Development of Community-based Program for Promoting Dietary Self-management in Elderly with Type 2 Diabetes

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Abstract

The research aimed to develop a program in promoting dietary self-management among elderly with type 2 diabetes. Three self-management processes based on Kanfer and Goldstein (1991) was used: 1) self monitoring, 2) self evaluation and 3) self reinforcement. The 5-weeks program consisting of four group sessions for promoting dietary self-management was designed, i.e., 1) reflection on prior dietary behaviors (self evaluation), 2) education on dietary self-management and food selection, 3) goal setting and action planning (self reinforcement), and 4) follow up (self-monitoring). The program was planned to be used in a community elderly club. All sessions were developed to engage participation of community members, especially elderly club members, health volunteers and primary care providers. Additionally, the program protocol and dietary self-management booklet were included into the program tools. The program was expected to improve dietary behaviors of the elderly with type 2 diabetes by using multiple community resources; however the health volunteers will be the leading group who conducted the program activities. The researcher’s role will be as a facilitator of the program.

Key words: Type 2 Diabetes, Community-based Program, Dietary Self-management, Elderly
Background

Type 2 diabetic mellitus (type 2 DM) is a chronic disease which is a significant public health problem in the world and Thailand (Nantasupawat as cited in Suwitwas & Keawchanta, 2009; Sanjaithum, 2006). The number of type 2 DM patients has increased rapidly over the past decade (Wattana, Srisuphan, Pothiban & Upchurch, 2007). In 2006, diabetes patients around the world were 194 million and will be at least 333 million in 2025 (International Diabetes Federation, 2010). Approximately 85% to 95% of those with DM are type 2 DM (International Diabetes Federation). Type 2 DM is the most common type of DM of the case especially in the elderly who was more than 90% of all diabetic elderly patients (Evan & Hanna, 2000; Skyler, 2001). The prevalence of DM in Thai elders is approximately 10-15% or 1.38 million persons. A review of nursing research regarding diabetes in Thailand revealed that most type 2 DM patients could not control their conditions (Hanucharurnkul, 2002).

Uncontrolled diabetes are associated with an increase in the complications, lower financial status, and a poorer quality of life (QOL) (Jacobson et al., as cited in Wattana, Srisuphan, Pothiban & Upchurch, 2007). Diabetic patients have to spend a lot of expense for the medication and treatment. They have a chance to admit in the hospital 2.4 times more than the people without diabetes and 3 times with higher expense (Rubin, Altman & Mendelson, as cited in Sanjaithum, 2006). Uncontrolled diabetes is the major cause of cardiovascular diseases, which account for 65% of deaths among people with diabetes (Gavin, Perterson, & Warren-Boulton, 2003) and other complications such as atherosclerosis, retinopathy, neuropathy, end state renal failure and diabetic ulcer (International Diabetes Federation as cited in Avraham, Boehm, Schwarzfuchs, Shai, 2009).

In most cases of type 2 DM, lifestyle modification including dietary management becomes the first choice of diabetes management (Williams & Pickup, 2004). Both patients and health care professionals recognize dietary management as the most difficult to manage in patients with type 2 DM (Grodner, Long, & Walkingshaw, 2007). Self-management is widely recognized as an important strategy to maintain and improve patients’ behaviors and health status (Dongbo et al., 2003; Wattana et al.). The aim of diabetes self-management is to control blood glucose level, improve the health status, prevent and minimize diabetic complications, and to enhance QOL (Weijman, Ros, Rutten, Schaufeli, Schabracq et al., 2005; Wattana et al., 2007). Since the elderly with type 2 DM response for their day-to-day care along the illness condition (Lorig & Holman, 2003), the dietary self-management is
important for elder with type 2 DM. Therefore, the health professional should provide the effective health care intervention in order to control blood glucose level.

The community-based program (CBP) is the sustainable intervention which applies collaborative approach of community members with health care providers and brings community resources to improve health outcomes and enhance the quality of care through taking action including social change (Viswanathan, et al., 2004). Therefore, the researcher wants to develop community-based program with the intention of improving dietary behaviors of elderly with type 2 DM. This article describes the development of this intervention.

Objectives

The objectives of the article are as follow:

1. To develop community-based program for promoting dietary self-management in elderly with type 2 diabetes
2. To describe the elements of community-based program for promoting dietary self-management in elderly with type 2 diabetes
3. To provide recommendations for nursing practice to improve patients’ dietary behaviors for elderly with type 2 diabetes

Methods

The current studies about community-based program for promoting diabetes self-management in elderly with type 2 DM are searched from electronic databases, such as CINAHL, PubMed, Science Direct, and using http://lib.med.psu.ac.th/libmedeng as the main channel to access the database. These studies were published in English from 2000 to 2011. The keywords were used to obtain the articles including type 2 diabetes, self-management, diabetes management, community-based program, and dietary self-management. The studies that match with the keywords will be retrieved, downloaded and were read carefully to critical analyze the components, measurements, and effectiveness of the dietary self-management program.

Finding and Discussion

Two systematic reviews, one meta-analysis study and eleven experimental studies relevant community-based program on dietary self-management were reviewed. From eleven
experimental studies, nine studies were conducted in western countries and only three studies of Sui, et al. (2007), Johnjumrut (2007) and Wattana, et al. (2007) were conducted in Asia (China and Thailand). The interventions are used to promote dietary self-management in community including diabetes self-management education program (DSME) (Bastiaens, et al., 2009; Huisman, Gucht, Maes, Schroeters, Chatrou & Haak, 2009; Kerssen, Goudswaard, Quarte, Zuithoff & Rutten, 2009; Kubiak, Hermanns, Schreckling, Kulzer & Haak, 2006), community-based peer-support group, and internet-based diabetes self-management program (Glasgow, Boles, McKay, Feil & Barrera, 2003). Most studies used DSME programs that conducted with different methods. The methods were used for promoting dietary self-management including giving education (providing learning material and group discussion through educational session), counseling, goal setting and practice, and self-monitoring (using record form). The contents of education consist of diabetes mellitus (backgrounds) and diabetes management, i.e., medication, physical activity/exercise, losing body weight and nutritional advice and self-monitoring of blood glucose. The evidence showed that short-term interventions of dietary self-management programs are significantly on changing patients’ dietary behaviors (Johnjumrut, 2007; Miller, et al., 2009), reducing body weight and BMI (Miller, et al.; Baestiaens, et al., 2009), and decreasing HbA1c (Keers, et al., 2004).

Community-based program for promoting dietary self-management will be a program which involves community collaboration to help the elderly with type 2 DM manages their dietary behaviors. Dietary behaviors correlate with biological outcomes (BP, Lipid profile, HBA1C, BMI, and FBG) (American Diabetes Association, 2000; Norris, et al., 2002). The present program is developed from self-management process of Kanfer and Gaelick-Buys (1991) and the result of literature review on diabetes dietary self-management. The self-management model based on Kanfer and Gaelick-Buys’s work (1991) is used as a conceptual framework for developing of community-based program for promoting dietary self-management in the elderly with type 2 DM. Self-management refers to the ability of a person in chronic condition to manage the symptoms, treatment, physical and psychosocial consequences, and lifestyle changes. Self-management is a process of changing several aspects of own behaviors. Kanfer and Gaelick-Buys stated that self-management process will be started when individuals need to learn the new behaviors, formulate a decision making, modify current behaviors as a result of failure or achievement of the goals, or find the problem solving as a result of interruption or ineffective habitual response sequences.
According to Kanfer and Gaelick (1991), the self-management consists of three stages: 1) self-monitoring, 2) self-evaluation, and 3) self-reinforcement.

The highlights of the community-based program are using community resource and promoting community collaboration to make social change to improve health behaviors of the elderly with type 2 DM in community. Since the community health volunteer is a key person who is closed with the patients, he/she involves the program construction to make the research finding be incorporated into community. Since the self-management procedures of Kanfer and Gaelick-Buys are step by step, the elderly practice easily. Community-based program for promoting dietary self-management is a combination of both educational and behavioral intervention to help elderly with type 2 DM acquire the skills, and support to change dietary behaviors. The program consists of 4 sessions, i.e., 1) reflection on prior dietary behaviors (self-evaluation), 2) education on dietary self-management, 3) goal setting and action planning (self-reinforcement), and 4) follow up (self-monitoring). The 5-weeks program with four sessions will be conducted with a group of elderly with type 2 DM in the community.

**Reflection session.** Reflection refers to the expression of elderly with type 2 DM on their current dietary behaviors from their assessment or observation. This session is conducted to help the participants assess their current dietary behaviors. The elderly will identify what kind of food and how much food that they consumed all day of the last two days on the 24 hour dietary record form and identify their current dietary behaviors from their own assessment or observation.

**Education session.** The education session is conducted to gain knowledge and understanding on diabetes management of elderly with type 2 DM, which focuses on nutritional recommendation, selecting healthy diet, arranging meal plan, and recognizing the amount of calorie needs. The education session should start with open-ended questions to assess about their prior knowledge before the participants will receive the information. This knowledge will help the participants to justify about their current dietary behaviors by comparison between current behaviors and expected behaviors. The elderly should receive handbook as guidelines for practice on promoting dietary self-management after finish this session.

**Goal setting and action plan session.** Goal setting and action plan refers to the participant’s identification of the dietary behavioral changes (goal) that they want to achieve and the action plans they propose to achieve the identified goals. The participant will be...
asked to identify their current behaviors that need to be changed, modified, or maintained. Then, the goal and action plan will be set by individual with assistance from the researcher and community health volunteer. The participants will be separated by the same goal setting and the group will discuss on each activity on their action plans. In addition, they have to set agreement of self-reinforcement of the goal achievement. This process will be self-reinforcement of the participants in changing behavior. Finally, the time for the follow up session will be set after the researcher asks the participants.

**Follow up.** The follow up session will be conducted in the second week (t1) after finish the third session, 3rd week (t2), 4th week (t3), and 5th week follow-up (t4) to assist the participants to evaluate and justify their goal achievement. This process will be the strategy of self-monitoring. All participants will meet at community meeting to follow up and evaluate their behaviors. The problem that occurs in the practice will be explored and share to the group and community health volunteer. The group and community health volunteer will help shared to solve the problem after that the participants will continue to achieve their intended goals in the next follow-up.

**Recommendation**

Most diabetes patients could not control their conditions and blood sugar level, therefore the health care providers should consider the importance of patients’ engagement in determining their health care. Since the elderly with type 2 diabetes are the ones who are responsible for their own day-to-day care to manage symptom, treatment, physical and psychological consequences, and life style changes including dietary behaviors. Self-management approach is recommended to be implemented in caring patients with type 2 DM. The support from the community nurses, community health volunteers, and effective teaching method are needed for their own patients care. Goal setting and planning should be considered as an effective method to achieve their better dietary behaviors. Furthermore, patients should receive the follow-up continuously.

Further researches are needed in the community nursing field especially in Thailand. Other studies should be conducted to test the effectiveness of the program on improving dietary behaviors, blood sugar levels of Thai elderly with type 2 diabetes in the real setting based on physician, nurses, and others who response for this field.
References


