

**SCREENING FOR DISTRESS IN BREAST CANCER PATIENTS IN ALBANIA WITH A
CANCER SPECIFIC QUESTIONNAIRE**

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Abstract:

Objective

Based on evidence that psychologic distress often goes unrecognized although it is common among cancer patients, clinical practice guidelines recommend routine screening for distress. To date, however, only a minority of cancer centers worldwide have implemented emotional distress screening of patients with standardized tools. The aim of this study is to examine the validation and reliability of the distress thermometer (DT) recommended by National Comprehensive Cancer Network (NCCN) in Albanian cancer patients in order to identify patients who may need further psychosocial care and to analyze whether distress may affect in any way the outcomes of cancer treatment.

Materials and Methods

289 breast cancer patients were recruited. All patients completed National Comprehensive Cancer Network Distress Thermometer (DT) and Emotional Symptoms. The analyzed variables were age, type of surgery, DT scale, emotional symptoms, psychiatric diagnosis and follow-up by checking patients` medical records. To analyze the data, descriptive statistics, Chi-square test and ROC analysis using SPSS were used.

Results

The mean age was 54 years. All patients recruited were stage I (41.9%) and stage II (49.1%) breast cancer. They all underwent breast surgery. The emotional distress distribution based on the Distress Thermometer shows that 139 patients (48.1%) had a low rate of emotional distress (score ≤ 4) and 150 patients (51.9%) had a high rate of emotional distress (score > 4), with a mean score of 4.64. A cutoff of 5 maximized sensitivity and specificity, which were 0.759 and 0.285 respectively assessed with ROC curve. A statistically significant correlation has been found between high scores in DT and not regular follow-ups of patients after the end of treatment, $p < 0.01$. Patients who scored ≥ 5 in the DT were more likely to not keep up with regular follow-ups.

Conclusions

Implementation of a reliable screening distress for breast cancer patients in Albania is highly recommended since it may positively affect the quality of life of cancer patients and cancer prognosis itself.

Keywords: Breast cancer; Distress Cancer; Screening for distress; Cancer in Albania; Depression in cancer patients; Mental health in cancer patients.

Introduction

Breast cancer is the most common cancer in women worldwide, with nearly 1.7 million new cases diagnosed in 2012, making it the second most common cancer overall¹. In many countries with advanced medical care, the five-year survival rate of early-stage breast cancers is 80–90 percent, falling to 24 percent for breast cancers diagnosed at a more advanced stage². Albania as a developing country, in the recent years, marks an increase in the number of breast cancer patients. According to the data of Global Health Data Exchange, Albanian women in their early fifties are the most likely age group to develop breast cancer. Every 1 in 50 Albanian women between 50 and 54 will get breast cancer³.

Cancer is a complex disease process. Patients experience psychological, social, financial, and behavioral issues that can interfere with their treatment plan and adversely affect their outcomes. Psychological reactions to a cancer diagnosis are many, ranging from anxiety, passivity, aggressiveness to depression and in some cases memory problems. The likelihood of general practitioners and oncologists seeing patients with depression comorbid with cancer is extremely high⁴. Consequences of distress can cause deterioration of Quality of Life; produce higher levels of pain; longer rehabilitation; reduced adherence to treatment with less efficacy; and shorter survival expectancy⁵. Distress is prevalent among cancer patients at all stages of illness⁶.

Psychosocial distress is a broad concept defined by National Comprehensive

Cancer Network (NCCN). It is an unpleasant emotional experience of a psychological, social and/or spiritual nature which extends on a continuum from normal feelings of vulnerability, sadness, and fears to disabling problems such as depression, anxiety, panic, social isolation and spiritual crisis⁷.

Based on evidence that psychologic distress often goes unrecognized although it is common among cancer patients, clinical practice guidelines recommend routine screening for distress⁸. To date, however, only a minority of cancer centers in the United States, the United Kingdom, and Canada have implemented emotional distress screening of patients with standardized tools⁹. Clinicians are increasingly seeking efficient methods to identify distress in cancer settings, using short screening tools with fewer than 14 items that take less than 5 minutes to complete¹⁰. The distress thermometer (DT) has been used in psycho-oncology research across the globe and has been recommended as a clinical tool to be used routinely in cancer settings to detect clinically significant distress¹¹. The vast majority of the literature reveals that women are more likely than men to experience psychological distress. The recent increase in cancer incidence, experiencing emotional distress in cancer patients as well as the problems of oncology specialists in examining a vast number of patients motivated us to analyze the causes and the effects of emotional distress on breast cancer patients.

The aim of this study is to examine the validation and reliability of the distress

thermometer (DT) recommended by National Comprehensive Cancer Network (NCCN) in Albanian cancer patients in order to identify patients who may need further psychosocial care and to analyze whether distress may affect in any way the outcomes of cancer treatment.

Patients and Methods

Participants were early diagnosed Breast Cancer patients, stage I and II, recruited from University Hospital Center “Mother Teresa” in Tirana, Albania diagnosed in 2014-2015, who (1) aged 18 years old or above; (2) could read and understand the questionnaires; (3) were prior informed regarding the study and had signed consent; All patients were surgically treated and with a pathology confirmed diagnosis. Participants were informed that their personal information would not be revealed under any circumstances.

National Comprehensive Cancer Network Distress Thermometer (DT) and Emotional Symptoms questionnaire were completed by all patients. The NCCN Distress Thermometer is a well-known tool for initial screening, which identifies distress coming from any source, even if unrelated to cancer. The NCCN Distress Thermometer and Emotional Symptoms measure distress –

on a scale of zero to 10, 10 being the worst. Moderate distress according to NCCN guidelines is indicated in scores <4 in the DT. In case of higher scores ≥ 4 the distress might be severe. The NCCN Emotional Symptoms questionnaire consisted of yes/no questions regarding symptoms of depression, fear, nervousness, sadness, worry, loss of interest in usual activities. Patients which scored more than 4 in DT were referred to psychosocial specialists for further evaluation. After the end of treatment for each patient, their medical records were checked to see whether they keep up with regular follow-ups.

The variables in this study are age, type of surgery, stage and follow up by checking patients` medical charts. Other variables are also factors affecting the mental health of patients. These were ‘yes-no’ questions about patients` performance, emotional and physical problems. To analyze the data, descriptive statistics, Chi-square test and ROC analysis using SPSS were used.

Results

A total of 289 patients met the criteria and completed the test questionnaire. The mean age was 54 years (SD=11.4). (Chart 1).

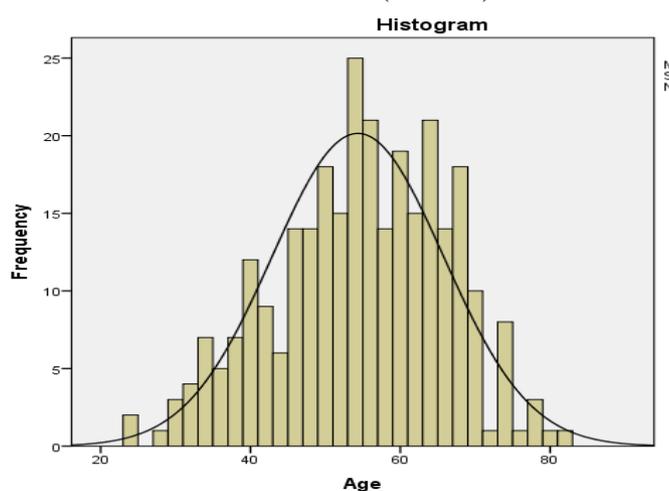


Figure 1. Age distribution

All patients recruited were stage I (41.9%) and stage II (49.1%) breast cancer. They all underwent breast surgery, from which 189 had a mastectomy with axillary dissection, 3 patients had a simple mastectomy with

SNLB, 74 patients had a quadrantectomy with axillary dissection and 4 patients had a lumpectomy. No statistically significant correlation has been found between type of surgery and DT scores ($p > 0.05$). (Table 1)

Table 1. Type of Surgery

Type of Surgery	Mastectomy + axillary dissection	Simplex mastectomy + SLNB	Quadrantectomy + axillary dissection	Lumpectomy
N	189	3	74	4
%	68,3	1	25.5	1.4

The emotional distress distribution based on the Distress Thermometer shows that 139 patients (48.1%) had a low rate of emotional distress (score ≤ 4) and 150 patients (51.9%) had a high rate of emotional distress (score > 4), with a mean score of 4.64, SD=2.2. (Table 2; Chart 2)

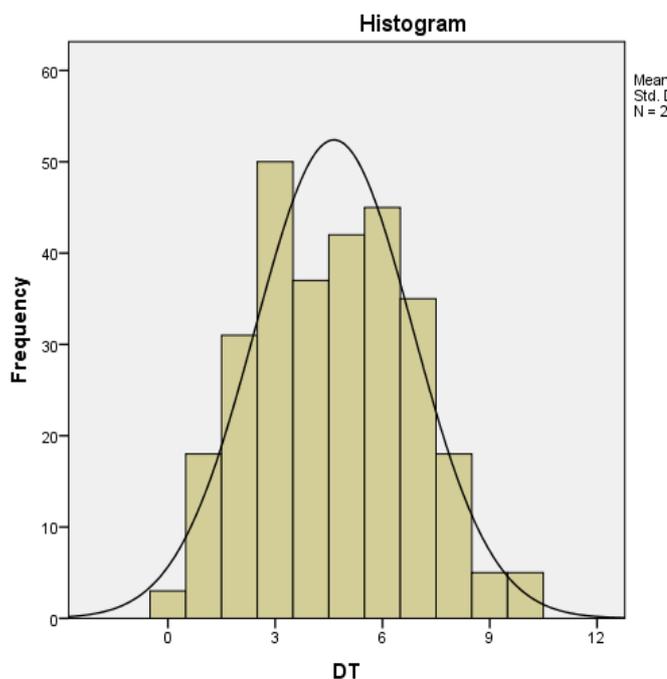


Figure 2. DT score distribution

Table 2. Distress Thermometer Scores

		Frequency	Percent	Cumulative Percent
DT score	0	3	1.0	1.0
	1	18	6.2	7.3
	2	31	10.7	18.0
	3	50	17.3	35.3
	4	37	12.8	48.1
	5	42	14.5	62.6
	6	45	15.6	78.2

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	7	35	12.1	90.3
	8	18	6.2	96.5
	9	5	1.7	98.3
	10	5	1.7	100.0
	Tot	289	100.0	

Among emotional symptoms, the more often mentioned were Worry in 62.3% of cases, Nervousness in 52.2% of cases, Sadness in 48.1% of cases and Fear in 46.7% of cases. The least mentioned emotional symptoms were Loss of Interest in 18.1% of cases and Depression in 9.3% of cases.

Table 3. Emotional Symptoms

	Depression	Fear	Nervousness	Sadness	Worry	Loss of Interest
N	27	135	151	139	180	52
%	9.3	46.7	52.2	48.1	62.3	18.1

A total of 150 patients which scored >4 in the DT were interviewed by a psychiatrist. Three patients, one that scored 3 in DT and two patients that scored 4 in DT were already diagnosed with adjustment disorders with anxiety before cancer diagnosis. A total of 54 patients resulted in adjustment disorders with depression and anxiety, from which 29 patients resulted in adjustment disorders with depression only.

Table 4. Confirmed mental disorders

		Adjustment Disorders with depression	Adjustment disorders with depression and anxiety
DT scores	0	0	0
	1	0	0
	2	0	0
	3	0	1
	4	0	2
	5	0	10
	6	0	7
	7	7	7
	8	14	17
	9	9	5
	10	4	5
TOTAL		29	54

ROC analysis was performed to confirm the efficiency of DT in cancer patients and identify the valid DT cut-off score. The greater the height of curve above the chance line (AUC=0.5), the more accurate the measure is.

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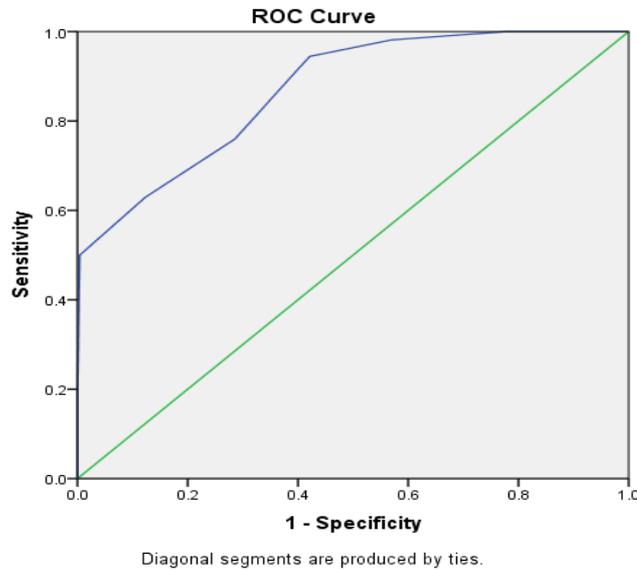


Figure 3. ROC Curve, efficiency of Distress Thermometer
 The area under the curve (AUC) was 0.868, $p < 0.01$ (Fig. 3, Tab. 5).

Table 5. AUC values

Area	Std. Error	Asymptomatic Sig.	95% Confidence Interval	
			Lower Bound	Upper Bound
.868	.026	.000	.0817	.919

A cut-off of 5 maximized sensitivity and specificity, which were 0.759 and 0.285. (Table 6)

Table 6. Sensitivity and Specificity cut-off value

Positive if greater than or equal to	Sensitivity	Specificity
-1.00	1.000	1.000
.50	1.000	.987
1.50	1.000	.911
2.50	1.000	.779
3.50	.981	.570
4.50	.944	.421
5.50	.759	.285
6.50	.630	.123
7.50	.500	.004
8.50	.185	.000
9.50	.093	.000
11.00	.000	.000

Sensitivity and specificity of DT according to NCCN DT cut-off value of ≤ 4 in Albanian cancer patients was respectively 94.4% and 57.8%.

Table 8. Sensitivity and Specificity with a cut-off of 4 and 5

			Mental Disorders		Total
			No	Yes	
DT scores	≤4	Count	136	3	139
		% within Mental Disorders	57.9%	5.6%	48.1%
	>4	Count	99	51	150
		% within Mental Disorders	42.1%	94.4%	51.9%
			Mental Disorders		Total
			No	Yes	
DT scores	≤5	Count	168	13	181
		% within Mental Disorders	71.5%	24.1%	62.6%
	>5	Count	67	41	108
		% within Mental Disorders	28.5%	75.9%	37.4%

Sensitivity and specificity of DT adjusted to a cut-off value of ≤5 in Albanian cancer patients was respectively 75.9% and 71.5%.

A statistically significant correlation has been found between high scores in DT and regular follow-ups of patients after the end of treatment, $p < 0.01$. Patients who scored ≥ 5 in the DT were more likely to not keep up with regular follow-ups. (Table 9)

Table 9. Follow-up according to Distress Thermometer Scores

		Follow-up regularly	
		Yes	No
DT scores	0	3	0
	1	16	2
	2	26	5
	3	36	14
	4	26	11
	5	16	26
	6	10	35
	7	5	30
	8	1	17
	9	1	4
	10	1	4
Total		141	148

Discussion

Distress has become increasingly recognized as a factor that can reduce the quality of life of cancer patients. Many kinds of literature had proven that DT could screen for the psychological distress in cancer patients. The effectiveness and the best cut-off point of DT in Albanian cancer patients were verified in this study. ROC curve analysis showed that area under the curve was 0.868, which indicates that DT has a high degree of diagnostic accuracy and can differentiate distressed patients from those who were not distressed, or distinguish suspected patients from those under cut-off score. In this sample, the use of a cut-off score of 5 identified patients with a range of problems that were likely to reflect psychologic distress. However, DT can be only used as a screening tool, not a diagnostic tool in the clinical application. An accurate diagnosis of mental disorders in cancer patients needs further detailed assessment.

Taking into account the amount of work that oncologists deal with during their daily practice, especially in developing countries, where the number of oncologists per patients is very low, distress screening tools must be short and easy to perform. NCCN DT has proven to have both of these features. It is simple and easily understood as a single-item scale. Oncologists can guide patients to complete DT through a short explanation, which only takes a few minutes. Therefore, screening for distress will not increase the workload of medical staff and cancer patients in the busy oncology clinics.

Mental disorders assessment is very important for cancer patients, because they may have significant negative impacts: lower quality of life, patients may seek more medical services, patients may have more difficulty in making decisions, are less adherent to their treatment regimens, and are

less satisfied with their medical care and have reduced effectiveness of chemotherapy, increased risk of suicide and stay in the hospital longer¹². In this sample, adjustment disorders, anxiety, and depression were the most common mental disorders and there was a strong correlation between DT score and the regular follow-up of patients after treatment. Patients with high scores in the DT were most likely to have mental disorders and didn't keep up with regular follow-ups after treatment, which may affect the prognosis. However, the psychological distress of cancer patients is often ignored or underestimated. Passik et al. have shown that only 13% of severely depressed patients were identified in time; other patients did not receive proper treatments¹³. Since distress and depression are recognized risk factors for shortened survival in this cancer patients¹⁴, this study confirms once again that we have many tools to ameliorate and improve patients' well-being and cancer prognosis by making a psychosocial assessment in cancer patients the sixth vital sign.

The limitations of this study should be noted. Due to time and resource constraints, only breast cancer patients were analyzed. So, the sample collection for DT's reliability and validity test should be improved. In some patients, the results of psychiatric interviews are not enough to explain mental disorders prevalence because of the biased collection of cases. For a better and a more reliable validation of the screening tool, it is important to determine whether the single-item Distress Thermometer (DT) compares favorably with longer measures currently used to screen for distress.

Conclusions

According to NCCN Guidelines, early assessment and screening for distress lead to a better management not only of the emotional well-being of patients but also of

cancer itself. Overall, early detection and treatment of distress lead to better adherence to treatment, better communication, fewer calls and visits to the oncologist's office, and avoidance of patients' anger and development of severe anxiety or depression⁷.

DT could detect psychological distress of cancer patients in clinical applications; psychiatric interview could provide further assessment and diagnosis of their mental problems and disorders¹⁵. This study demonstrates widespread awareness of the need for psychological and social support of cancer patients. Finding in this study also demonstrate that emotional distress can affect not only the quality of life of breast cancer patients but also may affect the prognosis of cancer itself. Therefore, oncology specialists should utilize mental health services to improve their patients' mental health as well as to control the consequences of the disease.

Bibliography

1. World Cancer Research Fund International – Breast Cancer Statistics (2015)
2. American Cancer Society – Breast Cancer Facts & Figures (2015-2016)
3. Marinela Lina – ODECA, Global Health Data Exchange. Breast Cancer – a death sentence for women in Albania? (2017)
4. David W. Kissane, Mario Maj and Norman Sartorius, 2011: *Depression and Cancer* - ISBN: 978-0-470-68966-0
5. J.Bryant et al. – Implementation of distress screening for breast cancer patients. – Journal of Clinical Oncology, 34 no.3, DOI: 10.1200/jco.2016.34.3_suppl.196 (January 2016) 196-196.
6. Laurie Stark et al. – The symptom experience of patients with cancer. J Hosp Palliat Nurs. 2012 Jan-Feb; 14(1): 61–70. doi: 10.1097/NJH.0b013e318236de5c.
7. NCCN Guidelines Version 1.2017 Distress Management
8. Jacobsen PB. et al. - Screening for psychologic distress in ambulatory cancer patients. Cancer. 2005 Apr 1;103(7):1494-502.
9. Vodermaier A. et al. – Screening for emotional distress in cancer patients: A systematic review of assessment instruments. J Natl Cancer Inst. 2009 Nov 4; 101(21): 1464–1488.
10. Mitchell AJ, 2007 Oct 10: Pooled results from 38 analyses of the accuracy of distress thermometer and other ultra-short methods of detecting cancer-related mood disorders. - JCO; 25(29):4670-81.
11. Donovan KA. Et al. – Validation of distress thermometer worldwide: state of science. Psychooncology. 2014 Mar;23(3):241-50. doi: 10.1002/pon.3430. Epub 2013 Nov 11
12. Glover J. et al. – Mood states of oncology outpatients: does pain make a difference? J Pain Symptom Manage. 1995 Feb;10(2):120-8.
13. Passik SD. Et al. – Oncologists' of depression in their patients with cancer. J Clin Oncol. 1998 Apr;16(4):1594-600.
14. Brown KW. Et al. – Psychological distress and cancer survival: a follow up 10 years after diagnosis. Psychosom Med. 2003 Jul-Aug;65(4):636-43
15. Hamid Saeedi-Saedi et al. – Evaluation of emotional distress in breast cancer patients. Iran J Cancer Prev. 2015 Jan-Feb; 8(1): 36–41.