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RESEARCH OF THE PHYSICAL CONDITION AND ANALYSIS OF ITS IMPACT ON THE QUALITY OF LIFE OF CANCER PATIENTS

Abstract: The oncological diseases are among the three most common causes of death in the world following cardiovascular diseases, traffic accidents and incidents. The social work with cancer patients in the Republic of Bulgaria is underdeveloped and almost non-existent. Throughout the course of the oncological disease, the focus is on its treatment, during that time the feelings and experiences of the patients are not taken into consideration and not worked on. According to the World Health Organization the physical condition of people with cancer is one of the main areas defining their quality of life. The purpose of this publication is to present the results of a conducted study focused on identifying the deficiencies in the indicators that determine the physical well-being of people diagnosed with oncological disease and to highlight the need for social work with a specific target group in order to be improved their quality of life. The study was conducted among 304 cancer patients aged between 35-60, residents of Rousse, Razgrad and Silistra regions in the Republic of Bulgaria.
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Introduction

The rapid development of the oncological diseases in recent decades has placed them at the forefront as diseases with global distribution. Studies reveal a worrying trend that not only is increasing the number of people suffering from malignant neoplasms, but it is also reducing the age of unlocking the disease in both sexes. Twenty million people worldwide are diagnosed with cancer, and it accounts for 12% of all deaths. In Bulgaria, the number of newly registered cancer patients in 2018 is 35.378, showing an increase of 9% over the previous five-year period from 2013. An increase in cancer-related deaths was also reported in 2018 in Bulgaria. 19.139 deaths were recorded, which is 6.3% more compared to 2013 (Data by the National Center for Health Information). There is a decrease in the age of newly registered cases, an increase in the survival rate of people with concomitant cancer, and an increase in

cases of complete recovery. During the course of the disease, the focus is on the treatment. The social work with people with cancer in Bulgaria is poorly developed, even non-existent in some regions of the country. There is no help provided to the patients and their families in regards to their feelings, experiences and on-going needs. To date, no research has been conducted on the impact of the disease to the quality of life among cancer patients. This is the main reason for the study to be conducted with active participants, people within working age and with concomitant cancer. One of the areas for defining the quality of life set by the World Health Organization is the physical well-being. The article presents the results of a study on the oncological suffering impact on the components of the physical well-being of patients.

II. MAIN TEXT

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The study on the impact of the disease to the quality of life among cancer patients was conducted among 304 people with active oncological disease, residents of the regions Rousse, Razgrad and Silistra in the Republic of Bulgaria. In order to more accurately distinguish the deficiencies in the quality of life components and the period of their occurrence, the subjects were divided into two groups: group 1 - persons diagnosed with cancer two weeks ago and group 2 formed by persons diagnosed with the same disease a year ago. The type of cancer is not taken into account throughout the study. The inclusion requirements of the study were that the participants are diagnosed with cancer, which is within the limitation of the above mentioned period for the two groups, to be within the age of 35 – 60 years old and to be Bulgarian citizens. The respondents voluntarily participated in the study, while maintaining their anonymity.

The empirical study was conducted through modified and adapted for the purposes of the study variant of the World Health Organization Quality of Live Questionnaire.

The study was conducted through voluntary participation and preserved anonymity among 148 patients with cancer of group 1 and 156 patients with cancer of group 2, patients of the Complex Oncology Center - Ruse Ltd. and University Multiprofile Hospital for Active Treatment "Medica Ruse" Ltd. The research tool used is "Questionnaire for assessing the quality of life of people with oncological diseases within the working age". The individuals from group 1 who completed the questionnaire could not be definitely said to be residents of the above mentioned three areas, because the diagnosis of the disease and the initial stage of treatment (in the majority of cases - operatively) is carried out in a medical institution at the request of the patient (i.e. they may be residents of all regions of the country). Only Bulgarian citizens participate in the study.

1. Discussion of the results obtained with regard to the distribution of the participants by gender.

1.1. Discussion of the results obtained from Group 1 with regard to the distribution of the participants by gender (people diagnosed with oncological disease two weeks ago).

The number of all respondents is 148. 82 are female and represent 56.16% of the group. The average age of these 82 women is 47.4 years. 64 of the surveyed people are male and represent 43.84% of all subjects surveyed. The average age of these 64 men is 52 years. From the data presented, it can be concluded that the number of women suffering from oncological disease is higher than the number of men. The participants who indicated that they were in the age group of 35-39 years represent 8.2% of all participants in the study. Those who were between 40 and 44 years of age represent 17.7% of all participants in the study. Participants aged 45 to 49 represent 20.4% of all

participants in this study. The participants who indicated that they were in the age group of 50-54 years represent 23.1% of all participants and those aged 55-60 years - 30.6% of all participants in this study. According to the presented data it is clear that increasing the age does increase the relative share of people with on-going oncological disease. The obtained results in terms of the age of the people involved in our study directly correlate with the data on the age distribution of all registered cancer patients which are residents of the three territorial areas covered. By regression analysis, it was found that the transition with a unit of higher age group increased the incidence of oncological disease by 4.815%.

1.2. Discussion of the results obtained from Group 2 with regard to the distribution of the participants by gender (people diagnosed with oncological disease one year ago).

The number of all respondents is 156. From them, 78 are female and represent 52.3% of the respondents in this group. The average age of these 78 women is 48.02 years. 71 of the surveyed people are male and represent 47.7% of all subjects surveyed. The average age of these 64 men is 52.70 years. The participants in the study who indicated that they were in the age group of 35-39 years represent 9% of all participants in this study. Those who were between 40 and 44 years of age represent 12.8% of all participants. Respondents, who are 45 to 49 years old, form 17.9% of all participants in this study. The participants who indicated that they were in the age group of 50 to 54 years and 55 to 60 years had an equal share - 30.1% each. From the data presented, it can be concluded that the number of women suffering from oncological disease is higher than the number of men. This can be explained by the gender-specific oncological diseases - in women, it is the hormone-dependent breast cancer. From the presented data, it is clear that with the increasing age, the percentage of people with on-going oncological diseases increases, which correlates with the overall morbidity. The obtained results in terms of the age of the people involved in our study directly correlate with the data on the age distribution of all registered cancer patients

2. Discussion of the results obtained with regard to the distribution of the participants by marital status.

I believe that the support from the close family is essential with regard to the quality of life of people with cancer. For this reason, the family status of the participants in the study was examined. The results obtained in both groups are as follows:

2.1. Discussion of the results obtained from Group 1 with regard to the distribution of the participants by marital status.

The analysis of the answers received with regard to the indicator "marital status" shows the following: of the 147 participants 49.7% are married; 12.2% of these 147 people are unmarried; 17% are divorced;

7.5% are widowed and 13.6% live together with a partner. It is evident from the presented indicators that the largest share is held by the married participants (49.7 %). Due to the fact that the purpose of the family status survey is to identify the support received by the family, when deficiencies in quality of life are present, we could add to the relative share of married people the share of people living together with a family partner (13.6%). This group of participants differ from the previous one only in the legal status of their marital status. In terms of having a partner and their expected support, they are no different from the first category. Hence, the group of cancer patients who have a permanent partner with them has the highest relative share of all surveyed people - 63.3%. It can be assumed that the remaining 36.7% - those whose marital status is unmarried, divorced or widowed and do not have a permanent partner living with them at the time of the study would have a greater need for social and psychological support when passing through the stages of the disease.

2.2. Discussion of the results obtained from Group 2 with regard to the distribution of the participants by marital status.

The analysis of the answers received with regard to the indicator "marital status" show the following: of the 156 completed questionnaires 53.2% were married; 1.9% are unmarried; 12.2% are divorced; 10.9% are widowed and 21.8% live with a family partner. It is evident from the presented indicators that the largest share is held by married participants (53.2%). To this group we could add people living together with a partner (21.8%), due to the fact that this group of participants differ from the previous one only in the legal status of their marital status. In terms of having a partner and their expected support, they are no different from the first category. In this way, the group of cancer patients who have a permanent partner living with them has the highest relative share of all people who participated in the study -76.0%. Similarly (with group 1), we could assume that the remaining 24.0% would have a greater need for social and psychological support during the stages of the disease - those who are unmarried, divorced or widowed, i.e. do not have a permanent partner at the time of the study.

3. Discussion of the results obtained regarding the answers to the questions in Section 1 (physical well-being) from Segment II of the "Questionnaire for the quality of life of people diagnosed with oncological disease".

Section 1 (physical well-being) of Segment II of the used research tool contains five questions aimed at defining the deficiencies in the quality of life aimed more specifically the physical well-being of people diagnosed with oncological disease. The questions are aimed at assessing the major components of the quality of life related to the physical condition of the patients – level of the experienced pain and discomfort, lack of sufficient energy in order to perform basic daily activities, satisfaction with the quality of sleep and sexual activity, quality of perceived information through touch, sense of smell, feeling and other sensory perceptions. For this group of questions, the Cronbach's alpha coefficient is 0.836, which is considered to be good consistency. The correlation coefficient varies between 0.502 and 0.652. For scales with less than 10 questions, it is normal for alpha α to be around 0.50 as a tolerable value.

3.1. Quantitative analysis of the results obtained from the answers to the questions concerning the physical well-being of the individuals diagnosed with oncological disease.

When assessing their physical condition, shortly after the diagnosis of cancer (Group 1) and after one year of treatment (Group 2), we received the following responses from the subjects, presented in table 1 as a percentage against the total number. The numerical values of the received answers from Section 1 are presented in the diagram of Fig. 1 (for Group 1) and Fig. 2 (for Group 2).

Table 1: Quantitative results of the questions in Section "Physical Status".

Questions from Section 1:	Group	Answers				
		No	Rather not	I have no opinion	Rather yes	Yes
1. Do you experience pain and discomfort?	1	9,5	12,9	1,4	27,2	49,0
	2	9,1	29,9	1,9	36,4	22,7
2. Do you have enough energy to do your normal daily activities?	1	52,7	21,9	1,4	11,6	12,3
	2	47,7	29,0	1,9	18,1	3,2

3. Are you satisfied with your sexual activity?	1	41,9	20,0	30,3	4,1	4,1
	2	56,9	23,5	18,3	1,3	0
4. Are you satisfied with your sleep?	1	52,4	33,1	0	7,6	6,9
	2	49,0	35,9	0,7	13,1	1,3
5. Do you feel a change in the perception of information by touch, vision, hearing, smell or taste?	1	15,6	29,9	7,5	41,5	5,4
	2	2,6	21,1	8,6	46,1	21,7

The quantitative analysis of the data from the empirical study of the questions in Section 1 "Physical Status" in group 1 allows us to outline the following deficiencies in the quality of life:

➢ high level of experienced pain and discomfort - 49.0% of those surveyed reported firmly experiencing some degree of pain and discomfort and 27.2% responded positively with hesitation;

➢ lack of sufficient energy for the basic daily activities - 52.7% strongly state that they do not have the energy needed to perform their normal daily activities, and 21.9% respond in the same way with hesitation;

➢ dissatisfaction with the sexual activity - a total of 61.9% of the respondents report to be true, with 41.9% answering strongly and 20.0% responding with hesitation;

➢ dissatisfaction with the quality of sleep in 85.5% of the subjects surveyed in this group - in 52.4% the answer was definite and in 33.1% - with hesitation;

➢ a total of 46.9% of the participants reported a change in the perception of information by touch, vision, hearing, smell or taste - 41.5% - indicate the answer yes and 5.4% - rather yes. There are also a high proportion of negative answers to this question - a total of 45.5%, with 15.6% saying definite no and 29.9% answer with hesitation.
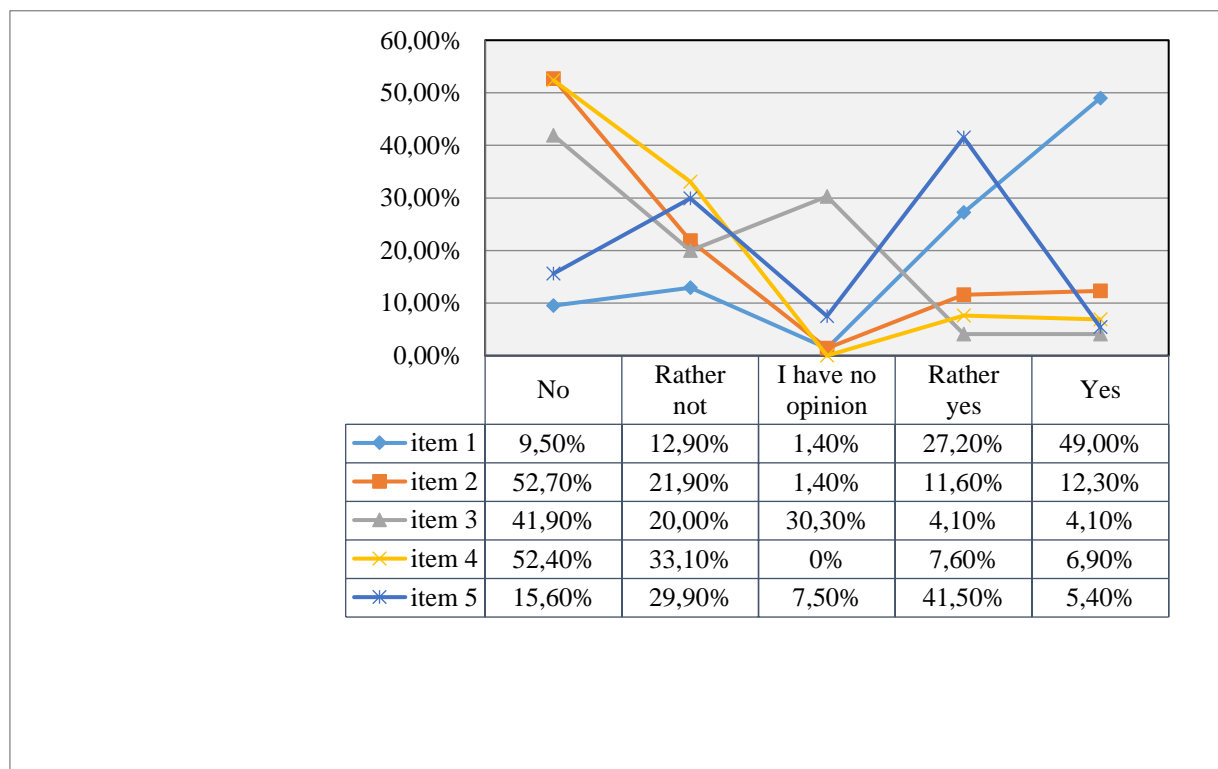

	No	Rather not	I have no opinion	Rather yes	Yes
item 1	9,50%	12,90%	1,40%	27,20%	49,00%
item 2	52,70%	21,90%	1,40%	11,60%	12,30%
item 3	41,90%	20,00%	30,30%	4,10%	4,10%
item 4	52,40%	33,10%	0%	7,60%	6,90%
item 5	15,60%	29,90%	7,50%	41,50%	5,40%

Fig.1: Numerical distribution of the answers in Section 1 of Segment II by group 1

The quantitative analysis of the data from the empirical study of the questions in Section 1 "Physical Status" in group 2 allows us to outline the following deficiencies in the quality of life:

➢ a total of 69.1% of those surveyed report experiencing pain and discomfort to a certain extent - 22.7% indicate yes and 36.4% answer yes, but with hesitation;

➢ lack of sufficient energy for the basic daily activities - 47.7% strongly state that they do not have the energy needed to carry out their normal daily activities, and 41.9% respond in the same way with hesitation;

➢ a total of 80.4% of the subjects surveyed were not satisfied with their sexual activity - 56.9% indicated a definitive negative answer and 23.5% - a negative answer too, but with hesitation;

➢ dissatisfaction with the quality of sleep was recorded by 84.9% of the subjects included in this group - in 49.0% the answer was definite and in 35.9% - with hesitation;

➢ 67.8% report a change in the perception of information by touch, vision, hearing, smell or taste - in 46.1% of them the answer is definite, and in 21.7% - with hesitation.
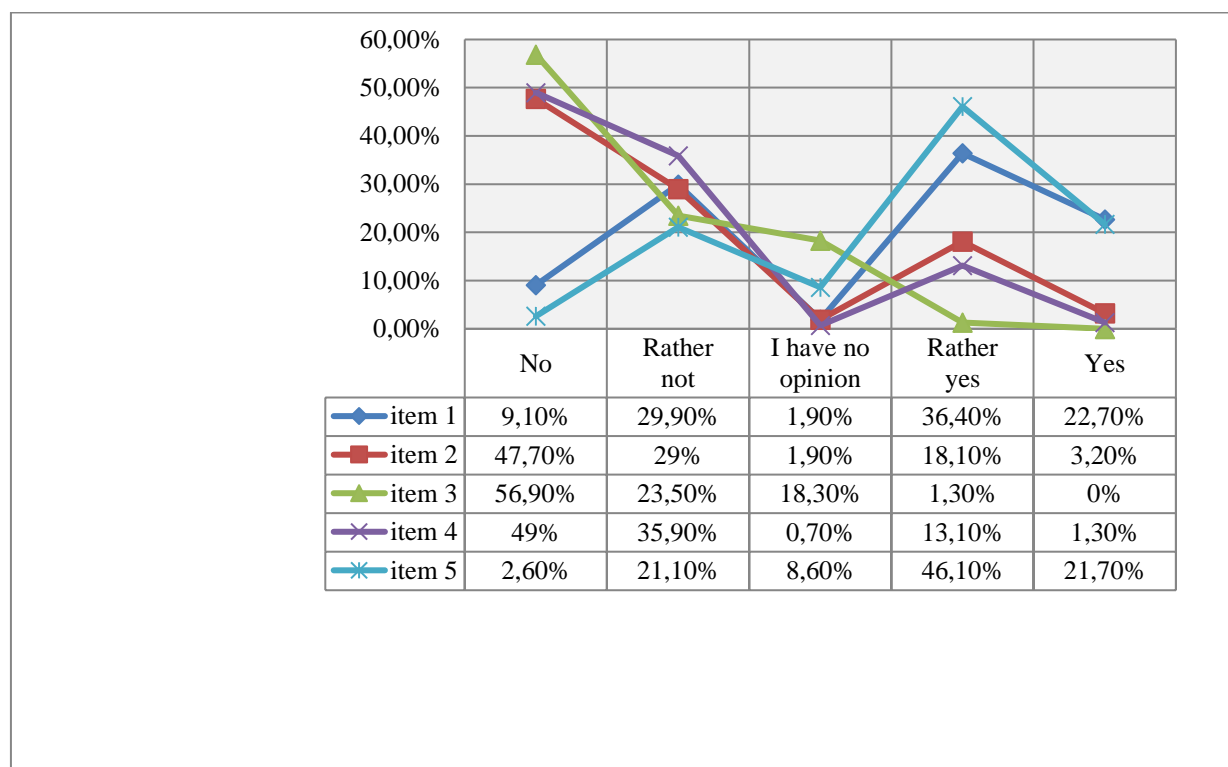

	No	Rather not	I have no opinion	Rather yes	Yes
item 1	9,10%	29,90%	1,90%	36,40%	22,70%
item 2	47,70%	29%	1,90%	18,10%	3,20%
item 3	56,90%	23,50%	18,30%	1,30%	0%
item 4	49%	35,90%	0,70%	13,10%	1,30%
item 5	2,60%	21,10%	8,60%	46,10%	21,70%

Fig.2: Numerical distribution of the answers in Section 1 of Segment II by group 2

3.2. Qualitative analysis of the results obtained from the questions concerning the physical well-being of people with oncological diseases.

From the presented in Table 1 results it is obvious that a total of 76.2% of the respondents in Group 1 and 69.1% of Group 2 have a certain degree of pain and discomfort. 74.6% of the participants of Group 1 and 76.7% of Group 2 responded that they did not have the energy they needed to perform their normal daily activities. 61.9% of Group 1 and 80.4% of Group 2 - are not satisfied with their sexual activity, and 85.5% of Group 1 and 84.9% of Group 2 - of their quality of sleep. From the answers to these three questions, we find that the intensity of pain and discomfort, the poor quality of sleep and sexual activity, and the lack of energy for the daily activities remain unchanged from the onset of oncologic diagnosis until one year has passed from its treatment.

These negative answers to the questions may be explained by the fact that our subjects are in a period of intensive treatment of the oncological disease, when the therapeutic procedures are frequent and usually associated with negative feelings. When asked whether they report a change in the perception of information by touch, vision, hearing, smell or taste, the responses received from the two groups differ - 45.5% of Group 1 and 23.7 of Group 2 respond negatively and 46.9% of Group 1 and 67.8% of Group 2 positive. In my view, this is because a change in these perceptions would result from treatment being applied to the relevant anatomical organ or associated to it organ. Throughout the study it is not mention the anatomically affected by the disease organ.

Qualitative analysis of the answers given to questions in Section 1 by Group 1: The presented results give us grounds to state that, with respect to the

physical condition of the cancer patients diagnosed with the disease two weeks ago, significant deficiencies in the quality of life emerge. The qualitative analysis that can be presented for this is the fact that the subjects are at the very beginning of the treatment of the oncological disease, when the therapeutic procedures are most intense and are usually associated with negative sensations such as pain and discomfort. They are the main reason for the lack of sufficient energy, the poor quality of sleep, and the dissatisfaction with the sexual activity. When asked whether they report a change in the perception of information by touch, vision, hearing, smell or taste, the affirmative and negative responses received are relatively equal - 45.5% respond negatively and 46.9% positively. In my view, this is because a change in these perceptions would result from treatment being applied to the relevant anatomical organ or associated organ. In the study we do not mention the anatomically affected by the disease organ. The summary analysis of the results gives us grounds to claim that, with regard to the indicators examined in Section 1, there is existence of major deficiencies in the quality of life of the subjects - high level of pain and discomfort, lack of energy for the basic daily activities, poor quality of sleep, dissatisfaction with the sexual activity and some degree of change in the perceptions received through the sensory organs.

Qualitative analysis of the answers given to questions in Section 1 by Group 2: the presented results give us grounds to state that, with respect to the physical condition of cancer patients diagnosed a year ago; significant deficiencies in their quality of life are found. The qualitative analysis that can be presented for this matter is the fact that those people have already underwent most of the therapeutic procedures, which are related to negative sensations and affect the overall functioning of all organs and systems. This proves to be the main reason for the lack of sufficient energy for all day-to-day activities, poor quality of sleep, and dissatisfaction with the sexual activity. In this group of surveyed individuals, we report a higher proportion of negative responses than the answers to the same questions received from Group 1.

Findings:

1. The presented results of the conducted study, carried out among individuals with existing oncological disease who were diagnosed with the disease two weeks ago and those who were diagnosed with the same disease one year ago, allow us to state that significant gaps in the quality of life are detected in the studied target group, more specifically in their physical well-being.

2. The results presented in relation to the existing deficiencies in the quality of life of cancer patients, imposes the development and implementation of a model of social work with psychosocial orientation.

III. CONCLUSION

The summarized analysis of the results obtained from the two study groups gives us grounds to state that, with respect to the indicators examined, in the Section "Physical state", there are major deficiencies in the quality of life components of people with cancer.

In Group 1, the following deficiencies in the quality of life are outlined:
- pain and discomfort experienced;
- lack of energy;
- sexual dissatisfaction;
- poor quality of sleep.

In Group 2, the following deficiencies in the quality of life are outlined:
- pain and discomfort experienced;
- lack of sufficient energy for all daily activities;
- poor quality of sleep;
- sexual dissatisfaction;
- changed sensory perceptions.

It was found that the deficiencies in the quality of life of cancer patients in the two study groups were very similar. In Group 2 was found a higher degree of change in perceived information through the sensory organs.

The summary analysis of the results gives us grounds to claim that, with respect to the indicators examined, in the Section "Physical state", there is definite presence of major deficiencies in the quality of life of the examined subjects. The study conducted to identify the quality of life deficiencies in patients with oncological disease who are at different stages of their treatment showed that significant deficiencies in the quality of life were identified across all indicators examined. This necessitates the urgent need for introduction of a social work program with a pronounced clinical component for those diagnosed with oncological disease.

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