World Journal of Medical Sciences 9 (3): 153-156, 2013
ISSN 1817-3055

DOI: 10.5829/idosi.wjms.2013.9.3.76147

Prevalence of State Anxiety in Patients with Cancer

Tahere Khamechian and Tahere Mazoochi

Anatomical Sciences Research Center,
Kashan University of Medical Sciences, Kashan, Iran

Abstract: Cancer is the major cause of death worldwide. In response to threatening nature of cancer many patients with cancer are anxious. But anxiety may persist and worsen the condition of patients with cancer. In this study we reported the State (obvious) State anxiety of 250 patients with definite diagnosis of cancer referred to Shahidbeheshti Hospital was investigated by using State-Trait anxiety Inventory. Most of the patients in our study were moderately anxious (nearly 40%). And the majority of them had low and high moderate anxiety. Patients with cancers that need chemotherapy treatment were among the patients that had the most severe anxiety level.

Key words: Anxiety · Neoplasms · Prevalence

INTRODUCTION

Cancer is the major cause of death worldwide and there is no definite cure for it, thus it gets a hideous face and people fear from it [1]. In response to threatening nature of cancer many patients with cancer are anxious. In one study on 913 patients, 77% had an experience of anxiety within 2 years [2]. Anxiety in response to cancer diagnosis and treatment is not necessarily abnormal but an anxiety that persists and worsens the patient's problems and dose not respond to treatment should be considered noticeable [3]. Anxiety is a negative emotion that occurs in response to perceived threats and may have medical or psychological consequences when it is persistent or severe [4, 5]. An understanding of the nature of the anxiety in cancer patient populations is important because abnormal anxiety is disruptive and amenable to pharmacologic and psychological treatment [6]. With developing cancer treatments the survival of patients with cancer increases and these patients are being at the risk of many psychological problems [7, 8]. Our limited understanding of anxiety in cancer care is illustrated by the wide range of prevalence estimates of abnormal anxiety in cancer patient populations. This varied from 0.9 to 49% in one review of the literature [9]. Although in large studies using standardized psychiatric interviews and applying research diagnostic criteria the range is narrower, from 10 to 30% [10]. Anxiety in patients with confirmed diagnosis of cancer is of a great concern. So we investigated anxiety with the means of Test State-Trait anxiety Inventory (STAI). In this study we were reporting the State Anxiety based on the first 20 questions of STAI.

MATERIALS AND METHODS

This cross-sectional study was conducted in the period between May 2005 and May 2013. The whole study protocol was confirmed by the Ethic Committee of Kashan Medical Science University. 266 patients with definite cancer diagnosis, referred to pathology department of Shahid Beheshti hospital were involved in our study. They were asked orally if they consented to participate in our study. They were excluded if one of these conditions existed: psychosis, bipolar disorder, cognitive impairment and substance abuse. Three patients were excluded because 2 had substance abuse and one had bipolar disorder. 263 remained patients' demographic data and cancer course information, like age, sex, type of cancer, type of treatment and duration of cancer (from diagnosis) were recorded and they were asked to complete STAI. After deleting incomplete inventories, we found that only 250 patients thoroughly completed the questionnaire and data were extracted and analyzed.

Corresponding Author: Tahere Mazoochi, Anatomical Sciences Research Center, Kashan University of Medical Sciences, Kashan, Iran. Tel: +98 913 3610153, Fax: +98 361 5579028.

STAI contains 40 questions. The questions from 1 to 20 - State Anxiety (Obvious) - have four options of 'No, Sometimes, Generally, Very High'. Scores of 20-31, 32-42, 43-53, 54-64, 65-75 and more than 76 are labeled mild, low moderate, moderate, high moderate, severe and very severe anxiety, respectively [11]. The construct validity of the state component of the STAI was demonstrated by Spielberger *et al*. (1970) [12] through contrasted groups. Spielberger *et al*. (1970) reported reliability data, by test-retest correlation, ranging from 0.16 to 0.54 for the state form. The low correlation for test-retest reliability for the state form was expected since the form was designed to measure situational factors. Taking this into account, Spielberger et al. (1970) also reported alpha coefficients as a measure of reliability for the state form and these reliability coefficients ranged from 0.83 to 0.92.

Data were studied through SPSS software version 11.5 and analyzed with chi-square test and P value under 0.05 considered statistically significant.

RESULTS

The mean age of the 250 enrolled patients was 58 years old (SD=13). 134 patients (53.6%) were male and 116 (46.4%) were female. The mean cancer duration (at the time of diagnosis) was 11 months. State Anxiety severity among different sex, age and cancer duration groups can be seen at table 1. State Anxiety severity in different cancer type groups can be found at table 2 and graph 1. State anxiety severity in different cancer treatment groups was presented in graph 2.

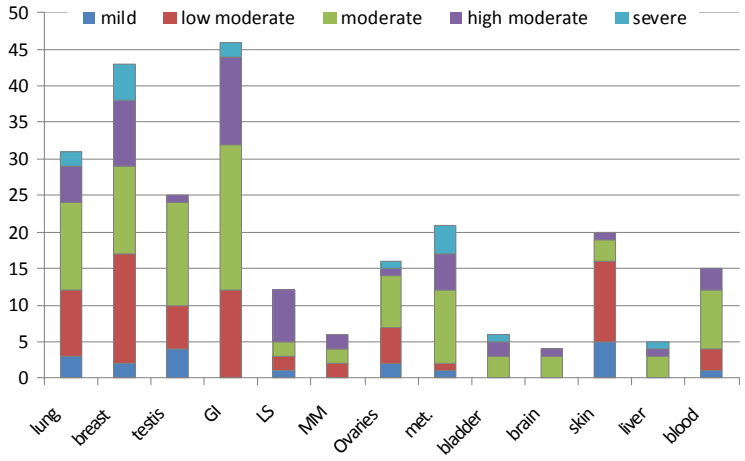
Table 1: State anxiety severity in different groups

State anxiety severity		Mild No.(%)	Low moderate(%)	Moderate(%)	High moderate(%)	Severe(%)	Sum(%)	P value
Sex	Male	14 (10.4)	37 (27.6)	54 (40.3)	21 (15.7)	8 (6)	134 (53.6)	0.194
	Female	5 (4.3)	29 (25)	45 (38.8)	29 (25)	8 (6.9)	116 (46.4)	
Age(years)	=39	0 (0)	7 (33.3)	9 (42.9)	4 (19)	1 (4.8)	21 (8.4)	0.011
	40-59	4 (3.6)	24 (21.6)	46 (41.4)	32 (28.8)	5 (4.5)	111 (44.4)	
	=60	15 (12.7)	35 (29.7)	44 (37.3)	14 (11.9)	10 (8.5)	118 (47.2)	
Cancer duration (month)	=6	5 (4.3)	29 (25.2)	46 (40)	25 (21.7)	10 (8.7)	115 (46)	0.231
	7-11	9 (11.4)	19 (24.1)	32 (40.5)	16 (20.3)	3 (3.8)	79 (31.6)	
	12-23	2 (6.1)	11(33.3)	14 (42.4)	4 (12.1)	2 (6.1)	33(13.2)	
	=24	3 (13)	7 (30.4)	7 (30.4)	5 (21.7)	1 (4.3)	23 (9.2)	

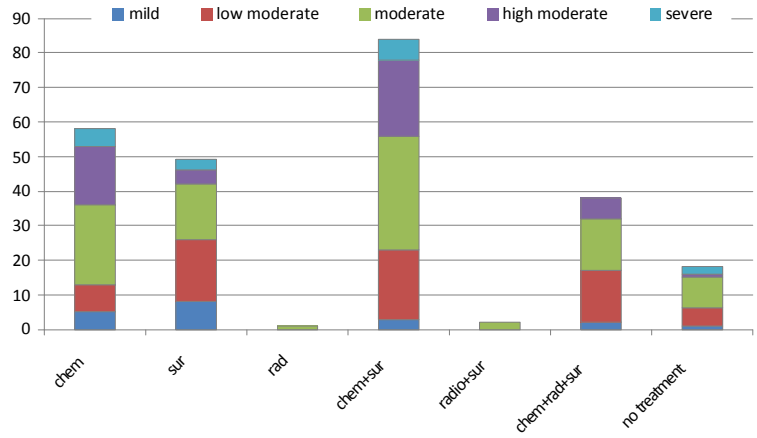
Table 2: State anxiety severity in different cancer type groups

S.A.S		Lu.	Brs.	Tes.	GI.	L.S.	MM.	Ova.	Met.	Blad.	Br.	Sk.	Liv.	Blo.	Sum
mild	#	3	2	4	0	1	0	2	1	0	0	5	0	1	19
	%	9.7	4.7	16	0	8.3	0	12.5	4.8	0	0	25	0	6.7	7.6
Low moderate	#	9	15	6	12	2	2	5	1	0	0	11	0	3	66
	%	29	34.9	24	26.1	16.7	33.3	31.3	4.8	0	0	55	0	20	26.4
moderate	#	12	12	14	20	2	2	7	10	3	3	3	3	8	99
	%	38.7	27.9	56	43.5	16.7	33.3	43.8	47.6	50	75	15	60	53.3	39.6
High moderate	#	5	9	1	12	7	2	1	5	2	1	1	1	3	50
	%	16.1	20.9	4	26.1	58.3	33.3	6.3	23.8	33.3	25	5	20	20	20
severe	#	2	5	0	2	0	0	1	4	1	0	0	1	0	16
	%	6.5	11.6	0	4.3	0	0	6.3	19	16.7	0	0	20	0	6.4
Sum	31	43	25	46	12	6	16	21	6	4	20	5	15	250	

S.A.S: State Anxiety Severity, Lu.= Lung cancer, Brs.= Breast Cancer, Tes.= Testis Cancer, L.S.= Lymphatic System malignancies, MM.= Multiple Myeloma, Ova.= Ovaries, Met.= Metastatic Cancer, Blad.= Bladder malignancies, Br.= Brain malignancies, Sk.= Skin Cancer, Liv.= Liver cancer, Blo= Blood cancer, #=Number of patients.



Graph 1: State anxiety severity in different cancer type groups
GI=Gastro-intestinal, LS= Lymphatic System, MM=Multiple Myeloma



Graph 2: State anxiety severity in different cancer treatment groups
Chem=chemo-therapy, sur=Surgery, Rad=Radiotherapy.

DISCUSSION

This study was conducted on 250 patients with definite diagnosis of cancer referred to Shahidbeheshti Hospital. Most of the patients in our study were moderately anxious (nearly 40%). And the majority of them had low and high moderate anxiety. This means that patients with cancer are at a high risk for anxiety as it was predictable in other studies [13, 14]. It is notable that there was no patient with very severe anxiety among our study group.

Our study showed that state anxiety severity is not statistically different among male and female and also among different cancer durations. But the results showed that people with the age greater than 60 show more severe anxiety than patients in other age groups.

Patients with chemotherapy and surgery had more anxiety than patients that undergone other treatment. Then, patients with chemotherapy alone had the most state anxiety, these results confirms the results of Lim *et al*. [15] that pointed out that patients with chemotherapy are the most anxious cancer patients.

Almost all cancer types showed moderate anxiety as the most frequent type in our study. Among all the cancer types, patients with liver cancer showed 20% severe anxiety. This may be because of the chronic and malignant phase of this kind of cancer. Diversity and severity of the symptoms of this kind of cancer can be another reason for this result. Tsutsumi *et al.* [16] in 2006 by studying 114 solid cancer patients observed that rate of anxiety in these patients is quite high. They related this high rate to treatment of these kinds of cancer that mostly involve chemotherapy.

Summing up, the state (obvious) anxiety tends to be frequent in cancer patients. Most of the patients with cancer had moderate state anxiety. Patients with cancers that needed chemotherapy treatment were among the patients that had the most severe anxiety level.

REFERENCES

1. Al-Naggar, R., V. Bobryshev, Y. Abdulghani, M. Rammohan, S.T.M. Osman and S.Y. Abdul Kadir, 2013. Complementary/alternative Medicine Use among Cancer Patients in Malaysia. World Journal of Medical Sciences, 8: 157-164.
2. Ashbury, F.D., H. Findlay, B. Reynolds and K. McKerracher, 1998. A Canadian survey of cancer patients' experiences: Are their needs being met? J. Pain Symptom Manage, 16: 298-306.
3. Andersen, BL. and HH. Tewfik, 1985. Psychological reactions to radiation therapy: Reconsideration of the adaptive aspects of anxiety. J Pers Soc Psychol, 48: 1024-1032.
4. Esmaeeli Douki Z., N. Vaezzadeh, S. Shahmohammadi, Z. Shahhosseini, S. Ziabakhsh Tabary, RA. Mohammadpour and M. Esmaeeli, 2011. Anxiety Before and after Coronary Artery Bypass Grafting Surgery: Relationship to QOL. Middle-East Journal of Scientific Research, 7: 103-108.
5. Mahmoudi, G., A.G. Ebadi and H. Akbarzadeh, 2007. Religious Coping and Anxiety in Students of Islamic Azad University-Sari Branch, 1999-2000. World Applied Sciences Journal, 2: 363-367.
6. Sheard, T. and P. Maguire, 1999. The effect of psychological interventions on anxiety and depression in cancer patients: Results of two meta analyses. Br J Cancer, 80: 1770-1780.
7. Bemana S., 2011. Depression and Coping Skills Between Patients Living with Cancer. World Applied Sciences Journal, 15: 114-119.
8. Khamechian, T., J. Alizargar and T. Mazoochi., 2013. Prevalence of Depression in Patients with Cancer. Middle-East Journal of Scientific Research, 15: 1311-1315.
9. van't Spijker, A., RW. Trijsburg and HJ. Duivenvoorden, 1997. Psychological sequelae of cancer diagnosis: A meta-analytical review of 58 studies after 1980. Psychosom Med., 59: 280-293.
10. Stark, D.P. and A. House, 2000. Anxiety in cancer patients. Br J Cancer, 83: 1261-1267.
11. Ahanian, RJ. and Z. Poornaghi, 2012. The Relationship Between State-Trait Anxiety and Students' Sense of Social Self-Efficacy. World Applied Sciences Journal, 20: 395-400.
12. Spielberger, C.D., R.L. Gorsuch and R.E. Lushene, 1970. The State-Trait Anxiety Inventory: Test manual. Palo Alto, CA: Consulting Psychologist Press.
13. Davey, C.J., C. Harley and D.B. Elliott, 2013. Levels of State and Trait Anxiety in Patients Referred to Ophthalmology by Primary Care Clinicians: A Cross Sectional Study. PloS ONE. 8: e65708.
14. Gram, I.T. and S.E. Slenker, 1992. Cancer anxiety and attitudes toward mammography among screening attenders, nonattenders and women never invited. Am J Public Health, 82: 249-251.
15. Lim, C.C., M.K. Devi and E. Ang, 2011. Anxiety in women with breast cancer undergoing treatment: a systematic review. Int J Evid Based Healthc, 9: 215-235.
16. Tsutsumi, S., S. Yamaki, S. Yamaguchi, T. Asao and H. Kuwano, 2006. Anxiety in outpatients receiving chemotherapy for solid cancer. Hepatogastroenterology, 53: 828-830.