

PERSONALITY FACTORS IN OBESITY AND CHRONIC PAIN

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Summary

Objective: To evaluate obesity and some personality factors (optimism, pessimism, gelotophobia) as markers for increased pain severity and psychological distress in mixed chronic pain patients. Seventy-two chronic pain patients were divided into two weight categories, based on body mass index (BMI): normal ($BMI < 25 \text{ kg/m}^2$) and overweight and obese ($BMI \geq 25 \text{ kg/m}^2$). The patients completed questionnaires to identify pain severity, anxiety, optimism, pessimism, gelotophobia and life satisfaction. Pain severity and days per week with pain were similar in the weight groups. Gelotophobia is defined as the pathological fear to appear as an object of ridicule to social partners. Gelotophobia at its extreme involves a more or less pronounced paranoid tendency, a marked sensitivity to offence, and social withdrawal. Gelotophobia was related to increasing weight, and increased BMI was associated with more days per week with reduced activity. Anxiety scores also correlated to the weight category, with an average Spielberger Anxiety Inventory score of 31.62 ± 5.25 in normal, and of 43.78 ± 11.04 in overweight and obese patients. Optimism and pessimism are general expectancies for the occurrence of positive or negative events in the future or an explanatory style, attributing positive or negative events to internal, stable, and global causes. Optimism was also reduced in relation to weight. Weight is associated with anxiety, gelotophobia and reduced life satisfaction in chronic pain patients. This study found that pessimism may positively or negatively influence efforts to increase health-promoting behaviors. Calculation of the BMI should become a routine part of the screening evaluation for chronic pain patients, with an additional screening for personality and psychologic distress in patients with elevated BMIs.

Key words: personality, anxiety, gelotophobia, life satisfaction, chronic pain

Introduction

Obesity has significant consequences for health and is a leading cause of a number of chronic illnesses [1] such as diabetes, hypertension and coronary disease. There are an increasing number of researches showing that there is a correlation between obesity and pain [2]. The correlation between obesity and lower back pain is not direct. There are factors that

play a role as intermediate variables. Such variables include sex [3], age [4], height [3] and the distribution of body fat [2]. Intermediate variables could be the number of socio-economic factors related to lifestyle such as smoking [3] and physical activity [5]

In a research on the effects of pain on life quality in obese patients [2, 6], it was found that almost half of them complained of mild or severe present pain. The most common type of pain is caused by arthritis, breast pain, lower back pain, and headache. Obese patients suffering from chronic pain state that they have a significantly poorer quality of life than the ones that are pain-free. There is another study with similar results - the rise in body mass index (BMI) is related to worsening of depression, tiredness and reduced physical activity [7].

Obese patients are at a higher risk of depression [8]. Obese adolescents choose improper ways, such as alcohol and drugs use, to cope with loneliness. Low self-esteem, shyness and pessimism are fueled by the conviction that everyone is to blame for their weight.

A number of researchers have shown that there is a significant correlation between obesity and mood swings [9, 10, 11]. However, these researches point to sex-related differences, namely that there is a positive correlation between depression and obesity in women, and negative - in men [12, 13]. Moreover, chronic pain and depression are the two most common health problems of today [14]. Depression is four times more common in patients with chronic pain [15]. Many authors have found that the incidence of depression bouts increases proportionally to the increase in pain severity [14].

In addition, the combination between chronic pain and depression correlates with higher levels of helplessness and disablement, as compared to chronic pain and depression when considered separately.

Personality traits could be defined as stable, fundamental measurements of the personality which have an influence on the thoughts and behavior of the individual in different situations. According to this definition, personality is connected to lifestyle, nutrition behavior and, of course, with obesity. Most authors are of the opinion that obesity is a syndrome featuring more than one aspect from physiological and psychological points of view. According to Palme and Palme (1999), obese women are more susceptible to anxiety and anti-social behavior, as

compared to the general population. In the study of Fassino (2002) in which obese women were compared with non-obese ones, a conclusion was drawn that obese women had personality traits such as irritability, impulsiveness, passiveness and emotional instability.

Gelotophobia is defined as a pathological fear that one looks ridiculous in the eyes of everyone. Therefore, gelotophobics are afraid to open up to others, lest they should present evidence of being ridiculous, and thus provoke derision. Gelotophobia contains more or less paranoid tendencies, an emphasized sensitivity towards insults, as well as social shunning [16]. In the terminology of the five-factor model of the *self*, gelotophobics could be described as emotionally unstable introverts that are prone to being hostile to the surrounding ones and closed to new experiences. Due to all these facts, gelotophobia could be viewed as a personality variable that influences the behavior and cognitive processes in overweight people.

Obese people, especially children and teenagers, have usually experienced a trauma during childhood. Obese children are often ridiculed by their classmates about their figures. An obese child does not love his/her own body, and this makes him/her an ideal object of ridicule, which in turn leads to specific gelotophobic symptoms.

Aim: To evaluate obesity and some personality traits (optimism, pessimism and gelotophobia) as factors influencing the intensity of pain and distress in patients with chronic pain.

Subjects and Methods

Seventy-two patients with chronic pain were divided into two groups according to their body mass index (BMI) as follows: normal weight ($BMI < 25 \text{ kg/m}^2$) and obese ($BMI \geq 25 \text{ kg/m}^2$).

All the participants selected for the study had been diagnosed with rheumatism, arthritis, headache, and LBP. The patients were enrolled over a period of five months by general practitioners during consultations. They were given 96 questionnaires, of which 72 were filled out and returned. Most of the participants (51.00%) were with high school education. Two-thirds of them (62.70%) were unemployed, and most of them were married (55.80%). Their age varied between 17 and 76 years (average age 55.20 years; SD 9.8). The sickness period varied between 6 months to 45 years as the average

value was 13.0 years (SD 7.5) (Table 1).

Table 1. Demographic characteristics of subjects investigated

Characteristics	BMI<25 (N=32)	BMI≥25 (N=40)	all (N=72)
Age (average x)	54.0 (6.1)	56.4 (5.3)	55.2 (9.8)
Sex – women	51.1%	52.3%	51.4%
Education- High school or more	53.6%	45.9%	51.7%
Marital Status	54.8%	58.6%	55.8%

Scale for subjective evaluation of pain

Visual Analog Scale (VAS) – self-estimate measurement of pain which includes the choice of a point on a 10cm line between the definitions “lack of pain” and “the pain is so strong that I can barely take it” [17].

Gelotophobia Test

The test contains 46 questions divided into the following scales:

- 1) Paranoid sensitivity in relation to mockery
- 2) Fear of being ridiculed by the rest of the people
- 3) Critical perception of one's body
- 4) Critical perception of one's verbal and non-verbal expression
- 5) Social shunning
- 6) Discouragement in comparison with the people's humor
- 7) Traumatic experience of derision in the past.

Spielberger test for situational and personality anxiety [18]

The test consists of two subscales with 20 questions each: situational anxiety scale and personality anxiety scale. In the present study, only the scale measuring the anxiety as a personality trait was used.

Method of measuring generalized expectations of the valence of the investigations [19]

The questionnaire consists of 21 items that are estimated by the subjects using a 5-degree scale and the results are formed on two scales: optimistic and negative expectations.

Scale for measuring life satisfaction [20]

The subjects describe their life using ten contradictory statements. There is one question pertaining to *life satisfaction* in general.

Results

Pain intensity

The intensity of pain did not correlate significantly with the body mass index (BMI) in the patients examined. However, the lack of strength increased significantly with the increase of the BMI. A pronounced correlation was established between the BMI and the lack of energy ($r=0.45$; $p<0.05$) and diminished physical activity ($r=0.52$; $p<0.01$) during the examination of patients with chronic pain. These results confirm the data from researches previously made, stating that the correlation between chronic pain and obesity is mediated by a number of intermediate variables. In the current research, the following variables were analyzed: optimism, pessimism, gelotophobia, anxiety, and life satisfaction.

Personal peculiarities

Pessimism, Optimism

The term “optimism” was introduced in 1985 by Scheier [21], who defined it as a generalized expectation for good results no matter what factors and reasons lead to them. Sustaining pessimistic or optimistic expectations does not correlate with objective probabilities. Not without reason, a number of authors [22] describe optimism as bending expectations and comprehensions in a positive manner, and pessimism - as bending expectations and comprehensions in a negative manner. Some

researches have shown the correlation of optimism with depression and stress [23]. It is obvious that positive expectations lower the probability for developing depressive states and improve personal resistance to stress factors (Fig.1).

From the correlation analysis we made it is clear that optimism correlates significantly and negatively with the BMI ($r=0.36$; $p<0.05$), while there is no such correlation was established for pessimism. When comparing the groups according to BMI for optimism and pessimism, we noted pronounced discrepancies in the levels of optimism again (Fig.1). The patients with chronic pain and obesity were not more pessimistic as personalities, yet there was a lack of optimism too. This result is most probably related to the changes in the estimates of personal capabilities and the prospects for development in the obese patients. This fact is in accordance with the above mentioned sense of helplessness in connection to chronic pain, and the feebler wish for motivation and physical activity. On this note, the lower levels of optimism in the patients with chronic pain and obesity could be interpreted in the context of active life, which was also at lower levels. This is probably one of the reasons why these patients were less prone to physical activity when suffering from chronic pain, and reported a stronger sense of helplessness.

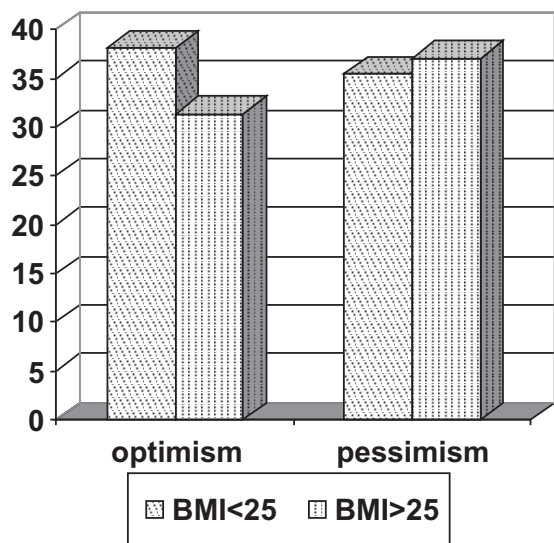


Fig.1. Importance of differences between the groups according to BMI-related levels of optimism and negative expectations.

Gelotophobia

People, especially children and teenagers suffering from obesity have to overcome physical and medical problems, in addition to psychological ones. It is not surprising that an obese child is being mocked by his/her peers for his/her figure. These problems get worse if the teenager is a girl because girls are more concerned about their figures. An individual has to overcome very complex emotional and psychological challenges and is not very successful in coping with them. An obese child does not like and does not value his/her own body. A dissociation between mind and body is commonly observed in such children, and instead of loving their bodies, the children identify them as the reason for all their problems. Obese people are not self-confident and are often introvert, trying to evade social contacts. They are prone to suddenly withdraw into their own “shell”. In the sample of patients we investigated, we found higher levels of gelotophobia (78.26%), as compared to the normal weight group (67.45%); $T=-2,81$, $p<0.05$ (Fig. 2).

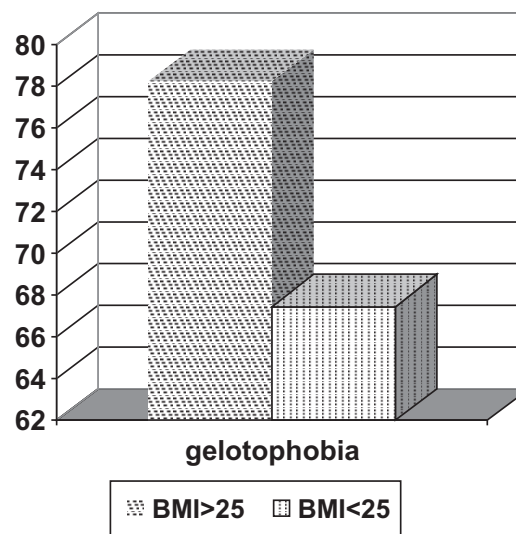


Fig.2. Differences in levels of gelotophobia in the groups according to their BMI

Anxiety

A number of studies show higher levels of depression and anxiety in obese people, as well as in patients with chronic pain. In the patient sample we had, this tendency was confirmed in relation to the anxiety. The average levels of

anxiety in the sample with BMI<25 were in the ranges of high anxiety -43.78 ± 11.04 . It is worth noting that these differences were pronounced in

women, while in men they were very small or even absent (Table 2).

Table 2. Presence of high anxiety in patients with chronic pain and its correlation with their BMI

Variables	High levels of anxiety in the group with BMI<25 %	High levels of anxiety in the group with BMI ≥25 %
Sex		
Men	7.2	8.4
Women	12.4	15.8
Age		
<30r.	8.5	10.2
30-44 years	12.2	12.6
45-59 years	12.2	15.4
>60 years	5.5	8.8

Life satisfaction

Life satisfaction could be defined as an “overall estimate” of the quality of life and personality in relation to the criteria chosen [24]. The defined general life satisfaction pertains to the personality estimate and its functioning among the rest of the people, and covers specific areas of life (self, family, friends, work etc.) [25]. Many authors suggest that obesity correlates with lower quality of life, to which lower life satisfaction is attributable. In the sample we investigated there were significant results regarding the levels of life satisfaction, which were sex- and BMI-related (Fig. 3).

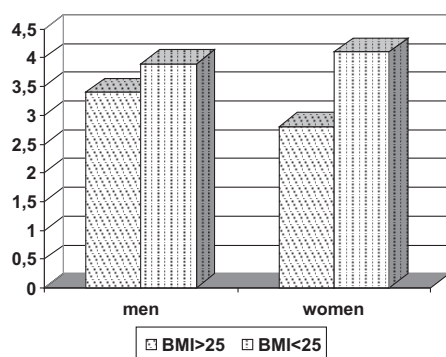


Fig. 3. Levels of life satisfaction in relation to sex and BMI

Conclusions

Obesity and overweight change the intensity of chronic pain and have influence on psychological consequences – lowering of energy and a sense of

helplessness.

Dissatisfaction with one's own body, an unstable image of oneself and timidity are very likely to form fear of ridicule and paranoid tendencies (gelotophobia) in people with obesity and chronic pain, as opposed to those suffering from chronic pain only.

Anxiety and the low levels of life satisfaction are factors that influence pain but their correlation with the BMI is attributable to gender of the individuals investigated.

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