



Motivators, barriers and strategies of weight management: A cross-sectional study among Finnish adults



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ARTICLE INFO

Keywords:

Barriers
Cluster analysis
Motivators
Principal component analysis
Strategies
Weight management

ABSTRACT

Background: Weight management (WM) is an ongoing global challenge. The purpose of this study was to analyze motivators, barriers, and strategies of WM among Finnish adults.

Methods: Data were collected in the 'KULUMA' (Consumers at the Weight Management Market) project among 667 community-dwelling adults in Eastern and Central Finland (Kuopio and Jyväskylä). The self-reported questionnaire collected background information and responses to motivators, barriers, and strategy items. Principal component analysis (PCA) was used to extract components of motivators, barriers, and strategies of WM, along with K-means clustering to categorize the participants.

Results: About 55% of the respondents were aiming to lose weight. The PCA resulted in a 3-component model for motivators (*functional aspects, sociological aspects, and psychosocial aspects*), a 4-component model for barriers (*life situations, food environment, personal issues, and resources*) and a 2-component model for the strategies of WM (*dietary strategies and life-management strategies*). The components had several relationships with demographic characteristics (especially with age) but only a few with weight-related characteristics (e.g. weight loss attempts). Three clusters of participants were formed: *Struggling weight managers (WMs)*, *Independent WMs*, and *Determined WMs*. Barriers to WM had a key role in differentiating clusters and weight satisfaction. *Determined WMs* were the most satisfied with their weight, whereas *Struggling WMs* perceived the highest level of barriers to WM.

Conclusions: WM efforts are common among Finnish adults. Generally, weight-related activities and communication in society should focus more on barriers than merely on the motivation or strategies of WM in order to support individuals' WM efforts.

1. Introduction

Excess body weight is a global public health problem, and worldwide obesity has more than doubled since 1980 (WHO, 2016). A 2014 population survey in Finland revealed that 60% of men and 43% of women were overweight or obese (Helldán & Helakorpi, 2015). In the same study, 35% of Finnish working-age women and 24% of working-age men reported trying to lose weight during the previous year (Helldán & Helakorpi, 2015). However, the long-term success rates of weight management (WM) are low; it is estimated that most individuals regain 33% to 100% of the lost weight within 5 years (Bacon & Aphramor, 2011).

Considering the ongoing efforts for WM and low long-term success rates, more understanding is needed about the factors associated with WM and the WM practices people use in their daily routines. Among these factors, there are motivators and barriers of WM, which either facilitate or impede individuals' adherence to WM programs, respectively. Moreover, little is still known about which strategies people use when engaging in WM practices on their own (Soini, Mustajoki, & Eriksson, 2015). Therefore, we were interested in conducting a study in a real-life setting in order to get diverse viewpoints from community-dwelling Finnish nationals who have had experience with WM.

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<https://doi.org/10.1016/j.eatbeh.2018.08.009>

Received 21 January 2018; Received in revised form 29 August 2018; Accepted 31 August 2018

Available online 31 August 2018

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1.1. Motivators of WM

Motivation is the energy that directs our behavior (Deci & Ryan, 2000). Thus, anything contributing to this energy can be regarded as a motivator for behavioral change. In terms of WM, individuals declare that they know what to do to control their weight but have problems motivating themselves in the long-term (West et al., 2011). Several motivators of WM have been identified. For example, high intrinsic motivation, flexible cognitive restraint of eating, and exercise self-efficacy are positive predictors of successful WM (Teixeira et al., 2002; Teixeira et al., 2004; Teixeira et al., 2010). WM programs, including motivational techniques such as Motivational Interviewing (MI), which focuses on personal motivations of behavior change, may improve long-term outcomes (Carels et al., 2007).

1.2. Barriers of WM

Contrary to the motivators, barriers of WM can refer to anything that challenges individuals' efforts toward WM. It has been shown that if one perceives barriers to lifestyle changes, this can predict negative success in WM (Coghill & Cooper, 2009). In recent studies, the enjoyment of eating food and a lack of self-discipline to control appetite, medical conditions, stress-related eating disorders, and small portion sizes, which do not necessarily satisfy an individual's "feeling of being hungry," have been reported as barriers to WM (Ali, Baynouna, & Bernsen, 2010; Halali, Mahdavi, Mobasseri, Asghari Jafarabadi, & Karimi, 2016). In order to anticipate sustained outcomes, it is essential that WM programs address the potential barriers.

1.3. Strategies of WM

Decreasing total caloric intake and increasing physical activity are commonly recommended for healthy weight loss (Nicklas, Huskey, Davis, & Wee, 2012; Wing & Phelan, 2005). In the Finnish Weight Control Registry (FWCR), individuals who achieved successful weight loss (i.e., a weight loss of at least 10% and maintaining that weight loss for a minimum of 2 years) smoked less, consumed less alcohol, and were more physically active when compared with the general Finnish population (Soini et al., 2015). Among FWCR participants, eating habits associated with successful long-term weight loss maintenance included regular meal frequency (e.g., eating 3–5 times a day) and a reduction in the intake of energy-dense foods, such as candies and fast food (Soini, Mustajoki, & Eriksson, 2016). In the National Weight Control Registry (NWCR), individuals who achieved successful weight loss (i.e., achieving a weight loss of > 13.6 kg and maintaining that weight loss for at least 1 year) were followed for 10 years. High levels of physical activity, low calorie and fat intake, in addition to high levels of restraint and low levels of disinhibition of eating were reported as central behaviors for successful WM (Thomas, Bond, Phelan, Hill, & Wing, 2014).

The present study has specifically aimed to analyze motivators, barriers, and strategies of WM among community-dwelling Finnish adults who have had experience with WM, as well as the relationships of these factors with socio-demographic (i.e., age, gender) and weight-related characteristics (i.e., history of previous weight loss attempts).

2. Methods

2.1. Participants and study design

The data for the present study was collected in the 'KULUMA' (Consumers at the weight management market) project. A quantitative survey, including a self-reported questionnaire, was conducted among grocery customers in two supermarkets located in Eastern and Central Finland (Kuopio and Jyväskylä, respectively). During a four-day period, 2000 questionnaires were randomly distributed among the customers after their normal shopping tour at the entrance hall of the

supermarket. Customers were asked to fill in the questionnaire at home and to mail it in a prepaid envelope to the researchers within three weeks. Self-reported measures of weight and height were used to calculate the Body Mass Index (BMI) as weight (kg) divided by height in meters squared. Ten 20 euro-gifts were raffled among the customers completing the questionnaire. The study had received the approval from the Research Ethics Committee of the Northern Savo District (No. 114/2009).

Altogether 772 volunteer participants (284 men, 488 women, 38.6% of all) returned the questionnaire. To concentrate on the respondents with previous experience on WM, 93 participants (57 men, 36 women) were excluded from the data analysis since their response to the question "Have you tried to lose weight during your lifetime?" was "No". Additionally, 12 respondents who had filled out the questionnaire incompletely were dropped from the study. Consequently, the final population for this study is 667 participants. The mean (SD) age of the participants was 53.5 (15.4) years and the mean (SD) of BMI was 26.7 (5.2) kg/m². The study population consisted of 41% normal-weight, 39.4% overweight and 19.6% obese individuals.

2.2. Study questionnaire

The study questionnaire consisted of background questions about individuals' socio-demographic and weight-related characteristics (gender, age, occupation, education, BMI, current aiming to lose weight, satisfaction with current weight, readiness to make WM efforts, lifetime attempts to lose weight). In addition, the authors formulated 37 items to assess the motivators, barriers and strategies of WM (motivators, 10 items; barriers, 17 items; strategies, 10 items) (see the variables in Table 1). They formulated these items based on their review of the relevant literature and experience from clinics and clinical intervention studies (Karhunen et al., 2000; Karhunen et al., 2012; Koikkalainen et al., 1999; Lappalainen, Koikkalainen, Julkunen, Saarinen, & Mykkänen, 1998). The items were later supported by the findings of a qualitative study (behavioral analysis) performed among 49 overweight or obese individuals participating in a follow-up session of a weight loss and maintenance intervention (Sairanen, Lappalainen, Lapveteläinen, & Karhunen, 2012). The respondents were asked to indicate the importance of each motivator for WM in their daily routine on a ten-point category scale (1 = not at all important, 10 = very important). For the barriers of WM, the respondents were asked to indicate to what extent the given barrier item made their WM difficult (1 = not at all, 10 = very much). For the items concerning strategies of WM, they were asked how frequently they used each strategy for their WM on a ten-point scale (1 = not at all, 10 = continuously).

2.3. Statistical analyses

A principal component analysis (PCA) with varimax rotation was performed to categorize the similar items of the motivators, barriers and strategies of WM into a number of components. Eigenvalues over 1 were acceptable for factor retention (Kaiser, 1960). Items with factor loadings higher than 0.4 were included in the final analysis. Components extracted through PCA were named, based on the items loaded on them, to make the interpretation of the results easier. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy for the motivator, barrier and strategy components were 0.81, 0.88 and 0.80, respectively. We performed a K-means cluster analysis based on all of the items of the motivators, barriers and strategies of WM in order to categorize our participants. Chi-square test and subsequent follow-up tests were used to examine the difference of gender distribution between clusters. We conducted series of univariate analysis of covariance (ANCOVA) to test for differences in sociodemographic characteristics (age, occupation, education) and weight-related characteristics (BMI, current aiming to lose weight, satisfaction with current weight, readiness to make WM efforts, lifetime attempts to lose weight) between the

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