



“DEPRESSION IN CANCER PATIENTS: MEDICATION, CHEMOTHERAPY AND RADIOTHERAPY”

Psychiatry

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ABSTRACT

Introduction: Depression is a significant contributor to the global burden of disease and affects people in all communities of the world (WHO). Depression is the most common psychological disorder in cancer patients¹. The prevalence of clinical depression in cancer patients has reported to be 13% to 14%². Depression and higher level of depressive symptoms is linked to an increased mortality³. Depression in cancer patients can interfere with treatment and recovery and may subsequently increase their morbidity and mortality⁴. It worsens during chemotherapy, radiotherapy and oral treatment of cancer medications. Hence, the purpose of the study was to investigate the relationship between the level of depression and number of therapies sessions as well as time since diagnosis among cancer patients receiving oral medications, chemotherapy and chemotherapy along with radiotherapy.

Materials and Methods: 45 patients suffering from lung and esophagus cancer, aged 38-68 years, both males and females were included in the study. The patients were divided into 3 groups comprising 15 patients each. Group A were those who were on oral medication for their cancer related problems. Group B comprised of patients receiving chemotherapy only. Group C consisted of patient receiving chemotherapy and radiotherapy. All the patients were evaluated for level of depression by Beck Depression Inventory (BDI), time since diagnosis and number of therapy sessions.

Results: The statistical analysis revealed a significant positive correlation between the score of BDI and time since diagnosis ($r = 0.76$), as well as score of BDI and number of therapy sessions ($r = 0.59$). The application of ANOVA revealed a statistical significant difference in the BDI score among the three different groups.

Conclusion: There exists a positive relationship between the level of depression and time since diagnosis, as well as number of therapy sessions in patients with lung and esophagus cancer. Further, there exists a significant difference between the level of depression among the patients receiving medication, chemotherapy and radiotherapy along with chemotherapy.

KEYWORDS:

Cancer, Depression, Chemotherapy, Radiotherapy

INTRODUCTION

Over all in India, the total cancer cases are likely to go up from 979,786 cases in the year 2010 to 1,148,757 cases in the year 2020⁵. It is estimated that presently nearly 1 million new cancer cases are being detected annually in the country⁶. The most frequently cancer related symptom is depression which consist a psychological disorder of great importance. Depression is a significant contributor to the global burden of disease and affects people in all communities of the world (WHO). Beyond the fact that depression causes mental sufferings that is not taken into consideration, even though it can be extremely intense in nature, this situation has a major impact on both morbidity and mortality through a number of different mechanisms^{7,8}: Deterioration of quality⁹, increased sensitivity to pain¹⁰, difficulties communicating with careers, friends and family and reduced expectation of survival¹¹. It worsens during Chemotherapy, radiotherapy and oral treatment of cancer medication. The purpose of present study was to evaluate the depression among cancer patients undergoing chemotherapy, medication and radiotherapy.

MATERIALS AND METHODS

Forty five patients, aged 38-68 years, both males and females, diagnosed with lungs and esophagus cancer receiving oral medication, chemotherapy or radiotherapy were included in the study where as the patients in critical stage of illness, irregular with therapies session, history of depression prior to therapies and co-morbid conditions such as severe cardiovascular diseases, respiratory and other medical conditions were excluded from the study. The patients were purposively divided into 3 groups comprising 15 patients each. Group A were those who were on oral medication for their cancer related problems. Group B comprised of patients receiving chemotherapy only. Group C consisted of patient receiving chemotherapy and radiotherapy. All the patients were assessed for time since diagnosis, number of therapies and evaluated for the depression using the Beck Depression Inventory (BDI).

RESULTS AND ANALYSIS – The statistical study of the evaluation

was done using SPSS (version 20).

Parameter	Group A (Oral medication)	Group B (Chemot herapy)	Group C (Chemo and Radiotherapy)	F- value	p-value
	Mean	Mean			
BDI Score	11.4	25.4	37.5	93.975	0.000 (S)

S=Significant

Table 1.1 describes the comparison of mean of BDI score among the cancer patients receiving oral medication, chemotherapy and chemotherapy along with radiotherapy. The calculated value of F came out to be more than the critical value, indication a statistical significant difference between the 3 groups.

	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
				Lower Bound	Upper Bound
Oral Chemo Radio& Chemo	-	1.90380	.000	-17.8594	-8.1406
	13.00000*	1.90380	.000	-30.9594	-
	26.10000*				21.2406
Chemo Oral Radio& Chemo	13.00000*	1.90380	.000	8.1406	17.8594
	-	1.90380	.000	-17.9594	-
	13.10000*				8.2406
Radio& Oral Chemo Chemo	26.10000*	1.90380	.000	21.2406	30.9594
	-	1.90380	.000	-17.9594	-
	13.10000*				17.9594

* The mean difference is significant at the 0.05 level.

Table 1.2 describes the multiple comparison of mean difference of BDI score among the 3 different groups. The application of Bonferroni showed significant difference of mean BDI score between Group A and B, Group B and C; as well as Group A and C.

The statistical analysis revealed a significant positive correlation between the score of BDI and time since diagnosis ($r = 0.76$), as well as score of BDI and number of therapy sessions ($r = 0.59$). The application of ANOVA revealed a statistical significant difference in the BDI score among the three different groups.

DISCUSSION

There was significant difference in the level of depression among all the 3 groups with the highest level of depression found among those receiving chemotherapy along with radiotherapy. Although the depression was prevalent among the patients receiving oral medications, chemotherapy as well as those receiving chemotherapy along with radiotherapy. The results revealed that the BDI score was positively co-related with the time since diagnosis as well as number of therapies session among patients having lung and esophagus cancer. This directly implies that time since diagnosis as well as number of therapies session directly affect the level of depression among cancer patients. It has been seen that depression exists in all the groups of patient receiving any kind of treatment i.e. oral medication, radiotherapy or chemotherapy. P Thapa et al¹² did a study on depression and anxiety in cancer patients which shows that cancer patients had depression 9 times greater than that of healthy individuals. The distribution of depression (28.0%) in cancer patients, in this study, agrees with pointed out by Razavi et al¹³, Hosaka et al¹⁴ and Fulton¹⁵. Hosaka et al¹⁴ also reported that depression was seen in 28.0% of cancer patients.

CONCLUSION

There exists a positive relationship between the level of depression and time since diagnosis, as well as number of therapies sessions in patients with lung and esophagus cancer. It has been further concluded that the depression also plays a deteriorating role in patients receiving oral medication or radiotherapy and chemotherapy. Not only cancer or cancer related complications, the patients also suffered from anxiety and depression during and their treatment. So, depression should also be considered as important factor while treating the patients suffering from cancer which in turn lead to the speedy recovery in patient's daily living activities.

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