

Chapter 63

A Stepped Care mHealth–Based Approach for Promoting Patient Engagement in Chronic Care Management of Obesity With Type 2 Diabetes

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ABSTRACT

Diabesity could be defined as a new global epidemic of obesity and being overweight with many complications and chronic conditions. The financial direct and indirect burden of diabesity is a real challenge in many Western health-care systems. Even if multidisciplinary protocols have been implemented, significant limitations in the chronic care management of obesity with type 2 diabetes concern costs and long-term adherence and efficacy. mHealth approach could overcome limitations linked with the traditional, restricted and highly expensive in-patient treatment of diabesity. The mHealth approach could help clinicians by motivating patients in remote settings to develop healthier lifestyles and could be implemented in the Chronic Care Model. A practical stepped-care model for diabesity, including mhealth approach and psychological treatments with different intensity, is discussed.

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FACING DIABESITY WITH A CHRONIC CARE MANAGEMENT APPROACH: REDUCING COSTS AND IMPROVING LONG-TERM ADHERENCE AND EFFICACY

Francine Kaufman coined the term “diabesity” (diabetes + obesity) to describe the dangerous combination of obesity, insulin resistance, metabolic syndrome and type 2 diabetes (Jones, 2006; Kresser, 2014a, 2014b; Leiter et al., 2013).

Diabesity could be defined as a new global epidemic of obesity and being overweight with many complications and chronic conditions. Such conditions include not only type 2 diabetes, but also cardiovascular diseases, hypertension, dyslipidemia, hypercholesterolemia, cancer, and various psychosocial and psychopathological disorders (Byrne, Cooper, & Fairburn, 2004; Castelnuevo et al., 2014; Flegal, Graubard, Williamson, & Gail, 2005; Wadden, Brownell, & Foster, 2002; Whitlock et al., 2009).

The etiology of diabesity is universally recognized as multifactorial with a complex interaction between genetic, individual, and environmental factors (Marcus & Wildes, 2009). Genetics plays an important role, but behavioral factors, such as a dysfunctional diet and low physical activity, are among the main modifiable and proximal causes strictly connected to obesity and obesity-related complications (Dombrowski et al., 2012).

Diabetes is emerging as a relevant chronic disease in the USA, particularly among children. The financial direct and indirect burden (considering also the clinical resources involved and the loss of productivity) is a real challenge in many Western health-care systems (Malvey & Slovensky, 2014). The total costs of diagnosed diabetes grew from US\$ 174 billion in 2007 to US\$ 245 billion in 2012 with an increasing of 41 (American Diabetes Association [ADA], 2013).

With respect to the significant health care costs associated with treating obesity and type 2 diabetes, recently the Lancet journal defined diabetes as a 21st-century challenge: “the economic effect of diabetes is enormous. In 2010, global health expenditure attributable to diabetes was estimated to be US\$376 billion—that is, 12% of all global health expenditure. In the USA in 2012, the direct medical cost of diabetes was \$176 billion” (McCormick & Stone, 2007, p. 60; Zimmet, Magliano, Herman, & Shaw, 2014).

About obesity, different opportunities for prevention and treatment approaches targeting a part of or the entire population have been studied and are well described in (Rothberg, Peeters, & Herman, 2014): “Obesity may be viewed as a continuum with at least three opportunities for intervention... Primary prevention targets the entire population. Indeed, almost everyone in the population is at risk for obesity... Delaying the onset of obesity or limiting its severity may reduce its comorbidities and complications. Interventions for primary prevention focus on decreasing energy intake, increasing energy expenditure, or both. They may include health-care, community, or environmental measures to encourage people to eat less, be more active, and maintain a healthy weight.

Secondary interventions target people with obesity at high risk for complications, such as those with glucose intolerance at risk for type 2 diabetes or those with hypertension or dyslipidemia at risk for cardiovascular disease. Targeted lifestyle interventions and medications may produce and maintain weight loss, improve risk factors, and delay or prevent complications.

Tertiary interventions target people with severe obesity and its attendant complications, such as type 2 diabetes and coronary artery disease. For such individuals, bariatric surgery can induce weight loss and delay or prevent the development of additional complications including diabetic microvascular and neuropathic complications, myocardial infarction, and death. All interventions have the potential to delay comorbidities and complications, reduce costs, and improve quality of life and survival” (pp. 453-454).

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