A Survey on Mental Health Status and Related Factors among Cancer Patients in Iran

masood taheri (✉ masood.mirghaed@gmail.com)

Tehran University of Medical Sciences

Mahnaz Afshari

Tehran University of Medical Sciences

saeede alidoost

Tehran University of Medical Sciences

Hassan Abolghasem Gorji

Tehran University of Medical Sciences

Amir Rakhshan

Tehran University of Medical Sciences

Research article

Keywords: Mental Health, Cancer, Surveys and Questionnaires, Iran

Posted Date: July 18th, 2019

DOI: <https://doi.org/10.21203/rs.2.11682/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Background Cancer is one of the most common non-communicable diseases and the second cause of death in Iran. The progress in medical technologies and treatment plans has caused the patients to live longer; however, these patients are confronted with psychological challenges and their mental health is influenced because of different reasons. This study is carried out to investigate the mental health status of the cancer patients in the Center for Specific Diseases. **Methods** The present research is a cross-sectional, descriptive, and analytic study carried out in 2018 in Tehran province, Iran. In the present study, the mental health of the cancer patients referring to the Center for Specific Diseases in Tehran was evaluated in one setting, and no intervention was provided. The research population included 124 cancer patients of Tehran referring to the Center for Specific Diseases. **Results** the overall prevalence of psychiatric disorders in patients under study was 50%. The highest sensitivity to mental disorders in each of the variables was related to men (52.7%), patients aging 40-55 (45.7%), married (51.5%), unemployed (62.5%), and illiterate patients (80%). The findings of this study indicated that there is no statistically significant relationship between the prevalence of psychiatric disorders among patients with cancer and the variables in the study. **Conclusions** The results of this study indicated a high prevalence of depression disorder among cancer patients. Psychosocial stresses caused by cancer cause mental disorders, including depression in patients.

Background

Cancer is one of the most common non-communicable diseases and the second cause of death in Iran. The rate and prevalence of cancer has considerably increased over the recent years due to a myriad of factors such as aging population, industrialization, changes in the lifestyle, and environmental changes [1]. Skin cancer is one of the most common types of cancer in Iran with 7000 new diagnoses every year. Breast, esophagus, stomach, and prostate cancer are the most common types of cancer in Iranian population and their occurrence is increasing. Despite the increase in the cases of cancer affliction, the fatality rate due to this disease is not severe. The progress in medical technologies and treatment plans has caused the patients to live longer; however, these patients are confronted with psychological challenges and their mental health is influenced because of different reasons [2 & 3].

Cancer influences the individual and social performance of the patients and caused disabilities in performing typical, routine, and normal roles and eventually social isolation. On the other hand, carrying out diagnostic and treatment measures in the patients influences their mental well-being and health and confronts the individual with a vast range of psychological disturbances such as depression and anxiety [4 & 5]. Anxiety is one of the most important psychological disorders, which is generally diagnosed in patients in the beginning stages of diagnosis. Events taking place while diagnosis and management of the disease influence on the anxiety [6]. Depression is also one of the most important psychological disorders of cancer patients with higher frequency in breast, pancreas, and lung cancer. Its evaluation, however, is complicated because of the vast range of symptoms. Depression can also play a role in the progress of the disease and patients mortality [7 & 8]. The American Society of Clinical Oncology has

provided guidelines for screening, evaluation and treatment of depression symptoms in cancer patients. In addition, valid instruments are employed to periodically screen the mental health of cancer patients. Recognition of mental health of patients would positively contribute both to the improvement of physical and mental health and evaluating the effects of mental and psychological interventions in cancer patients [9].

Several factors including fear of recurrence, change of life roles, physical and psychological influences of the treatment, as well as reduced family and friends support can cause mental disorders and influence mental health of cancer patients. The degree to which such factors influence is influenced by factors such as income, education, age, and marital status [9 &10].

Therefore, paying heed to the psychological disorders and mental health of cancer patients is an important aspect in managing cancer patients, this aspect, however, tends to receive much less attention than the physical aspects of the disease. Appropriate recognition of the cancer patients' mental wellbeing can help understand the needs of these patients and therefore provision of services and interventions necessary to improve their mental health and quality of life. This can prevent the exacerbation of the patients' mental and physical health [11]. Hence, this study is carried out to investigate the mental health status of the cancer patients in the Center for Specific Diseases.

Methods

The present research is a cross-sectional, descriptive, and analytic study carried out in 2018 in Tehran province, Iran. In the present study, the mental health of the cancer patients referring to the Center for Specific Diseases in Tehran was evaluated in one setting, and no intervention was provided. The research population included 124 cancer patients of Tehran referring to the Center for Specific Diseases. These people were included in the study via survey. The data collection was carried out prior to drug injection. The questionnaire was filled by the participants. The researcher attended the participants in case they needed any clarification. The data collection tool was the General Health Questionnaire (GHQ-28). This questionnaire involves four domains of physical symptoms, anxiety, disorder in social performance and depression. The reliability and validity of the questionnaire had been obtained [15]. The questionnaire is scored based on a Likert scale and each response is assigned zero to three points. The cut-off score (point) is the total score of 23 [12]. Accordingly, all people who scored less than 23 were classified as mentally healthy, and those with a score of 23 and beyond were classified as having mental and psychiatric disorders.

All ethical considerations including confidentiality of information and the freedom of the participants to take part in the research were observed. Data were analyzed by SPSS-22 using descriptive statistics, t-test, one-way ANOVA, and chi-square test at a significant level of 0.05.

Results

In this study, 124 cancer patients were examined using GHQ. 74 (59.7%) were male and 50 (40.3%) were female. Of these patients, 97 (78.2%) were married and 27 (21.8%) were single. In the dimension of employment variable, 37 (29.8%) were employed, 16 (12.9%) were unemployed, 37 (29.8%) were housewives, and 34 (27.4%) were retired. The distribution of the prevalence of psychiatric disorders in patients under study is shown in Table 1. Based on this table, the overall prevalence of psychiatric disorders in patients under study was 50%. The highest sensitivity to mental disorders in each of the variables was related to men (52.7%), patients aging 40-55 (45.7%), married (51.5%), unemployed (62.5%), and illiterate patients (80%). The findings of this study indicated that there is no statistically significant relationship between the prevalence of psychiatric disorders among patients with cancer and the variables in the study (Table 1).

Based on the subscales of the questionnaire, 7.3% of patients were suspected of physical symptoms disorder, 7.2% suspected of abnormal social function and 2.4% suspected of depression, none of the patients was suspected to have anxiety and insomnia (Table 2).

The findings of Table 3 show that none of the variables have a significant effect on the probability of developing mental disorders in the studied patients. The odds ratio for different variables is shown in the table, which shows that the probability of developing mental disorders in patients with cancer is not different in any of the demographic variables. In other words, none of the variables can increase or decrease these disorders.

Discussion

The aim of this study was to determine the mental health status of patients with cancer in the Center of Special Diseases. According to the findings of this study, half of the subjects had and suffered from mental disorders. The findings of this study are consistent with other countries in terms of psychiatric disorders in cancer patients [12 & 13]. In the study by Sarafino, above-normal occurrence of psychiatric disorders has been reported among cancer patients. This study examines the detection of psychiatric disorders that occur after the diagnosis of serious illnesses such as cancer. It has shown that there is an irrefutable association between depression, anxiety, and stress associated with the onset of cancer among patients [14]. Most studies show that mental illnesses among cancer patients is 20-40% [15-20]; however, the findings of this study reported higher prevalence of psychiatric disorders among cancer patients, that is, above 50% [21-22]. The difference in findings is due to differences in the type of cancer, different research methods, retrospective or prospective studies, the characteristics of the studied population and sample size. In addition, based on the findings of the present study, the patients were suspected to have physical symptoms, dysfunction in social performance and depression. None of the patients was suspected of anxiety and insomnia. Lueboonthavatchi has introduced the prevalence of depression and anxiety on top of the list of psychiatric disorders [23]. Given that depression disorder was identified in this study, but the anxiety was not included in the list of identified disorders, this could indicate the need for special attention to vulnerable groups and the design of more specialized studies in this regard. A number of studies have come up with different results from this study. For example, Hadi et

al. concluded that the prevalence of depression and anxiety was not significantly different between the case group, patients with breast cancer and the control group including healthy women [24]. Of course, the point to be made about this study is that the group was made up of women who had not been diagnosed for one year and had not received any treatment such as metastasis.

The results of this study showed that the demographic factors had no significant effect on the probability of developing mental disorders in the studied patients. In the study of Taqizadeh et al., performed on cancer patients in two educational hospitals of Mashhad University of Medical Sciences, there were no significant correlation between the level of education, marital status, living in rural or urban areas, and mental disorders in cancer patients [25]. In a study by Dabrowsky, aimed at investigating mental disorders in 268 patients with breast cancer, there was no significant relationship between demographic factors and mental disorders [26]. Other studies carried out on gastric ulcer patients were consistent with the findings of this study [27]. In some studies, a significant relationship between female genders, low level of education, advanced stages of disease, young ages, low socioeconomic status and low social support with mental disorders in cancer patients [28-35]. Differences in sample size, types of cancer, and cultural and social aspects may account for the differences in the findings. It is worth noting that behaviors, habits, and lifestyle can affect health and well-being. Anything from smoking, excessive drinking or poor diets, or poor personal hygiene can be among these factors. Kuzaka and Maritimo's study was indicative of the impact of people's lifestyle on functioning of their immune system. They showed that the immune system functioning of those who have a healthy lifestyle including exercising, adequate sleep, not smoking, and a balanced diet tends to be stronger [36].

Research limitations:

Of the limitations of this study is the study design which is a cross-sectional one in which patients' follow-up and intervention have not been performed. By designing interventionist studies on high-risk patients, one can obtain better results. In addition, it would be better to separate types of cancers to obtain more accurate results for each disease.

Conclusions:

The results of this study indicated a high prevalence of depression disorder among cancer patients. Psychosocial stresses caused by cancer cause mental disorders, including depression in patients. Failure to attend to this disorder and treatment of depression may prolong hospitalization and impair medical treatment, hence shorter survival time. In this study, a high prevalence of disorders of physical symptoms, social dysfunction and depression was observed in patients with cancer. Therefore, early detection and provision of appropriate intervention for such mental disorders can be helpful in the treatment of cancer patients.

Abbreviations

WHO: world health organization

GHQ-28: 28-item General Health Questionnaire

EQ-5D: EuroQoL 5-Dimension 5-Level

Declarations

Acknowledgements

Not applicable.

Funding

Not applicable.

Availability of data and materials

Upon reasonable request, the data are available from the corresponding author.

Author's contributions

Study conceptualization and data collection: MTM, HAG, MA. Analysis and interpretation of data: MA, MTM. Drafting the article or revising it critically for important intellectual content: MTM, HAG, and AR. All authors have read and approved the manuscript.

Ethics approval and consent to participate

The study was approved by the Ethics Committee of Iran University of Medical Sciences with the ethical code IR.IUMS.REC 1396. informed consent, written, was obtained from all participants Furthermore, the authors commit themselves to avoiding Plagiarism in the entire article, not deliberately manipulating the data or analyses, refraining from data making or fabrication, and considering honesty, objectivity, integrity and carefulness.

Consent for publication

If patients were under the age of 18 years, they were allowed to participate in the study of their Parents.

Competing interests

The authors declare that they have no competing interests.

References

1. Enayatrad M, Mirzaei M, Salehiniya H, Karimirad M, Vaziri S, Mansouri F, et al. Trends in Incidence of Common Cancers in Iran. *Asian Pac J Cancer Prev*. 2016;17:39-42.
2. Farhood B, Geraily G, Alizadeh A. Incidence and mortality of various cancers in Iran and compare to other countries: a review article. *Iranian journal of public health*. 2018;47(3):309.
3. Beheshtiroy A, Hajmanoochehri F. Epidemiological Study of Non-Melanoma Skin Cancers Qazvin Province, Iran. *Biotechnology and Health Sciences*. 2014.
4. Seyyed Tabaei SR, Rahmatinejad P, Sehat R. The Prevalence of Behavioral Symptoms of Psychological Disorders in Cancer Patients. *Thought & Behavior in Clinical Psychology*. 2015;9(36):27-36.
5. Janbabai G, Zarghami M, Hedayatizadeh-Omran A, Alizadeh-Navaei R, Moradi S, Yazdi Rad B, et al. Psycho-socio-economic Status of Cancer Patients in Sari, Iran 2017. *Journal of Mazandaran University of Medical Sciences*. 2018;28(166):108-15.
6. Stark DPH, House A. Anxiety in cancer patients. *British journal of cancer*. 2000;83(10):1261.
7. Massie MJ. Prevalence of depression in patients with cancer. *JNCI Monographs*. 2004;2004(32):57-71.
8. Satin JR, Linden W, Phillips MJ. Depression as a predictor of disease progression and mortality in cancer patients: a meta-analysis. 2009;115(22):5349-61.
9. Naughton MJ, Weaver KE. Physical and mental health among cancer survivors considerations for long-term care and quality of life. *North Carolina medical journal*. 2014;75(4):283-6.
10. Watson M, Greer S, Rowden L, Gorman C, Robertson B, Bliss JM, et al. Relationships between emotional control, adjustment to cancer and depression and anxiety in breast cancer patients. *Psychological medicine*. 1991;21(1):51-7.
11. Adamsen L, Quist M, Andersen C, Møller T, Herrstedt J, Kronborg D, et al. Effect of a multimodal high intensity exercise intervention in cancer patients undergoing chemotherapy: randomised controlled trial. *Bmj*. 2009;339:b3410.
12. Sandler IN, Tein JY, Mehta P, Wolchik S, Ayers T, Sandler IN. Coping efficacy and psychological problems of children of divorce. *Jour of Child Dev* 2000, 71(4): 1099-118.
13. Benight CC, Harper ML. Coping self-efficacy perceptions as a mediator between acute stress response and long-term distress following natural disasters. *Jour of Trauma Stress* 2002, 15(3): 177-86.
14. Sarafino EP. *Health psychology*. 4th ed, John Wiley and Sons, New York 2002.
15. Zabora J, BrintzenhofeSzoc K, Curbow B, Hooker C, Piantadosi S. The prevalence of psychological distress by cancer site. *Psychooncology*. 2001;10(1):19–28.
16. Carlson LE, Angen M, Cullum J, et al. High levels of untreated distress and fatigue in cancer patients. *Br J Cancer*. 2004;90(12):2297–2304.
17. Gao W, Bennett MI, Stark D, Murray S, Higginson IJ. Psychological distress in cancer from survivorship to end of life care: prevalence, associated factors and clinical implications. *Eur J Cancer*.

2010;46(11):

2036–2044.

18. van Scheppingen C, Schroevers MJ, Smink A, et al. Does screening for distress efficiently uncover meetable unmet needs in cancer patients? *Psychooncology*. 2011;20(6):655–663.
19. Schubart JR, Emerich M, Farnan M, Stanley Smith J, Kauffman GL, Kass RB. Screening for psychological distress in surgical breast cancer patients. *Ann Surg Oncol*. 2014;21(10):3348–3353.
20. Stefanek ME, Derogatis LP, Shaw A. Psychological distress among oncology outpatients. Prevalence and severity as measured with the brief symptom inventory. *Psychosomatics*. 1987;28(10):530–532, 537–539.
21. Trask PC, Paterson A, Riba M, et al. Assessment of psychological distress in prospective bone marrow transplant patients. *Bone Marrow Transplant*. 2002;29(11):917–925.
22. Ozalp E, Cankurtaran ES, Soygur H, Geyik PO, Jacobsen PB. Screening for psychological distress in Turkish cancer patients. *Psychooncology*. 2007;16(4):304–311.
23. Lueboonthavatchai, P. Prevalence and Psychological Factors of anxiety and depression in Breast Cancer Patients. *Medical association Thailand Journal*. Chulalongkorn University, Thailand 2007, 12 (2): 52-56.
24. Hadi N, Asadollahi R, Talei AR. Anxiety, depression and anger in breast cancer patients compared with the general population in Shiraz, southern Iran. *Jour of Iranian Red Crescent Medical* 2009, 9(1):9-11.
25. Zabora J, BrintzenhofeSzoc K, Curbow B, Hooker C, Piantadosi S. The prevalence of psychological distress by cancer site. *Psycho-* 2001 Jan 1; 10(1):19-28.
26. Dabrowski M, Boucher K, Ward JH, Lovell MM, Sandre A, Bloch J, et al. Clinical experience with the NCCN distress thermometer in breast cancer patients. *J Natl Compr Canc Netw*. 2007;5(1):104-11
27. Tavoli A, Mohagheghi MA, Montazeri A, Roshan R, Tavoli Z, Omidvari S. Anxiety and depression in patients with gastrointestinal cancer: does knowledge of cancer diagnosis matter? *BMC Gastroenterol*. 2007; 7:28.
28. Kim SJ, Rha SY, Song SK, Namkoong K, Chung HC, Yoon SH, et al. Prevalence and associated factors of psychological distress among Korean cancer patients. *Gen Hosp Psychiatry*. 2011; 33(3):246-52.
29. Rissanen R, Arving C, Ahlgren J, Cernvall M, Nordin K. Cognitive processing in relation to psychological distress in women with breast cancer: a theoretical approach. *Psychooncology*. 2014; 23(2):222-8.
30. Kangas M, Henry JL, Bryant RA. Posttraumatic stress disorder following cancer. A conceptual and empirical review. *Clin Psychol Rev*. 2002; 22(4):499-524.
31. Cordova MJ, Andrykowski MA. Responses to cancer diagnosis and treatment: posttraumatic stress and posttraumatic growth. *Semin Clin Neuropsychiatry*. 2003; 8(4):286-96.

32. Lauver DR, Connolly-Nelson K, Vang P. Stressors and coping strategies among female cancer survivors after treatments. *Cancer Nurs.* 2007; 30(2):101-11.
33. Hoffman KE, McCarthy EP, Recklitis CJ, Ng AK. Psychological distress in long-term survivors of adult-onset cancer: results from a national survey. *Arch Intern Med.* 2009; 169(14):1274-81.
34. Tomich PL, Helgeson VS. Five years later: a cross-sectional comparison of breast cancer survivors with healthy women. *Psychooncology.* 2002; 11(2):154-69.
35. Flee J, Hoekstra HJ, Sleijfer DT, Hoekstra-Weebers JE. Quality of life of survivors of testicular germ cell cancer: a review of the literature. *Support Care Cancer.* 2004; 12(7):476-86.
36. Kusaka Y, Kondou H, Morimoto K. Healthy lifestyles are associated with higher natural killer cell activity. *Prev Med* 1992; 21: 602-15.

Tables

Table 1. Prevalence of mental disorders in terms of the demographic variables (n= 124)

variable	Sample size	Suspected (cases(n	Prevalence rate (%)	p-value
Gender				468.
male	74	39	52.7	
female	50	23	46	
(Age groups (years				665.
25-40	35	13	37.1	
40-45	37	28	75.7	
55-70	34	9	26.5	
70-85	18	12	66.7	
Marital status				518.
married	97	50	51.5	
Unmarried	27	12	44.4	
Occupation				871.
employed	37	18	48.6	
unemployed	16	10	62.5	
housewife	37	16	43.2	
retired	34	18	52.9	
Education				209.
illiterate	15	12	80	
Primary and secondary	43	15	34.9	
diploma	40	25	62.5	
graduated	23	10	43.5	
Post graduated	3	0	0	
total	124	62	50	

Table 2: prevalence of mental disorders Based on the subscales of the questionnaire

variable	Somatic symptoms	Anxiety/insomnia	Social dysfunction	Severe depression
Suspected case	9	0	9	3
(%) Prevalence	7.3	0	7.3	2.4

Table 3. Estimated logistic regression coefficients and odds ratio

variable	B	.S.E	.Sig	OR	C.I. for OR 95%	
					Lower	upper
gender	203.-	374.	589.	817.	392.	1.701
Age	110.-	256.	667.	896.	543.	1.479
Marital status	206.-	451.	647.	814.	336.	1.969
occupation	090.-	127.	479.	914.	409.	1.196
education	358.-	274.	191.	699.	590.	1.172
OR= Odds Ratio						

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [STROBEchecklistcrosssectional.doc](#)