Editorial

Ebesity – E-Health for Obesity – New Technologies for the Treatment of Obesity In Clinical Psychology and Medicine

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The spread of obesity (*globesity*) has been declared a worldwide epidemic by the World Health Organization (WHO). More than 1 billion adults are overweight and at least 315 million are clinically obese. This epidemic has generated an unlimited array of weight-loss strategies. Obesity is now one of the most important public and clinical problems: "it increases the risk of many health complications such as hypertension, coronary heart disease and type 2 diabetes, needs long-lasting treatment for effective results and involves high public and private costs" (p. 204, (Castelnuovo *et al.*, 2010)).

In the past few years, internet, mobile phone or computer based clinical protocols have shown promising long-term effects in the improvement of healthy lifestyle interventions for the treatment of obesity with or without complications (type 2 diabetes, eating disorders, etc.). These technologies (cd-rom software, internet websites, e-mail contacts, sms or mms based systems, telemedicine platforms etc.) have opened potential applications to revolutionize health care in different inpatient and outpatient settings.

There is a significant interest in the employment of new technologies and devices in order to obtain better results in weight-reduction programs: this literature has grown strongly over recent years (Riva *et al.*, 2001, Riva *et al.*, 2002, Simpson *et al.*, 2002, Jeffery *et al.*, 2003, Riva *et al.*, 2003, Simpson *et al.*, 2003, Castelnuovo *et al.*, 2004, Goulis *et al.*, 2004, Sherwood *et al.*, 2006, Haugen *et al.*, 2007, Joo and Kim, 2007, Wister *et al.*, 2007, Kim and Kim, 2008, Krukowski *et al.*, 2008, Morak *et al.*, 2008, Schiel *et al.*, 2008, Shaikh *et al.*, 2008, McTigue *et al.*, 2009, Park *et al.*, 2009, Castelnuovo, 2010, Castelnuovo *et al.*, 2010).

One of the main aims of the E-BESITY CPEMH special issue is to present new results concerning the use of advanced telehealth approaches. These innovations are designed to *bring healthcare to where it is really needed*, providing continuity between clinic settings and patients' daily lives. *Technology cannot replace medicine but it can improve the efficacy of traditional clinical and healthy lifestyle protocols*.

According to Scott and Wonderlich (2010), new technologies are continuously changing and providing new opportunities: "One final thought focuses on the ever-changing nature of technology – and therefore technology based interventions. Technology is always in flux; most cutting-edge technologies of today are typically nothing more than tomorrow's outdated and obsolete methods (keep in mind that the sun dial, abacus, and eight-track cassette players were all "cutting edge" at one time). We have seen many of these changes in our work: for example, modems that we once used with PDAs have become obsolete due to the cellular phones and digital phone lines, the Internet has dramatically changed the way telehealth treatments are being delivered, and some of our older PDAs are not compatible with newer computer operating systems. Technologies will inevitably continue to change, and with these changes will come additional opportunities for new applications to…. treatment…." (p. 507, (Scott and Wonderlich, 2010)).

Whereas some of these technologies have been the subject of extensive research to date, others are in their early stages of development and evaluation. This special issue presents a range of research studies, covering both ends of the spectrum. The STRATOB study by Castelnuovo and colleagues is a two-arm randomized controlled clinical trial comparing the effectiveness of BST (Brief Strategic Therapy) with the gold standard CBT (Cognitive Behavioral Therapy) in an inpatient and telephone based outpatient program for a sample of obese people with Binge Eating Disorder seeking treatment for weight reduction. This group also report on their progress to date with a separate RCT which is examining the efficacy of the TECNOB program whereby participants were instructed to use a weight-loss web-site, a web-based videoconference tool, dietary software installed into their cellular phones and an electronic armband measuring daily steps and energy expenditure to maintain weight-loss, following inpatient hospital treatment. A range of technologies are integrated into the program, showing the potential for multi-modal treatment delivery options.

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A range of exploratory projects and smaller pilot studies are also presented in this special edition, which are vital at this early stage of trialing new technologies in the treatment of obesity. These include the introduction of a new technological paradigm 'Interreality' by Riva and colleagues, that integrates assessment and treatment within a hybrid experiential environment, including both virtual and real worlds and provides targeted support and suggestions through the use of bio and activity sensors and smartphones.

Several excellent recent studies have capitalized on the ubiquity of the internet and utilized this as a mode of treatment delivery for those with obesity and/or eating disorders. Funk and colleagues describe the development of a tailored self-assessment tool in an internet-based weight loss maintenance program, demonstrating the potential for technology in both replicating personal counseling and tailoring treatment strategies based on client feedback. Carrard *et al.* evaluated a self-help internet-based treatment program composed of eleven CBT based modules in a population of adult obese patients with Binge Eating Disorder, with encouraging results, both in terms of outcome and overall acceptability of the program. Lindenberg *et al.* describe an internet-based program, 'Appetite for Life', which was specifically designed to provide individualized support to students at-risk of developing an eating disorder. This stepped-care approach encourages users to make choices and seek support according to their personal preferences, thus utilising the technology to meet the needs of individuals and to enhance self-efficacy. The treatment and prevention of childhood obesity has also been targeted through the development of the 'ETIOBE' e-therapy platform. This system aims to improve long-term weight loss maintenance by specifically addressing treatment adherence and self-control in the context of teaching and reinforcing healthy lifestyle habits (Banos *et al.*).

Videoconferencing has played an important role in the assessment and treatment of obesity and eating disorders; a critical development both for obesity sufferers located in remote and rural areas, and for those who are unable to travel to appointments due to disability or ill-health. Morrow and colleagues demonstrate the potential of videoconferencing as a means of providing multidisciplinary post surgical review of bariatric surgery patients and Simpson and Slowey examine the use of videoconferencing in a case study, exploring the provision of psychological treatment for co-morbid obesity and eating disorder. These preliminary studies are ideal for the examination of process issues, thus facilitating the exploration of interactions between technology and psychological treatment models.

The studies described in this special edition on e-besity have gathered important data on the effectiveness, acceptability and feasibility of a range of technologies in treatment and weight-loss maintenance and will inform the development of large scale efficacy studies in the future. As Manzoni observes in his systematic review of internet-based treatment programs, there is a great need for improvement and standardization of the design of future studies in this area which will allow for the identification of factors which are critical to the success of weight loss and maintenance.

COMPETING INTEREST

No Competing interests are declared.

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