกอบด้วย 1 กลุ่มผู้ป่วยและกลุ่มเสี่ยงต่อการเกิด โรคเบาหวานรวมทั้งสมาชิกในครอบครัว 2 กลุ่ม อาสาสมัครสาธารณสุข 3 กลุ่มเจ้าหน้าที่สุขภาพ และ 4 กลุ่มผู้นำชุมชน ใช้การวิเคราะห์ข้อมูลเชิงเนื้อหา จากการสนทนากลุ่มและการระดมสมอง 25 กลุ่ม กลุ่มละ 8 คน ผลการศึกษาพบว่าโรคเบาหวาน ยากต่อการควบคุมเนื่องจากการรักษาไม่ต่อเนื่อง ความไม่สามารถในการควบคุมระดับน้ำตาลในเลือด

การขาดความตระหนักในภาวะโรค การขาดการออกกำลังกายและการขาดความรู้เรื่องโรควัฒนธรรม การรับประทานอาหารที่มีรสหวาน และมีคอเลสเตอรอล สูงในช่วงเทศกาลของชุมชน ความเชื่อในเรื่องกฎแห่งกรรม และทัศนคติต่อความเจ็บป่วยของคนในชุมชน เป็นอุปสรรคต่อการคัดกรองกลุ่มเสี่ยง โดยเครือข่าย ชุมชนได้เสนอโครงการพืชสมุนไพรต้านเบาหวาน โครงการภูมิปัญญาท้องถิ่นเพื่อป้องกันเบาหวาน โครงการโยคะละเบาหวาน โครงการฤๅษีดันตน และ

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คำสำคัญ: การมีส่วนร่วมของชุมชน, บริบทชุมชน, การควบคุมเบาหวาน

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