

## Depression symptoms and health-related quality of life among patients with metastatic breast cancer in programme of palliative cancer care

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Depression is seen in many cancer patients. It occurs in approximately 25% of palliative care patients. The quality of life term contains the information on an individual's physical, psychological, social and spiritual condition.

The study evaluated incidence and relevance of depression symptoms and level of health-related quality of life (HRQoL) among patients with metastatic breast cancer in programme of palliative cancer care.

This study was local, prospective and cross-sectional. It was carried at Department of Clinical Oncology and Radiation Therapy of Charles University Hospital in Hradec Králové, Czech Republic. Dates were obtained during year 2008 among 41 patients with metastatic breast cancer in programme of palliative cancer care. The mean age for all 41 subjects was 58 years old (aged 41 – 80 years old). The Czech version of Zung self-rating depression scale was performed for evaluation of depression symptoms. The Czech version of generic EuroQol Questionnaire EQ-5D was performed for evaluation of level of HRQoL.

The statistical evaluation presents that mean ZSDS (Zung self-rating depression score) certifies the presence of signs of moderately depression symptoms among patients with metastatic breast cancer (ZSDS range was 60-69). The mean ZSDS in all subjects was 60,6. The mean ZSDS in group of healthy females was 38,9 (normal range of ZSDS). The incidence of depression was 61% (25 of all 41 subjects). The relevance of depression is characterized: severely depressed was proved in 5 of all 25 subjects, the moderately depressed in 10 subjects of all 25 subjects and mildly depressed in 10 of all 25 subjects. The statistical evaluation not presents statistically significant dependence of ZSDS on age, number of associated diseases and type of palliative cancer care. The HRQoL among patients with metastatic breast cancer is on very low level. The mean EQ-5D score (dimension of quality of life) was 55%. The mean EQ-5D VAS (subjective health condition) was 59,2%. The mean EQ-5D score in group of healthy females was 78,4% and the mean EQ-5D VAS was 85% (both QoL parameters show very good of QoL level). The statistical evaluation not presents statistically significant dependence of EQ-5D score and EQ-5D VAS on age, number of associated diseases and type of palliative cancer care.

The results showed that subsist clear association between metastatic breast cancer in programme of palliative cancer care and depression. Also, the results showed that subsist low level of HRQoL of patients with metastatic breast cancer.

*Key words: metastatic breast cancer, programme of palliative cancer care, depression, health-related quality of life.*

Depression is seen in many cancer patients [1]. Depression occurs in approximately 25% of palliative care patients [2–4]. Many professionals working in palliative care are concerned that screening for depression may not be appropriate in a population of patients whose illness is changing rapidly [2, 3]. Elderly cancer patients suffer significant psychological

distress that should be recognized and effectively treated [5]. Physical symptoms of cancer must be distinguished from the neurovegetative symptoms of depression. They may be sifted out by asking about pain control, fatigue, insomnia, appetite, libido, and psychomotor activity [5].

The quality of life (QoL) is generally defined as “a patient's subjective evaluation of his health status” [6]. The QoL term contains the information on an individual's physical, psychological, social and spiritual condition. The QoL evaluation is carried

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out by means of generic and specific QoL questionnaires [7]. Generic QoL questionnaires generally evaluate a patient's overall condition regardless his disease. Specific QoL questionnaires are designed for the evaluation of a patient's overall condition in a particular type of disease [6, 7]. Modules are often used with these specific QoL questionnaires. These modules are focused on specific symptoms and complaints in a particular type of disease. The areas investigated in QoL questionnaires usually include patient's physical, psychological and social functions, including his financial situation, his integration into the society, including pain, quality of sleep, spiritual aspects (interests, hobbies) and also symptoms which are specific for a particular disease [6, 7].

The aims of the pilot study of depression and health-related quality of life (HRQoL) were to analyse incidence and relevance of depression and level of HRQoL among patients with metastatic breast cancer in programme of palliative cancer care and to analyse an effect of age, number of associated diseases and type of palliative cancer care (palliative chemotherapy, palliative radiation therapy, symptomatic therapy) on relevance of depression and level of HRQoL.

## Materials and methods

*Type of study.* The study is prospective and cross-sectional. The dates were obtained during year 2008. The study was approved the Ethics Commission of the Charles University Hospital and Faculty of Medicine in Hradec Králové, Czech Republic.

*Study population.* All patients scheduled for palliative cancer care in the Department of Clinical Oncology and Radiation Therapy of Charles University Hospital and Faculty of Medicine in Hradec Králové, Czech Republic between 1<sup>st</sup> January 2008 to 31<sup>st</sup> December 2008 were requested to participate in the study of depression and HRQoL. Dates were obtained during year 2008 among 41 patients with metastatic breast cancer in programme of palliative cancer care. The mean age for all 41 subjects was 58 years old (aged 41 – 80 years old). The number of subjects treated with palliative radiation therapy was 11, with palliative chemotherapy 5 and with symptomatic therapy 9. The number of smokers was 3 and non-smokers 22. All patients was married. The number of patients without associated disease was 1, with 1 associated disease 2, with 2 associated diseases 9, with 3 associated diseases 3 and with more than 3 associated diseases 10. No patients of all 41 patients never was not treated with depression and was not used antidepressants and /or anxiolytics.

*Measurement.* The Czech version of Zung self-rating depression scale was performed [8, 9]. The Zung self-rating depression scale is a short self-administered survey to quantify the depressed status of a patient. There are 20 items on the scale that rate the four common characteristics of depression: the pervasive effect, the physiological equivalents, other disturbances, and psychomotor activities. There are ten positively worded and ten negatively worded questions. Each question is scored on a scale of 1–4 (a little of the time, some of the time, good part of the time, most of the time). The scores range from 25–100.

25–49 normal range. 50–59 mildly depressed. 60–69 moderately depressed. 70 and above severely depressed [8, 9].

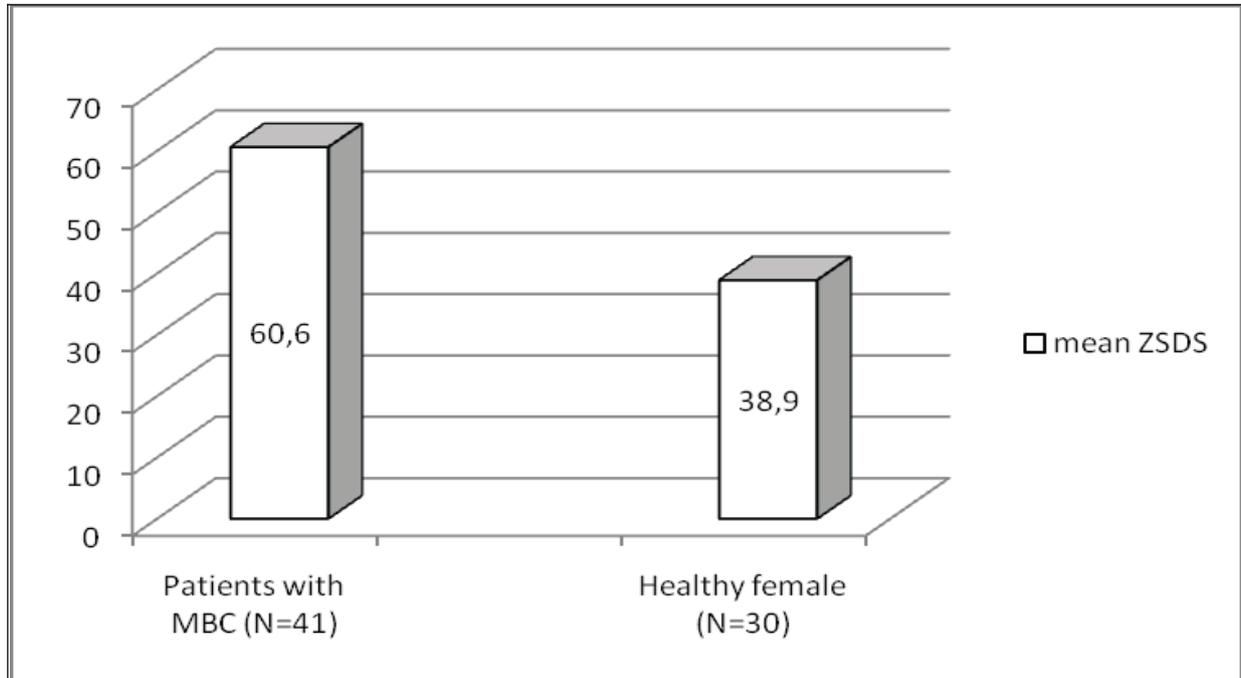
The Czech version of an international generic European Quality of Life Questionnaire – EQ-5D Version was applied for evaluation of HRQoL [6, 7]. This questionnaire evaluates two indicators, objective and subjective. The objective indicator includes 5 dimensions of QoL: mobility, self-care, usual activities, pain / discomfort, anxiety / depression. Three kinds of answers which express the degree of complaints are offered to each question (no complaints, mild complaints, severe complaints). Totally 243 (3<sup>5</sup>) combinations of health condition exists. The outcome is EQ-5D score (dimensions of QoL) which has the values from 0 to 1 (0 – the worst health condition, 1 – the best health condition). Subjective indicator includes visual analogous scale (the value of 100 – the best health condition, the value of 0 – the worst health condition). The respondent marks his subjectively perceived health condition at the thermometer scale. The outcome is EQ-5D VAS (a subjective health condition) which has the values from 0 to 100 [6, 7].

*Procedure.* The patients with metastatic breast cancer in programme of palliative cancer care were tested while hospitalized at the Department of Clinical Oncology and Radiation Therapy of Charles University Hospital in Hradec Králové, Czech Republic. The filling in the Zung self-rating depression scale and generic EuroQol Questionnaire EQ-5D was voluntary and anonymous.

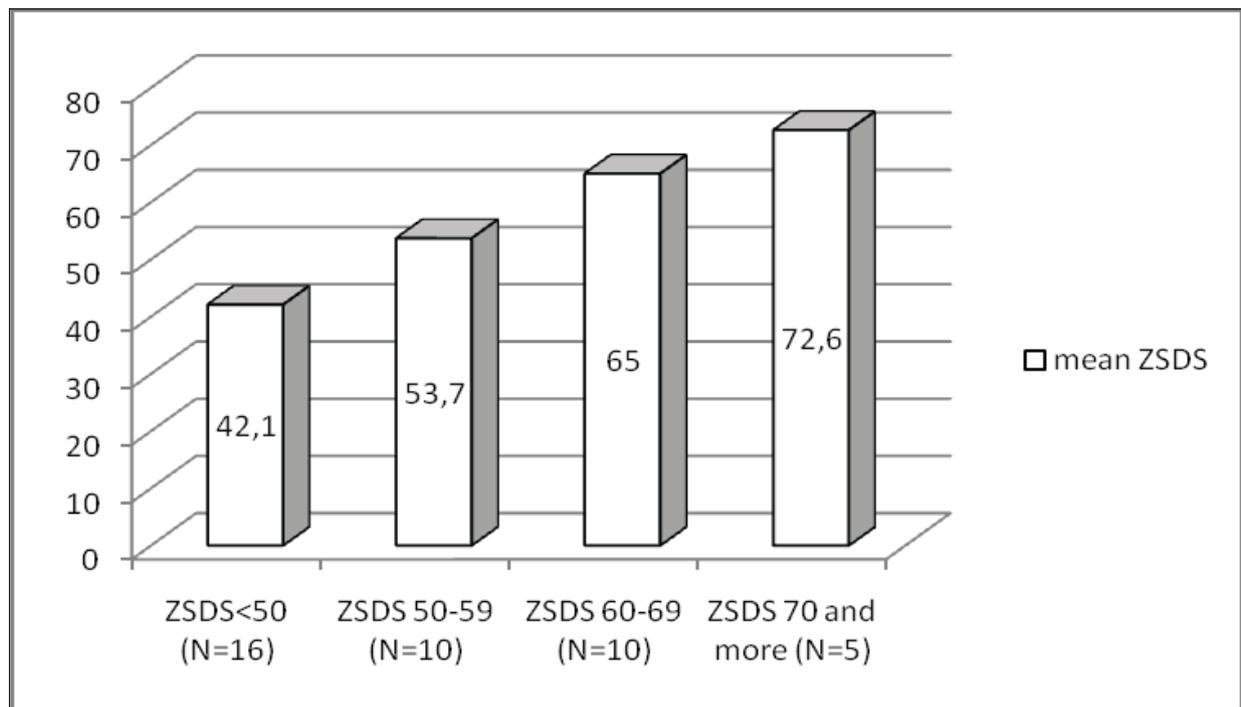
*Data collection, statistical methods.* The dependent variable were Zung self-rating depression score (ZSDS), EQ-5D score (dimension of QoL) and EQ-5D VAS (a subjective health condition). The independent variables were age, number of associated diseases, smoking abuse and type of palliative cancer care (palliative chemotherapy, palliative radiation therapy and symptomatic therapy). Statistical analysis was performed with analysis of variance (ANOVA). The value  $p < 0,05$  was considered significant. Software STATISTICA Base version 7.1 for Windows was used for complete evaluating of dates.

## Results

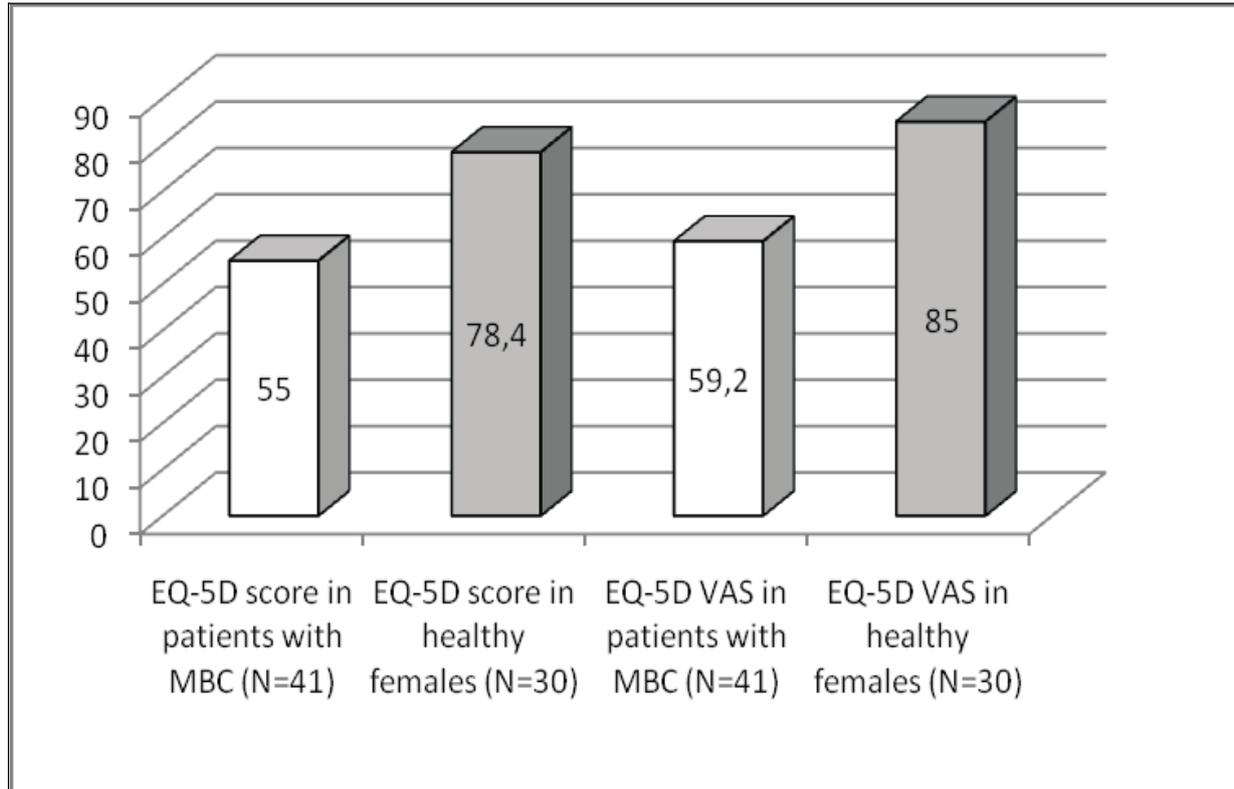
1. The statistical evaluation presents that mean ZSDS certifies the presence of signs of moderately depression among patients with metastatic breast cancer in programme of palliative cancer care (ZSDS range was 60–69). The mean ZSDS in all subjects was 60,6. The mean ZSDS in group of healthy females was 38,9 (normal range of ZSDS) (see Graph 1).
2. The incidence of depression is 61% (25 of all 41 subjects). The relevance of depression is characterized: severely depressed was proved in 5 of all 25 subjects, the moderately depressed in 10 subjects of all 25 subjects and mildly depressed in 10 of all 25 subjects (see Graph 2).
3. The statistical evaluation not presents statistically significant dependence of ZSDS on age, smoking abuse, number of associated diseases and type of palliative cancer care.
4. The statistical evaluation presents very low level of HRQoL. The mean EQ-5D score (a dimension of QoL) was 55%.



Graph 1. Comparison of values of mean ZSDS among patients with metastatic breast cancer (MBC) in programme of palliative cancer care and healthy female (N=71, p<0,05).



Graph 2. Occurrence and relevance of depression symptoms among patients with metastatic breast cancer in programme of palliative cancer care (N=41).



**Graph 3.** The mean EQ-5D score and EQ-5D VAS (in %) among patients with metastatic breast cancer (MBC) in programme of palliative cancer care and healthy females (N=71,  $p < 0,05$ ).

The mean EQ-5D VAS (a subjective health condition) was 59,2%. The mean EQ-5D score in group of healthy females was 78,4% and the mean EQ-5D VAS was 85% (both QoL parameters show very good of QoL level) (see Graph 3).

5. The statistical evaluation not presents statistically significant dependence of EQ-5D score and EQ-5D VAS on age, smoking abuse, number of associated diseases and type of palliative cancer care.

## Discussion

Depression is seen in many cancer patients [2, 3]. Depression occurs in approximately 25% of palliative care patients [2, 3]. It is widely recognised by clinicians that depression is a difficult symptom to identify amongst patients with advanced illness. Depression, the psychiatric syndrome that has received the most attention in individuals with cancer, has been a challenge to study because symptoms occur on a spectrum that ranges from sadness to major affective disorder and because mood change is often difficult to evaluate when a patient is confronted by repeated threats to life, is receiving cancer treatments, is fatigued, or is experiencing pain [10]. However, depression in cancer has been essential to study because comorbid illnesses complicate the treatment of both and may lead to poor adherence to treatment recommendations and less desirable outcomes of both

conditions [10]. The severity of medical illness, as manifested by significant pain, declining performance status, or the need for ongoing treatment, is associated with a high risk of comorbid depression. Whether high rates of depression associated with some cancers are caused by the pathophysiologic effect of the tumour (i.e., paraneoplastic syndromes associated with breast, testis, or lung cancers), treatment effects, or other unidentified factors remains to be described. Cancer, exclusive of site, is associated with a rate of depression that is higher than in the general population [10].

In our prospective and cross-sectional study of depression and HRQoL among patients with metastatic breast cancer in programme of palliative cancer care, we found following main outcomes in evaluation of incidence and relevance of depression and level of HRQoL.

First, our results had shown that mean ZSDS certifies the presence of signs of moderately depression among patients with metastatic breast cancer (ZSDS range was 60-69). The mean ZSDS in all subjects was 60,6. The mean ZSDS in group of healthy females was 38,9 (normal range of ZSDS). We think that our results correspond to that metastatic breast cancer and its palliative therapy is characterized by pain, sleep disturbances, dyspeptic difficulties, immobilization, low self-sufficiency and many others. These difficulties have a negative impact on patient's physic and mentally condition. Also, these difficulties are associated with psy-

chological and social distress for patient's families. We subscribe with opinion Roth [11] which he emphasizes that elderly cancer patients suffer significant psychological distress that should be recognized and effectively treated. Physical symptoms of cancer must be distinguished from the neurovegetative symptoms of depression. They may be sifted out by asking about pain control, fatigue, insomnia, appetite, libido, and psychomotor activity [11]. Patients with metastatic breast cancer in programme of palliative cancer care have significant disability that also affects psychosocial and emotional aspects of their QoL. It is an especially important issue in palliative cancer care, as depression can be more common in patients who are at the end of life.

*Second*, our results had shown that incidence of depression in our evaluated group of subjects is 61 % (25 of all 41 subjects). The relevance of depression is characterized: severely depressed was proved in 5 of all 25 subjects, the moderately depressed in 10 subjects of all 25 subjects and mildly depressed in 10 of all 25 subjects. The results of our prospective study supports Sneeuw's [12] and Sachs's [13] overview work. Both authors [12,13] present that cancer types highly associated with depression include breast (1,5–46%). Pinder et al. [14] found a 13 % prevalence of depression in advanced breast cancer patients (N=139), increased levels of depression were found in those with lowest socioeconomic status, poorest performance status, and closer proximity to death. We think that incidence of depression symptoms in our patients is high and depression is relevant. We think that high incidence and relevance of depression symptoms among our patients may be impressed with our minimal applications of antidepressants or anxiolytics (as co-analgetics) in therapy of cancer pain. These findings involve for us, that is has need of routine screening for depression among palliative care patients and its implementation of cost-effective treatment for those who need psychiatric services. We subscribe with opinion of Lloyd-Williams [2, 3] which she emphasizes that the screening and diagnosis of depression in palliative care patients because it can help clinicians to help patients with depression or demoralization to have a better QoL. Reasons for failure to diagnose depression are misconceptions regarding low mood as being a normal part of a terminal illness and also the patient's reluctance to disclose their thoughts and feelings. Medical and nursing staff working within palliative care may also find difficulty in distinguishing between what could be called appropriate sadness and a treatable depressive illness. In an effort to improve the detection of depression, many professionals are using rating scales or tools in order to improve the diagnosis and treatment [15]. Also, we subscribe with opinion of Miller and Massie [16] which they emphasize that anxiety and depression are common in patients with cancer and in palliative care settings. These symptoms can be reactive to the illness or can be related to the direct physiologic effects of the disease or to drug therapies. Effective treatment of these symptoms includes both psychopharmacologic and psychotherapeutic approaches. The newer antidepressants, anxiolytics, and hypnotics are better tolerated and can be continued safely if necessary, or they can be reduced and discontinued as symptoms improve [16].

*Third*, our results did not prove statistically significant correlation between ZSDS and age, smoking abuse, number of associated diseases and type of palliative cancer care.

*Fourth*, our results had shown very low level of HRQoL. The mean EQ-5D score (a dimension of QoL) is 55%. The mean EQ-5D VAS (a subjective health condition) is 59,2%. The mean EQ-5D score in group of healthy females was 78,4% and the mean EQ-5D VAS was 85% (both QoL parameters show very good of QoL level). The statistical evaluation not proved statistically significant correlation between EQ-5D score and EQ-5D VAS SDS and age, smoking abuse, number of associated diseases and type of palliative cancer care. We think that our results correspond to that metastatic breast cancer and its palliative therapy is characterized many negative problems (pain, dyspeptic difficulties, immobilization, low self-sufficiency and many others). These difficulties have a negative impact on patient's physic and mentally condition. Patients with metastatic breast cancer in programme of palliative cancer care have significant disability that also affects psychosocial and emotional aspects of their HRQoL. Accurate assessment and treatment can have a powerful impact on improving a patient's HRQoL. The results of our prospective study supports Peters's [17] overview work. This autor [17] features that QoL is a major goal in the care of patients with terminal cancer. In addition to symptom management, psychological care and provision of support, being cared for at home is considered an important determinant of patient well-being. A more comprehensive understanding of the impact of cancer on patients and their families will inform the delivery of palliative care services. He [17] evaluated fifty-eight patients with terminal cancer (32 inpatients, 26 home-based) were recruited from major palliative care centres in Australia in 1999. A structured questionnaire designed to obtain sociodemographic information, medical details and standard measures of symptoms, physical and psychological health, personal control and QoL was administered by personal interview. The most prevalent symptoms reported were weakness, fatigue, sleeping during the day and pain. Patients receiving home-based services had statistically significantly less symptom severity and distress, lower depression scores, and better physical health and QoL than those receiving inpatient care. Multiple regression analyses showed that better global physical health, greater control over the effects of cancer and lower depression scores were statistically significant predictors of higher QoL. The main issues arising from the findings for nurses are the early detection and management of both physical and psychological symptoms, particularly fatigue, pain, anxiety and depression, and the need to use strategies that will empower patients to have a greater sense of control over their illness and treatment [17]. The author Montazeri [18] features that QoL as predictor of survival-similar to known medical factors, QoL data in metastatic breast cancer patients was found to be prognostic and predictive of survival time. Psychological distress-anxiety and depression were found to be common among breast cancer patients even years after the disease diagnosis and treatment. Psychological factors also were found to predict subsequent QoL or even overall survival

in breast cancer patients. Supportive care-clinical treatments to control emesis, or interventions such as counseling, providing social support and exercise could improve QoL. Symptoms - pain, fatigue, arm morbidity and postmenopausal symptoms were among the most common symptoms reported by breast cancer patients. As recommended, recognition and management of these symptoms is an important issue since such symptoms impair HRQoL [18].

We are also aware of the fact that our study can be limited by a few other factors: 1. The relatively small group of patients with metastatic breast cancer in programme of palliative cancer care. 2. The study deals only with the effect of selected aspects on relevance of depression. We could add a few other aspects (religion, level of education, effect of individual psychological intervention, effect of antidepressive and /or anxiolytic therapy i.e.).

In conclusion, depression is common in the general population and in adults and children with cancer and frequently coexists with anxiety and pain [10]. Depression has been challenging to study because symptoms occur on a spectrum that ranges from sadness to major affective disorder and because mood change is often difficult to evaluate when a patient is confronted by repeated threats to life, is receiving cancer treatments, is fatigued, or is experiencing pain. Untreated depression results in significant morbidity and mortality [10].

It is common in the clinical practice to evaluate a patient's health condition and the success of the treatment based only on one type of markers, the most often by means of somatic, laboratory or detecting markers [7, 19]. But the trend in modern medicine is to evaluate a patient's health condition in a more complex way, using other aspects. The QoL means more dimensional evaluation of a number of life aspects. Different aspects can be affected in a different way in a different phase of the disease and its treatment [7]. That is why this information enriches our knowledge concerning patient's needs and it can significantly contribute to the medical treatment improvement. It can also help us to reveal the mechanisms which modify the origin and the course of disease [7, 19].

In summary, our study is the first investigation of evaluation of incidence and relevance of depression symptoms and HRQoL among patients with metastatic breast cancer in programme of palliative cancer care in our country. Our study is one of the few such studies carried out in countries within the former Eastern European bloc.

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