Management of Weight-Loss: Patients’ and Healthcare Professionals’ Requirements for an E-health System for Patients

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Abstract. An increasing number of patients with overweight undergo weight-reduction treatment. However, many people experience challenges with long-term maintenance and are in risk of weight-regain. Currently there is no unique solution that ensures long-term maintenance of lost weight. Several studies have explored the effectiveness of web-based and e-health interventions, on improving the outcomes of weight-management. The results are unclear. This paper describes requirements for e-health solutions for weight-loss patients. Our findings suggest that such solutions need to be developed in collaboration with both patients and healthcare professionals to ensure that they are in line with medical treatment in addition to taking consideration to the behavioral aspects of using such systems.

Keywords: Design, E-health, Healthcare, Obesity, User involvement.

1 Introduction

Involving multiple stakeholders in the design process is challenging due to the required time and investment. Within the healthcare domain, e-health systems typically have multiple end-user groups with widespread backgrounds and interests [1]. Patient-centered e-health solutions are patient focused, but are not always in conjunction with disease-management programs, in which healthcare professionals have a central role. For such systems it is therefore important to include the perspective of all stakeholders, both different patient groups and the relevant healthcare professionals.

Until lately, obesity have been managed within the primary care, but due to the increased prevalence of severe obesity, the demand for interventions such as surgical interventions and lifestyle programs offered by the specialist care is rising. People that undergo such treatment require lifelong lifestyle modification with focus on dietary habits and physical activity. With the treatments taking place within the specialist care, patients increasingly need to conduct self-monitoring activities in their home environment with little follow-up by healthcare professionals. E-health solutions hold
the potential to support patients after initial weight-loss, to help establish, support and maintain lifestyle changes. Successful long-term maintenance is associated with self-care management and self-monitoring [2]. However, conducting such activities are labor intensive, and compliance is often difficult [2]. Hence, we need a better understanding of the experienced challenges after treatment, about aspects influencing upon non-compliance, and how self-management can be promoted by the use of e-health systems in weight-loss patients. To be able to design a clinical e-health solution for this patient group, a first step is to gain knowledge and understanding of the challenges they experience, and further investigate how the behavior change process can be promoted by the use of e-health solutions. In this study we have involved patients and healthcare professionals in a participatory design process of a clinical e-health system, to elicit the multiple user groups’ requirements and perspectives towards such a system.

2 Background

The prevalence of obesity in the western countries has increased the last decades [3]. Obesity is associated with increased morbidity and mortality, and is a risk factor for diabetes, cardiovascular problems, hypertension, cancer illnesses, osteoarthritis as well as other health problems of psychosocial characters [3]. Increasingly, obesity is being recognized as a chronic disease itself, requiring health interventions. Weight-loss has beneficial effects in co-morbidities and long-term survival, and can be achieved through lifestyle intervention, bariatric surgery or pharmacotherapy [4]. However, long-term maintenance of lost weight is difficult, and studies show that conventional treatment (incl. lifestyle modification programs and pharmaceutical agents) is relatively ineffective in a long-term perspective [5]. As for today, surgical interventions are shown to be the most effective, and produces substantial initial weight-loss in the great majority of patients [5]. However, studies imply that weight-loss of bariatric surgery is temporary, and that many patients regain weight after a while [5,6]. Long-term weight maintenance is therefore a challenge regardless of initial weight-reduction treatment, as many experience weight regain after a period of time.

Weight-reduction programs are resource demanding for the individual patient as well as for the healthcare services considering the time, economical costs and emotional investment it requires. Currently there is no unique solution that ensures long-term maintenance of lost weight [7]. Several studies has explored the effectiveness of web-based and e-health interventions, on improving the outcomes in the area of weight-management, physical activity and dietary intake with unclear results [7].

Since its infancy in the 1980s [8], the perspectives and techniques of Participatory Design (PD) have become part of the state-of-the-art in systems development. As exemplified by Druin’s work with children [9], certain user groups require modification and adaptations to the existing PD methodologies. We will here report from a Participatory Design project with another non-standard user group: Obesity Patients.