

Role of Mobile Health in Self-Care of Type II Diabetes Patients: A Literature Review

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Abstract

Diabetes is a progressive metabolic chronic disorder and a major public health problem increasing worldwide particularly in Low and Middle Income Countries (LMIC). Self-care makes patients to be involved in their own care and make decisions about treatment options offered by their clinician. The aim of this paper is to investigate role of mobile health in self-care of type II diabetes patients. To this end, all published papers related to the research topic were investigated from 2006 to 2018. To find the relevant Persian and English papers, six national and international databases including SID, Irandoc, Magiran, PubMed, Science Direct and ProQuest were searched using Persian and English keywords. The number of 270 papers were retrieved and after considering inclusion and exclusion criteria, 9 papers were recognized to be relevant. Results indicated that using cellphone based text messaging alone or together with other telemedicine methods can have a positive impact on the HbA1c level control, self-efficacy and foot ulcer treatment.

Keywords: Diabetes type II, Mobile health, Self-care, Literature review

1. Introduction

Diabetes is a progressive metabolic chronic disorder and a major public health increasing worldwide particularly in Low and Middle Income Countries (LMIC) (Alberti & Zimmet, 1998; Shrivastava, Shrivastava, & Ramasamy, 2013). World Health Organization (WHO) has estimated that more than 220 million of people suffer from diabetes and this figure will increase to 336 million till 2030 (Holtz & Lauckner, 2012). The number of patients suffering from diabetes type II is increasing constantly demonstrating a global epidemic (Zareban I et al., 2014). WHO estimated that the number of people affected by diabetes in Iran will be 5521000 till 2025 which is 8.6% of the population (Noohi, Khandan, & Mirzazadeh, 2012) demonstrating a health priority (Nesari, Zakeri Moghaddam, Rajab, & Bassam, 2009).

Diabetes is the fifth cause of death in the world and is responsible for the 9% of all death globally (MorovatiSharefabad & RohaneTonekabone, 2006). There is an estimation that in every 10 seconds, one patient die from diabetes (World Health Organization, 2010). This is a growing serious threat in the world (Schoenberg, Jaywick, Lawson, & Kart, 2008). Although it is not curable, diabetes is preventable (Phipps, 2003). Inappropriate control of diabetes will lead to frequent hospitalization and lower life

quality of affected patients (Funnell & Anderson, 2004). It also causes increase in sugar level of blood in long term followed by chronic complications and cardiovascular disease with high treatment cost (Keers, Groen, Sluiter, Bouma, & Links, 2005).

Health experts believe that self-care is an important element in diabetes patients and patients and their families are responsible for diabetes control and care. They also believe that diabetes patients must control their disease with respect to their life style and culture (Funnell & Anderson, 2004; Heisler, 2005). Self-care empowers patients to provide care to themselves and have the ability of making decisions out of available treatment options (Lau, 2002). Patient education is a crucial element in diabetes control and helps increase self-care (Dunning, 2003; Lau, 2002).

Recent studies show that despite educational programs, there is a misunderstanding about diabetes and its control among affected patients (Holmström & Rosenqvist, 2005). To support diabetes patients having problem with self-care, it is vital to provide patients with a constant program with the aim of increasing awareness and improving the performance and attitude of patients in addition to educational programs. Treatment follow-ups are possible through in person visits or home visits but respecting diabetes incidence and the long procedure of treatment, it is