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Depression prevalence in cancer patients: a cross sectional study

Rohan Jahagirdar

Zydus Medical College and Hospital, *Dahod, Gujarat, India*
✉ drjahagirdarrohan@gmail.com

Abstract. *Relevance.* Depression has substantial effects on cancer patients' quality of life. Estimates of its prevalence vary widely. *Aim of the study* was to evaluate the prevalence and severity of depression in cancer patients. *Materials and Methods.* All cancer patients admitted at tertiary care Dr. Vithalrao Vikhe Patil Foundation's Medical College Hospital (Dahod, Gujarat, India) between December 2015 to December 2016 were included in this study. All subjects gave informed consent to participate in the investigation and personal data processing. Depression in cancer patients was screened using the Mini International Neuropsychiatric Interview (MINI) questionnaire and administered the Hamilton Depression Rating Scale for severity of depression. *Results and Discussion.* Out of 128 cancer patients screened, 44 (34 %) patients were identified to have depression using MINI. Among them mild to moderate depression was seen in 60.4 % depressed patients, and severe to very severe depression was present in 39.4 % patients. Further analysis showed that the marital status, monthly income and literacy had an impact on the level of depression. *Conclusion.* The psychological impact of cancer is considerable. The failure to detect and treat elevated levels of psychological distress might jeopardize the result of cancer therapies, decrease patient's quality of life and increase health care cost. The lack of identifiable risk factors makes the task of diagnosing psychiatric conditions in cancer patients a difficult one. Early recognition of psychiatric distress for the identification of depression is an integral part in the comprehensive management of cancer patients.
Keywords: cancer, depression, hamilton depression rating scale, sociodemographic profile

Introduction

Major depression is a leading cause of disability worldwide and when comorbid with a chronic disease it is associated with reduced quality of life and increased healthcare costs [1]. Depression is a major cause of concern in cancer patients. Clinical depression is a common and more often unrecognized source of suffering in cancer patients [2]. It is an important factor leading to drop out before the start of cancer-directed treatment. Depression also contributes to suicidal tendencies in cancer patients. The prevalence of depression varies depending upon the type and sites of cancer with reported rates of 1 % in acute leukemia to 40 % in other cancers [3, 4]. There are two core symptoms of depression namely depressed mood and a marked loss of interest or pleasure in most or all activities [5]. This study aimed to estimate the prevalence of depression and its relationship with sociodemographic factors among cancer patients.

Materials and methods

A samplings were collected from all cancer patients who were admitted at Dr. Vithalrao Vikhe Patil Foundation's Medical College Hospital from December 2015 to December 2016. All subjects gave informed consent to participate in the investigation and personal data processing. Baseline interviews were conducted in person by a trained physician. This study has been approved by the Institutional Ethics Committee. This study included all stages and types of cancer patients, who were admitted for investigation or treatment of cancer such as surgery, chemotherapy, radiotherapy on the inpatient ward of the hospital. The inclusion criteria were aged 18–60 years old, can give informed consent, awareness of the diagnosis of cancer, and could communicate with the physician. The exclusion criteria were severe confusion or having assessable brain pathology. All subjects gave informed consent. Baseline interviews were conducted by a trained person. Demographic data: age, sex, educational level, marital status, support systems, employment status, income, and debt were recorded. Duration of cancer, primary organs site, stage of cancer, and oncology treatments were viewed from medical records. The mini international neuropsychiatric interview (MINI) questionnaire version 5.0.0 was used for screening and processing the symptoms of depression [6]. Hamilton's depression rating scale (HDRS) was used for grading of depression (0–7: No depression; 8–13: Mild; 14–18: Moderate; 19–22: Severe; ≥24: Very severe) [7].

Results and discussion

In this cross-sectional study, 128 cancer patients were screened for depression. Demographic and other details like type of cancer, stage of cancer, and number of treatment are displayed in table 1.

Table 1

Characteristics of patients

Characteristics		All (N= 128)
Age (years)	≤ 50	68(53.1 %)
	>50	60 (46.8 %)
Sex	Male	70 (54.6 %)
	Female	58 (45.3 %)

Table 1 continuation

Characteristics		All (N= 128)
Education level	Uneducated	32 (25 %)
	10th standard	43(33.5 %)
	Degree	53 (41.4 %)
Residential status	Rural	47 (36.7 %)
	Urban	81(63.2 %)
Marital status	Married	88 (68.7 %)
	Single	15 (11.7 %)
	Divorced	15 (11.7 %)
	Widow	10 (7.8 %)
Social Support system	No support	39 (30.4 %)
	With social support	89 (69.5 %)
Employment status	Unemployment	31 (24.2 %)
	Labourer	33 (25.7 %)
	Agriculturist	25 (19.5 %)
	Business	21 (16.4 %)
	Private job	12 (9.3 %)
	Government job	6 (4.6 %)
Level of income (INR)	≤ 10,000	69(53.9 %)
	>10,000	59(46 %)
Primary organs of cancer	Head and neck	27 (21 %)
	Breast	15 (11.7 %)
	Lungs	9 (7 %)
	GIT	17 (13.2 %)
	Genitourinary	12 (9.3 %)
	Gynaecological	35 (27.3 %)
	Musculoskeletal	3 (2.3 %)
	Hematological	10 (7.8 %)
Time since cancer diagnosis (years)	Median (IQR)	1·0 (0·4−3·3)
Stages of cancer	1	21 (16.4 %)
	2	23 (17.9 %)
	3	39 (30.4 %)
	4	34 (26.5 %)
	Leukemia	11 (8.5 %)
Number of treatment	One method or less	56 (43.7 %)
	Two method or more	72 (56.2 %)

53.1 % of patients were below 50 years of age and 46.8 % of patients were above 50 years of age. 54.6 % of patients were males and females were 45.3 % patients. 44 patients were identified with depression using the MINI. Out of 44 patients, 28 (63.6 %) patients were males and 16 (36.3 %) patients were females.

Based on Hamilton's depression rating scale (table 2), 41.8 % of patients were suffering from mild depression, 18.6 % of patients with moderate depression, 16.2 % were suffering from severe depression and 23.2 % of patients were having very severe depression.

Table 2

Hamilton's depression rating scale of depression

Scaling of depression	Number (percentage)
Mild depression	18 (41.8 %)
Moderate depression	8 (18.6 %)
Severe depression	7 (16.2 %)
Very severe depression	10 (23.2 %)

Around 15 % of depressed patients were using antidepressants. The two most commonly used antidepressant medications were sertraline (10 %) and citalopram (5 %).

Further analysis showed that the married group showed mild depression in in 11 (50 %) patients, moderate depression was seen in 5 (22.7 %) patients, severe depression in 3 (13.6 %) patients, and very severe depression was seen in 3 (13.6 %) patients. In the unmarried and divorced females (4 patients), 3 had very severe depression and 1 had moderate depression. In the widowed females, 1 (25 %) patients had mild depression and 3 (75 %) patients had moderate depression. In patients with monthly income more than INR 10000 group, mild depression was seen in 9 (45 %) patients, moderate depression in 6 (30 %) patients, severe depression in 4 (20 %), and very severe depression in 1 (5 %) patients. In patients with monthly income less than INR 10000 group, mild depression was seen in 10 (41 %) of patients, moderate depression in 7 (29 %) patients, severe depression in 4 (16 %), and very severe depression in 3 (12 %) patients.

In the literate group (10th standard and degree) patients, mild depression was seen in 46 % (13) of patients, 28 % (8) patients were having moderate depression, 14 % (4) patients were having severe, and very severe depression was seen in 10.7 %(3) patients.

In the illiterate group of patients, 43.7 % (7) had mild depression, 18.7 % (3) patients had moderate depression, severe depression was seen in 12.5 % (2) and very severe depression was seen in 25 % (4).

In unemployed patients, 3 patients (10 %) were suffering from mild depression, moderate depression were seen in 2 patients (20 %), severe depression seen in 2 patients (20 %) and 3 patients (30 %) with very severe depression.

Depressive disorder is the most common problem in cancer patients. Amongst the different psychiatric disorders in cancer patients the prevalence of depression is high [5]. From this study, the prevalence of major depressive disorder in cancer patients was 24 %. Recent study showed that the prevalence of depressive symptomatology among cancer patients was 23.4 %. Increased likelihood of depressive symptoms was detected among patients in the inpatient setting (37.1 %) [8]. The mean prevalence of depression based on previous study was around 13 % and using all assessment methods it varies from approximately 4 to 49 % [9]. However, another recent study showed the prevalence of depression among cancer patients on chemotherapy was 70.86 % [10]. This wide variation is due to several factors including the treatment setting, type of cancer included and method used to screen for symptoms (e. g. interview by trained psychiatrist or self-report instrument) [11]. The rates were dependant on how severe diagnostic system was applied and in what way the physical symptoms were considered.

In this study, all the patients had received and completed the cancer treatment in spite of their depression. This study explains the significance of understanding the psychological distress by treating oncologists and referral of these patients to clinical psychiatrist for psychological and pharmacological treatment. Sociodemographic differences in a same and established society can significantly contribute to different out comes in the cancer survival, [9] and in a developing country like India with substantial inequalities among different groups may needs extra care in the management of cancer patients suffering from depression. In analysis, depression of varying degrees was seen both in patients with

subjective financial limitations and those with financial sufficiency.

There were several reports on the impact of marital relationships on the occurrence of emotional symptoms in patients with cancer. Earlier studies demonstrated that patients with cancer were more likely to report depression or depressive symptoms if they were unmarried or widowed [13, 14]. Even present study also exhibited that 8 cancer patients who were unmarried, divorced and widowed females had varying degree of depression ranging from mild to severe depression. This attributes to lack of inter-relationship among family members, absence of family support, and poor social support leading to a significant likelihood of patients with cancer developing emotional symptoms.

Several studies captured higher rates of depressive and anxiety symptoms were found among patients with cancer of a lower educational level [15–17]. However, a single study reported higher rates of depression in patients with cancer of middle or high socioeconomic status or a higher level of education [18]. A study in 2016 demonstrated that agricultural workers suffering from cancer to experience higher levels of depressive symptoms compared with office workers with cancer [19]. Our study too concurred with previous reports that irrespective of socioeconomic or educational status, there is a wide range of mild, moderate and severe depression present in cancer patients with either low or middle or high socioeconomic status or a lower or higher educational status. The failure to detect and treat elevated levels of psychological distress might jeopardize the result of cancer therapies, decrease patient's quality of life and increase health care cost [20]**.** In this study because of early recognition of psychiatric distress there was outstanding compliance to cancer directed treatment.

Our study has the following limitations. Number of patients included in our study is not enough, and the effectiveness of the testing may not be sufficient; in future studies, we need a larger sample size without selection bias will reveal the incidence of depression in cancer patients and no significant relationship of degrees of depression with sociodemographic parameters could be established in this study. Early recognition of

psychiatric distress for the identification of depression is an integral part in the wide-ranging management of cancer patients.

Conclusion

The psychological impact of cancer is significant. The lack of recognizable risk factors makes the task of diagnosing psychiatric conditions in cancer patients a problematic one. Early detection of psychiatric illness will help for identification of depression which could the complete management of cancer patients.

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Распространенность депрессии среди пациентов с онкологическим заболеванием: перекрестное исследование

Р. Джахагирдар

Медицинский колледж и больница Зийдус, *г. Даход, Гуджарат, Индия*
✉ drjahagirdarrohan@gmail.com

Аннотация. *Актуальность.* Депрессия оказывает существенное влияние на качество жизни больных раком. Оценки распространенности депрессии сильно имеют значительные различия. Целью исследования было оценить распространенность и тяжесть депрессии среди пациентов с онкологическим заболеванием. *Материалы и методы.* В исследование были включены все пациенты с онкологическим заболеванием, поступившие в третичную больницу медицинского колледжа фонда доктора Витхалрао Викхе Патила (Даход, Гуджарат, Индия) в период с декабря 2015 по декабрь 2016 года. Все пациенты дали информированное согласие на участие в исследовании и обработку персональных данных. Депрессию у онкологических больных проверяли с помощью анкеты Сокращенное международное нейропсихиатрическое интервью (СМНИ) и применяли шкалу оценки депрессии Гамильтона для оценки тяжести депрессии. Результаты и обсуждение. Из 128 обследованных онкологических больных у 44 (34 %) пациентов с помощью СМНИ была выявлена депрессия. Среди них депрессия от легкой до умеренной степени наблюдалась у 60,4 % пациентов с депрессией, а тяжелая или очень тяжелая депрессия присутствовала у 39,4 % пациентов. Дальнейший анализ показал, что семейное положение, ежемесячный доход и грамотность оказывали влияние на уровень депрессии. *Вывод.* Психологические последствия рака значительны. Неспособность выявить и вылечить повышенный уровень психологического дистресса может поставить под угрозу результат лечения рака, снизить качество жизни пациента и увеличить стоимость медицинской помощи. Отсутствие идентифицируемых факторов риска делает задачу диагностики психических состояний у онкологических больных сложной задачей. Раннее распознавание психического дистресса для выявления депрессии является неотъемлемой частью комплексного ведения онкологических больных.

Ключевые слова: рак, депрессия, рейтинговая шкала депрессии Гамильтона, социально-демографический профиль

Corresponding author: Dr. Rohan Jahagirdar — Associate Professor, Department of Psychiatry, Zydus Medical College and Hospital. 389151, Dahod. Gujarat. India. E-mail: drjahagirdarrohan@gmail.com
ORCID 0000-0001-8287-9562

Ответственный за переписку: Рохан Джахагирдар — доцент кафедры психиатрии Медицинского колледжа и больницы Зийдус, Индия, 389151, г. Даход. Гуджарат. E-mail: drjahagirdarrohan@gmail.com
ORCID 0000-0001-8287-9562