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Smartphone Applications in the Support of Weight Reduction and Goal Maintenance

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Abstract

The use of smartphones gets promoted in healthcare self-intervention setups. Its benefits include convenience, cost effectiveness and accessible weight management features among others. The aim of this study is to gather real-world smartphone application user data in order to analyse the efficiency of smartphone application features. This aim encloses applications for the reduction or maintenance of weight. Relevant members of online health communities were invited to participate in an online survey. The survey lasted for 6 weeks and received a total of 51 valid respondents. The analysis was divided into 2 groups, one group (n=29) had experience using a smartphone application in their weight management goal while another group did not use applications before (n=22). Among the application users, a significant BMI improvement was found (9.1%). We conclude that in our sample, the use of automatic weight control applications leads to a more healthy living style.

Keywords: Applications, goal maintenance, health, weight control, smartphone, online survey

1. Introduction

The World Health Organization (WHO) defines overweight as abnormal or excessive fat accumulation that presents a risk to health (WHO, 2012). In 2008, it was stated that 1.4 billion people worldwide were overweight. Out of those, half a billion were considered obese. At least 2.8 million of these people die as a direct consequence of this issue. On a global scale, 44% of diabetes, 23% of ischemic heart disease and 7 - 41% of certain cancers are attributable to overweight and obesity (Okechukwu et al., 2014; WHO, 2012). The growing use of smartphone is increasingly being promoted and adopted in healthcare self-intervention. Its benefits include convenience, cost effectiveness and accessible weight management features. It is estimated that 1 out of 5 people or nearly over 1 billion people in the world use a smartphone (Pitt et al., 2011). Additionally, not only many people have their own smartphones, they also tend to spend their time under an increasing trend with these devices. Fig. 1 shows how dramatic the number of smartphone users is growing. It can be obtained that in 2006 only 1% of the world population were using smartphones, whereas in 2013 the number increased to 22%. As in many other subjects, companies and private online applications, developers quickly recognized the increasing demand of health monitoring applications over the past decade (Olla and Patel, 2002). Whether the design of these applications is based on clinical studies or preference surveys (Aday and Cornelius, 2011; Evans et al., 2005; Siemiatycki, 1979) unknown, but studies tend to agree to the efficiency of using web-based applications for reducing weight (Sobush et al., 2009; Pellegrini et al., 2012; Azar et al., 2013; Wing et al., 2006). We prepared a survey on the health condition using applications. Health surveys represent a critical resource to measure the status of a population and to assess the level of quality of the health improvement provided. To ensure the utility and integrity, it is important that these user surveys are designed according to efficient statistical and methodological practicies as well as optimal sample design. Therefore, we reviewed various guides for related topics on survey writing (Aday and Cornelius, 2011; Siemiatycki, 1979; Warner et al., 2011; Kuczmarski et al., 2001; Harvey-Berino et al., 2011).