

Emotional attitude towards one's own body in overweight women

Stosunek emocjonalny otyłych kobiet
do własnego ciała

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ABSTRACT

OBJECTIVE

The aim was to diagnosis of the emotional state of the participants and to compare the separated aspects of body image in the range of an emotional attitude towards body.

MATERIAL AND METHOD

The participants were 150 overweight women. The Emotional State Questionnaire and the body satisfaction scale were used.

RESULTS

A slightly higher level of danger ($18,13 \pm 6,015$) and an average level of advantage ($16,45 \pm 5,299$), harm ($12,66 \pm 4,967$) and challenge ($12,41 \pm 3,758$) was observed. The satisfaction from one's body in the imaginable aspect was more positive than in the declarative aspect ($Z=9,460$; $p<0,001$), the sensory aspect ($Z=9,345$; $p<0,001$), and the perceived aspect ($Z=9,455$; $p<0,001$).

ADRES

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CONCLUSIONS

The satisfaction from one's body was the most positive in the imaginable aspect, afterwards in the sensory aspect, the declarative aspect and the perceived aspect. The emotions of advantage and challenge positively correlated with body satisfaction in the aspects: declarative, sensory and perceived.

KEY WORDS

obesity, emotional state, body satisfaction

STRESZCZENIE

WSTĘP

Celem pracy była diagnoza stanu emocjonalnego badanych oraz porównanie wyodrębnionych aspektów obrazu ciała ze względu na stosunek emocjonalny do własnego ciała.

MATERIAŁ I METODA

Zbadano 150 otyłych kobiet. Zastosowano Kwestionariusz Stanu Emocjonalnego oraz skalę zadowolenia z własnego ciała.

WYNIKI

Zaobserwowano nieznacznie podwyższone poczucie zagrożenia ($18,13 \pm 6,015$) oraz średnio nasilone poczucie korzyści ($16,45 \pm 5,299$), krzywdy ($12,66 \pm 4,967$) i wyzwania ($12,41 \pm 3,758$). Zadowolenie badanych z ciała w aspekcie wyobrażeniowym było większe niż w aspekcie deklaracyjnym ($Z=9,460$; $p<0,001$), sensorycznym ($Z=9,345$; $p<0,001$) i spostrzeżeniowym ($Z=9,455$; $p<0,001$).

WNIOSKI

Zadowolenie z własnego ciała okazało się największe w aspekcie wyobrażeniowym, następnie sensorycznym, potem deklaracyjnym i spostrzeżeniowym. Poczucie korzyści i wyzwania pozytywnie korelowało z zadowoleniem z ciała w aspekcie: deklaracyjnym, sensorycznym i spostrzeżeniowym.

SŁOWA KLUCZOWE

otyłość, stan emocjonalny, zadowolenie z ciała

INTRODUCTION

An individual's psychological and social functioning depends on the perception of oneself. A positive attitude towards oneself favors constructive actions and successful interpersonal relations. A negative attitude contributes to the development of various psychological disorders [1-3].

An integral part of self image is the image of one's own body. Body image means the mental image of one's own appearance. According to a classic definition, it is a sensual picture of a body's proportions, shapes and forms, and feelings that concern the above mentioned features of the whole body or its particular parts [4].

The awareness of "a bodily me" develops during childhood also adolescence determines of an emotional attitude towards ones own appearance. During this period, people compare themselves with peers and available patterns of

beauty, and on this basis, physical identity and general self-esteem is formed [2,5-6].

Available studies on body image in the case of overweight people are inconsistent. Most of the studies suggest that obese people have a more disfigured image of their own body in comparison to normal weight people. This distortion is in the range of both body mass estimation and emotional attitude towards one's own body; however, its size and direction is a matter of argument [7-11]. Generally, overweight people have a negative attitude towards their own bodies, but some researchers indicate that this attitude is ambivalent, even positive [12-18].

The inconsistency of the studies may be the result of the methods used to study the above mentioned variables: body mass estimation and emotional attitude towards one's own body. Most of the methods examine the memory - based body image, not the perceived one. The phrase "perceived body image" is common, but it relates generally to the decla-

rative estimation of body size and shape. The basis of analysis is visual stimulus of examined people, who look at his/ her body in the mirror, photo or video film or who compares his/ her body to human silhouettes drawn on the paper. However, a figure that is seen in the mirror or on paper is smaller in height by half than in reality. That is why, examined people are guided by a disfigured mental image of their own body [17,19]. Moreover, the role of imaginary pictures related to one's own body seems to be unappreciated; in fact, it is essential being as things we visualize in our imagination are remembered much longer than things not imagined. Consequently, we can assume that people mostly remember their own interpretations and not the physical shape of things they can see[20].

The premise that body image is a very complicated construct can be based on two scientific conceptions among others, those of Seymour Epstein [21] and Anthony Greenwald [22]. "Self" theory by Epstein says that a rational system functions at a consciousness level. The system operates in accordance with the rules of deduction. Words are the products of this system.. An experiential system interprets, decodes, arranges experience and directs behavior in an automatic way. There are individual theories in this system. It operates at a pre-consciousness level. Moreover, it predominates over a rational system. Metaphors and images are the products of this system. The conception of mental representations says [22], that information is transformed by the mind at the following stages: sensory analysis (unconscious and it does not leave marks in memory), perceptive analysis (helps identify objects and comprehend words), linguistic analysis (decodes verbal information which becomes representations of statements which are connected with conceptual knowledge), conclusion (connected with using accumulated conceptual knowledge to conclude from observable events). The systems of processing information are relatively independent from each other due to different ways of coding. Thus, there is a possibility of avoiding knowledge which is somehow threatening.

In relation with the information presented above, and particularly in relation with the author's own clinical practice, four aspects of body image were separated for the purpose of the presented research. These aspects are the following: *declarative, sensory, imaginable and*

perceived. The declarative aspect identifies the opinion on a person's own body image. This aspect relates to the knowledge that is based on objective and subjective information from other people. The sensory aspect is based on sensation from the body. This aspect is linked to the person's health, physical and physiological processes, state of hunger and satiety, and level of physical activity. The imaginable aspect relates to the imaginary self, especially the imaginary figure of one's own body. This figure is the result of evoking or transforming a trace of long-term memory, which includes body image. The perceived aspect refers to the visual view of one's own body in the mirror, photo or film. This aspect functions thanks to attention and random-access memory, as the effect of the interpretation and the formation of visual sensations that relate to one's own appearance.

The most important aim of the presented study was to check whether, in the case of overweight women who start weight loss therapy, the particular aspects of body image are consistent in respect to an emotional attitude towards one's own body. The second aim was related to the diagnosis of the emotional state of the examined women.

MATERIAL AND METHODS

The research group consisted of 150 overweight women who started an outpatient, complex slimming diet. The average age of the examined was $42,97 \pm 13,55$. The average body mass at the beginning of the treatment was $97,93 \pm 16,47$ kg., and the average body mass index (BMI) was $37,17 \pm 6,42$. Most of the examined had a secondary education and were unemployed. Most of them had a permanent partner and two children. Participation in the presented study was voluntary.

Two research methods were used: *The Emotional State Questionnaire* (Heszen – Niejodek, 2002) - to assess an overall and current emotional state and *The body satisfaction scale* (own instrument, 2005) - to assess emotional attitudes towards the body.

The Emotional State Questionnaire allows the examiner to define emotional states of the examined people in four categories: *challenge, danger, advantage, harm/ loss*. The questionnaire contains 15 items, with a 7- point answer

scale. Number 1 means absolute lack of the emotion, number 4 means it is average intensity and number 7 - the highest intensity of that emotion. The reliability of the questionnaire measured by Cronbach's α is 0,55. The instructions of this method suggested to estimate the intensity of each emotion recently.

The *body satisfaction scale* is in the form of 6 linear subscales, with a 5-point answer scale. Number 1 means *a very positive* evaluation, number 3 means *an ambivalent* evaluation, and number 5 means *a very negative* evaluation. Based on the author's own clinical experience, each subscale was defined into features of the body that were most often expressed as important by overweight women during weight loss therapy. The particular aspects of one's own body are the following: *nice-looking, attractive, agile, shapely, well-proportioned, and firm*.

The time given the examined women to answer was unlimited in both measurements.

The following statistical methods were taking into account: descriptive statistics, the test of consistency χ^2 (χ^2), Signed Rank Test by Wilcoxon, the Pearson correlation coefficient.

RESULTS

The Emotional State Questionnaire hasn't been standardized for obese people, therefore the interpretation of its results was based only on descriptive statistics, presented in Table 1. In the examined group, a slightly higher level of danger ($18,13 \pm 6,015$) and an average level of advantage ($16,45 \pm 5,299$), harm ($12,66 \pm 4,967$) and challenge ($12,41 \pm 3,758$) was observed.

Table I. Emotional state of examined people

	<i>N</i>	<i>M</i>	Median	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>Middle</i>
danger	150	18,13	19	6,015	5	28	16
advantage	150	16,45	16	5,299	4	28	16
harm	150	12,66	13	4,967	3	21	12
challenge	150	12,41	12	3,758	3	21	12

The reliability of the questionnaire measured by α - Cronbach factor is: 0,830; $p < 0,001$ (the declarative aspect), 0,873; $p < 0,001$ (the sensory aspect), 0,955; $p < 0,001$ (the imaginable aspect) and 0,892; $p < 0,001$ (the perceived aspect).

For each examined person, *The body satisfaction scale* was used four times - separately for each aspects of body image. The instructions of this method suggested to the examined person to point to a number which best represents the current characteristics of their own body, according to: knowledge about one's own body (the declarative aspect), current experience of one's own body (the sensory aspect), imaginary picture of one's own body (the imaginable aspect) and mirror of one's own body (the perceived aspect).

Descriptive statistics were used also to show the distribution of detailed scale results in the particular body image aspects (Table 2). Average values of detailed scales above 3 (an assessment close to a negative assessment) were observed in the following aspects: the declarative aspect, the sensory aspect and the perceptive aspect. As far as the imaginary aspect is concerned, the average value of the variable was above 2 (an assessment close to a positive assessment).

Both the Kolmogorov - Smirnov Test and the Shapiro - Wilk Test showed that the distribution of the variable is normal only in the sensory aspect ($S-W=0,984$, $p=0,09$; $K-S=0,100$, $p=0,001$), and close to normal in the declarative aspect ($S-W=0,972$, $p=0,003$; $K-S=0,091$, $p=0,004$). In both the imaginary aspect ($S-W=0,909$, $p < 0,001$; $K-S=0,210$, $p < 0,001$) and

Table II. Assessment of satisfaction with selected body parameters in particular body image aspects

aspect	Variable	N	M	Median	SD	Min	Max
declarative	global satisfaction	150	20,62	20,0	3,243	14	30
	nice-looking	150	3,62	4,0	0,662	2	5
	attractive	150	3,32	3,0	0,594	2	5
	agile	150	3,55	4,0	0,917	1	5
	shapely	150	3,61	4,0	0,750	2	5
	well- proportioned	150	3,35	3,0	0,803	2	5
	firm	150	3,23	3,0	0,636	2	5
sensory	global satisfaction	150	19,75	19,0	3,711	11	30
	nice-looking	150	3,45	3,0	0,824	2	5
	attractive	150	3,23	3,0	0,649	2	5
	agile	150	3,37	3,0	0,980	1	5
	shapely	150	3,43	3,0	0,789	2	5
	well- proportioned	150	3,19	3,0	0,757	2	5
	firm	150	3,11	3,0	0,700	2	5
imaginable	global satisfaction	150	14,49	12,0	4,838	6	30
	nice-looking	150	2,44	2,0	0,923	1	5
	attractive	150	2,49	2,0	0,801	1	5
	agile	150	2,34	2,0	0,995	1	5
	shapely	150	2,45	2,0	0,909	1	5
	well- proportioned	150	2,49	2,0	0,857	1	5
	firm	150	2,31	2,0	0,852	1	5
perceived	global satisfaction	150	20,97	21,0	3,645	6	30
	nice-looking	150	3,70	4,0	0,758	1	5
	attractive	150	3,45	3,0	0,700	1	5
	agile	150	3,57	4,0	0,831	1	5
	shapely	150	3,65	4,0	0,725	1	5
	well- proportioned	150	3,43	3,0	0,789	1	5
	firm	150	3,24	3,0	0,711	1	5

Table III. Normality tests of variable distribution: general satisfaction with body in particular body image aspects

Aspect	Kolmogorow-Smirnow			Shapiro-Wilk		
	statistics	df	p	statistics	df	p
declarative	0,091	150	0,004	0,972	150	0,003
sensory	0,100	150	0,001	0,984	150	0,090
imaginable	0,210	150	0,000	0,909	150	0,000
perceived	0,107	150	0,000	0,957	150	0,000

the perceived aspect ($S-W=0,957$, $p<0,001$; $K-S=0,107$, $p<0,001$), there was a diagonal distribution (Table 3).

A nonparametric test, the Wilcoxon Signed Rank Test, was used to examine the general satisfaction with one's own body, in particular body image aspects (to maintain the same test for all measurements). Testing with the t-Student Test resulted with similar results as the results below.

In accordance with the mentioned in the table below (Table 4): an emotional attitude towards one's own body in the imaginary aspect turned out to be more positive than in the declarative aspect ($Z=9,460$; $p<0,001$), the sensory aspect ($Z=9,345$; $p<0,001$), and the perceived aspect ($Z=9,455$; $p<0,001$); an emotional attitude towards one's own body at a sensory aspect turned out to be more positive than at a declarative aspect ($Z=3,095$; $p<0,01$), and a perceptive aspect ($Z=4,474$; $p<0,001$); an

emotional attitude towards one's own body at a declarative aspect was more positive than at a perceptive aspect, however, there was no statistical relevance.

The variable – a general satisfaction with one's own body – was dichotomised to determine whether the examined people's emotional attitude toward their bodies is a positive or a negative attitude. Then, the chi² (χ^2) test was used to determine the variable distribution in each body image aspect.

A positive attitude towards one's own body predominated over the negative one in relation to such aspects as: declarative ($\chi^2=8,640$; $df=1$; $p<0,01$), sensory ($\chi^2=19,440$; $df=1$; $p<0,001$) and imaginary ($\chi^2=86,640$; $df=1$; $p<0,001$). In respect to the perceived aspect, there was a relative balance in the amount of positive and negative evaluations connected with one's own body. However, this consistency is not significant in statistics (Table 5).

Table IV. Differences among aspects of body image in terms of emotional attitude towards one's own body

Aspects	Ranks	N	Average rank	Wilcoxon Test	
				Z	p
declarative vs. sensory	-	46	51,38	-3,095	0,002
	+	72	64,69		
declarative vs. imaginable	-	12	25,58	-9,460	<0,001
	+	124	72,65		
declarative vs. perceived	-	65	60,57	-1,689	0,091
	+	50	54,66		
sensory vs. imaginable	-	11	27,14	-9,345	<0,001
	+	122	70,59		
sensory vs. perceived	-	84	63,46	-4,474	<0,001
	+	36	53,60		
imaginable vs. perceived	-	120	72,18	-9,455	<0,001
	+	13	19,19		

Table V. Emotional attitude of examined towards their bodies in terms of particular body image aspects

Aspect	N	Number of positive estimate			Test*		
		O	E	O - E	χ^2	df	p
declarative	150	93	75	18	8,640	1	0,003
sensory	150	102	75	27	19,440	1	<0,001
imaginable	150	132	75	57	86,640	1	<0,001
perceived	150	85	75	10	2,667	1	0,102

O - value observed
E - value expected

The Pearson correlation coefficient was used to investigate the relation between emotional state of the examined people and their overall satisfaction with one's own body, in particular aspects of body image. The results are shown in Table 6. A positive correlation was observed between danger and declarative ($r=0,25$; $p<0,01$), sensory ($r=0,29$; $p<0,001$) and perceived ($r=0,24$; $p<0,01$) dissatisfaction with one's own body, as well as between harm and declarative ($r=0,34$; $p<0,001$), sensory ($r=0,26$; $p<0,01$) and perceived ($r=0,23$; $p<0,001$) dissatisfaction from one's own body. Moreover, a negative correlation was observed between advantage and declarative ($r=-0,34$; $p<0,001$), sensory ($r=-0,29$; $p<0,001$) and perceived ($r=-0,29$; $p<0,001$) dissatisfaction with one's own body, as well as between challenge and declarative ($r=-0,31$; $p<0,001$), sensory ($r=-0,24$; $p<0,01$) and perceived ($r=-0,31$; $p<0,01$) dissatisfaction with one's own body. There was no correlation between the emotional state of the examined women and their imaginable aspect of body image.

hurt, helplessness, fear, concern [10-11,23-25] and furthermore the obese looking for some medical treatment have higher levels of the stress than non-treated obese [16]. The results of the presented study showed that examined people felt an above average intensity of negative emotions like uncertainty, fear, concern, and helplessness as well as an average intensity of emotions like anger, disappointment, and depression. At the same time, they also felt an average intensity of positive emotions like optimism, delight, satisfaction, relief, excitement, and enthusiasm. Although being overweight was stressful itself, the initiation of a weight loss program decreased the participants' levels of distress. This was probably due to professional care and the social support received through the participation of others with the same problem. Social support, in turn, especially emotional support, is very important for global effectiveness of coping with illness - with losing weight, too [25-26].

The emotional state of people is strongly connected with their own body satisfaction, espe-

Table VI. Emotional state and global body satisfaction in particular body image aspects

n = 150	danger	advantage	harm	challenge
declarative aspect	0,25*	-0,34**	0,34**	-0,31**
sensory aspect	0,29**	-0,29**	0,26*	-0,24*
perceived aspect	0,24*	-0,29**	0,23**	-,031*

* Correlation is statistically important at the level of 0,05 (bilateral)

** Correlation is statistically important at the level of 0,01 (bilateral)

DISCUSSION

The examined group consisted of obese people seeking help to solving their problem and just starting an outpatient weight loss therapy. It could be assumed, that they have experienced great discomfort caused by their weight and that their global emotional state as well as their body satisfaction was negative. Many scientific reports confirm, that obese people experience a lot of negative emotions, such as shame,

cially in women [3, 27-28]. In the conducted research, the participants' body satisfaction was analyzed in the following parameters: nice-looking, attractive, agile, shapely, well-proportioned, and firm, for each body image aspect separately: the declarative, the sensory, the imaginable and the perceived. The analyses showed that there were differences between aspects both in a general assessment and an assessment of particular dimensions. The examined people favoured the body of an imaginary person – their representations. The sensory

aspect, i.e. satisfaction with the feeling of the body, was next. Then, there was the declarative aspect – when females described their bodies according to their opinion on how other people probably see their bodies. The examined females' bodies came off worst in the case of their own opinion – when they assessed their bodies in the mirror. Body image diversity showed that satisfaction with body depends on an aspect. The assessment of satisfaction with body depends on stimulus which evokes the assessment. So far, there have been no analyses of an emotional attitude toward bodies in regards to the level of perception of one's own body (intellectual, imaginary or sensory). However, it was proven that a type of stimulus evoking an assessment may have significance. Studies conducted by Waller and Barnes [29] showed that, for example, in the case of females expressing unfavourable attitudes toward their bodies (dissatisfaction with the body, aspiring to be slim, bulimic behaviours) the presentation of stimuli connected with obesity resulted in increasing dissatisfaction with the body. The instruction connected with a real or ideal body image evokes significantly various emotional attitude in overweight women, too [30-34]. Researchers confirm that lots of factors influence an emotional attitude toward the body. They suggest that the correlation between a subjective and an objective assessment of attractiveness is generally very low in females [35]. Significant modelling factors are as follows: an actual frame of mood (Sands, 2000), physical activity and practicing sports [2], adjusting appearance to cultural standards of attractiveness [36].

In the presented research, as far as the sensory aspect, the imaginable aspect and the declarative one are concerned, positive evaluations predominated over negative evaluations.

A body that people could imagine aroused the most positive emotions. The perceived aspect – watching ones own body in the mirror – aroused so called mixed feelings. In this case the assessment of appearance went the worst from among all the aspects.

The obtained results are in accordance with common knowledge and numerous scientific reports. These resources indicate a common lack of satisfaction with one's own body among overweight people. Moreover, the resources show that in the case of the overweight, especially overweight women, body image is more negative than in the case of people with

a proper body mass [2,16,37]. At the same time, studies conducted by Cash and Hicks [8] indicate that in fact a subjective sense of weight influences the frame of mood connected with appearance.

In the conducted research, the declarative aspect, the sensory aspect and the perceived aspect turned out to be relatively consistent with each other in respect to satisfaction with one's own body. Moreover, the higher the challenge and advantage as well as the lower the danger and harm the examined women experienced, the greater the satisfaction they gained from their own body in these three aspects of body image. The imaginable aspect was inconsistent with other aspects – the level of satisfaction with body was significantly higher in this case. There was also no correlation between the global emotional state and the satisfaction with one's own body in this aspect. This seems to confirm a special status of imaginary representations in the mental process of information processing. The distinction of the imaginable aspect corresponds to the fact that there are two main conceptual systems by Epstein [21]: *rational* and *experiential*.

Following Epstein who claimed that images play an important part in human life, we can assume that a positive body image in overweight females influences a general attitude toward self (for example, taking pleasure in eating sweets) and relations with other people (being the life and soul of a party), and the assessment of health or happiness. It can also explain the lack of motivation for reducing weight, problems with maintaining a reduced body weight, or ambivalence toward one's own appearance. Increasing dissatisfaction with body and going on a diet is probably connected with the exclusion of rational system – for example, in the case of seeing one's own appearance in the mirror or having problems with fastening clothes which turn out to be too tight.

The conducted research shall be treated as a preliminary recognition of the issue of satisfaction with body in overweight women. The separation of four body image aspects was foremost based on clinical experience. It proved however, that in obese people the aspects differed from each other in the range of satisfaction with one's own body. Following studies should concentrate on the theoretical grounds of this separation and the precise definition of what each aspect really means. More detailed stu-

dies on this issue would both develop the knowledge about the psychological functioning of overweight people and provide lots of useful clues.

CONCLUSIONS

1. Despite being objectively overweight, positive assessments of body image prevailed over negative assessments in all body image aspects.

2. Body image aspects differed between each other in respect the degree of satisfaction with the body. An emotional attitude toward one's own body turned out to be the most positive in the imaginable aspect, afterwards in the sensory aspect, the declarative aspect and the perceived aspect.
3. The emotions of danger and harm positively correlated with body dissatisfaction and the emotions of advantage and challenge positively correlated with body satisfaction, in the following aspects: declarative, sensory and perceived.

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