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Styles of coping with stress of cancer in patients treated with radiotherapy and expectations towards medical staff – Practical implications

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ABSTRACT

Background: It is essential to adjust oncological treatment to medical procedures but also to the expectations of patients themselves. Expectations of patients may depend on the way of coping with the stress of cancer. Many researchers have dealt with this issue. However, it is difficult to find studies concerning relations between the styles of coping and expectations of patients towards medical staff.

Aim: To demonstrate the relationship between the style of coping with stress of cancer shown by patients undergoing radiotherapy at the Greater Poland Cancer Centre and the nature of their expectations towards the medical staff, and to present work of the Clinical Psychology Unit in response to the expectations of patients.

Materials and methods: Questionnaire survey. The respondents filled in a questionnaire consisting of a patient request form (PRF), the mini-mental adjustment to cancer scale (Mini-MAC), and personal data. Obtained results were subjected to statistical analysis.

Results: Significant associations: the expectation to have the disease explained is associated with anxious preoccupation, fighting spirit, helplessness–hopelessness; the expectation of emotional support is associated with anxious preoccupation and helplessness–hopelessness; and the expectation of information on examinations and treatment is associated with anxious preoccupation and helplessness–hopelessness.

Conclusions: Expectations of patients undergoing radiotherapy in the Greater Poland Cancer Centre towards the medical staff depend on their styles of coping with the stress of cancer.

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1. Background

Cancers in the developed countries are the second most common cause of mortality following heart diseases. This means

that diagnosis and oncological treatment¹ are often interpreted by patients and their families as a *sentence*. Cancer is an uncontrollable event.² This uncontrollability and the treatment process are factors triggering a severe psychological stress. This stress derives from: the sense of health or life threat, patient's helplessness, uncertainty of the future, difficulties to achieve life aims, and negative physical and psychological changes.³ On the other hand, all these determinants have an influence on the life quality of oncological

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patients lowered by hard and long-lasting treatment.^{4–6} That is why, a human being experiencing stress and emotions connected with disease begins an adaptive process (*coping, dealing, battling process, preventive activities, overcoming stress*) which is made up of a cognitive and behavioural processes.⁷ Through this, he/she tries to change the situation (instrumental function, concentration on the problem) as well as adjust his/her emotions (relief function, concentration on emotions).^{7,8} The adaptive process comprises all forms of activities undertaken by a person in a situation of stress. This process is dependent on situational and individual factors. Styles and strategies of coping in difficult situations are made up of individual factors.⁷ Just as situational factors are an essential context of the choice of a coping strategy, the style of coping is a relatively permanent predisposition of an individual – a set of strategies and ways of overcoming stress in life characteristic for a given person. Even if cancer is a person's most difficult experience to encounter, his/her style of coping in this specific stress situation does not differ from the pattern of reacting in difficult situations characteristic for him/her. The patient needs to use the resources of beloved ones and medical staff accompanying him/her in the recovery process in order to be able to choose among strategies available to him/her to achieve expected results of his/her efforts. It is important that the employees of the health services, thanks to their knowledge on the processes of battling against disease and stress connected with the disease, identify appropriately the needs of patients and respond to them with their actions. That is why, the studies that have been conducted for several years^{9–27} concerning patterns of patients' reacting to disease and expectations towards professionals accompanying them in this disease⁷ are so essential. Based on them, aid, prophylaxis and prevention programmes as well as specific actions directed towards specific expectations of patients who are in the care of oncological institutions are built. The greatest expectations – mainly concerning the explanation of the process of oncological disease – are directed at the specialist doctors. Unfortunately, modern medicine – despite rapid development – still has limited capabilities. So, parallel to studies within medicine, studies in other fields of science are conducted, including social and psychological aspects of aid to patients in the situation of disease.³ This is the case because the patients' questions, their expectations concerning disease and its treatment, and emotional support are also directed at other employees of medical services.

2. Aim

The aim of the study is to determine the relationship between the style of coping with stress of cancer and the kind of expectations towards medical staff.

3. Materials and methods

3.1. Research tools

The respondents filled in a questionnaire consisting of a patient request form (PRF), Mini-MAC,^{28–30} and personal data.

The Polish version of the PRF consists of 18 statements concerning different reasons for the current visit to a GP. PRF – patient request form is a modification of the questionnaire elaborated by Good and collaborators, which is intended for patients of basic medical care. The tool has been developed by Salomon and Quin from the Department of Psychology, the University of Liverpool. The number of the questions in translation was limited to the most diagnostic ones, in comparison to the original version. The respondent indicates to what extent the content of the statement expresses his/her reasons to see the physician. Statements included in the PRF are composed of three factors concerning expectations connected with: explanation of the disease, looking for support, and obtaining information on examinations and treatment. The PRF results concerning the explanation of disease are connected with the expectation of aid from the specialist doctors, while results concerning the obtaining of information on examinations and treatment are connected with the expectation of aid from medical services. On the other hand, the expectation of emotional support is connected with attaching significance to counselling and psychiatric or psychological aid.

The Polish version of the Mini-MAC scale comprises 29 statements and measures four strategies of coping:

1. anxious preoccupation – expressing anxiety caused by the disease mainly seen as a threat triggering fear which cannot be controlled and which means that every change is interpreted as a signal of health deterioration;
2. fighting spirit – making the ill person treat the disease as a personal challenge and undertaking actions to eliminate the disease;
3. helplessness–hopelessness – showing a sense of helplessness, of being lost and passively giving in to the disease;
4. positive redefinition – expressing a reorganization of the problem of the disease such that one finds hope and satisfaction from the years already survived while having full awareness of the disease.

The author of Polish adaptation of Mini-MAC scale used in the research is Z. Juczyński.

There were also questions about personal data. They concerned such variables as:

- gender;
- age;
- type of treated disease;
- treatment duration;
- current form of treatment;
- marital status of respondents.

While conducting the research, the following research issues were considered:

- a. is there a dominant style of coping with stress of disease?
- b. are there dominant expectations of respondents towards medical staff?
- c. is there a difference in respondents' expectations depending on the style of their coping with stress of disease, i.e.

- do persons characterized by the *anxious preoccupation* and *helplessness-hopelessness* styles of coping expect first of all emotional support from medical staff?
- do persons characterized by the *fighting spirit* style of coping expect first of all to obtain information from medical staff? and
- d. is gender of respondents associated with different expectations towards medical staff and style of coping?
- e. does the time passed from the moment of undertaking treatment have a connection with expectations towards medical staff and style of coping with stress?
- f. is the type of undertaken treatment associated with different styles of coping with stress of disease and expectations towards medical staff?
- g. is the location of the tumour associated with different expectations towards medical staff and styles of coping with stress of disease?

3.2. Applied models and statistical procedures

The whole research was conducted in the correlation-regression model.

All statistical calculations for the purposes of this paper were made with the help of the statistical software SPSS PL v.12 for Windows. In the statistical correlation analysis, the following significance tests of inter-group differences were used:

- Student's t-test for significant differences between groups for independent data, for non normal distribution results confirmed with non parametric U Mann-Whitney test;
- one-way analysis of variance.

To verify correlations we used:

- Pearson's correlation coefficient r ,

The significance level $\alpha = 0.05$ was assumed as appropriate for the purpose of the study.

4. Results

4.1. Study group

The research was conducted in April-May 2009 in the radiotherapy departments of the Greater Poland Cancer Centre. 62 persons, including 38 women and 24 men, took part in the research. Three patients refused taking part in the research.

The mean age of the respondents was 57 years.

4.2. Dominant style of coping with stress of disease

The research showed two dominant styles of coping with stress of disease. These are *fighting spirit* and *positive redefinition*.

The third most numerous style of coping with stress of disease is *anxious preoccupation*. On the other hand, the style of *helplessness-hopelessness* was seen the least in the study group.

Mini - Mac - dominant style of coping with stress of disease

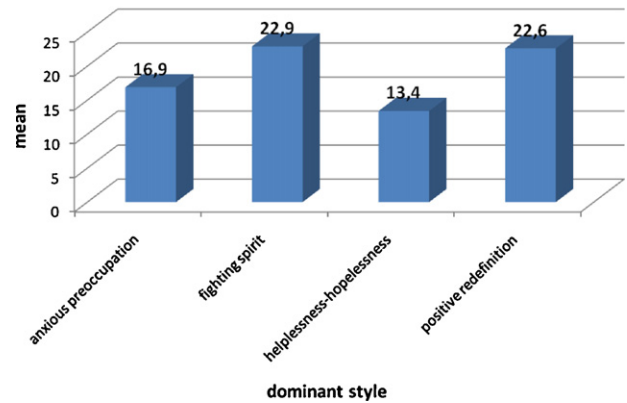


Fig. 1 – Results in the Mini-MAC for the whole test.

Detailed data are presented in the chart above (Fig. 1).

The differences between the styles of coping were statistically significant ($F(3, 183) = 160.38, p < .001$) and post hoc comparisons with Bonferroni correction for p -value $< .05$ confirmed the existence of the three levels described above.

4.3. Dominant expectations towards medical staff

In the study group, the most indicated expectations were those to have the disease explained and to obtain information on examinations and treatment. The patients expected less of emotional support.

Detailed data are presented in the chart (Fig. 2).

The difference between the expectations towards the staff is statistically significant ($F(2, 122) = 81.38, p < .001$) and post hoc comparisons with Bonferroni correction shows that this difference applies only to lower results in the search for support in relation to other dimensions.

PRF - dominant expectations towards medical staff

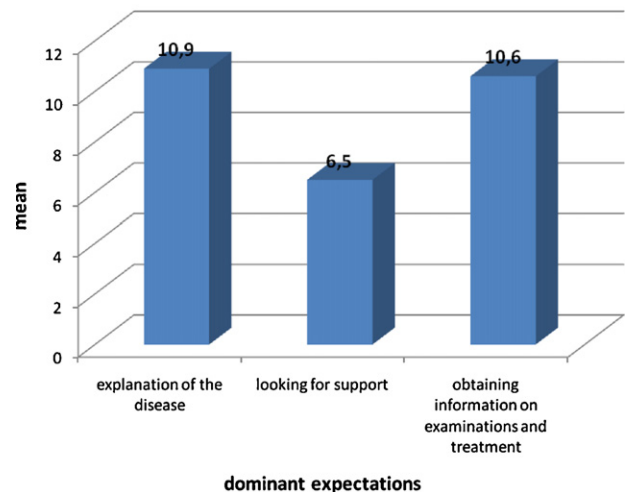


Fig. 2 – Results of PRF for the whole test.

Table 1 – Relations between style of coping and patients' expectations.

	Anxious preoccupation	Fighting spirit	Helplessness–hopelessness	Positive redefinition
<i>Expectation to have the disease explained</i>				
r	.345**	.243*	.290*	.004
p	.003	.028	.011	.489
<i>Looking for emotional support</i>				
r	.458**	-.020	.398**	-.182
p	<.001	.438	.001	.079
<i>Obtaining information on examinations and treatment</i>				
r	.342**	.175	.220*	-.017
p	.003	.087	.043	.448

Note: N = 62.
 * p < 0.05.
 ** p < 0.01

4.4. Relation between style of coping with stress of disease and expectations towards staff

The analysis of results showed the following significant relations:

- the expectation to have the disease explained is associated with anxious preoccupation, fighting spirit, helplessness–hopelessness;
- patients in whom the dominant style is *anxious preoccupation* and *helplessness–hopelessness* expect *emotional support* to the largest extent, which is less expected among patients with *fighting spirit* and *positive redefinition*.

However, patients in whom the dominant style is anxious preoccupation or helplessness–hopelessness expect information on examinations and treatment (Table 1).

4.5. Gender of respondents versus styles of coping with stress of disease and expectations towards medical staff

There were significant differences at $p < .10$ between men and women both in expectations and in the dominant style of coping. Women significantly more often sought emotional support ($M_k = 7.34 \pm 3.89$, $M_m = 5.21 \pm 4.36$, $t(60) = 2.0$, $p = .05$, U test of nonparametric Mann–Whitney $U = 330$, $z = 1.83$, $p = .067$). In terms of coping styles, examined patients exhibited statistically significant anxious preoccupation ($M_k = 18.37 \pm 3.65$, $M_m = 14.63 \pm 3.35$, $t(60) = 4.06$, $p < .001$). There was a significant difference of results on the scale of information on research and treatment between persons that had been treated for six months and those that had been treated for more than 6 months, with the second group of individuals showing significantly lower scores ($M_{<6} = 11.29 \pm 1.27$, $M_{>6} = 10.27 \pm 2.09$, $t(59) = 2.37$, $p = .036$, $U = 325$, $z = 1.96$, $p = .05$).

4.6. Time that has passed from the moment of undertaking treatment versus styles of coping and expectations towards medical staff

It was observed that with the passage of time from the moment of undertaking treatment *anxious preoccupation* of

respondents becomes less intense ($r = -.220$; correlation is significant at the level of 0.05).

4.7. Type of undertaken treatment versus styles of coping and expectations towards medical staff

While analyzing the form of treatment, it was observed that 62.9% of the sample was subjected to only one treatment, 8% two, and 29% of cases included all three treatments. Most cases included both surgery (38.8%) and radiotherapy (36.9%). Chemotherapy as a single treatment occurred only in 8% of cases, radiotherapy in 40% and surgery in 55% of cases.

Subjects were discriminated by the variety of treatments. Persons with a single treatment had lower scores on the search for emotional support than those of many treatments ($M_1 = 5.7 \pm 4.24$, $M_{2+} = 8.0 \pm 3.75$, $t(60) = 2.14$, $p = .036$). The effect was similar on the level of anxiety. Moreover, it was not dependent on the type of person – if there were more than one treatment, they received higher scores compared to those with a single treatment ($M_1 = 16.2 \pm 3.96$, $M_{2+} = 18.1 \pm 3.76$, $t(60) = 1.82$, $p = .074$, $U = 582$, $z = 1.96$, $p = .05$).

The type of treatment undertaken made a difference only if including chemotherapy. Persons treated in this way were more preoccupied with anxiety ($M_{CH} = 18.3 \pm 3.99$, $M_{others} = 16 \pm 3.71$, $t(60) = 2.30$, $p = .025$) and more in need of emotional support ($M_{CH} = 8.0 \pm 3.70$, $M_{others} = 5.5 \pm 4.22$, $t(60) = 2.45$, $p = .017$) than those who had undergone other treatments.

4.8. Location of tumour versus styles of coping with stress of disease and expectations towards medical staff

The study group was not homogeneous in terms of cancer occurring disorders. Most of the patients, up to 46.8%, had been treated for cancer of the reproductive organs – see table. For this reason, further analysis of the differences is loaded with some error and should be interpreted with caution (Table 2).

Studies indicate significant differences between the groups of patients with breast cancer and genital cancer and patients with head and neck cancer. This latter group statistically more often expected to be informed of the causes of the disease ($F(2, 54) = 3.41$, $p = .04$) and emotional support ($F(2, 54) = 3.64$, $p = .03$). The subjects of this group were also characterized by a greater

Table 2 – The distribution of sample size due to the location of the tumour and the mean scores on scales significantly differentiated patients' expectations.

	N	%	Obtaining information on examinations and treatment		Looking for emotional support	
			M	SD	M	SD
Breast cancer	17	27.4	11.2	1.24	7.4	3.87
Sexual organ cancer	29	46.8	11.1	1.95	6.6	4.25
Cancer of head and neck	11	17.7	9.5	2.58	3.4	3.38
Colorectal cancer	3	4.8	12.0	0.00	10.0	3.46
Other diagnoses	2	3.2	12.0	0.00	10.0	0.00
Total	62	100.0	10.9	1.94	6.5	4.18

preoccupation with anxiety, but the extent of difference shows only a tendency.

5. Discussion

Patients characterized by the styles of *anxious preoccupation*, *fighting spirit* and *helplessness–hopelessness* expect explanations concerning the disease and its treatment. Among oncological patients, strategies of threat devaluation aim predominantly at a cognitive management of a problem (*a cognitive control of threat*).^{9,19} A possible explanation of the obtained results is the selection of the study group. As participation in the research was voluntary, some patients – usually those who were in a worse psychophysical condition (data obtained from observation) – did not decide to take part in the research. It cannot be excluded that if all patients had filled in the questionnaire, the results concerning styles of coping and expectations would have been different.

The high result indicating dominance of *fighting spirit* and *positive redefinition* among respondents may be connected with a common expectation towards patients *not to give in* – the patients could have chosen answers which they themselves considered more desirable (*correct*).

Emotional support is desired at most by the representatives of the *anxious preoccupation* and *helplessness–hopelessness* styles. It is least desired by the patients with *fighting spirit* and those who *redefine positively*. This may be the case because these patients have a relatively good quality of life.³¹

Information on examinations and treatment is expected by the patients who cope through *anxious preoccupation* and *helplessness–hopelessness*, which confirms that concentrating on the stressor, search, processing, storing and using information concerning the stressor reduces the level of stress,¹⁵ and anxiety connected with it.

The differences in expectations of women and men are likely to have a social and cultural background. The everyday practice – especially that connected with individual meetings – indicates the greater ease of women to accept emotional support and to show experienced anxiety. It is difficult to explain why women with breast cancer expect the most support and information as well. Perhaps, it is due to the higher extent of support and information than women with other kinds of cancer level of knowledge on methods for treatment of breast cancer – female patients from this group ask for information expecting reassuring answers.

In accordance with the assumptions, patients' expectation to obtain information on examinations and treatment becomes weaker in the course of time that has passed since the beginning of the treatment. This result would suggest the necessity to take particular care of patients who are beginning the treatment.

The research did not include the time from starting the diagnostic process and diagnosis of the malignant tumour to the beginning of treatment, which could cast a different light on the relation between the style of coping with stress of cancer shown by patients undergoing radiotherapy and the type of their expectations towards the medical staff in the Greater Poland Cancer Centre. Time spent in environments which are agreeable for patients (e.g. most often at home among close persons, with the access to specialist literature and the Internet) may be connected with the possibility to satisfy the needs to *obtain information, explanations, emotional support and making positive redefinition*.

In the Greater Poland Cancer Centre, in response to patients' expectations, information guides have been prepared concerning various aspects of oncological treatment and regulations on broadly understood social aid. Psycho-educational meetings are organized for patients with specialists of chemotherapy and radiotherapy, ZUS [Social Insurance Institution] and NFZ [National Health Service] representatives. During individual meetings, elements of psycho-education are applied and informational materials distributed concerning e.g. dealing with the side effects of chemotherapy or radiotherapy, or a diet. It seems to be appropriate and useful to arrange meetings for families and medical staff (e.g. workshops concerning communication skills with patients and their families, transmitting difficult information, coping with professional burnout and workload, etc.) and meetings for patients' families seem to be appropriate for medical staff.

Due to the stress accompanying hospitalization – in particular for persons representing the *avoidance* or *anxious preoccupation* styles of coping with stressful situations – efforts were made to organize free time for inpatients of the Centre to distract them from their disease and to try to make the place, which is in fact a hospital, more homely for patients (organizing concerts, performances, screening feature films, photo exhibitions, introducing elements of occupational therapy and art therapy, e.g. music therapy).

In response to the *expectation of support*, for persons characterized by *anxious preoccupation* and due to the specific nature of work with oncological patients, the most frequent form of

work involves individual conversations considering individual needs of patients as well as their families (e.g. intervention in crisis, relaxation, visualization, etc.).

6. Conclusions

1. The research showed that the expectation to have the disease explained is accompanied by anxious preoccupation, fighting spirit, and helplessness–hopelessness.
2. Patients in whom the dominant style is *anxious preoccupation* and *helplessness–hopelessness* expect more emotional support, which is less expected in patients with *fighting spirit* and *positive redefinition*.
3. Patients in whom the dominant style is *anxious preoccupation* and *helplessness–hopelessness* expect information on examinations and treatment.

Conflict of interest

None declared.

Financial disclosure

None declared.

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