DAILY HOSPICE: DEPRESSION AND ANXIETY AFTER MASTECTOMY FOR BREAST CANCER

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SUMMARY – The aim of the study was to define the effects of daily hospice team's activities on depression and anxiety in breast cancer patients having undergone mastectomy after three-month therapy. This prospective study included 35 patients that underwent mastectomy for breast cancer, followed by 3-month treatment at daily hospice, Tuzla University Clinical Center. Control group consisted of 35 mastectomized patients that did not visit daily hospice. Depression and anxiety were estimated by use of Zung's scale. Patients were tested initially and retested at 12 weeks. On initial testing, the mean value of depression was 59.85±6.97 in the study group and 55.65±7.91 in the control group. On three-month retesting, the level of depression was lower in the study group, with a mean value of 48.57±7.06 ($P<0.0001$) (steam T-test and Wilcoxon's test) and higher in the control group, with a mean value of 60.45±7.47 ($P=0.0001$) (steam T-test and Wilcoxon's test). On initial testing, the mean value of anxiety was 54.97±6.35 and 52.20±6.03 in the study and control group, respectively. On three-month retesting, the level of anxiety was lower in the study group, with a mean value of 43.43±5.97 ($P<0.0001$), showing improvement from initial testing, but was higher in the control group, with a mean value of 55.68±7.47 ($P=0.0002$). In conclusion, daily hospice team's treatment had favorable effects on lowering the levels of depression and anxiety in patients undergoing mastectomy for breast cancer.

Key words: *Anxiety disorders – diagnosis; Anxiety disorders – epidemiology; Anxiety disorders – psychology; Breast neoplasms – psychology; Mastectomy – psychology*

Introduction

Breast cancer is the most common malignant tumor of insidious development. Based on differences in the rate of newly discovered cases, the risk of breast cancer has been classified according to countries as follows: 1) high risk countries (northern Europe and North America); 2) moderate risk (south Europe and South America); and 3) low risk (Asia and Africa)[1]. However, descendents of immigrants coming from low risk countries acquire a multiplied risk of devel-

oping breast cancer within three generations, which undoubtedly speaks of the effect of ecologic factors on the breast cancer etiology[2]. In Bosnia and Herzegovina, around 1300 women develop breast cancer
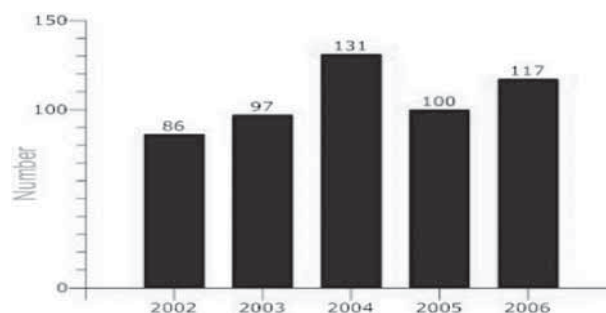

Fig. 1. Incidence of breast cancer in Tuzla Canton 2002–2006.

and approximately 500 women die from breast cancer *per* year. According to data issued by Tuzla University Clinical Center Oncologic Consultation for the 2002-2006 period, there were 531 newly discovered cases in total (Fig. 1), most of them recorded in 2004.

Every treatment modality for breast cancer has some useful effects as well as some side effects that also influence psychosocial morbidity. Surgeons believed that tumorectomy would be effective treatment and would diminish psychiatric morbidity. Nevertheless, at least 14 published studies compared psychological results after mastectomy *versus* tumorectomy and showed that there was little difference in psychosocial changes[3]. Repeat chemotherapy treatment leads to negative emotional hair loss, weight gain, skin alteration, nausea, regurgitation, menopausal symptoms, etc., which in combination with the fact that surgery alters body image strongly influence psychological distress[4]. Alteration in body image related to breast cancer treatment (mastectomy, chemotherapy) is a potential source of distress[5]. Looking in the mirror, women conclude that they are ugly, less feminine; they see themselves through their operation disfigurement. Many women describe alopecia as the most horrible experience in their disease and some patients even refuse further chemotherapy for this reason. A study including 77 patients with alopecia due to chemotherapy related to mastectomy showed more than 60% (n=47) of patients to exhibit signs of anxiety and depression[6].

In many tumor types including breast tumor the rate of survival has been increasing as the result of early detection and improved therapeutic approaches[7]. The result is that many patients have to overcome physical and emotional consequences of cancer diagnosis and unfavorable effects of therapeutic treatment. In the last decade, many authors have pointed to these groups of patients. Research related to after-cancer treatment includes monitoring the quality of life, depression management, body morbidity, pain, and fatigue[8]. These researches lead to better understanding of the psychological and emotional problems after cancer treatment and its consequences. These programs include post-tumor rehabilitation, psychosocial interventions, pain management and multidisciplinary programs[9].

Patients often speak of emotional problems after completing the treatment, predominated by the following feelings: fear of recurrence, inferiority, anxiety, and depression. The information collected by Payne and Endall suggests the time and space limitation and a limited number of consultants to be the greatest obstacle to efficient identification of psychological problems in patients with breast tumor. That is why they point to the benefit that patients may gain by working in support groups with other patients. The patients meeting as a group can help each other, provide valuable assistance to medical professionals, and help themselves and other patients[10].

The aim of this study was to assess the level of depression and anxiety by use of Zung's self rating depression scale in patients having undergone mastectomy for breast cancer and having completed specific oncologic treatment. Patients were tested initially, on their first visit to daily hospice, and after three-month therapy at daily hospice.

Patients and Methods

We prospectively analyzed 70 patients. Study group included 35 patients having undergone mastectomy for breast cancer, having completed specific oncologic treatment (chemotherapy, radiotherapy) and visiting our daily hospice (Palliative Care Department, Tuzla University Clinical Center) for at least 12 weeks. Control group consisted of 35 patients that had also undergone mastectomy for breast cancer and completed specific oncologic treatment, but did not visit daily hospice for personal reasons (Table 1).

The following criteria had to be met to enter the study: verified histopathologic diagnosis of breast tumor, followed by operative procedure (mastectomy), and completed specific oncologic treatment (chemotherapy or radiotherapy).

Zung's self rating scales were used to estimate depression and anxiety[11,12]. These scales consist of 20 short and simple questions and describe patient feeling about particular symptoms. Each question is scored on a scale from 1 through 4, ranging from 'no or smaller amount of time' to 'almost always and constantly'. A result of up to 49 points is considered normal, 50-59 points indicate minimal to moderate depression/anxiety, 60-69 points indicate moderate to clear depression/anxiety, and over 70 points indicate severe to extreme depression/anxiety. Patients

Table 1. Demographic characteristics of study patients

Patient characteristics	At hospice (n=35)	Outside hospice (n=35)	Total (n=70)
Age at time of study (yrs)	59.85±10.37	58.77±9.01	59.31±9.67
Age at time of operation (yrs)	53.37±10.44	53.00±8.77	53.18±9.67
Living:			
alone	8	6	14
with family	27	29	56
Economic status:			
low	20	29	56
middle	14	12	26
high	1	4	5

completed the test independently, with the possible unclear questions explained by the physician. Possible answers were not suggested in any way.

Physical and psychosocial support for patients in daily hospice includes a set up program and engagement of a multidisciplinary team. A physician monitors patient condition during his/her visit, evaluates the need for special diagnostic or therapy treatment, and along with other medical staff plans the activities of other team members. Individual, group or combined treatment by psychotherapists tries to break down any mental barriers that could be caused by illness, and lower the level of anxiety and depression. Occupational therapist's activities are directed to encouraging creativity through making simple hand-made objects, doing simple jobs or activities in the art room. Physical therapy includes group and individual, passive and active kinetic-therapy exercises, which improve the mobility and physical activity of patients, and treats lymphostasis as the most common breast cancer complication. The advice and specific activities of social workers help the patients achieve their legal rights. Treatment includes transport, lunch and all-day stay in specially adapted and adjusted premises.

Statistical processing was done by use of the MedCalc for Widows version 9.4.2.0 biomedical application software. Comparison was made between the two groups of subjects, i.e. patients visiting daily hospice and control group of patients that were not treated at the hospice. Numerical data were expressed through measurements of central tendency and suitable dispersion measurements. T-test and Mann-Whitney test were used to test the hypothesis of independent sample concept, between the two groups. The χ^2-test 2 by 2 was used to test the hypothesis of difference in the frequency of parameters of dichotomous scale. Steam T-test and Wilcoxon's test were used to test repeat measurement of dependent samples. The results were comprehensively expressed in charts and appropriate graphs. The level of significance was set at $P<0.05$.

Results

On initial testing, the mean value of depression was 59.85±6.97 in study group and 55.65±7.91 in control group (minimal to moderate depression). Out of 70 patients in total, major depression was recorded in 57, minimal to mild depression in 35, moderate to clear depression in 17, and severe depression in 5 patients. Repeat testing at three months showed the level of depression to have decreased in patients treated in daily hospice, with a mean value of 48.57±7.06 (normal findings), which was statistically significantly better as compared with initial testing (59.85±6.97; minimal to moderate depression; $P<0.0001$; steam T-test and Wilcoxon's test). In control group, however, repeat testing showed deterioration of depression with a mean value of 60.45±7.47 (clear depression), which was significantly worse as compared with initial testing (55.65±7.91; minimal to moderate depression; $P=0.0001$; steam T-test and Wilcoxon's test) (Fig. 2).

On initial testing, the mean value of anxiety was 54.97±6.35 in study group and 52.20±6.03 in control group (minimal to moderate anxiety). Out of 70 patients, overt anxiety was recorded in 55, minimal to moderate anxiety in 44, moderate to clear anxiety in ten patients, severe anxiety in one patient. Thus, minimal to moderate anxiety was most commonly
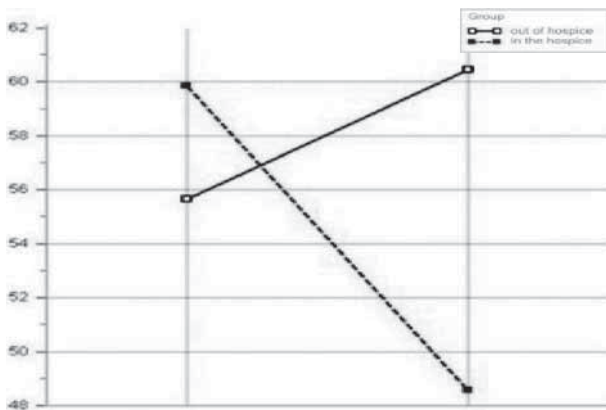
Fig. 2. Depression recorded on first and second testing in patient groups.
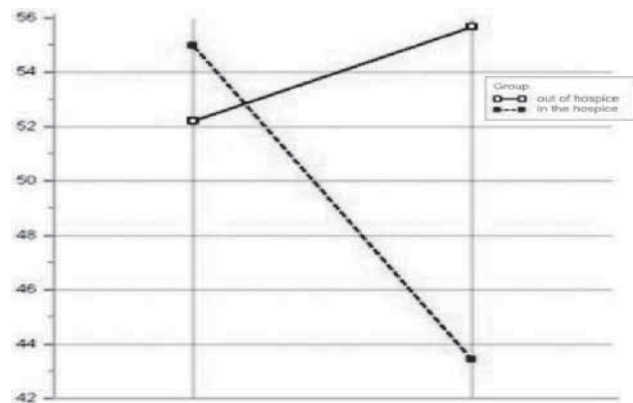

Fig. 3. Anxiety recorded on first and second testing in patient groups.

present in breast cancer patients having completed specific oncologic treatment (Fig. 3). Repeat testing at three months showed a lower mean value of anxiety of 43.43±5.97 (normal findings) in study group, which was statistically significantly better as compared with initial testing (54.97±6.35; minimal to moderate anxiety; $P<0.0001$; steam T-test and Wilcoxon's test). In the control group of patients that did not visit hospice, repeat testing showed a decrease in the level of anxiety, with a mean value of 55.68±7.74 (initial test 52.20±6.03; $P=0.002$; steam T-test and Wilcoxon's test).

Discussion

There are reports on the impact of support group therapy on survival, prevention and treatment of depression in patients with breast cancer. In the study by Kissane *et al.*, 485 women with breast cancer were monitored during the 1996-2002 period. Study group included 227 women treated by support group therapy, whereas control group included 258 women that were not included in support group therapy. Support group therapy did not increase survival, but decreased depression ($P=0.002$), reduced the feeling of helplessness ($P=0.004$) and symptoms of trauma ($P=0.04$), and improved social functioning ($P=0.03$)[13]. In our study, the three-month treatment at daily hospice, the multidisciplinary team therapy reduced the level of depression in women with breast cancer from minimum to moderate depression on initial testing (59.85±6.97) to normal values on repeat testing three months later (48.57±7.06; $P<0.0001$). However, in the

control group of patients that did not visit daily hospice repeat testing did not produce as good results and reduction in the level of depression (Fig. 2).

One of the studies reports the efficacy of group therapy in 154 women with breast cancer. Group 1 consisted of 54 female patients treated by support group therapy (relaxation training, meditation, physical therapy, emotional expression, and occupational therapy); group 2 included 56 patients that refused support group therapy; and group 3 included 44 patients that were not even aware of the existence of this mode of therapy. After 4 months, group 1 patients showed a significantly reduced feeling of anxiety, concern and fear of recurrence, along with emotional well-being and improved social function[14]. In our study, the treatment provided by the multidisciplinary team at daily hospice of Tuzla University Clinical Center resulted in a reduced level of anxiety in patients with breast cancer. Repeat testing after three-month therapy at daily hospice showed anxiety reduction from 54.97±6.35 (minimum to moderate anxiety) to 43.43±5.97 (normal findings; $P<0.0001$) (Fig. 3).

A study conducted in Australia which included 303 female patients with breast cancer having undergone breast surgery and received chemotherapy showed 10% of patients to have developed severe depression; 27% less severe depression and 9% a less severe form of anxiety. A group of 154 patients included by professionals in group therapy and conversation with other patients showed a lower level of depression and anxiety in comparison to 149 control group patients[15]. In our study, improved results with a significantly lower level of anxiety and depression on repeat testing could

also be ascribed to good communication with the professional medical staff, group and individual therapies with psychotherapists, and mutual support among group members.

Conclusion

Therapy provided by daily hospice multidisciplinary team has a favorable effect on diminishing depression and anxiety in patients having undergone mastectomy for breast cancer. Mutual exercise and individual treatments by physiatrist and physiotherapist as team members improved general physical health, while improvement in general mental health was related to occupational therapy, psychotherapist and social worker activities, open conversation between patients, and certainty in proper monitoring, follow up and counseling by physicians and nurses. Most patients felt the daily hospice programs to be particularly useful for stress management, relaxation and recreation, improvement of communication and trust, development of self help and self care, and treating disease complications such as lymphostasis.

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Sažetak

DNEVNI HOSPICIJ: DEPRESIJA I ANKSIOZNOST NAKON MASTEKTOMIJE ZBOG RAKA DOJKE

S. Husić i *D. Mešić*

Cilj studije bio je utvrditi učinak rada tima dnevnog hospicija na depresiju i anksioznost bolesnica s rakom dojke poslije mastektomije te nakon tromjesečne terapije. Ova prospektivna studija obuhvatila je 35 bolesnica podvrgnutih mastektomiji zbog raka dojke, koje su se liječile u dnevnom hospiciju Kliničkog bolničkog centra Tuzla kroz razdoblje od 12 tjedana. Kontrolna skupina sastojala se od 35 bolesnica koje nisu posjećivale dnevni hospicij. Depresija i anksioznost su se procjenjivale pomoću Zungove ljestvice. Bolesnice su testirane dva puta u 12-tjednom razdoblju. Srednja vrijednost depresije na prvom testu bila je 59,85±6,97 u ispitivanoj skupini i 55,65±7,91 u kontrolnoj skupini. Na drugom testu tri mjeseca kasnije depresija je bila niža u ispitivanoj skupini, sa srednjom vrijednošću od 48,57±7,06 ($P<0,0001$) (steam T-test i Wilcoxonov test), dok je u kontrolnoj skupini bila viša, sa srednom vrijednošću od 60,45±7,47 ($P<0,0001$) (steam T-test i Wilcoxonov test). Srednja vrijednost za anksioznost na prvom testu bila je 54,97±6,35 u ispitivanoj skupini i 52,20±6,03 u kontrolnoj skupini. Drugo testiranje tri mjeseca kasnije pokazalo je bolji rezultat, odnosno nižu razinu anksioznosti u ispitivanoj skupini (srednja vrijednost 43,43±5,97; $P<0,0001$), dok je u kontrolnoj skupini zabilježena viša razina anksioznosti (srednja vrijednost 55,68± 7,47; $P=0,0002$). Zaključuje se kako rad tima u dnevnom hospiciju djeluje povoljno na snižavanje razine depresije i anksioznosti kod bolesnica podvrgnutih mastektomiji zbog raka dojke.

Ključne riječi: *Anksiozni poremećaji – dijagnostika; Anksiozni poremećaji – epidemiologija; Anksiozni poremećaji – psihologija; Novotvorine dojke – psihologija; Mastektomija – psihologija*