

Can E-Health Support Programme Improve Self-Management for Diabetes Patients in the Community?

Eliza ML Wong* and Ginny YY Lam

Nethersole School of Nursing, The Chinese University of Hong Kong, Hong Kong SAR, China

Diabetes mellitus (DM) is a chronic systemic disease caused by either a deficiency in insulin or a decreased ability of the body to use insulin. Type II DM is a major lifestyle disorder which has been estimated to affect 10–15% of the world population. With poor glycemic control, DM may lead to chronic complications such as macrovascular, microvascular and neuropathic complications. The common complications include coronary heart disease, cerebrovascular disease, hypertension, peripheral vascular disease, infection, retinopathy and nephropathy [1,2].

Secondary preventive strategies (e.g., good glycemic control, performing physical activities and making healthy dietary choices) are suggested to be effective means for the self-management of Type II DM. However, the change in exercise behavior and diet choice is a challenging, long-term process requiring personal motivation and self-efficacy for its maintenance. The lifelong self-management of Type II diabetes and its complications carries a great burden on patients and our healthcare system. In this regard, can we contribute our professional support to our clients living in the community?

In recent decades, the chronic disease self-management care model has received increasing recognition, emphasizing a patient–professional partnership involving collaborative care and self-management in the community [3,4]. For patients with diabetes, it emphasizes on disease self-management which emphasizes the patients' central role in managing their illness and based on self-monitoring and self-care. The first prerequisite for self-management is that patients have competence and knowledge to make informed decisions and to work with their health care providers [4,5]. Diabetes self-management activities include blood glucose monitoring, exercising, healthy eating, taking medication, monitoring for complications and problem solving of abnormal glycemic level [1,2,5]. Moreover, there is an increasing recognition of the support of diabetes self-management via various community nursing strategies in term of educational program, counseling intervention and home visits which emphasizes on patient–professional partnership [4,5].

Over the past decade, e-health technology has been proven to be an effective mode of patient support. E-health refers to the use of medical informatics, public health and businesses, involving the health services and information delivered by or enhanced through the Internet and related technologies [6]. In recent decade, e-health encompasses a wide range of interventions which provide both educational and motivational support allowing patients to learn and practice related to diabetes self-management [7]. A literature review was conducted to evaluate the components of e-health interventions being used to facilitate self-management in type 2 diabetes and the effect of e-health interventions on self-management and diabetes outcomes. Overall, nine recent randomized controlled trials were selected. Two studies used mobile applications as intervention [8,9] and the others adopted internet-based programme [3,10–16]. All the related websites and mobile applications from those studies consisted of provision of health knowledge, a personal goal-setting system and logbook for physical activity, diet or physiological parameter. The literature reported that e-health support programme offered a widely accessible, 24-hour

platform to promote disease self-management and enhance behavior modification [7]. E-health interventions or related programme had positive impacts on different outcomes including improvements in HbA1C levels, self-efficacy of DM management, patient satisfaction and reduction of diabetes psychological distress [3,8–16]. Since a well-designed, e-health support via mobile application or web may provide a feasible, convenient and easily accessible professional support to the diabetes patients to cope with their self–management of DM problem, more community nursing initiatives or innovative approach research studies are required especially in the areas of health promotion, health maintenance leading to successful self–management of DM in the community.

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*Corresponding author: Eliza ML Wong, Faculty of Medicine, Nethersole School of Nursing, The Chinese University of Hong Kong, Shatin, Hong Kong, Tel: 852 39438098; E-mail: elizawong@cuhk.edu.hk

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