Chapter 5

An Investigation of the Role of Using IS/IT in the Delivery of Treatments for ADHD in University Students

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ABSTRACT

Over the last decade, the popularity of incorporating advances in information systems and information technology (IS/IT) has been steadily growing. IS/IT can improve the delivery for better intervention and treatment with many different mental illnesses; however, there appears to be great potential for IS/IT in the context of young adults with mental disorders such as Attention Deficit Hyperactivity Disorder (ADHD). ADHD affects approximately 11% of the university population; negatively impacting students' academic performance, study skills, and social life. The study design outlined in this paper suggests a possibility for the role of IS/IT in the delivery of treatments and management of ADHD in university students to be examined with the view to introduce IS/IT into the traditional treatment context. This research involves collecting data from psychologists in the form of semi-structured interviews and a grounded theory methodology using multiple cases is adopted.

INTRODUCTION

In recent years, Australia has become one of the leading countries in providing e-mental health services (Christensen & Petrie, 2013). Technology tools, such as the Internet and mobile devices, have the promise to improve mental health services especially by enabling early intervention and treatment for many people (Christensen, Griffiths, & Evans, 2002), especially young adults with mental disorders such as Attention Deficit Hyperactivity Disorder (ADHD).

Approximately 11% of students at university level have symptoms of ADHD (Dipeolu, 2010). These symptoms negatively impact academic performance (Heiligenstein, Greta Guenther Msn, Levy, Savino, & Fulwiler, 1999) and usually affect such students in terms of keeping up with their academic load and various aspects of social life (Barkley 1998; Quinn, 2001). Typically, individuals with ADHD are deficient in executive functions, such as Working Memory (WM) and planning (Barkley, 1997b) which is related to academic performance (Gropper & Tannock, 2009). ADHD often co-occurs with learning disabilities (LD) such as difficulty in organizing time, poor reading, writing or spelling skills, or completing tasks abilities (Mayes, Calhoun, & Crowell, 2000). Today, one of the most effective approaches to treat ADHD is the multimodal framework which includes: medication, education, therapy and coaching (Canadian Attention Deficit Hyperactivity Disorder Resource Alliance (CADDRA), 2011; Department of Human Services Victoria, n.d.).

The emphasis of this research design is on the non-pharmaceutical components of the multimodal framework: coaching, therapy and education. The role of IS/IT in each of these components is examined with the view to introduce IS/IT into the traditional treatment context. In addition, four cases are therefore chosen to represent the key treatment components; namely, case1:- coaching and Education (Swartz, Prevatt, & Proctor, 2005); case2:- Working Memory Training (WMT) therapy (Puffenberger, 2011); case3:- Cognitive Behavioural Therapy (CBT) (Ramsay, 2012); and case4:- Neurofeedback Therapy (De-identified patient data). Furthermore, the role of IS/IT in each of these cases will be examined. This research design does not involve gathering information from patients; it involves collecting data from psychologists in the form of semi-structured interviews and a grounded theory methodology using multiple cases is adopted. The main research question guiding this study is: How can an IT solution be designed to enable mental health providers to facilitate the delivery of treatments of ADHD?

RELATED LITERATURE

In this section, a brief background of the general use of IS/IT in healthcare is provided, followed by a definition of e-health and the general use of technology in mental health services and ADHD in particular. The last part of this section will point out the relevance of ADHD in university students and what current non-pharmaceutical treatments are used to treat and manage ADHD.

Background

The use of IS/IT in healthcare has the potential to assist developed and developing countries to solve many issues they are facing (Wickramasinghe, Geisler, & Schaffer, 2005), such as easy access to information and services, coping with changes in population health patterns and satisfaction and safety of stake holders. Healthcare is becoming technology-driven (Moumtzoglou, 2011) with the possibility of successful adoption of e-business in the form of e-health(Wickramasinghe, Geisler, et al., 2005). There is a wide range of e-health services (Eysenbach, 2001; Wickramasinghe, Fadlalla, Geisler, & Schaffer, 2005) and E-mental health is one such service.

Although the use of technologies in mental healthcare is relatively new, there are positive feelings in using technologies among different age groups for different mental illness preventions, treatments and management (Whittaker et al., 2012). Technology has the potential to improve efficiency, accessibility and the opportunities for early intervention and treatment of young adults (Anthony, Nagel, &

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