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The importance of self-management in the prevention and treatment of excessive weight and obesity

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Abstract

OBJECTIVES: The aim of this research into 'self-management' was to determine to what extent respondents were aware of their status as overweight or obese. For respondents who indicated that they were overweight or obese, the goal was to determine whether they tried to lose weight, what steps they took to control their, and what specific methods they used.

METHODS: Information was collected using semi-structured interviews from May 31, 2014, to January 30, 2015. Data processing was performed using statistical analysis of the social data SASDM 01/04/10 software. The total study group consisted of 600 respondents, including 302 from the Roma minority, and 298 from the non-Roma majority population (control group). Respondents were selected specifically from South Bohemia Region of the Czech Republic. The sample from the Roma minority was constructed using the snowball method (Snowball Sampling). The control sample of non-Roma was selected through quota sampling.

RESULTS: The results indicate that the respondents from both the Roma minority and the non-Roma control group generally recognized when they were overweight or obese, or they were aware of it to a much lesser extent than objective indicators revealed. More than two thirds of the respondents who admitted they were overweight or obese ($N = 143$) reported that they had suffered from overweight or obesity since they were young adults. Significantly more members of the majority population had tried to lose weight using self-management, whereas the level of effort was significantly less among members of the Roma minority ($P = 0$). Nevertheless, Roma respondents significantly more often reported ($P < 0.01$) that they had agreed on a specific weight loss plan with a doctor.

CONCLUSION: The results of our research show that in the context of prevention, it is important to promote self-managed skills, habits and other characteristics that can play an important role in the prevention and treatment of obesity and overweight.

ORIGINAL ARTICLE

INTRODUCTION

The worldwide incidence of overweight and obesity is alarming. It is becoming not only an individual problem but also a medical and economic problem for society as a whole. According to Müllerová (2009), half of the adults and one in five children in Europe are overweight, and one third of them are actually obese. In the "White Paper on Strategy for Europe on Nutrition, Overweight and Obesity", The Commission of the European Communities reported that in the last three decades there has been a rapid increase in the number of people who are overweight and obese, and also identified a worsening trend with regard to poor quality of diets and lower levels of physical activity among the EU population (White Paper on Strategy… 2007). According to Hlúbik and Vosečková (2009), the increasing prevalence of excessive weight and obesity affects not only current lifestyle development, but also socio-cultural influences felt by individuals.

Socio-cultural influences are also of great importance in shaping individual systems of values; they can also influence how a person lives their life and the quality of life. In many studies, as stated in Levin and Chatters (1998), personal well-being, which has two basic dimensions: subjective personal comfort and objective personal comfort, is also perceived to be part of the quality of life equation. Kebza (2005) refers to the structure of personal comfort according to Ryff and Keyes (1995), which is composed of six basic dimensions. One of these dimensions is self-acceptance, which is of great importance in a person's perception of being overweight or obese. Self-acceptance means, among other things: a positive attitude towards oneself, satisfaction with oneself, and acceptance of various aspects of oneself, including both good and bad qualities (Kebza 2005). It is this dimension of personal comfort that can affect individual changes in behaviour and positively impact their health. In the process of changing a behaviour it is very important that the person have faith in their own abilities, and be convinced that a certain behavior will lead to a specific outcome. Bandura (1986), in his social cognitive theory, states that with regard to personal conduct, anticipation regulates individual actions. Before each new behaviour, the first step is the formulation of a plan, which is then followed by attempts to implement the plan. Of course, beliefs regarding the potential effectiveness of the new behaviour play a very important role. According to Schwarzer and Fuchs (2002), self-efficacy beliefs can also influence weight control, and are most effective when coupled with other lifestyle changes. To implement the plan, it is necessary to have the 'will' to change something and learn something new, which was referred to by Bischof A. and Bischof K. (2003) as 'having self-management', this 'will' supports an individual's ambition, seriousness, and reliability. According to Gruber (in a publication by Bischof A. and Bischof K. 2003), it is a technique by which individuals learn to perform anything using their abilities. Self-management (Plamínek 2004) significantly contributes to success in changing a behavior. As people approach adulthood, there is an expectation that they are be able to take control of their own life and deal with issues and problems encounter. They are expected to gradually develop a comprehensive understanding of life; and based on this understanding they are expected to "work" on themselves to improve their conditions. Sociocultural influences also affect the extent of a person's self-esteem. As stated by Siegrist (1988), markedly enhanced health-related self-esteem is especially obvious in groups with higher educations. Similar to general social values regarding health and disease, it is characteristic of lower and middle classes that they are more likely to suffer a degree of socio-economic and socio-cultural harm. Individuals living in low socio-economic and socio-cultural conditions are more likely to focus on social norms that are contrary to a healthy lifestyle. In terms of nutrition, as Hajduchová and Urban (2014) reported, the poor suffer more from obesity, because they cannot afford high quality food, and therefore, their social situation is reflected in their health.

In addition, a well-functioning social group (family, community, etc.) is of great importance in developing the competencies of individual self-regulation, meaning that they decisively contribute to the stabilization of their own opinions (Siegrist 1988).

The aim of this research into 'self-management' was to determine to what extent respondents were aware of their overweight or obese condition. If a respondent indicated that they suffered from overweight or obesity, the next objective was to determine whether they were trying to lose weight, what steps were taking to deal with the problem, and what specific methods they were using to lose or control their weight.

MATERIALS AND METHODS

Data collection was conducted using semi-structured interviews from May 31, 2014, to January 30, 2015. The data was recorded on a recording sheet. Data processing was done using the SASDM 1.4.10, social data statistical analysis program. The respondents were told in advance about the objectives of the research and acquainted with the recording sheet. Participation of respondents in the research was voluntary and took place with their consent. The research did not contain any contentious ethical issues. The sample group consisted of 600 respondents, including 302 from the Roma minority and 298 from the non-Roma majority population. Given that the primary goal of the research was to assess overweight and obesity in a minority population (in this case the Roma in South Bohemia), and compare it to the majority population, the sample group was designed to contain an appropriate representation of the Roma minority and the non-Roma majority population.

Group sizes were approximately equal, i.e. Roma (302, 50.3%) and non-Roma (298, 49.7%). Additionally, both groups were drawn from the South Bohemia region of the Czech Republic. The Roma group was designed using the snowball method (Snowball Sampling). Gender structure was the same for both groups and derived from the general population; it was assumed that gender distribution in the Roma and non-Roma populations were the same (50:50). In other words, the Roma sample group can be considered as representative in terms of gender. The non-Roma majority sample group was selected using quota selection. Age was not a selection criterion and no attempts were made to get age representative groups. However, the age distribution of respondents was noted. The Roma minority group had significantly more respondents (43.8% vs. 28.2%) in the youngest age group, which was 18–29 years of age. Distribution for other age groups were as follows (Roma vs. non-Roma): 30–39 age group, 16.3% vs. 26.2%; 40–49 age group, 18.6% vs. 15.8%; in the, 50–59 age group, 13.0% vs. 12.4%; 60–69 age group, 6.6% vs. 10.4% in the; and 70 or over, 1.7% vs. 7%. The groups were significantly different relative to age distribution ($P < 0.001$). They were also significantly different ($P = 0$) relative to education. In the Roma group, significantly more respondents had basic educations and apprenticeships, whereas the non-Roma majority group contained significantly more respondents with higher educations (Table 1).

The Roma group contained significantly more inhabitants coming from smaller municipalities (up to 5000 inhabitants) or from larger municipalities (over 100,000 inhabitants), while respondents from the non-Roma group were significantly more often from medium sized municipalities (5,000 to 99,999 inhabitants). The structure of the sample groups, therefore, differed relative to the size of the place of residence ($P < 0.001$). The sample groups also differed significantly ($P = 0$) with regard to occupation. In the Roma group there were significantly more unemployed individuals, disabled pensioners and respondents on parental leave, whereas in the non-Roma group, there were significantly more employees, businesspeople, and pensioners.

Tab. 1. Structure of groups by education.

GROUP	ROMA		non-ROMA	
	N	%	*N*	%
Basic	248	82.7	4	1.4
Apprenticed	41	13.7	19	6.4
AS no GCSE	3	1.0	8	2.7
AS with GCSE	3	1.0	138	46.8
Higher specialized education	1	0.3	14	4.7
University education	4	1.3	112	38.0
Total	**300**	**100**	**295**	**100**

Note: 2 respondents from the Roma minority and 3 respondents from the majority population did not specify their education.

RESULTS

When looking at cardiovascular health, objective indicators (BMI, WHtR, WHR, body fat) of overweight and obesity were significantly more common in the Roma group. However, a comparison of the responses from Roma and non-Roma to a direct question on 'if they were overweight or obese' showed that the two groups weren't significantly different, indicating that percentage-wise, more participants in the Roma group were either unaware or were unwilling to admit their overweight or obese status (Table 2). In fact, a slightly larger number of Roma answered negatively, i.e. that they were not overweight or obese; however, as previously stated this difference was not statistically significant. Analysis shows that approximately one quarter (25.3%) of the Roma minority, and about 3 in 10 (30.1%) of the non-Roma admitted they were overweight or obese. The proportion of those who chose the answer "do not know" was similar for both groups. The differences in responses to this question were, as already stated, statistically insignificant.

Those respondents who admitted that they were overweight or obese ($N = 143$) were also asked when they first had problems with weight control, i.e., whether it was in childhood or adulthood. In the Roma group, 22% of respondents reported that they had suffered from it since childhood vs. 28.6% for the non-Roma group. Since adulthood, was the response from 78.0% of the Roma group vs. 71.4% of the non-Roma group. Other questions in this section were for respondents who were found to be objectively overweight or obese. The questions focused on whether these respondents had or were attempting to manage their overweight or obesity, and what methods they had or were using. Members of the Roma group were more likely to have consulted a doctor about losing weight, which was indicated by one third of Roma respondents 33.3% vs. 27.6% of the non-Roma group. Respondents who identified as being overweight or obese were also asked whether they had agreed on a specific weight loss plan with a doctor; 24.8% of the Roma group, vs. 8.2% of the

Tab. 2. Subjective perceptions of overweight and obesity – by group.

GROUP	ROMA		non-ROMA		TOTAL	
	N	%	*N*	%	*N*	%
Yes	75	25.3	88	30.1	163	27.7
No	182	61.5	162	55.5	344	58.5
Do not know	39	13.2	42	14.4	81	13.8
Total	**296**	**100**	**292**	**100**	**588**	**100**

Note: 6 respondents from the Roma minority and 6 respondents from the majority population failed to answer the question

non-Roma group reported that they had agreed on a specific weight loss plan. This difference was significant ($P < 0.01$).

Another question that was examined was whether a doctor had offered overweight and obese patients an opportunity to attend group therapy. Results showed that group therapy overweight or obese patients were rarely advised (5.9%). However, when this option was recommended, it was more frequently recommended to members of the Roma minority ($P < 0.05$). This part of the study also examined whether respondents had been offered an opportunity to consult a nutritionist. Oddly, those suffering from overweight or obesity were rarely referred to a nutritionist by their doctors. The percentage of those who were offered consultation with a nutritionist was less than 8%; there were no statistically significant differences between the Roma and non-Roma in this regard. For those that did see a nutritionist, most respondents reported their experience with the nutritionist as a positive one.

Individual effort to control overweight or obesity is very important for treating the problem. This topic was also examined as part of the study. Most people suffering from excessive weight or obesity try to lose weight themselves, mostly through diet or exercise and without the intervention of doctors. Significantly more members of the non-Roma group attempted this approach, while significantly fewer members of the Roma group had tried this approach ($P = 0$). This suggests that members of the Roma group made much less effort to lose weight without medical assistance. In the non-Roma group there was a statistically significant ($P < 0.001$) correlation between actual efforts to lose weight without a doctor's intervention and level of education.

Those respondents who stated they had tried to lose weight alone were also asked about the results of their efforts. On the one hand they were positive, but on the other hand, significantly more members of the Roma minority reported negative results with regard to their effort to lose weight. Members of the majority population tended to assess their results as neutral, as opposed to negative, significantly more often. These differences were evaluated as statistically significant ($P < 0.001$). The intensity of the effort to lose weight by those who were overweight or obese was measured using a question that examined the methods used. The response to this question by members of the Roma group was significantly different ($P < 0.001$) from the non-Roma group. Members of the Roma minority significantly more often stated that they had done nothing to lose weight, while non-Roma participants reported using exercised or other methods significantly more often. There was no significant difference among those who reported having 'been on a diet' for weight control. Results suggest that members of the Roma minority seemed have little initiative to reduce their weight, while non-Roma were more inclined to try exercise or dietary changes, such as diet adjustment, separation diet, smaller portions of food, and active movement e.g., walking, cycling, jogging, etc. (Table 3).

Tab. 3. Methods used to control overweight and obesity – by group.

GROUP	ROMA		non-ROMA		TOTAL	
	N	%	*N*	%	*N*	%
Exercise	51	29.3	62	44.9	113	36.2
Use of diet	48	27.6	37	26.8	85	27.3
Use weight loss pills	4	2.3	0	0.0	4	1.3
No intervention	61	35.1	19	13.8	80	25.6
Other interventions	10	5.7	20	14.5	30	9.6
Total	**174**	**100**	**138**	**100**	**312**	**100**

Note: respondents could mark more than one answer.

Weight reduction requires not only a strong will but also the support of loved ones, especially family members. This issue was also part of the study. An analysis of the responses to this question showed that Roma families support relatives in their efforts to lose weight significantly less than non-Roma families. The chi-square test of independence characteristic (χ^2) was 7.541 with 1 degree of freedom, $P < 0.01$. The last of the questions focused on the issue of 'self-management' in relation to the problems of overweight and obesity. It examined whether a physician participated in the process, and if progress in weight loss was noted. The question was asked as a dichotomous closed question; 23.3% of Roma respondents reported no success vs. 17.9% of the non-Roma respondents.

DISCUSSION

Obesity and overweight have become a worldwide epidemic. It is the sixth most important risk factor that threatens overall health. Every year, the third Saturday of May is "European Day of Obesity", which is intended to motivate and encourage people who are overweight and obese to change their lifestyles. Formation and implementation of a human behavior, as reported by Müllerová (2009), cannot be explained only by motivation, since changes in behaviour are influenced by biological, cultural, and situational factors. In our survey, we researched the willingness and activities of the respondents who admitted that they were overweight or obese, and their efforts, in the context of 'self-management', regarding weight loss.

An interesting finding was that in the Roma group, only 25.3% of respondents subjectively perceived himself or herself as overweight or obese, despite the fact that, according to BMI, 61.8% of respondents suffered from 1st, 2nd and 3rd degree overweight or obesity. Thus, more than half of the respondents were unaware of their weight problems or were unwilling to admit they had a weight problem. Based on the interview in the qualitative part of the research, obesity and overweight

was seen as an indicator of well-being by a large part of the Roma minority, which may explain why they did not perceive themselves as being overweight or obese, despite BMI data to the contrary. Ethnicity may also affect self-perception and evaluation, which was demonstrated by Gluck and Geliebter (2012), Langellier *et al.* (2015) in African American women and Babtista (2011) in Jordanian women. In both cultures, slimness was not perceived as 'ideal' and lower social pressure within their culture toward having an 'ideal figure' influenced individual behaviour. In their publications, Cachelin *et al*. (2002) suggested that ethnicity might be related to social pressure towards a preferred physical appearance. This leads us to stress that overweight and obesity not be viewed as a cosmetic issue, but as a serious disease.

In a WHO (2014) document, it was stated that the increased intake of high-fat, energy-dense foods, increased physical inactivity due to the sedentary nature of many occupations, changed transportation modes, and increased urbanization are the primary global causes of overweight and obesity. If there are known causes of overweight and obesity, more attention should be paid to preventative measures. The role of motivating and leading individuals to preventive activities falls under the competencies of health care workers. As reported by Tóthová *et al.* (2014), community health should be focused on not only performing therapeutic interventions, but mainly on advisory, educational, and managerial activities. In terms of guidance, however, not only health care professionals (doctor, nurse, etc.) or effective standards (thematic interviews, structured work with small groups, etc.) should be considered, but also methods, contents, and goals of specific problem groups. Medical consulting requires different approaches for different individual groups, and cannot be limited to only those groups who seek it. Doctors, therefore, need to be motivated to perform this activity in municipalities, educational institutions, etc., and this will have a dramatic impact on public awareness. Only one third of respondents in our research group, who admitted to suffering from overweight and obesity spoke to a doctor about losing weight, and approximately the same percentage took the additional step of arranging a particular weight loss plan. However, most respondents were not offered an opportunity to visit a therapy group, or the chance to consult with a nutritionist. If a person decides to change their behavior, in an effort to reduce their weight, then it is necessary to provide maximum assistance, since the efficacy of activities are often affected by whether there are enough subjective preconditions and objective conditions for its implementation. According to Bedrnová *et al.* (2009), our decisions on specific activities regarding 'self-management' are influenced by education and learning, as well as by our skills and abilities. In order to change something through efficient and effective 'self-management', an individual must use their own knowledge and performance to come to the conclusion that changes are necessary, which according to Plamínek (2004), will be powered by an individual's inner feelings and needs that arise on the basis of a negatively perceived, significant discrepancy between expectations and reality. In the framework of 'self-management' in our research, members of the non-Roma group tried to lose weight significantly more often than did members of the Roma group. Members of the Roma minority responded significantly more often that they were not engaged in any weight loss activities. This suggests that Roma individuals were unaware of their weight status, as well as the risk associated with overweight and obesity, which influenced their desires and motivation to undertake a weight reduction program. Ivanova *et al.* (2005) reported that the influence of a culture manifests itself in these kind of pre-programmed behaviors, which is to say, each culture has its own typical cultural patterns and norms of behaviour. Studies carried out in America confirmed an association between ethnicity and a higher prevalence of overweight and obesity. Several authors have studied the differences in the occurrence of overweight and obesity among African American relative to non-African American women (Hainer *et al.* 2004; Pan *et al.* 2009; Lynch and Kane 2014). A three-year study showed a significantly higher prevalence of overweight and obesity among African Americans and Hispanics (Pan *et al.* 2009). Divergence was also observed with regard to perception and evaluation of beauty and attractiveness in individual ethnic groups (Kasalický 2007; Baptista 2011; Gitau *et al.* 2014). It has been confirmed that the perception of appearance is significantly under the influence of culture and associated cultural pressure.

CONCLUSION

In recent years there has been a sharp increase in levels of overweight and obesity in both developed and developing countries. The rapid increase in overweight and obesity has non-dietary influences such as socio-cultural influences. It is generally known that overweight and obesity can cause a variety of chronic diseases, which can adversely affect quality of life. It is highly desirable that people be aware of these threats, and take the necessary steps to change their lifestyle. Positive results that can come from preventive actions can only be achieved if an individual uses 'self-management' skills to actively regulate their own actions toward a desired goal. We often find that individuals do not have perfect 'self-management' skills, even though 'self-management' skills are emphasized during childhood and as part of the educational process. Bedrnová (1999) indicated that the path goes from the external environment, i.e., social and parental upbringing and education to the internal environment, i.e., self-regulation. A successful transition between the external and internal is essential for the optimal fulfillment of life. Based on the

results of our research, we can say that in the context of preventive activities, it is necessary to fully support the strengthening of 'self-management' skills, habits, and other characteristics, which can play an important role in prevention and treatment of overweight and obesity.

Conflict of interest

The authors report no conflict of interest.

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