Chapter 6
Depression Reduction for Patients With Type 2 Diabetes via E-Health Interventions

Cynthia Wong
Monash University, Australia

ABSTRACT

Diabetes is one of the most significant global health emergencies affecting populations in the 21st century, where one out of 15 adults has type II diabetes. Impaired glucose tolerance contributes to more than half of all causes of diabetes. Further, depression has adverse economic and health outcomes. The condition also contributes to poor outcomes in screening efforts among type II diabetes patients. E-health intervention is one of the means for reducing depression. There is, therefore, a need to investigate whether the strategy effectively reduces depression among patients with type II diabetes. The research examined the e-health interventions, which include personal health records (PHRs), diabetes mobile apps, patient portals, information repositories, telehealth, and electronic health records (EHRs). The research findings indicated that e-health would significantly help in reducing depression among people with type II diabetes.

INTRODUCTION

Certainly, diabetes in the twenty-first-century world has become a significant health concern leading the health disease burned among noncommunicable diseases (Atlas, 2015). The prevalence of diabetes, particularly type II, is that one out of fifteen adults has the condition. Impaired glucose tolerance adversely affects the mental health of the patients (Badescu et al., 2016). Type II diabetes contributes to more than half of all the causes of depression compared to any other stressor or factor (Darwish et al., 2018; Badescu et al., 2016). Some of the factors that contribute to a positive relationship between type II diabetes and depression include frailty from the advanced duration of having the condition, distress associated with the diseases, poor self-management, and low levels of physical activities (Bai et al., 2017; Darwish et al., 2018). Depression is also another factor that contributes to poor outcomes in the screening of risks

linked with type II diabetes (Darwish et al., 2018). Given the adverse impacts resulting from the correlation between diabetes and depression, clinical interventions that can be used to manage such highly comorbid conditions is necessitated. According to Deady et al. (2015), depression burdens individuals and healthcare systems globally; unfortunately, recognising and addressing the psychological problems associated with diabetes mellitus remains a significant clinical challenge. E-health applications such as diabetes mobile apps, teleconference with patients, and m-health intervention provide means that can be used to reduce depression among patients with type II diabetes.

ELECTRONIC HEALTH RECORDS (EHRS)

According to Holt (2014), there is a noticeable level of efficiency in terms of health outcomes in treating depression among patients with type II diabetes. First, it is necessary to employ EHR in screening diabetics for depression because timely detection, as well as management, minimise the risks of disease exacerbation and severity. Employing or applying EHRs in the primary setting proffers physicians with not only precise but also timely information for functional disease management strategies. Unfortunately, most data in EHRs is incomplete as information such as those of depression is not entered into EHRs when compared to laboratory data and vital signs (Madden et al., 2016). Routinely recording depression information on patients with type II diabetes will proffer healthcare providers with adequate information pivotal in not only decision-making but also the development of effective evidence-based interventions, and thus, promote quality care and safety among patients with type II diabetes (Patel et al., 2015).

An additional benefit of EHRs is ensuring a structured follow-up process and improved monitoring (Falck et al., 2019). Further, type II diabetics' wellbeing is fundamental because it not only bolsters the patients' quality life but also reduces their chances of developing complications associated with the disease. Monitoring and structured follow-up will thus, empower the physician with knowledge and understanding whether the implemented interventions are effective in reducing the level of depression or if new strategies need to be laid down and applied.

DIABETES MOBILE APPS

One of the widely used e-health technologies in diabetes management is mobile applications. There primarily exist several applications that have been created to assist patients in controlling their conditions. Some of these apps include mySugr, Zero Fasting Tracker, MyFitnessPal, and 7 Minute Workout. According to Ebert et al. (2018), mobile health applications are used in treating depression with a focus on CBT (Cognitive Behavioural Therapy)-oriented self-management and behavioural health coaching on depression. The use of mobile apps is effective because of the extensive evidence indicating the effectiveness of the psychological intervention in treating depression among patients with diabetes (Rathbone & Prescott, 2017). Corroborating this assertion is Markowitz et al. (2011), whose systematic review ascertains that research on psychosocial interventions such as CBT and collaborative care has proven their efficiency in treating depression in type II diabetics. Reiterating are Xie and Deng (2017), whose randomised controlled meta-analysis research revealed that psychosocial interventions such as CBT are efficacious in treating comorbid depression in Type II diabetes patients. Thus, novel technological

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