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Age as a determinant of quality of life and symptoms of anxiety and depression in patients with genital cancer

Wiek jako determinanta oceny poziomu jakości życia i występowania objawów zaburzeń lękowych i depresyjnych u pacjentek z chorobą nowotworową narządów płciowych

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Abstract

Introduction. *Anxiety and depression are listed as the most common psychological disorders in the course of cancer. Women with gynecological cancers are particularly at risk for poor quality of life after surgery because of the location of the cancer. Advanced age of a patient may be an additional burden factor.* ***Aim.*** *The aim of the study was to assess the level of functioning and quality of life, and symptoms of anxiety and depression in patients who are elderly, hospitalized for genital cancers.* ***Material and Methods:*** *The study included 73 patients with genital cancers qualified for surgical treatment. The research was divided into 4 age groups: < 36 years, 36-50 years, 51-65 years and > 65 years. The Hospital for Anxiety and Depression (HADS) and the EORTC QLQ-C30 Questionnaire were used to assess the quality of life of cancer patients.* ***Results.*** *1. In the group of women aged 65 years, there are statistically significant differences in physical, cognitive, role performance, overall health and quality of life and the incidence of fatigue and pain in relation to other age groups ($p < 0.05$). 2. Older women often have symptoms of depression ($p = 0.01$).* ***Conclusions.*** *1. The presence of symptoms of depression in older women with gynecological cancer can affect the subjective assessment of their health and quality of life. 2. Due to the higher risk of disorders screening assessment of symptoms of anxiety and depression among patients with genital cancer should be systematically carried out before surgery. Especially for women over 50 years of age. (Gerontol Pol 2018; 26; 91-99)*

Key words: *elderly women, genital cancers, quality of life, anxiety, depression*

Streszczenie

Wstęp. *Lęk i depresja wymieniane są jako najczęściej występujące zaburzenia psychologiczne w przebiegu choroby nowotworowej. Kobiety z nowotworami ginekologicznymi są szczególnie narażone na gorszą jakość życia po operacji ze względu na lokalizację nowotworu. Zaawansowany wiek pacjentki może być dodatkowym czynnikiem obciążającym.* ***Cel.*** *Celem badań była ocena poziomu funkcjonowania i jakości życia oraz występowania objawów lęku i depresji u pacjentek w wieku podeszłym hospitalizowanych z powodu nowotworów narządów płciowych.* ***Materiał i metody:*** *Badaniami objęto 73 pacjentki z nowotworami narządów płciowych zakwalifikowane do leczenia chirurgicznego. Badane podzielono na 4 grupy wiekowe: < 36 lat, 36-50 lat, 51-65 lat i > 65 lat. Zastosowano Szpitalną Skalę Lęku i Depresji (HADS) oraz Kwestionariusz EORTC QLQ-C30 do oceny jakości życia chorych na nowotwory.* ***Wyniki.*** *1. W grupie kobiet po 65. roku życia występują statystycznie istotne różnice z zakresie funcjonowania fizycznego, poznawczego, w rolach, w ogólnej ocenie stanu zdrowia i jakości życia oraz częstości występowania objawów zmęczenia i dolegliwości bólowych w stosunku do innych grup wiekowych ($p < 0,05$). 2. U starszych kobiet częściej występują objawy zaburzeń depresyjnych ($p = 0.01$).* ***Wnioski:*** *1. Występowanie objawów zaburzeń depresyjnych u starszych kobiet z nowotworem narządu rodnego może wpływać na subiektywną ocenę ich stanu zdrowia i jakości życia. 2. Ze względu na większe ryzyko występowania zaburzeń, przesiewowa ocena występowania objawów lękowych i depresyjnych wśród chorych na nowotwory narządów płciowych powinna być systematycznie prowadzona jeszcze przed operacją. Szczególnie dotyczy to kobiet po 50. roku życia. (Gerontol Pol 2018; 26; 91-99)*

Słowa kluczowe: *starsze kobiety, nowotwory narządów płciowych, jakość życia, lęk, depresja*

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Introduction

Cancer is a huge source of stress and negative emotions for the patient and their family. Therefore, not without reason, it is considered to be the most stressful of all diseases and is treated equally with other traumatic incidents such as experience of exposure life, death and serious injury [1]. Malignant neoplasms of female genital organs account for 18% of the diseases and 15% of all cancer deaths among women. The number of cases increases after the age of 25, with the highest occurrence in the sixth/seventh decade of life. The risk of death increases systematically after the age of 40, 95% refers to women after 50 years of age [2]. Most genital cancers do not give specific symptoms and are often detected in advanced stages, so the treatment is multidirectional, time-consuming, and aggravating. Most often it is a surgical treatment, associated with radio- and chemotherapy, sometimes also with hormone- and immunotherapy. Studies on the quality of life of patients after the surgery indicate that a resumption of functional and emotional wellbeing lasts about 6 months and even longer, as in the case of the most extensive surgery like the multiple organ resection [3-6]. Long-term effects of intra-abdominal treatment and gynecological and neurological problems occur in about 20% of patients after 5 years of surgery [7].

Anxiety and depression are listed as the most common psychological disorders in the course of cancer. Studies show a higher probability of occurrence and a higher anxiety and depression among oncological patients compared with other chronic patients [8,9]. Studies also show that patients with depression associated with chronic illness have worse prognosis and require prolonged treatment and somatic symptoms are more intense [10,11]. All of this can make the quality of their lives lower.

Oncological nursing are increasingly undertaking research to identify factors that determine the quality of life of patients with cancer, look for ways to identify them early, and look for patients who are at particular risk for additional complications [12-14] .Objectively, women with gynecological cancers are more likely to suffer from poor quality of life after surgery because of the location of the tumor associated with the most intimate part of the woman's body. Problems include self-image, self-perception, sexual function, infertility, surgical menopause and its consequences. There is a risk of numerous postoperative complications and the probability of side effects of brachytherapy and chemotherapy. The advanced age of the patient may be an additional burden factor [14-16].

Aim of study

The aim of the study was to assess the level of functioning and quality of life of patients hospitalized for genital cancer and the occurrence of anxiety and depression symptoms taking into account the age of the patients.

Material and methods

The research was conducted in the period from August 2016 until March 2017 among patients with genital tumors qualified for surgical treatment in the Department of Gynecologic Oncology, Professor Łukaszczyk Oncology Centre in Bydgoszcz. Among 115 patients who were asked to complete questionnaire, 35 did not consent to participate in the study and 7 patients due to severe symptoms of fatigue and irritability interrupted the study. The remaining 73 patients who were in the clinic answered all questionnaire questions. Before starting the study, the patients volunteered to participate in the study, and were informed about the possibility of resigning from each of the stages. The study was conducted in 2-3 days from admission to hospital, even before a scheduled surgery. The exclusion criteria from the study were: depression, anti-anxiety therapy and anti-depression therapy over the past year, other cancers.

The highest number of respondents (32 women, 48%) had secondary education, alternately college education (16 women, 21.9%), vocational education (12 women, 16.4%), primary (8 women, 11%), post-secondary education (2 women, 2.7%). The largest group was married (49 persons, 67.1%), then single women (21, 28.8%) and those living with partners (3, 4.1%). 42 people were professionally active (57.5%). 43 respondents (59%) rated good their financial situation, 25 as average (34.2%), 5 polled (6.8%) as bad. 40 patients were diagnosed with ovarian cancer (54.8%), 21 patients endometrial cancer (28.7%); 4 patients (5.5%) - cervical cancer, vulvar cancer and uterine fibroids.

For the purpose of research, the patients were divided into 4 age groups: <36 years (7 persons, 9.6%), 36-50 years (16, 21.9%), 51-65 years (31, 42.5%) and> 65 years (19, 26%). The youngest respondent was 23 years old, the oldest was 85 years old.

Two questionnaires were used in the study:

1. EORTC QLQ-C30 Questionnaire (Version 3.0) - The questionnaire was developed by the Quality of Life Research Group, established by the European Research Organization for Research and Treatment of Cancer (EORTC). It consists of 30 questions to measure the quality of life of patients with cancer regardless of the type of cancer in the patient's functioning

in different areas of life and the impact of ailments on the quality of life. The impact of the disease on the financial situation is also assessed. In the sphere of functioning, physical (5 questions), social and work (2 questions), emotional (4 questions), cognitive (2 questions), social (2 questions) and measurement of general quality of life (2 questions) are available. Estimation the impact of ailments on quality of life contains the symptoms of fatigue (3 questions), nausea and vomiting (2 questions), pain (2 questions), and 5 individual questions assessing the severity of symptoms such as dyspnoea, sleep disorders, loss of appetite, constipation and diarrhea and one question about financial problems. Most of the questions were followed by a 4-step Likert scale. Polish Majkowicz's version is characterized by high coefficients α Cronbach for particular scales from 0.61 to 0.86 (weak but acceptable 0.35 for cognitive functioning scale). The calculation of raw results is done by summing the assigned numerical values for the questions included in the extracted scales. Standardization of results is made to a 100-step scale. Using the questionnaire was approved by the European Organization for Research and Treatment of Cancer, based in Brussels.

2. Hospital Anxiety Depression Scale (HADS) - Polish version of the test prepared by Majkowicz, de Walden Gałuszko, Chojnacka-Szawłowska is a short questionnaire consisting of 14 questions, a tool for self-esteem in anxiety (7 questions - subscale to Anxiety, HADS-A) and depression (7 questions – subscale to Depression, HADS-D). The questions relate to the patient's well being of the last week. For each question is awarded a point value from 0 to 3. Then points from one and two subscale are summed. Results from 0 to 7 testify to an average level of anxiety and depression, 8 to 10 with a limit level, and values between 11 and 21 are considered incorrect. The HADS scale is sensitive to changes in the patient's clinical condition and can be used to assess the effectiveness of a pharmacological or psychotherapeutic intervention. The total value of the Cronbach α index for the HADS scale is 0.884 (the Cronbach α value for the HADS-A subscale is 0.829, while for the HADS-D subscale it is 0.840).

The research was approved by the Bioethics Commission of Nicolaus Copernicus University in Toruń, Collegium Medicum. L. Rydygier in Bydgoszcz (KB 295/2016).

All of the results were entered into the STATISTICA version 10. The results of the EORTC QLQ-C30 and HADS scales were analyzed by the ANOVA Kruskal-Wallis test. Results in terms of quantitative parameters (on a scale of order and quotient) are presented as minimum and maximum values (min and max), quartile values (Q1, Me, Q3) and average () and standard deviation (SD). Statistically significant variables were $p < 0.05$.

Results

The first stage of the study was the measurement of the health status and quality of life of patients with cancer of the genital organs qualified for surgical treatment. The analysis of EORTC QLQ-C30 indicates significant differences between subjects in different age groups ($p = 0.011$ and $p = 0.043$) (Table I). It was noted that the health status and quality of life decreased as the age of the subjects was increased. The health and quality of life were the best among the youngest under 36 years old ($\overline{x} = 60$ and $\overline{x} = 55$), then in the age range 36-50 years ($\overline{x} = 42$ and $\overline{x} = 45$), then 51-65 years ($\overline{x} = 39$ and

Table I. Descriptive statistical analysis and results in evaluating the state of health and quality of life questionnaire EORTC QLQ-C30 in the study group

Age ranges	N		SD	Min	Q_1	Me	Q_3	Max	Result of the test Kruskal-Wallis	Value p
Health assessment										
Below 36years	7	60	27	33	33	67	83	100	11.203	***0.011***
36-50years	16	42	16	17	33	50	50	67		
51-65years	30	39	17	0	33	33	50	100		
Above 65years	20	28	17	0	17	33	33	67		
Assessment of the quality of life										
Below 36years	7	55	34	17	17	50	83	100	8.136	***0.043***
36-50years	16	45	22	0	33	50	67	67		
51-65years	30	36	18	0	17	33	50	83		
Above 65years	20	28	20	0	17	25	33	67		

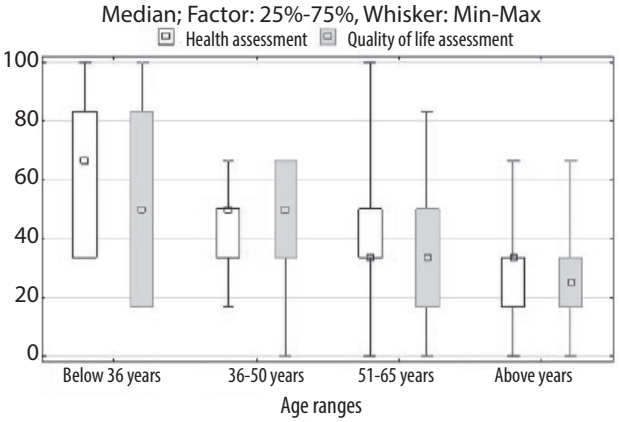

Figure 1. Distribution of results on health status and quality of life from the EORTC QLQ-C30 questionnaire in the study group

$\overline{x}$ = 36). The worst overall health and quality of life was assessed by the oldest 65 years old ($\overline{x}$ = 28 and $\overline{x}$ = 28) (Figure 1).

It was also noted that in all age groups up to 65 years of age, cognitive functioning (< 36 years $\overline{x}$ = 79; 36-50 years $\overline{x}$ = 76; 51-65 years $\overline{x}$ = 69) was the best, and emotional functioning the worst (< 36 years $\overline{x}$ = 58; 36-50 years $\overline{x}$ = 46; 51-65 years $\overline{x}$ = 44). Questioned over 65 years, it was best to evaluate their social functioning ($\overline{x}$ = 62) and worst function in the roles ($\overline{x}$ = 32).

There was also a tendency of deterioration of functioning in all scales as the age of subjects was increased (Figure 2). Those surveyed over 65 years on all scales received the lowest scores. In the physical, role and cognitive scales, these were statistically significant differences (p = 0.002; p = 0.018; p = 0.026) (Table II).

In the latter part of the study, there was also a tendency to intensify the negative symptoms with the increase in the age of the subjects (Figure 3). Mostly in all age groups reported problems were fatigue, pain and insomnia. Patients over 65 years old more often than the other respondents complained about all the symptoms. Significant differences occurred in symptoms: fatigue, pain and financial distress (p = 0.033; p = 0.007; p = 0.005) (Table III).

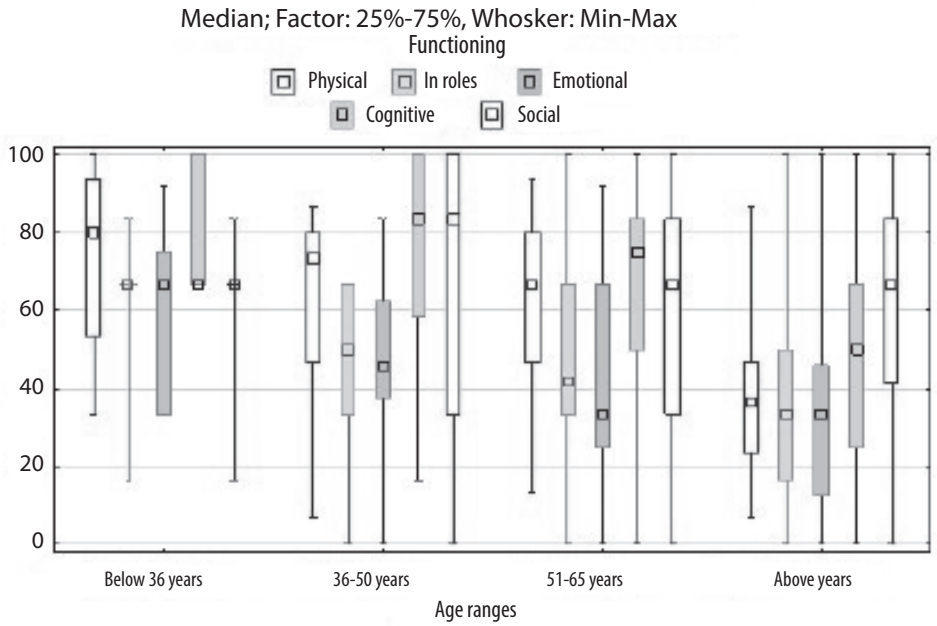

Figure 2. Distribution of results on the scale of functioning of the EORTC QLQ-C30 questionnaire in the study group

Table II. Statistical analysis of the scale of functioning of the questionnaire EORTC QLQ-C30 in the study group

Functioning	Result of the test Kruskal-Wallis	Value p
Physical	14.138	***0.002***
In roles	10.057	0.018
Emotional	6.074	0.108
Cognitive	9.303	0.026
Social	1.631	0.652

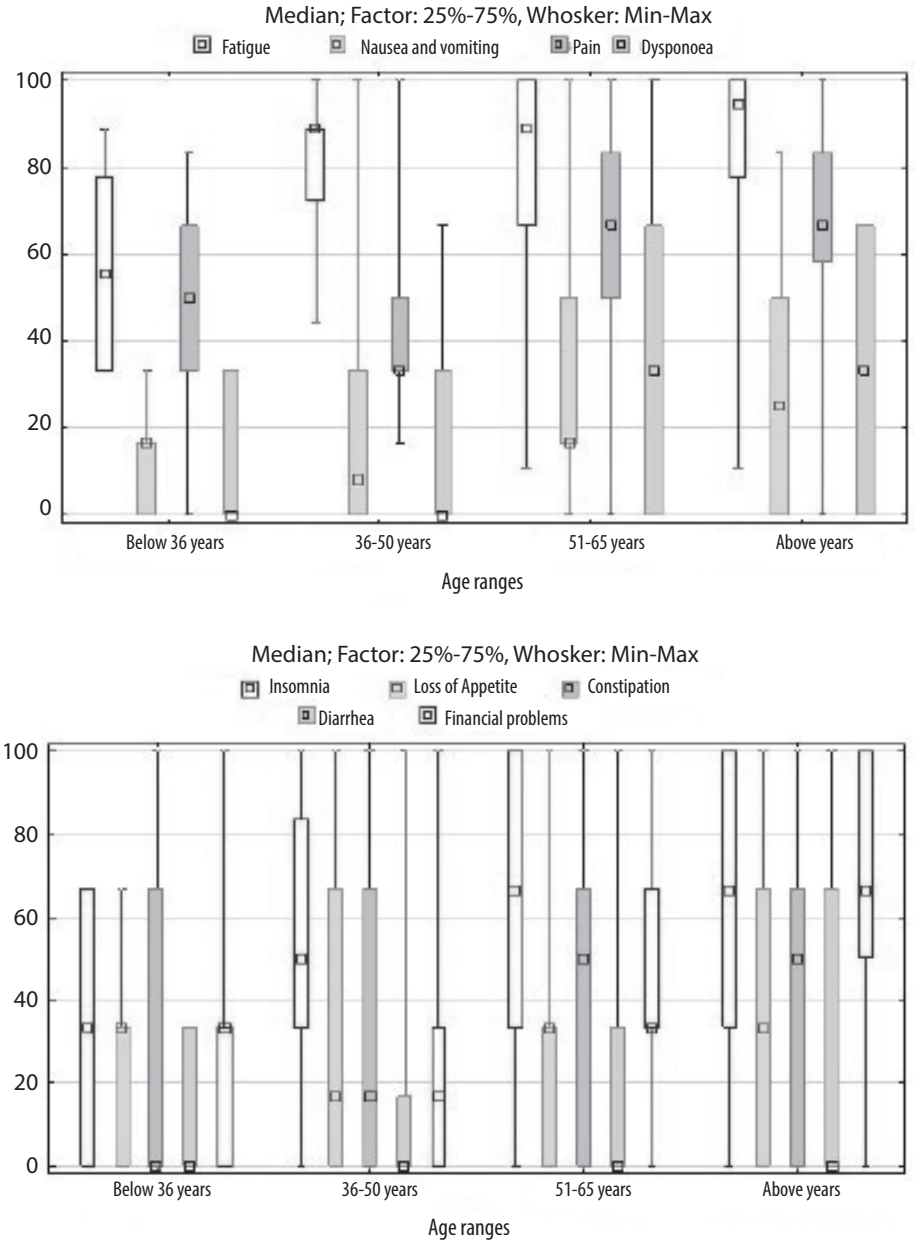

Figure 3. Distribution of results in the symptoms questionnaire EORTC QLQ-C30 in the study group

Table III. Statistical analysis of the symptoms of the EORTC QLQ-C30 questionnaire in the study group

Scales of symptoms	Result of the test Kruskal-Wallis	Value p
Fatigue	8.711	***0.033***
Nausea and vomiting	4.055	0.255
Pain	11.992	***0.007***
Dyspnoea	5.513	0.138
Insomnia	5.550	0.135
Loss of appetite	0.387	0.942
Constipation	1.807	0.613
Diarrhea	0.998	0.801
Financial problems	12.825	***0.005***

The results of the evaluation of anxiety and depression were analyzed in the next stage of the study by the HADS scale (Table IV). It was observed that patients in the age range of 51-65 years and over 65 years had a higher anxiety level than those younger ($\overline{x}$ = 10 *vs.* = 7/8), but these were not significant differences (p = 0.117). On the other hand, the analysis of the scale of depression indicates that there are significant differences between the analyzed groups (p = 0.011). Youngest patients under 36 years of age and 36-50 years of age had the lowest scores ($\overline{x}$ = 5 and $\overline{x}$ = 6), indicating that they had the smallest depressive index. In the age range of 51-65 years, the depression index increased to $\overline{x}$ = 9, and the highest value was reached for patients over 65 years ($\overline{x}$ = 10), which indicates the presence of depressive disorders at the borderline level (Figure 4).

Table IV. Descriptive and statistical analysis of anxiety and depression scores from the HADS questionnaire in the study group

Age ranges	N		SD	Min	Q_1	Me	Q_3	Max	Result of the test Kruskal-Wallis	Value p
Anxiety scale										
Below 36years	7	8	5	1	3	7	13	15	5.879	0.117
36-50years	16	7	4	1	3	6	10	16		
51-65years	30	10	6	1	5	10	14	20		
Above 65years	20	10	4	2	6	10	12	20		
Depression scale										
Below 36years	7	5	5	0	1	5	11	12	11.074	**0.011**
36-50years	16	6	3	0	4	6	9	13		
51-65years	30	9	5	1	4	10	13	16		
Above 65years	20	10	4	2	9	11	13	17		

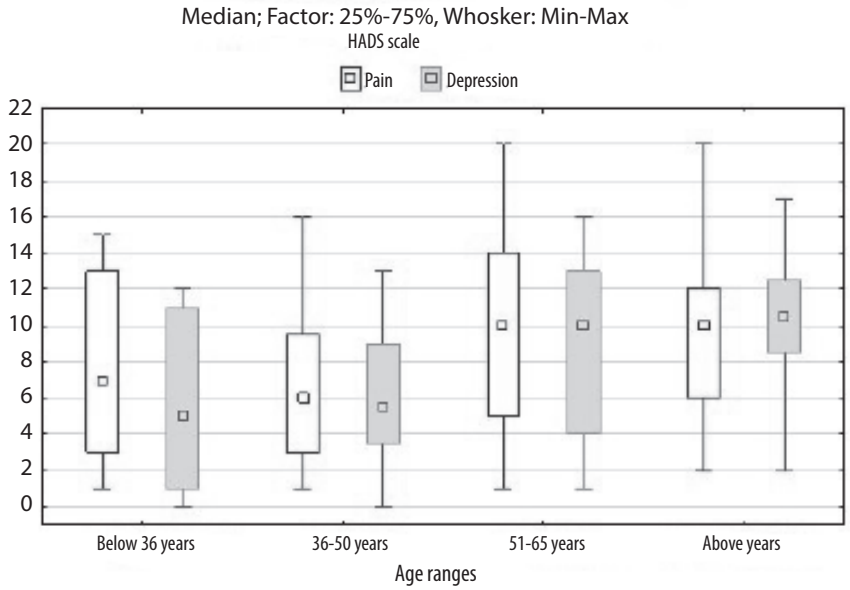

Figure 4. Distribution of anxiety and depression scores from the HADS questionnaire in the study group

Discussion

In the study, it was observed that the health status and quality of life decreased and the functioning deteriorated with the increase in the age of the patients. In patients above 65 years, differences in physical, roles and cognitive activity were statistically significant (p < 0.05). Patients over 65 years more often than all the respondents complained about all the symptoms. Significant differences occurred in the symptoms: fatigue, pain and financial difficulties. Both anxiety and depressive disorders occurred more frequently after 50 years of age.

The specificity of genital tumors means that, as indicated by the study, the quality of life of women with this type of cancer is lower than that of other cancers [5].

In the presented studies, patients over 65 were the worst among all age groups, assessed their quality of life and were poorly functioning in all spheres, especially in the physical, cognitive and role dimensions. In similar studies of women with endometrial cancer and ovarian cancer in more than 50% of the patients, the quality of life in their professional, social and family roles deteriorated; 25% of the women noticed the effect of the disease on physical activity. Cognitive function in 74% was assessed positively (it was best evaluated by most of our respondents) [17]. In other studies, the authors underline the negative impact of the disease on the emotional and social sphere [18,19].

Fatigue, insomnia and pain were reported by the respondents as the most common symptoms. Patients with other chronic diseases such as heart disease, metabolic, respiratory and musculoskeletal diseases also report it as more onerous [20]. Some authors suggest that fatigue due to the disease affects quality of life more than any other symptom including vomiting, insomnia, and depression [21]. Women aged 65 years have also pointed to financial problems that have arisen in relation to illness. It can be explained by the need to cover even the costs of commuting to studies, follow-up visits or chemotherapy in ambulatory treatment. The relationship between higher economic status and better quality of life is indicated by other studies in breast cancer patients [22].

Fatigue, as the most commonly reported symptom in oncological patients, is associated with significant pain, as indicated by many authors, not only at lower quality of life, but also at higher risk for anxiety and depression [7,23,24]. Anxiety disorders occur in over 90% of oncologic patients. In patients with genital cancer, 30 to 50% of cases have moderate to high anxiety levels and about 30% of them meet the clinical criteria for depression [17,25]. In Norton et al., the increase of depressive symptoms was bigger in patients with cancer of the ovary than the endometrial cancer, which can be explained by significantly worse prognosis in the case of ovarian cancer. There was also an increase in anxiety than depression in patients with ovarian cancer [26]. In women of all age groups, the level of anxiety was higher than depression, its level increased with age, and after age 50, symptoms of depressive disorders in comparison with younger patients.

Opinions on the relationship between age and severity of anxiety and depressive symptoms in oncological patients are divided. Most suggest that for gynecological cancers and breast cancer, younger patients have bigger difficulties in adapting to daily life, illness and treatment; their stress level is higher than in older women. They also have a worse image of their body, and the impact of surgery on their sex life is greater [1,25-28]. Since the research group in 68% of women over 50, presumably some of the problems that may affect anxiety and depression (infertility after surgery or premature menopause) no longer apply. But because this group of women had significantly higher rates of depression, we can conclude that there is a relationship between the highest intensity of negative symptoms and the worst assessed by them functioning in all spheres, and the quality of life.

The relationship between depression and the quality of life of the elderly indicated in Humańska and Kędziora-Kornatowska in their studies. Using the GDS and WHOQOL-Bref scales, they concluded that the elderly, who assessed worse the quality of life regardless of the field of life, experienced stronger depression. In the case of emotional states, there were differences in the assessment of quality of life in the psychological and environmental fields as well as physical and social roles. The lower the GDS scores, the higher the quality of life [29].

Of the 42 patients who refused or failed to participate in the study, people with high levels of depression could be found, as the reluctance and withdrawal from social contacts are a sign of this disease. Occurring before the operation of depressive disorders in the group of the oldest women should increase the vigilance of the staff. The National Comprehensive Cancer Network (NCCN) - an organization associating 27 leading centers in the world dealing with improving the effectiveness of treatment and quality of care for patients with cancer - recommends testing the level of distress among patients even at every visit with a specialist [30].

Conclusions

1. Occurrence of symptoms of depressive disorders in older women with genital cancer may influence subjective assessment of their health status and quality of life.
2. Due to the higher risk of disorders, the screening of anxiety and depression symptoms among patients with genital cancers should be systematically conducted prior to surgery. Applies for women over 50 years of age.

Conflict of interest
None

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