

## PROSPECTIVE STUDY

# Screening for depression in survivors of metastatic ovarian cancer in a programme of palliative cancer care

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**Abstract:** *Background:* Depression is seen in many cancer patients. It occurs in approximately 25 % of palliative care patients.

*Materials and methods:* This study was local, prospective and cross-sectional. It was carried at Department of Clinical Oncology and Radiation Therapy of Charles University Hospital and Faculty of Medicine in Hradec Králové, Czech Republic.

*Results:* The incidence of depression was 83.3 % (25 of all 30 survivors). The relevance of depression is characterized: severely depressed was proved in 9 of all 30 survivors, the moderately depressed in 5 of all 30 survivors, the mildly depressed in 11 of all 30 survivors and normal range in 5 of all 30 survivors. The statistical evaluation not presents statistically significant dependence of ZSRDS on smoking abuse, marital status, age, number of associated diseases and type of palliative cancer care.

*Conclusion:* The results of the pilot depression study showed that subsist clear association between metastatic ovarian cancer and depression (Fig. 2, Ref. 30). Full Text (Free, PDF) [www.bmj.sk](http://www.bmj.sk).

Key words: ovarian cancer, palliative cancer care, depression.

Diagnosis of cancer and its treatment often produce psychological stresses resulting from the actual symptoms of the disease, as well as perceptions of the disease and its stigma (1). Depression occurs in approximately 25 % of palliative care patients (2–5). It is widely recognised by clinicians that depression is a difficult symptom to identify amongst patients with advanced illness. This can lead to difficulties in the management of physical symptoms, such as pain, and also cause much distress to patients and their families (3, 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 (3, 4). Elderly cancer patients suffer significant psychological distress that should be recognized and effectively treated (6). 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 (6). Ovarian cancer has nonspecific symptoms, and no screening tool is available for early diagnosis; therefore, only 19 % of ovarian cancers are found at an early stage. Given the late diagnosis, women with ovarian cancer often have a prolonged course of treatment and significant morbidity that lasts into survivorship. However, distressing symptoms and their effects on quality of life have been relatively understudied, particularly in survivors of the disease (7). Ovarian cancer is the fourth leading cause of cancer mortality among women. Previous research has shown that initial ovarian cancer screening has the potential to cause depressive symptoms among women at increased risk for the disease but no study has evaluated depressive symptoms shortly after screening (8).

The aims of the pilot depression study were to analyse incidence and relevance of depression symptoms in survivors of metastatic ovarian cancer in a programme of palliative cancer care and to analyse an effect of selected demographics (age), psychosocial (marital status) and health (smoking abuse, number of associated diseases and type of palliative care – palliative chemotherapy, palliative radiation therapy, symptomatic therapy) aspects on relevance of depression symptoms.

## Material and methods

### Type of study

The study is prospective and cross-sectional. The dates were obtained during year 2006–2008. The study was approved the

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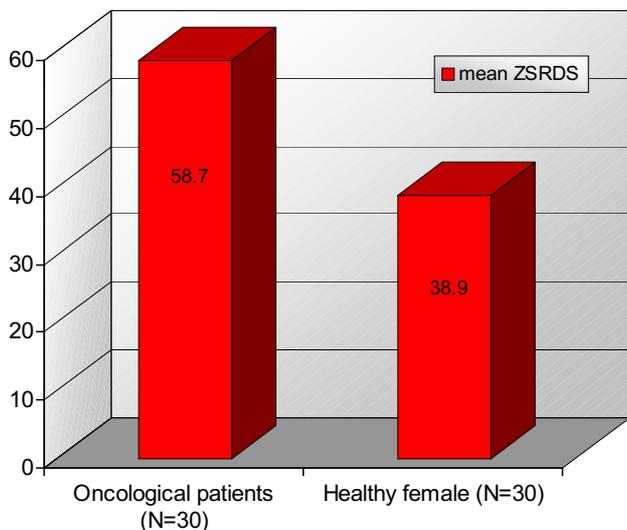


Fig. 1. Comparison of values of mean ZSRDS in survivors of metastatic ovarian cancer and healthy female (m=60, p<0,05).

Ethics Commission of the Charles University Hospital and Faculty of Medicine in Hradec Králové, Czech Republic.

*Study population*

All survivors 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 1st September 2007 to 31th March 2009 were requested to participate in the depression study.

The number of survivors of metastatic ovarian cancer was 30. The mean age for all 30 survivors was 62.1 years old (aged 41–88 years old). The number of survivors treated with palliative radiation therapy was 7, with palliative chemotherapy 10 and with symptomatic therapy 13. The number of smokers was 5 and non-smokers 25. The number of married survivors was 20, widows 8 and divorcee survivors 2. The number of survivors without associated disease was 0, with 1 associated disease 5, with 2 associated diseases 8, with 3 associated diseases 3 and with more than 3 associated diseases 14. No survivors of all 30 survivors never was not treated with depression and was not used antidepressants and/or anxiolytics. The number of healthy female (control group) was 30 and their mean age was 55 years old (aged 45–63 years old).

*Measurement*

The Czech version of Zung self-rating depression scale was performed (9). The Zung self-rating depression scale is a short self-administered survey to quantify the depressed status of a patient (7). 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 (9).

*Procedure*

The survivors 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 was voluntary and anonymous.

*Data collection, statistical methods*

The dependent variable was Zung self-rating depression score (ZSRDS). The independent variables were age, marital status, number of associated diseases, smoking abuse, type of palliative care (palliative chemotherapy, palliative radiation therapy, 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 ZSRDS certifies the presence of signs of mildly depression in survivors of metastatic ovarian cancer (ZSRDS range was 50–59). The mean ZSRDS in all survivors was 58.7. The mean ZSRDS in group of healthy females was 38.9 (normal range) (Fig. 1).

2. The incidence of depression was 83.3 % (25 of all 30 survivors). The relevance of depression in survivors of metastatic ovarian cancer is characterized: severely depressed was proved in 9 of all 30 survivors, the moderately depressed in 5 of all 30 survivors, mildly depressed in 11 of all 30 survivors, normal range in 5 of all 30 survivors (Fig. 2).

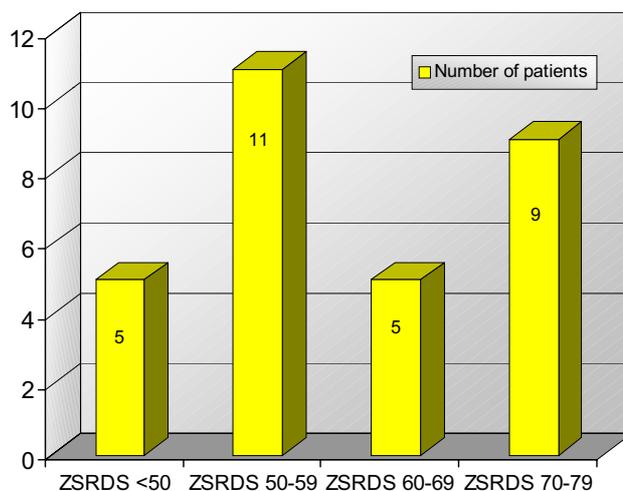


Fig. 2. Occurrence and relevance of depression in survivors of metastatic ovarian cancer (n=30).

3. The statistical evaluation not presents statistically significant dependence of ZSRDS on smoking abuse, on marital status symptoms, on age, on number of associated diseases and on type of palliative cancer care.

## Discussion

Diagnosis of cancer and its treatment often produce psychological stresses resulting from the actual symptoms of the disease, as well as perceptions of the disease and its stigma. Depression is seen in many cancer patients (2–4). It occurs in approximately 25 % of palliative care patients (2–4). 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 (2, 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 pathophysiological 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 (2, 10). Ovarian cancer presents a range of physical and psychological symptoms during stages of diagnosis, treatment, and survival (11). Women at risk for ovarian cancer who attend screening programs are vulnerable to high levels of depression and anxiety, particularly young women with poor social support. Multiple physiological stressors of surgical menopause, steroid therapy, and pain present during active treatment that place women at high risk of depression and anxiety during this time. Symptoms of anxiety and depression are also prevalent immediately after chemotherapy and during palliative care. Screening for psychological distress may be useful to identify women who will benefit from psychological counseling (11). They should be referred to a mental health professional affiliated with the hospital at which they are receiving oncology services. Brief group or individual supportive psychotherapies are effective in relieving psychological distress. Face-to-face psychological intervention should be tailored to the patient's degree of physical mobility. Pain, discomfort, and severe mood symptoms should be addressed pharmacologically, when possible, by a psychiatric consultant knowledgeable in oncology psychiatry. Survivors experience chronic fear of recurrence, sexual dysfunction, and identity disturbance. Reports that ovarian cancer can result in positive life changes, such as

closer interpersonal relationships, are encouraging and may provide hope to patients who become despairing about the future (11).

In our pilot study of screening for depression, we found three main outcomes in evaluation of incidence and relevance of depression symptoms and an effect of selected demographics, psychosocial and health aspects on relevance of depression symptoms in survivors of metastatic cancer in a programme of palliative cancer care.

**First**, our results had shown that mean ZSRDS certifies the presence of signs of mildly depression in survivors of metastatic ovarian cancer (ZSRDS range was 50–59). The mean ZSRDS in all 30 survivors was 58.7. The mean ZSRDS in group of healthy females (n=30) was 38.9 (normal range). We think that our results correspond to that metastatic ovarian cancer and its 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 physical and mental condition. Also, these difficulties are associated with psychological and social distress for patient's families. People with oncological disease in programme of palliative care have significant disability that also affects psychosocial and emotional aspects of their quality of life (QoL) (2). It is an especially important issue in palliative care, as depression can be more common in patients who are at the end of life. Accurate assessment and treatment can have a powerful impact on improving a patient's QoL (2). The incidence of depression in an individual cancers are different. Cancer types highly associated with depression include oropharyngeal (22–57 %) (12–14), pancreatic (33–50 %) (15, 16), breast (1.5–46 %) (17, 18), and lung (11–44 %) (19, 20). A less high prevalence of depression is reported in patients with other cancers, such as colon (13–25 %) (15, 21), gynecological (12–23 %) (22–24) and lymphoma (8–19 %) (25, 26). Evans et al (22) studied 83 women with gynecological cancer and found a 23 % prevalence of depression and 24 % prevalence of adjustment disorder with depressed mood. Golden et al (23) found a 23 % rate of major depression in 83 hospitalized women with cervical, endometrial, and vaginal cancer.

**Second**, our results had shown that incidence of depression in our evaluated group of survivors is 83.3 % (25 of all 30 survivors). The relevance of depression symptoms is characterized: severely depressed was proved in 9 of all 30 survivors, the moderately depressed in 5 of all 30 survivors, mildly depressed in 11 of all 30 survivors and normal range in 5 of all 30 survivors. We think that incidence of depression symptoms in our survivors may be impressed with our minimal applications of antidepressants and/or anxiolytics (as co-analgetics) in therapy of cancer pain. Also, these findings involve for us, that is has need of routine screening for depression among patients with metastatic ovarian cancer and its implementation of cost-effective treatment for those who need psychiatric services. We subscribe with opinion of Lloyd-Williams (3, 4) 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 be-

ing 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 (27). Also, we subscribe with opinion of Miller and Massie (28) 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 (28).

**Third**, our results not proved statistically significant correlation between ZSRDS and smoking abuse, marital status, age, number of associated diseases and type of palliative cancer care.

The results of our prospective study support Goncalves's (29) and Hipkins's (30) review work. The author Goncalves et al (29) performed a study which it investigates the presence of psychological disorders longitudinally in women with a new diagnosis of ovarian cancer and the factors that predicted development and maintenance of these disorders. Patients were assessed in a prospective longitudinal study at the beginning of chemotherapy treatment, mid-treatment, end of treatment and 3 months follow-up for depression, anxiety, perceived social support, neuroticism and cognitive strategies to control unwanted thoughts. A total of 121 patients were recruited and 85 patients were assessed at all four time points. Three different longitudinal profiles of anxiety and depression caseness were found: non-cases (never cases), occasional cases (cases on at least one but not all four occasions) and stable cases (cases on all four occasions). Most of the women were occasional cases of anxiety (52 %, 44), whereas for depression, the majority of women were non-cases (55 %, 47). A subset of patients were stable cases of anxiety (22 %, 19). Neuroticism and marital status were significant independent predictors of anxiety caseness profile. Neuroticism and use of anti-depressants were independent predictors of depression caseness profile. Social support was not related to psychological morbidity (29). The author Hipkins et al (30) performed a prospective study in women with ovarian cancer to determine the changes in psychological status in the 3 months following completion of chemotherapy. Sixty-three consecutive patients were assessed at the completion of chemotherapy (Time 1) and 57 at 3 months follow-up (Time 2). Relevant disease and patient characteristics were recorded and patients were assessed at Time 1 for anxiety, depression and their perception of emotional support, an index of their psychosocial environment. Anxiety and depression were re-assessed at Time 2. The results indicate significant initial psychological morbidity, with clinical caseness for anxiety (38 %) and depression (33 %) being common. Follow-up at Time 2 shows that patients undergo a signifi-

cant reduction in cases (19 %) and symptoms of depression but an increase in cases of anxiety (47 %). The principal factors associated with symptoms of anxiety at Time 2 were poor perceived social support, increased intrusive thoughts and, to a lesser extent, younger age. Medical parameters, such as the stage of disease, response of the cancer to treatment, Ca125 (a tumour glycoprotein) and Karnofsky Performance status (a measure of how well the patients is) were not associated with worse psychological outcome (30).

In the future, we would like to analyze incidence and relevance of depression in survivors of metastatic ovarian cancer other depression scale (Hospital Anxiety and Depression Scale, HADS or Beck Depression Inventory, BDI) and its reciprocal comparison. Also, we would like to evaluate an effect of depression on global QoL.

We are also aware of the fact that our study can be limited by a few other factors: 1) The relatively small group of survivors of metastatic ovarian cancer. 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.).

## 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).

In summary, our study is the first investigation of screening of depression symptoms among patients with metastatic ovarian cancer 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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