

Chapter 5

Acceptability and Adoption of mHealth Interventions for Medication Adherence

ABSTRACT

The success of medication adherence apps depends on user acceptance and usage of the apps in their daily lives. It is essential for app developers to gain an in-depth understanding of the factors that can influence the acceptance of mHealth apps for adherence. It has been suggested that end users' acceptance of a technology-based health intervention can be studied through evaluation of their behavioral intention to use the intervention. Hence, it is important to continuously engage the target audience (e.g. clinicians, patients, caregivers) for their perceptions, experiences and feedback about the technological intervention, in this case, medication adherence apps. Factors such as socio-demographics and prior use of mobile technologies can influence user acceptance and adoption of mHealth apps. This chapter introduces the evolution of the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). In addition, the application of the UTAUT2 model is described through a case study in Singapore that determined the factors which influenced the acceptability of mHealth-based adherence interventions among healthcare institutions in Singapore.

INTRODUCTION

As previously described in Chapter 3, the IM approach is a health behavior framework that prescribes a specific set of steps in the development of interventions, such as mHealth apps. The success of an app ultimately depends on the acceptance and usage by its target audience (Alkhaldi et al., 2016; Car, Tan, Huang, Sloot, & Franklin, 2017; Venkatesh, Thong, & Xu, 2016), such as patients for medication adherence apps. Therefore, in line with Step 5 of the IM approach (Chapter 3, Figure 4), developers should seek to gain an in-depth understanding of the factors that can influence patient acceptance of their mHealth app for adherence (Bartholomew, Parcel, Kok, Gottlieb, & Fernandez, 2011; Car, et al., 2017). It has been suggested that end users' acceptance of a technology-based health intervention can be studied through evaluation of their behavioral intention to use the intervention, which is a reliable predictor of actual use (Holden & Karsh, 2010). Although there is a paucity of information on the acceptability of medication adherence apps for chronic conditions, studies for other aspects of healthcare in various disease conditions suggest that apps generally have favorable acceptance among patients and healthcare professionals (Azevedo, Bernardes, Fonseca, & Lima, 2015; Berkowitz, Zullig, Koontz, & Smith, 2017; de Vries et al., 2018; K. A. Kessel, Vogel, Schmidt-Graf, & Combs, 2016; Kerstin Anne Kessel et al., 2017). These studies show that different socio-demographic characteristics, such as younger age and male gender (Azevedo, et al., 2015; Crilly et al., 2019; Kerstin Anne Kessel, et al., 2017), and prior use of mobile technologies (e.g. SMS or apps) (Azevedo, et al., 2015; de Vries, et al., 2018) can significantly influence patients' and healthcare professionals' interests in using or recommending the use of mHealth apps.

MODELS TO FACILITATE ADOPTION OF mHEALTH TECHNOLOGIES

The Technology Acceptance Model (TAM)

Apart from socio-demographics, a more in-depth analysis of the determinants of patients' acceptance of adherence apps is necessary to facilitate widespread adoption (Car, et al., 2017). This can be done by utilizing structured models

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