Chapter 11
mHealth for Illness Self-Management for People With Schizophrenia:
Opportunities and Implications in Gamification

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ABSTRACT

People with schizophrenia and other related disorders experience great difficulties in getting the appropriate treatment regarding not only the type of interventions available but also the conditions that required for a proper treatment, mainly cost, locale, and frequency. The use of gamified mHealth applications for this population is a proven way to provide a set of tools that may help patients to manage their condition using applications on mobile devices, like smartphones, that implement game-like strategies and elements that transform unpleasant tasks into virtual challenges. This chapter addresses the impact and implications that the use of gamified mHealth applications have for people with schizophrenia, a comprehensive guide of recommendations and standards used by the industry on the development of gamified applications and provides a literature review on the subject.

INTRODUCTION

According to the World Health Organization (WHO, 2016) chronic diseases can be defined as long-term and generally slow-progressing diseases, which result in disability. The provision of care in chronic diseases must include, among others, the identification of the patient's needs, the modification of risk behaviours and the use of systems that allow the monitoring of results. In addition, it is essential to control the symptoms and the possible implications that they may trigger in the patient's life, thus making it essential to develop intervention strategies focused on self-management (Gale & Skouteris, 2013).

The concept of self-management was initially used by Thomas Creer, in the mid-1960s, while studying children with asthma (Padilha, 2013). It was also during the second half of the twentieth century that industrialized countries began to develop health programs, which were based on the belief that chronic disease self-management played a key role in controlling diseases such as asthma, heart disease and diabetes (Bastos, 2013). Self-management is recognized as an essential component of health care in chronic diseases, being a multidimensional and complex phenomenon, which can be defined as an action oriented towards the active involvement of the individual in the management of the disease and, simultaneously, to promote their global health (Cunha, Chibante & André, 2014; Kimberly, 2011; Padilha, 2013; Schulman-Green et al, 2012). More recently, a new definition of self-management was proposed by Van de Velde and colleagues (2019): "*Self-management is the intrinsically controlled ability of an active, responsible, informed and autonomous individual to live with the medical, role and emotional consequences of his chronic condition(s) in partnership with his social network and the healthcare provider(s)*".

With the development of technologies on the field of mobile devices and the proliferation of software applications for these platforms, a wide range of opportunities were opened for the development of tools that are designed to help people with chronic diseases. With the illness self-management in mind, multiple tools and applications were developed to help patients to carry on with their lives while taking care of their own condition. Some of these tools apply elements, patterns and principles that are more probable to be found on video-games - this is known as gamification. With no surprise, gamification is being used as serious approach to engage users to all kinds of platforms and provide satisfactory user experience while guiding the user to perform a series of tasks and activities that are crucial to the good management of their condition. Mobile health applications, which include applications aimed for patients with schizophrenia, are among the most gamified tools available in the various application marketplaces with very positive impacts on the lives of their users (Chandrashekar, 2018; Cheng, Davenport, Johnson, Vella, & Hickie, 2019).

BACKGROUND

Mental health problems have a great impact on affected individuals and society, being one of the main causes of disability. According to the Global Burden of Disease study (2018), 792 million people lived in 2017 with a mental health problem, a prevalence rate of 10.7%, however the access to rehabilitation programs and psychological intervention is still scarce, which has a negative impact on the functionality, quality of life and social inclusion of these people.

Mental health problems are thus a growing global concern and recent evidence supports the need for additional treatments and the implementation of practices that favour the patient's self-management of the disease (Buchanan et al., 2009), concomitantly with taking medication prescribed (Mueser, Deavers, Penn, & Cassisi, 2013).

The way in which mental illnesses are conceptualized today and the responses that are developed to improve the functionality, quality and life satisfaction of people with experience of mental illness and their effective social inclusion, result from dynamic and evolutionary processes that have undergone profound changes across different societies. For many years the conventional wisdom in the field of mental health assumed that mental illness, in particular schizophrenia, inevitably resulted in progressive deterioration (Farkas, 2007). Professional practice was essentially focused on the management of psychopathology

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