

Why study about eHealth among people with schizophrenia spectrum disorders?

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Nowadays, most of us use the Internet for general and health related reasons, such as to find health information before an appointment with our doctor. The combination of technology and healthcare is defined as *eHealth*. The term eHealth was first described in 2000 by K. McLendon to define the delivery of health services and information through the Internet and related technologies (McLendon 2000, 22). Similarly, the World Health Organization describes eHealth as *the cost-effective and secure use of information and communications technologies (ICT) in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge and research* (WHO 2017). In this PhD study eHealth among people with schizophrenia spectrum disorders was investigated for three major reasons which are described below.

First, Internet use has been gaining increase constantly. Between 2000–2017, the Internet grew about 936% (InternetWorldStats, 2017). Worldwide, there are almost 3,7 billion Internet users and 1,2 billion websites. Every second, 61,599

Internet users search for information via Google Search (InternetLiveStats, 2017). The number of people who search for health and mental health information online has been also increasing. About three-quarters of American (Pew Research, 2015) and a bit less than 60% of European Internet users (Eurostat, 2016a) search for health information online. At the same time, most of the content available online is unmoderated, thus, it is unknown what users find online when they search for mental health information. Thus, the first goal of the study was to access the quality and presentation of online, schizophrenia-related health information.

Second, searching for health information online and finding the reliable information one needs to support their health-related decisions, gives them a sense of control over their diagnosis and empowers them (Grando et al. 2015). Empowering people to take co-responsibility and manage their health condition enhances medical outcomes at lower cost (Chatzimakakis 2010). Lowering the cost of health care expenditure is essential as healthcare systems are rapidly

approaching a crisis point. Especially for chronic and costly diseases such as serious mental illnesses like schizophrenia spectrum disorders (SSD) (Knapp et al. 2004).

Schizophrenia spectrum disorders cause high economical burden to the families and the society (Knapp et al., 2004), not only from the treatment's high economic cost –which is about 30%- but also from indirect costs, e.g. treatment resistance, unemployment, social services and criminal justice resources (Ran et al. 2010). People with SSD face a serious and chronic mental condition with a relapsing course (Tandon et al. 2009). The spectrum includes diagnoses such as schizophrenia, schizoaffective disorder, delusional disorder, schizotypal personality disorder, schizophreniform disorder, brief psychotic disorder, and psychosis associated with substance use or medical conditions. Schizophrenia alone is common among the general population with about 1% prevalence and it is among the top ten causes of disease-related disability (Tandon et al. 2008).

Schizophrenia spectrum disorders are accompanied with various serious symptoms, however, recent studies show that people with SSD use the web in a similar way as the average Internet user (Kalckreuth et al. 2014; Miller et al. 2015). Some of their online activities are e-mail exchange, Web 2.0 and social media engagement, interaction with peers, health information-seeking and communication with professionals (Schrank et al. 2010; Miller et al. 2015; Kummervold et al. 2008).

Searching for health information and access to it, does not mean understanding this information. When users search online for health information, they tend to begin the search with a search engine. Consequently, the second goal was to investigate Internet use and patterns, attitudes towards computers/Internet, and eHealth literacy of adults with SSD – which is the ability to find ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem (Norman & Skinner 2006).

Third, almost a third of Internet users access social networking sites. Globally, 2.34 billion people use social media websites. By 2020, it is expected that more than 2.95 billion Internet users will use social networking sites (Statista 2017). Studies on online interventions have explored online peer support (Eysenbach et al. 2004), online support groups for depression (Griffiths et al. 2009), online

communication, social media and adolescent well-being (Best et al. 2014), social media of Asian immigrants' mental health needs (Leung & Li 2015), online and social networking for the treatment of depression (Rise et al. 2014), social media and suicide prevention (Robinson et al. 2015) and effects of online intervention for depression in schizophrenia (Moritz et al. 2016). However, the effects of social media interventions have not been much investigated (Robinson et al. 2015), especially for people affected with a mental illness (Kaplan et al. 2011). Hence, since penetration of social media is so high, the third goal was to understand the impact and potential usefulness of social media in health care (Grajales et al. 2014).

Overall, eHealth was selected as the subject of this PhD study because eHealth interventions have shown potential and may have significant advantages over traditional forms of care (Ritterband & Palermo 2009). In addition, the application of ICT to human health is one of the main research goals of EU Programs and HORIZON 2020. EU and OECD surveys on the eHealth development and policy within EU countries have shown that Finland has regularly been one of the top countries.

Investigating the prevalence of Internet use among people with SSD could: 1) support people's with SSD health-related Internet use in accordance with their specialized health information needs and preferences, while 2) for those people with SSD who are not Internet users, it is expected that we will acquire a better understanding of their attitudes towards computer/Internet and their preferred sources of health information, in order to support their preferable offline means of health information. The importance of this step of the study lies in acquiring a better understanding of what people with SSD need to have available online in order to empower them (Blair 2004), support their health, and consequently have a better quality of life (WHO 2009).

The focus on mental health through eHealth applications is very important because to date, eHealth applications are more common for physical health care. Recent studies show that eHealth applications for physical care improve access, convenience, education, care quality, and care effectiveness. There is relatively less work creating applications for mental health treatments. However some progress has been made for disorders like depression and anxiety, panic/phobic disorders, and stress management. Despite this progress, severe mental illness (like schizophrenia spectrum disorders) has received little attention.

The study aimed to acquire a deeper understanding of the experience and attitudes on eHealth use amongst people with schizophrenia spectrum disorders in two distant European countries, Finland and Greece. These two European countries were selected because they exhibit discrepancies in Internet availability and use, and citizens' ICT related behaviors (Eurostat 2016a,b). Exploring eHealth between these two countries is important, since a basic cornerstone of the European agenda is to support the of quality health services for citizens and intercountry collaboration (Reding 2008).

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