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BODY IMAGE AND SELF-ESTEEM OF PATIENTS WITH ONCOHEMATOLOGICAL DISEASES AFTER CHEMOTHERAPY

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Summary

Aim. To measure interactions between body image and self-esteem in patients with onco-hematological diseases.

Method. The study included 30 patients with diagnosis of acute leukemia or lymphoma at the beginning of chemotherapy and control group of 30 healthy people. The study uses a structured interview, Body Image Scale, Rosenberg Self-Esteem Scale, Tennessee Self Concept Scale, Profile of Mood States.

Results. The higher level of concerns, care and poorer body image in patients body was found in comparison to controls. The correlation between body image and self-esteem in patients with onco-hematological diseases has also been confirmed. A relation between positive attitude towards the body and reduction of tension and anxiety was found. Depression was associated with a change in attitude towards the body. Patients who have a higher level of self-esteem, like their bodies more. The more they are occupied with how their body looks, the higher the level of interest of negative emotions and moods they show.

Conclusions. There is a relationship between body image and feelings in patients with onco-hematological diseases after intensive treatment with chemotherapy. Body image in this case is poorer, than in healthy people.

Key words: body image, self-esteem, chemotherapy

Introduction

In the 20th century, the body became one of the basic elements of human identity. According to Giddens [1], the appearance of the body and the way of being clearly take on a particular meaning with the advent of the modern world. In pre-modern cultures, appearance was, as a rule, normalized due to traditional rules. It was, above all, supposed to denote social identity, and not to emphasise individual personality. Today, external appearance has become the main element of presenting the physical self. This is not only a principle of the active construction of identity, but also concerns the body directly.

The body is also an object of philosophical reflection — Turner uses the term "somatic society" to highlight its presence in the political and cultural scene. The so-called "body-centric culture" leads to the assumption that self-awareness is defined by the body, identity is constructed through it, and the perception of the world takes place mainly thanks to it and through it [2]. Schilder [after 3, p. 3] in his book *The image and appearance of the human body* used the concept of "body image" for the first time, defining the body image created in our minds and the way in which our body appears to ourselves[1] [3].

[1] "the picture of our own body which we form in our mind, that is to say, the way in which the body appears to ourselves"

Today, the body image is understood in various ways: Thompson [4] believes that "the body image is everything", however, in accordance with the concept of Cash and Pruzinsky [5] we can understand it as a mental structure, which presents the individual experiences connected with the appearance of one's body in various dimensions, i.e. cognitive, emotional and behavioural. In turn, Grogan in his book defines the body image as "perceptions, feelings and thoughts [concerning] one's body" [3, p. 3]. The diversity of definitions confirm that the subject of body image has recently aroused increasing interest among scientists, mainly due to the current cultural patterns, but also due to the negative consequences resulting from disturbances in its area. It has become an inspiration for psychologists, sociologists and doctors [6, 7].

Scientists and clinical workers have for many years discussed the subject concerning the existence of the body image in adults suffering from cancer, especially malignant cancer. The influence of cancer treatment not only on the body, but also on physical integrity, is regarded here as essential [8]. Some cancers cause visible changes, such as head and neck deformations, however, the less noticeable ones (concerning blood or the lymphatic system, for example) may also have a significant negative effect on the picture of oneself [9]. The majority of the literature concerning the body image with cancer concentrates on changes in experiencing oneself and one's body, which take place as a result of surgical operations such as mastectomy or stoma. This research provides information about the impoverishment of the body image and its influence on a patient's general mental state. A small number of publications present this problem in the context of blood cancer illnesses, yet the seemingly invisible changes caused by it may significantly affect the picture of oneself and one's body. In Polish literature, there are no results from research on the body image in the field of oncohaematology, and in the world this issue is seldom the object of reliable scientific work [after 5]. The first research concerning the body image was conducted among women who had undergone mastectomies, and it is precisely this group that the majority of obtained results concerns. The dependence between the body image and other types of cancer has hardly been researched [10]. Research concerning young women who have been diagnosed with breast cancer indicate that the majority of them struggle with problems connected with a changing body image. They experienced shame, embarrassment, and also worried about their sexual attractiveness and femininity [11]. Not only surgical treatment, but also chemotherapy may be a cause of both physical and mental changes in a patient's life. Undergoing treatment may influence the concept of one's own attractiveness and social acceptance [12].

Cancer disturbs the image of one's body. Diagnosis may become a cause of changes in this image. Ill people sometimes associate cancer with an "undesired product" of the body, which begins to be seen as another, different from oneself. Trust of one's own body is lost, and it is not possible to

control the appearing changes. The fight against illness becomes a synonym for the fight against one's own body [13]. Dissatisfaction with the body is a side effect of both cancer and its treatment. The body image as a multi-dimensional structure is closely connected with medical and social factors for those suffering from cancer. The treatment process may represent the cause of many temporary and permanent changes in the physical appearance of a patient.

Many people suffering from stress connected with cancer concentrate on their appearance and changes that appear during treatment. Some cancers cause changes to parts of the body which are normally bare, which leads to embarrassment from sufferers, however, the changes which are less noticeable, for example lymphatic obstruction, may also strongly affect self-esteem. The speed with which changes in appearance are visible may represent an influential factor on the psychological adaptation to illness. Operations used in oncology affect the image of one's body. Chemotherapy causes feelings of tiredness and paleness. Both chemotherapy and radiotherapy have side effects, of a biological nature (uncontrolled vomiting, diarrhoea, constipation, hair loss, and oral inflammation) or an emotional one (decrease in libido, fear of physical and sexual contact). Distress may also lead to symptoms of mental disorders. Changes in appearance become more traumatic for patients when they affect their functioning (e.g. the loss of speech) [9].

The effect of cancer therapy is the serious weakening of vitality and internal functions of the body. During treatment the patient is often looked at through the prism of organs changed by the illness. This is highly destructive and does not allow total rehabilitation [8].

Acute leukaemia and lymphomas are cancers of the hematopoietic system, which have for many years occupied a significant place in the statistics concerning cancer [14]. Generally, they do not cause visible external signs of the illness. In some patients, the symptoms of these illnesses may be unnoticeable by others, although they are observed by the patient or are indicated in medical tests. An important burden in the course of these illnesses is treatment with the use of chemotherapy. Its results appear gradually, are predictable and disappear with time. So how does the influence of hematopoietic system disorders and their treatment on the patient's picture of himself look like?

Material

The aim of the research was to present the body image and the self-esteem of people with oncohaematological illnesses, who have undergone intensive treatment with the use of chemotherapy. Chemotherapy, just like other methods of cancer therapy, tries to eliminate cells changed by the cancer, however, this form of treatment differs considerably from other methods, for example, surgery. The aim of this work was to answer the question if apparently invisible changes, caused by chemotherapy, may become important in the structure of the body image. The results

were obtained through comparison of a group of patients with a control group. The main hypothesis was that ill people who undergo chemotherapy differ from healthy people in their body image and self-esteem. In addition, there was a second hypothesis concerning the existence of a dependency between the body image and self-esteem in the case of people with oncohaematological diseases.

Method

60 people participated in the research, of which half represented the test group, in other words, ill people who were patients of a haematology ward in Krakow with diagnosed acute leukaemia or lymphomas and who had begun chemotherapy. In the majority of them, the first side effects of therapy were noticeable, however, the general state of health was good. The control group consisted of 30 healthy people. The division of the test group in terms of gender allowed differences in the perception of the body to be observed. The mean age of the women participating in the research was 38 years of age, and for men it was 34.

Table 1 presents precise data.

Table 1. **Mean value (M), median (Me), lowest result (Min.) and highest result (Max.) as well as standard deviation (SD) in the test group (gr. 0) and the control group (gr. 1) concerning the age of the tested men and women**

	Number of subjects	M	Me	Min.	Max.	SD	Slant	Kurtosis
Men	30	34.43	27.5	19	55	14.24	0.26	-1.83
Women	30	37.93	35.0	20	55	12.59	0.10	-1.47

Source: own results

Age was a very important factor in the research due to the similar prognosis of recovery concerning people under 60 years of age, various methods of treatment depending on age, and changes in the body image both during adolescence and old-age.

The following research tools were used:

The Rosenberg Self-Esteem Scale (RSE). This is used to test self-esteem of open and hidden, spontaneous, automatic and unconscious self-reflection, as well as the general attitude towards oneself. It is constructed of 10 assumptions, five concerning positive evaluations and five expressing a negative relationship towards oneself [15].

The Body Investment Scale (BIS) (Orbach I., Mikulincer M. [16]. This consists of 24 assumptions included in 4 sub-scales: a — body image feelings and attitudes; b — the level of comfort felt during physical contact with other people; c — body care (in the sense of care of comfort); d — the ability to protect the body.

The Profile of Mood States (D. M. McNair, M. Lorr, L. F. Droppleman, adapted by B. Dudek and J. Koniarek [17]). This tool consists of 65 items defining various states and moods, in

which a person can find himself. It serves to assess changes that take place in the mood of a person. Each of the items is assessed using a five-level scale defining the strength of a given state (0, 1, 2, 3, 4). The items that the test consists of are made up of 6 sub-scales which characterize separate moods or feelings: tension – anxiety (9 items); depression – dejection (15 items); anger – hostility (12 items); vigour – activity (8 items); fatigue – inertia (7 items); confusion – bewilderment (7 items); as well as kindness (7 items).

The Tennessee Self-Concept Scale – Physical self (William H. Fitts [18]). It has a clinical version as well as a concise one, which consist of the same set of assumptions, however, they differ in the way of analysing the results. It consists of 100 assumptions serving to describe oneself. The result obtained by the tested person is the so-called total summary defining the general level of self-esteem. Besides this, the following eight categories can be distinguished: identity; self-satisfaction; behaviour; physical self; moral-ethical self; private self; family self; social self. The research used the indicator concerning physical self — the ill person describes the picture of their own body, health condition, physical appearance, physical ability and sexualism.

The following research hypotheses were accepted:

1. **The test group, treated using chemotherapy, differs from the control group in their body image.**
2. **The level of self-esteem in the test group differs from the one in the control group.**

In additional, another hypothesis concerning the test group was accepted:

3. **There is a dependency between the body image and the self-esteem of people in the test group.**

Results

HYPOTHESIS 1. The test group, treated with chemotherapy, differs from the control group in their body image.

The picture of physical self tested using the Fitts' Test showed a significant difference between the test and control groups. Haematology patients after chemotherapy obtained significantly lower results when compared with the control group. The values obtained by both groups are presented in Table 2 below.

Table 2. **Mean (M), standard deviation (SD), result of the Student's t-test (t), level of correlation (p) in the test group (gr. 0) and the control group (gr. 1) and in physical self**

Fitts' Test	Test group		Control group		t	p
	M0	Sd0	M1	Sd1		
Physical self	65.57	9.10	75.47	7.49	-4.60	0.00001

Source: own results

The hypothesis concerning the body image is also confirmed by the results given in the Body Investment Scale, in the sub-scale "body care", which is higher in the test group, subjected to

treatment using chemotherapy, than in the control group. In the test group, there was a statistically significant higher result than in the control group in the field of body care ($p < 0.05$). In this way, it is shown that there is a significant difference between the test group and their level of care of their own bodies, which is presented in Table 3 and Figure 1.

Table 3. **Mean (M), standard deviation (SD) in the control group (gr. 1) and the test group (gr. 0) in the Body Investment Scale**

Sub-scale	Test group		Control group		t(58)	p
	M0	SD0	M1	SD1		
Relation to body	11.23	3.22	11.87	2.61	-0.84	0.4063
Body care	21.63	2.34	20.17	3.00	2.11	0.0393
Body protection	20.50	2.85	21.10	2.73	-0.83	0.4086
Feeling of comfort during physical contact	19.23	1.89	18.80	2.22	0.81	0.4186

Source: own results

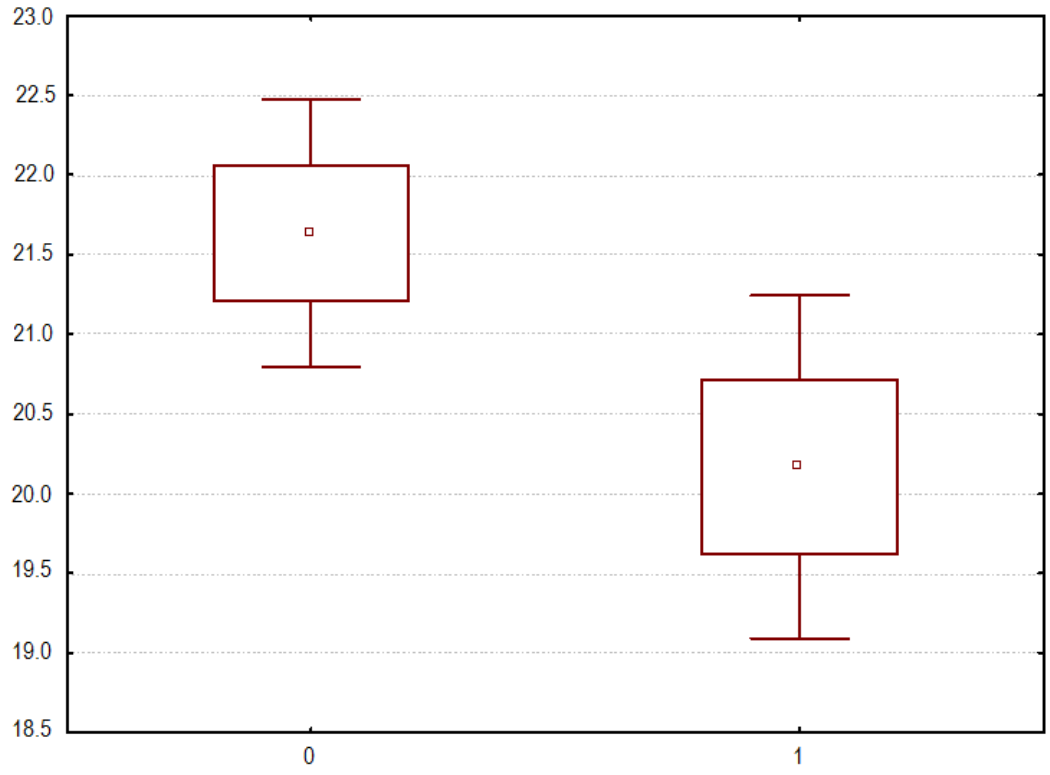

Figure 1. **The average level of psychological self-esteem, body care (vertical axis) in the test group (gr. 0) and the control group (gr. 1) — horizontal axis. The significant difference is at the level t = 2.11 (p = 0.0393). The square designates the mean, the rectangle the mean ± standard error, the lines designate a 95% confidence interval.**

Source: own results

Hypothesis 2. The test group has a different level of self-esteem than the control group.

Patients from the test group differed significantly from the control group in terms of emotions and mood, as can be seen by the results in Table 4, placed below.

Table 4. **Mean (M), standard deviation (SD) in the control group (gr. 1) and the test group (gr. 0) in the Profile of Mood States**

Sub-scale	Test group (n = 30)		Control group (n = 30)		t	p
	M0	SD0	M1	SD1		
tension – anxiety	10.77	6.56	6.77	5.15	2.63	0.0110
depression – dejection	16.57	9.80	8.67	7.29	3.54	0.0008
anger – hostility	17.53	8.92	12.73	7.50	2.26	0.0278
vigour – activity	15.67	4.97	18.53	4.85	-2.26	0.0276
fatigue – inertia	12.13	6.19	9.10	5.87	1.95	0.0563
confusion – bewilderment	5.80	3.23	3.43	3.30	2.81	0.0068

Source: own results

In the test group, it was confirmed statistically that there are significantly higher results than in the control group in the following sub-scales: tension – anxiety ($p < 0.05$), depression – dejection ($p < 0.05$), anger – hostility ($p < 0.05$), as well as confusion – bewilderment ($p < 0.05$). In the vigour–activity sub-scale ($p < 0.05$) the test group obtained, however, a result that was statistically significantly lower than in the control group.

Hypothesis 3. There is a dependency between the body image and the self-esteem of people from the test group.

In the test group, there was a negative correlation between the relation to one's body and the level of stress or anxiety, which is presented in Table 5.

Table 5. **Values of the correlation coefficient (r) and the level of statistically significant correlation (p) between the Profile of Mood States and physical self**

	Physical self	
The Profile of Mood States	r	p
tension – anxiety	-0.65	p = 0.0001
depression – dejection	-0.60	p = 0.001
anger – hostility	-0.31	p = 0.092
vigour – activity	0.33	p = 0.078
fatigue – inertia	-0.48	p = 0.007
confusion – bewilderment	-0.45	p = 0.013

Source: own results

The negative correlations in the above analysis mean that the increase in the level of physical self is connected with the low results in the sub-scales: tension –anxiety ($p < 0.05$), depression – dejection ($p < 0.05$), fatigue – inertia ($p < 0.05$), as well as confusion – bewilderment ($p < 0.05$). The significant correlation between the results of the Profile of Mood States and the picture of physical self confirms the hypothesis of a dependency between mood and the body image.

The correlation between the Self-Esteem Scale and the first of the sub-scales of the Body Investment Scale: "relation to the body" ($p < 0.05$) is positive, which means that the increase in the self-esteem is connected with the increase in the positive feeling towards one's own body. The significant correlation between the results of the Self-Esteem Scale and the indicators of the relation to the body in the Body Investment Scale confirms the hypothesis concerning the dependence between self-esteem and relation to the body. The obtained results are presented in Table 6.

Table 6. **Values of the correlation coefficients and levels of statistically significant correlation between the Body Investment Scale and the Rosenberg Self-Esteem Scale**

Body Investment Scale	*Rosenberg Self-esteem scale*
Relation to the body	0.4577
	p = 0.011
Body care	-0.1050
	p = 0.581
Body protection	-0.3556
	p = 0.054
Feeling of comfort in physical contact	0.2837
	p = 0.129

Source: own results

Discussion

During the verification of the hypothesis concerning the body image in people with oncohaematological disorders after chemotherapy (test group), and in healthy people (control group), differences between the groups were revealed. They concern body care as well as the picture of physical self. Such results mean that oncohaematological patients who have undergone treatment with the use of chemotherapy take care of their own bodies to a larger extent than healthy people. They use body care products more regularly, which testifies to a higher level of attention to appearance. The treatment they undergo in haematology wards often becomes a cause of many skin changes – bruises, bleeding or skin dehydration, which may become a reason why this group pays more attention to the body.

On the basis of the research, it can also be ascertained that there is a considerable impoverished body image in people with oncohaematologial disorders who have undergone chemotherapy. The lower result in the test group may be due to the multiple side effects of chemotherapy, which causes disorders, among others, in physiological and cognitive functioning. In addition to pain, these people also observe many visible changes, such as hair loss, skin bruises, skin paleness or large fluctuations in body mass as a result of chemotherapy, as well as somatization connected with psychological pressure.

The results obtained in the sub-scales of the Profile of Mood States indicate the difference in mood between the test group and the control group.

In the tension – anxiety sub-scale, people from the test group obtained higher mean result than that in the control group. This means that oncohaematological patients undergoing chemotherapy feel greater tension and anxiety when compared with healthy people. This is probably connected not only with treatment itself, but also with the diagnosis of cancer which is difficult to treat.

In the depression – dejection sub-scale, the mean in the test group was almost twice as much as in the control group. This is the largest difference that appeared during the research using the Profile of Mood States. This testifies to the more frequent experience of dejection by people treated with chemotherapeutic agents in connection with oncohaematological diagnosis. The experienced emotions may also be connected with long-term treatment and awareness of the diagnosis.

The anger – hostility indicator also turned out to be higher in the case of the test group. This means that this group is characterized by a higher level of negative emotions. A source of anger may also be the difficulties connected with treatment, which is exhausting for the body, and the diagnosis itself. This may also be anger towards oneself, one's body, with the difficulties of dealing with chemotherapeutic treatment and the persistence of the many side effects of chemotherapy.

The test group after chemotherapy also differs from the control group in the level of vigour and activity. The results show lower energy for life in people with oncohaematological disorders treated with chemotherapy, as well as the unwillingness to look for activities. This may be caused by the inability to perform daily duties, which ill people performed before the illness. Treatment may turn out to be exhausting and take away the vigour towards life. It is also probable that patients in haematology wards do not have the capability to undertake any activities due to the treatment and, in connection with this, the need to follow many safety rules.

The confusion – bewilderment indicator also turned out to be higher in the test group, which may be due to a few factors: firstly — diagnosis, which significantly changes the patient's life situation, secondly — chemotherapy, which means that the patient is not able to control bodily reactions to complicated treatment, thirdly — the situation in which the patient finds himself and which has significantly changed his previous life. All these probable factors may represent a cause not only of confusion, but also problems with finding oneself in a new difficult situation.

Evaluating the confirmed results, the second hypothesis may be considered as correct. This hypothesis says that there are differences in experienced emotions between ill people who undergo chemotherapeutic treatment and people from the control group.

The next of the hypotheses — the third one — stated that there was a dependency between

the body image and the self-esteem of ill people treated with chemotherapy. During its verification, a co-dependencies between the body image, the approach to it and particular indicators of self-esteem or a feeling of one's own value were found.

Research on the supposed dependency of physical self on defined indicators of the Profile of Mood States revealed a significant correlation between the body image and the tension – anxiety sub-scale, which means that the increase in the test group of the positive relation towards one's own body is connected with a decrease in the level of tension or anxiety. This may be due to the many negative emotions experienced by ill people during treatment, among others anxiety connected with diagnosis or success in treatment, which may cause a deterioration in the body image or change the attitude towards one's own physical self. Comparing physical self with the depression – dejection sub-scale, the next negative correlation was found. This indicates that a higher level of dejection may weaken the positive relation towards one's own body, defined as physical self. This can be understood as follows, the more reasons patients after chemotherapy have to be dejected, the more negative is their attitude to their own body, their physical self. The fatigue – inertia sub-scale correlates with the picture of physical self in the confusion – bewilderment sub-scale. This means that, together with the increase in tiredness and confusion, the level of satisfaction with one's body decreases. This may be caused by too many negative emotions and moods which accompany patients during treatment with chemotherapy. Therapy and diagnosis may also lead to the occurrence of such moods, which may result in the deterioration of the body image, and therefore a more negative relation with one's body. Chemotherapeutic treatment, which is exhausting for the body, may also cause mental tiredness in the patient.

The co-dependence between the feeling of self-esteem and the level of attitude towards the body was also tested. The obtained results allow for the conclusion that the increase in self-esteem in the test group is connected with an increase in the positive relation to one's body. This may mean that people who have a higher self-esteem like their own bodies more.

The diagnosis of cancer leads to many changes in the life of a person – resignation from work, a long stay in hospital and exhausting treatment. The huge changes caused by chemotherapy often represent a painful problem for patients. The body, which fights against the cancer, is also subjected to a fight against itself. It is difficult to prepare for good functioning in such a situation. Therefore it is important to pay attention to the close dependency between the body and the mind of patients. All physiological changes that appear during difficult treatment may become a source of change in the body image and in self-esteem. Research has proven that care of one's body and the state of self-esteem during treatment have a significant effect in hematopoietic system illnesses. The results also showed a dependency between the body image and the self-esteem and state f being of

the ill. It is worth remembering that both spheres — mental and bodily — also influence each other in people with oncohaematological diseases, and intensive treatment with chemotherapy significantly burdens the body and the mind of patients.

Most of us think about a person as mutually-acting forces in the forms of mind and body, however, we should remember that they are united. All changes which the body experiences are also registered by the mind. Pain, an inseparable part of illness, also affects the physical and mental aspects in a person. On the other hand, moods and emotions connected with the diagnosis and treatment of cancer are significant for the body.

Conclusions

Based on the research, it can be stated that there is a considerably worse body image in people with oncohaematological diseases who have been treated with chemotherapy in comparison with healthy people.

1. It is possible to state that ill people treated with chemotherapy care more about and take more care of their bodies, due to the high risk of complications and the necessity of paying attention to hygiene during this time.
2. Changes caused by intensive chemotherapeutic treatment may become one of the causes of many negative emotions and moods.
3. Negative emotions experienced during treatment with chemotherapy may cause an impoverished body image and change the attitude towards one's own physical self.
4. There is a dependency between the body image and the attitude towards it: people with oncohaematological diseases with a higher self-esteem like their bodies more.

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