"A Prospective Observational Study on the Assessment of Severity of Depression in Cancer Patients by Using HDRS and A Report on Treatment Procedures"

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ABSTRACT:
Cancer and depression are two formidable adversaries in the realm of public health, each possessing its unique challenges and burdens. This abstract offers a concise overview of the multifaceted relationship between cancer and depression, shedding light on the interplay of these conditions. A cancer diagnosis is often accompanied by an emotional tsunami, with anxiety, fear, and uncertainty at the forefront. The emotional distress resulting from this diagnosis and the taxing nature of cancer treatments can be pivotal factors in the development or exacerbation of depression. The physical symptoms arising from cancer and its treatment, such as fatigue, pain, and disruptions in sleep and appetite, can further contribute to depressive symptoms. Social isolation, financial strain, and the constant fear of cancer recurrence also play integral roles in the development of depression among cancer patients. Additionally, chemical imbalances in the brain due to the disease and treatments can further predispose individuals to depressive symptoms.

The impact of cancer on quality of life, body image, and self-esteem cannot be understated, as these factors can significantly affect a patient's mental health. Notably, caregivers and family members are not immune to the psychological toll of cancer, and their stress and anxiety can in turn exacerbate depression in the patients they care for.

Managing the relationship between cancer and depression involves a multi-faceted approach. Routine screening for depression by healthcare providers is crucial. Psychotherapy, such as cognitive-behavioral therapy, and, in some cases, medication, have proven effective in helping cancer patients cope with their emotional distress. Support groups offer a sense of community and a platform for individuals to share their experiences, providing invaluable emotional support. Lifestyle interventions, including exercise and mindfulness practices, can also alleviate some of the physical and emotional symptoms of both cancer and depression.

This abstract underscores the importance of recognizing depression in the context of cancer as a treatable condition. Seeking help from healthcare professionals and fostering a supportive network of family and friends are pivotal steps in managing the emotional impact of this complex relationship. The overarching goal of this review is to raise awareness of the intricate web of cancer and depression, fostering a more comprehensive and empathetic approach to the well-being of those affected by these conditions.

KEY WORDS: anxiety, fatigue, social isolation, self-esteem, psychological toll

I.   INTRODUCTION:
Cancer, a group of diseases characterized by uncontrolled cell growth, represents one of the most formidable challenges to human health in the modern era. With its complex and multifaceted nature, cancer touches the lives of millions around the world. But it is not a solitary battle. Cancer often brings with it an unexpected and equally formidable companion: depression. The relationship between cancer and depression is an intricate interplay, a complex story of physical, emotional, and psychological dimensions that affects patients, caregivers, and families alike.

Cancer, as a diagnosis, is often accompanied by an overwhelming emotional tsunami. The word "cancer" itself can evoke feelings of fear, anxiety, and uncertainty. The shock of diagnosis, the distress caused by the often grueling treatments, and the profound impact on a person's life can trigger or exacerbate depressive symptoms. In this intertwined journey of cancer and depression, understanding the various facets of

this relationship becomes essential for effective healthcare and holistic well-being.

This exploration delves into the profound and intertwined relationship between cancer and depression, offering insights into the reasons behind their connection and the impact it has on individuals and society as a whole. By understanding this complex relationship, we can better appreciate the challenges faced by cancer patients and the importance of providing comprehensive care that addresses both their physical and emotional well-being.

Causes of Depression in Cancer Patients:
Psychological Impact of Diagnosis: A cancer diagnosis is often accompanied by fear, shock, and uncertainty about the future. The emotional distress stemming from this diagnosis can lead to depressive symptoms.
Physical Symptoms: Cancer and its treatments can cause physical symptoms like pain, fatigue, nausea, and changes in appetite and sleep patterns. These symptoms can contribute to depression.
Social Isolation: Cancer patients may experience social isolation due to hospitalization, treatment-related restrictions, or the fear of spreading the disease to others. This isolation can lead to feelings of loneliness and depression.
Financial Stress: The high costs of cancer treatment, medical bills, and potential loss of income can create financial stress, which may contribute to depressive symptoms.
Fear of Recurrence: Even after successful treatment, cancer survivors often live with the fear of cancer recurrence. This ongoing fear and anxiety can lead to persistent depressive symptoms.
Diagnosing Depression in Cancer Patients:
Diagnosing depression in cancer patients is essential for appropriate management and care. Healthcare professionals use a combination of clinical assessments and screening tools to diagnose depression. These include:
Clinical Interviews: Physicians or mental health professionals conduct in-depth interviews to evaluate the patient's mental health and emotional well-being.
Questionnaires and Rating Scales: Healthcare providers may use standardized questionnaires and rating scales like the HDRS (Hamilton Depression Rating Scale) or the Hospital Anxiety and Depression Scale (HADS) to assess depressive symptoms.

Observation: Healthcare providers may observe changes in a patient's mood, behavior, and expressions of distress.
Review of Medical Records: An analysis of the patient's medical history and records can provide insights into any previous history of depression.
Importance of Diagnosing Depression in Cancer Patients:
Improved Quality of Life: Diagnosing and treating depression in cancer patients can significantly improve their quality of life. It can help alleviate emotional suffering and distress, allowing patients to better cope with the challenges of cancer treatment.
Enhanced Treatment Adherence: Addressing depression can lead to better adherence to cancer treatments and follow-up care, which is essential for improving outcomes.
Reduction of Physical Symptoms: Treating depression can also lead to a reduction in physical symptoms associated with both cancer and depression, such as pain, fatigue, and sleep disturbances.
Prevention of Suicidal Ideation: Depression increases the risk of suicidal ideation in cancer patients. Early diagnosis and intervention can help prevent such serious outcomes.
Support for Caregivers: Recognizing and addressing depression in cancer patients also benefits caregivers and family members, as it can reduce their emotional burden and stress.
In conclusion, the diagnosis of depression in cancer patients is paramount for ensuring comprehensive care and overall well-being. By addressing depression alongside cancer treatment, healthcare providers can help patients navigate the emotional challenges associated with cancer, ultimately leading to improved physical and emotional outcomes.

II. LITERATURE REVIEW:
1. Vijayalakshmi k et al, have done a case control study on **"Assessment of depression among cancer patients".** They have considered 50 cancer patients (cases) 100 (controls). And concluded that Depression is common co morbidity among cancer patients which can be identified and treated effectively
2.N M Mhaidat et al. have done study on **"Prevalence of depression among cancer patients in Jordan: a national survey"**. They have concluded that, In an effort to reduce the occurrence of depression among cancer patients, special attention is needed for changes in the

psychological status in patients with knowledge about their diagnosis and patients in advanced disease stage.

3.H C Lie et al. J Affect Disord. Have done their study on **"Depression in advanced cancer—assessment challenges and associations with disease load".** The sample included 969 patients. And they have concluded that Increasing pain and poorer than expected physical condition should alert clinicians to screen depression.

4.Steven D Passik, et al conducted a study on "**Oncologists' recognition of depression in their patients with cancer.** Enrolled and surveyed 1,109 subjects. They are most influenced by symptoms such as crying and depressed mood, they concluded screening instruments and the use of brief follow-up interviews would help to identify patients who are depressed."

5.Mary Jane ,et al Conducted a study on " **Prevalence of depression in patients with cancer".** Depression is highly associated with oropharyngeal, pancreatic , breast , and lung cancers. This report reviews the prevalence of depression in cancer patients throughout the course of cancer.

6.A M H Krebber et al, have conducted study on "**Prevalence of depression in cancer patients: A meta-analysis of diagnostic interviews and self-report instruments".** At psycho- oncology department. A total of 211 studies met the inclusion criteria. Pooled mean prevalence of depression was calculated using Comprehensive Meta-Analysis.

7.Rebecca M Saracino et al., have Conducted a study on "**Assessing depression in a geriatric cancer population".** At psycho oncology department. Cancer patients 70 years or older and on active treatment completed the Geriatric Depression Scale-Short Form, using the Hospital Anxiety and Depression Scale, In a sample of 201 cancer patients suggesting these scores will miss as many as 33%-83% of geriatric cancer patients who are depressed.

8.Chong Guan Ng et al., have Conducted study on The "**prevalence and pharmacotherapy of depression in cancer ".**Based on the 31 reports, the estimated prevalence rate of depression in cancer patients is 10.8% (996/9248). The evidence for the efficacy of conventional medication used for the treatment of depression such as tricycle antidepressants and selective serotonin reuptake inhibitors is very limited.

9.Rebecca M Saracino, have Conducted study on "**Assessing depression in a geriatric cancer population".** Cancer patients 70 years or older

included. In a sample of 201 cancer patients , this data suggests that these popular screening measures may be inadequate for reliably identifying depression in a geriatric cancer population. Researchers and clinicians, therefore, should use caution when selecting depression measures for geriatric cancer patients and consider using the lower cut-off scores presented here.

10.panelD.Jeffrey have conducted study on "**Assessment and treatment of depression in the cancer patient".** They have concluded that the rate of depression is without question significant in cancer patients and is a complicating factor in their overall management. Further research into establishing diagnostically reliable phenomenological criteria in conjunction with the identification of additional.

11.panelKaren O Anderson PhD , et al., conducted a study on" **Fatigue and Sleep Disturbance in Patients with Cancer, Patients with Clinical Depression, and Community-Dwelling** Adults". The sample included 354 cancer patients Most of the community subjects were male, and most of the depressed patients were female. They concluded that the three most common primary cancer diagnoses for the cancer patients were lymphoma, leukemia, and gastrointestinal malignancies.

12.Veroljub Vucic, conducted study on **"Mental Health Assessment of Cancer Patients: Prevalence and Predictive Factors of Depression and Anxiety"** This prospective observational study done in 2020 included adult users of aged 19 and over, both sexes, with a diagnosis of Oncological disease. They concluded that the level of depression was higher in older.

13.Peter C. Trask, have conducted study on, "**Assessment of Depression in Cancer Patients"** Finally, additional research is needed to determine cutoffs on screening measures that reliably and validly differentiate individuals with subclinical versus clinical depression. Until research studies are designed to resolve these issues, when treating depression in cancer patients, screening instruments should be followed by more detailed medical assessments (and one would assume psychological assessments)

14.M V McDonald et al. , have done study on "**Nurses' recognition of depression in their patients with cancer".** They have included a sample of 1,109 patients. Patients completed the Zung Self-Rating Depression Scale (ZSDS) . They have concluded that, a marked tendency existed to underestimate the level of depressive symptoms in patients who were more severely depressed.

15.Heide Götze et al. , conducted study on "**Depression and anxiety in long-term survivors 5 and 10 years after cancer diagnosis**" .They have presented data obtained from 1002 cancer survivors across a large variety of tumor entities **,**analyzed depression (PHQ-9) and anxiety (GAD-7) Post-treatment, cognitive limitations should be carefully assessed in long-term cancer survivorship to distinguish them from symptoms of a mental disorder, especially since younger cancer survivors of working age and female survivors seem to be more affected by depression and anxiety.

III. MATERIALS AND METHODS:

200 in-patients in the MIMS Department of Oncology participated in this hospital-based prospective and interventional trial, which was carried out over the course of 8 months at the multispecialty tertiary care Maharaja Institute of Medical Sciences (MIMS). 200 in-patients provided the data for the collection. We enrolled in our research any patients of either gender, up to the age of >12, who were hospitalized to the oncology inpatient department and were willing to grant permission. Based on the study's inclusion and exclusion criteria, 200 patients were chosen. A structured questionnaire intended to elicit information from the research population was utilized to collect the data.

STASTICAL INTERPRETATION:
Graphs and tables were plotted by using the Micro soft excel graph sheet and also analysis like mean, median and standard deviation were evaluated by using the Microsoft excel.

DATA EVALUTION:
The data collected from all the selected patients were evaluated using software and information regarding the depression in cancer and its complete scenario, a prospective interventional analytical study.

IV. RESULTS:

Results were obtained by using Hamilton Depression Rating Scale i.e., has 17 different questions, and also the patient's information (demographics, socio-economic status) by questioning we assessed the severity of depression based on the score which is obtained by the calculating the score of the questions and finally the total score, categorized into mild, moderate, severe, very severe ranges of depression.

GENDER
In a population of 200 patients, 78 patients were males (39%) diagnosed with cancer, where 122 patients were females (61%) diagnosed with cancer, where women have the high prevalence than compared to males.

GENDER	TOTAL NUMBER OF PATIENTS	PERCENTAGE
MALE	78	39%
FEMALE	122	61%

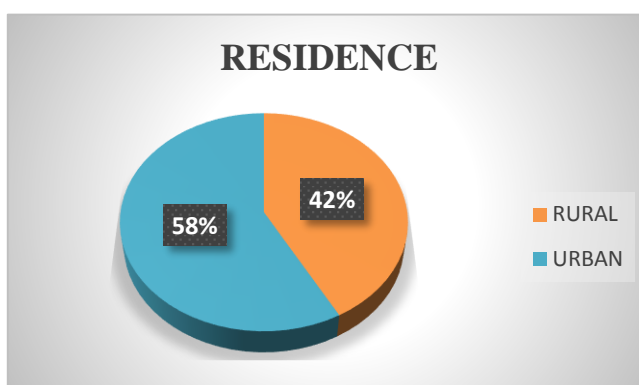**GENDER REPRESENTING NO OF PATIENTS AND ITS PERCENTAGES.**
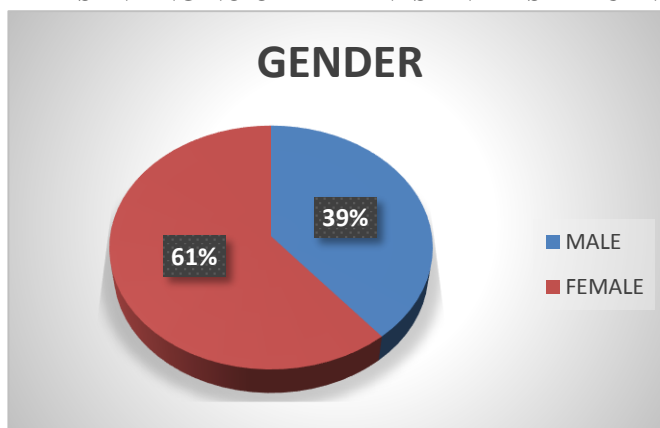
RESIDENCE

In this study, out of 200 participants 116 patients (58%) are from urban area where as 84 patients (42%) from rural area diagnosed with cancer.

RESIDENCE	TOTAL NUMBER OF PATIENTS	PERCENTAGE
RURAL	84	42%
URBAN	116	58%

**RESIDENCE REPRESENTING NO OF PATIENTS AND Its PERCENTAGES.**

AGE GROUP

In a population of 200 patients, 31 patients were reported between the age group of 21-40 (15.5%), 123 patients were reported between the age group of 41-60(61.5%), 46 patients were reported between the age group of 61-80(23%)

AGE GROUP	TOTAL NUMBER OF PATIENTS	PERCENTAGE
20-40	31	15.5%
41-60	123	61.5%
61-80	46	23%

AGE GROUPS REPRESENTING NO OF PATIENTS AND ITS PERCENTAGES.
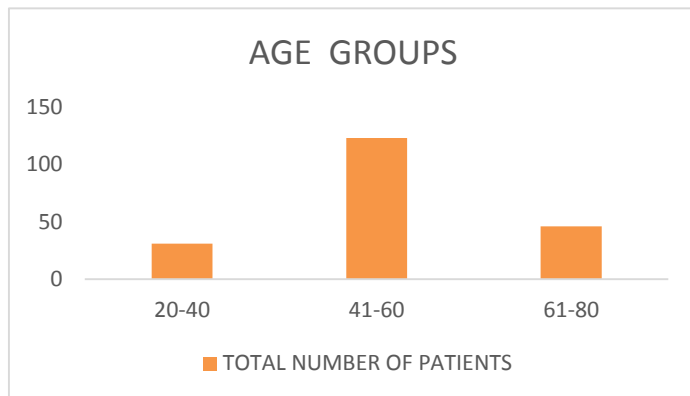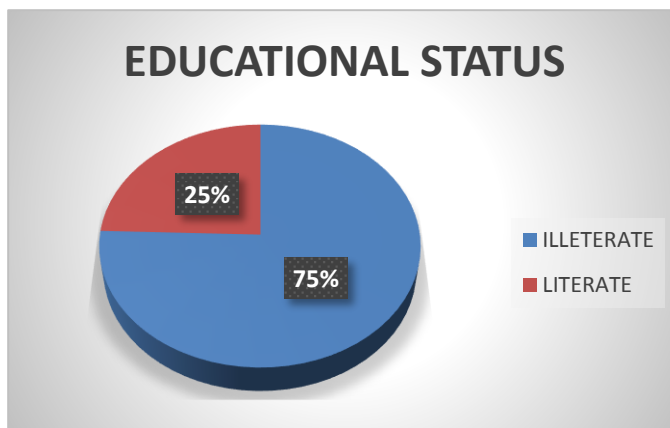

EDUCATION STATUS

In the population of 200 patients, 151 patients were illiterate (75.5%), 49 patients were studied till primary school (24.5%).

EDUCATION STATUS	TOTAL NUMBER OF PATIENTS	PERCENTAGE
ILLETERATE	151	75.5%
LITERATE	49	24.5%

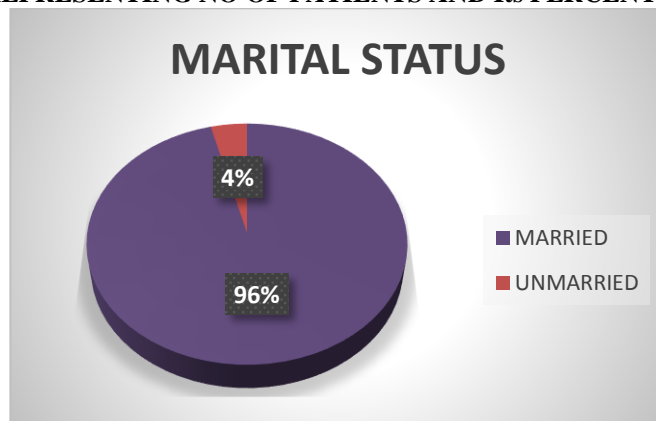**EDUCATIONAL STATUS REPRESENTING NO OF PATIENTS AND ITS PERCENTAGES.**

MARITAL STATUS

In a population out of 200 population 192 patients were married (96%), 8 patients were unmarried (4%).

MARITAL STATUS	TOTAL NUMBER OF PATIENTS	PERCENTAGE
MARRIED	192	96%
UNMARRIED	8	4%

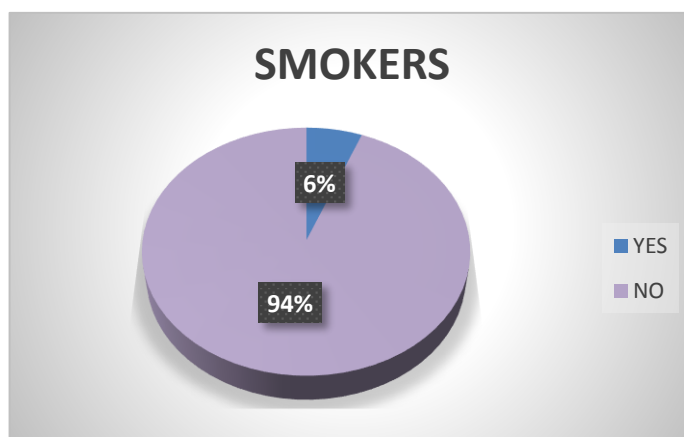**MARITAL STATUS REPRESENTING NO OF PATIENTS AND Its PERCENTAGES.**

SMOKERS

In a population of 200 patients, 12 patients were found to be active smokers (6%), 188 patients were found to be non-smokers.

SMOKER	TOTAL NUMBER OF PEOPLE	PERCENTAGE
YES	12	6%
NO	188	94%

SMOKERS REPRESENTING NO OF PATIENTS AND Its PERCENTAGES.

ALCOHOLICS

In a population of 200 patients, 17 patients were found to be alcoholic (8.5%), and 183 patients were found to be non-alcoholic (91.5%).

ALCOHOLIC	TOTAL NUMBER OF PEOPLE	PERCENTAGE
YES	17	8.5%
NO	183	91.5%

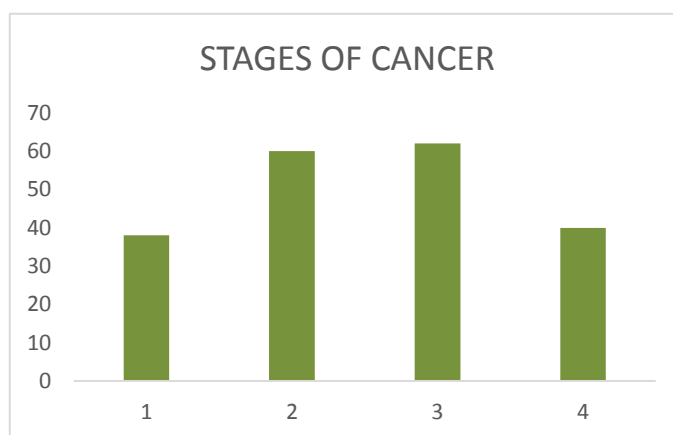**ALCOHOLICS REPRESENTING NO OF PATIENTS AND ITS PERCENTAGES**

STAGE OF CANCER
In a population of 200 patients, 38 patients were diagnosed with cancer stage 1 (19%), 60 patients were diagnosed with cancer stage 2 (30%), 62 patients were diagnosed with cancer stage 3 (31%), 40 patients were diagnosed with cancer stage 4 (20%).

STAGE OF CANCER	TOTAL NUMBER OF PEOPLE	PERCENTAGE
1	38	19%
2	60	30%
3	62	31%
4	40	20%

**STAGES OF CANCER REPRESENTING NO OF PATIENTS AND Its PERCENTAGES.**

TREATMENT OPTIONS
Among 200 patients under our observation, 186 patients were being treated with chemotherapy (93%), 14 patients were being treated with radiotherapy (7%).

| TREATMENT OPTION	NUMBEROF CASES	PERCENTAGE
CHEMOTHERAPY	186	93%
RADIOTHERAPY	14	7%

TREATMENT OPTONS REPRESENTING NO OF PATIENTS AND Its PERCENTAGES.
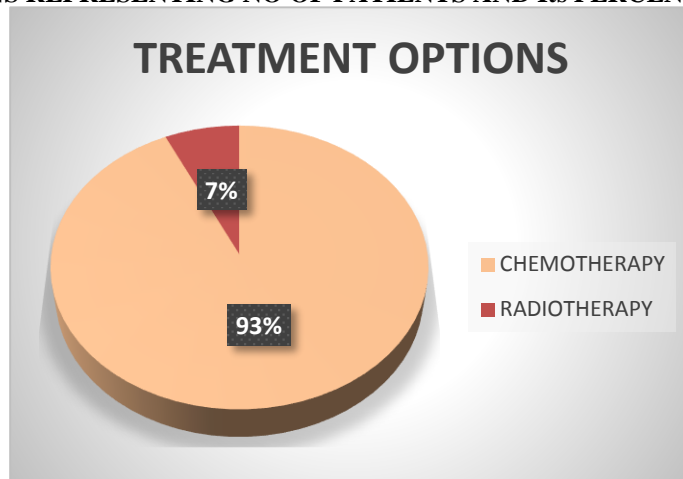
TYPE OF CANCER

In a population of 200 patients, 1 patient diagnosed with abdominal carcinoma(0.5%), 8 patients were diagnosed with Adeno carcinoma (4%), 2 patients were diagnosed with anal carcinoma (1%), 1 patients were diagnosed with basal cell carcinoma (0.5%), 3 patients were diagnosed with bladder carcinoma(1.5%), 51 patients were diagnosed with breast carcinoma (25.5%), 16 patents were diagnosed with cervical carcinoma (8%), 3 patients were diagnosed with colon carcinoma(1.5%), 4 patients were diagnosed with colorectal carcinoma (2%), 12 patients were diagnosed with chronic myeloid leukemia(6%), 2 patients were diagnosed with chronic lymphoid leukemia(1%), 1 patient diagnosed with blood carcinoma(0.5%), 1 patient diagnosed with duct cell carcinoma(0.5%), 6 patients were diagnosed with gastric carcinoma (3%), 5 patients were diagnosed with GTN (2.5%),1 patient diagnosed with hepatocellular carcinoma (0.5%), 5 patients were diagnosed with non-Hodgkin's lymphoma (2.5%), 1 patient diagnosed with Hodgkin's lymphoma (0.5%), 13 patients diagnosed with squamous cell carcinoma (6.5%), 12 patients were diagnosed with lung carcinoma (6%),6 patients were diagnosed with multiple myeloma (3%), 8 patients were diagnosed with ovarian carcinoma (4%), 1 patient were diagnosed with penis carcinoma (0.5%), 1 patient diagnosed with peri ampullary carcinoma (0.5%), 6 patients were diagnosed with pancreatic carcinoma (3%), 8 patients were diagnosed with rectal carcinoma (4%), 1 patient diagnosed with rib chondroblastoma (0.5%), 2 patients were diagnosed with soft tissue carcinoma (1%), 1 patient diagnosed with single cell carcinoma (0.5%), 1 patient with signet carcinoma (0.5%), 2 patients were diagnosed with tongue carcinoma (1%), 2 patients diagnosed with testicular carcinoma (1.5%), 1 patient were diagnosed with thyroid carcinoma (0.5%), 1 patient with diagnosed with uterine cancer (0.5%), 1 patient diagnosed with renal carcinoma (0.5%), 2 patient diagnosed with oral carcinoma (1%), 1 patient diagnosed with hepatoblastoma (0.5%), 1 patient diagnosed with melanoma (0.5%), 1 patient diagnosed with prostate carcinoma (0.5%), 1 patient diagnosed with urothelial carcinoma (0.5%), 1 patient diagnosed with inflammatory breast cancer(0.5%),1 patient diagnosed with Ewing's sarcoma(0.5%).
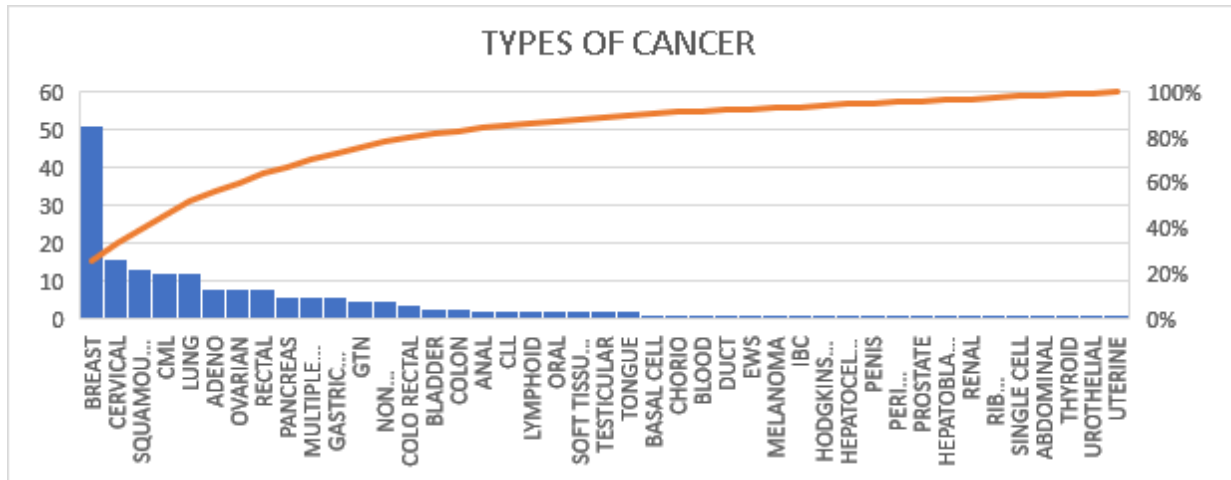
SEVERITY OF DEPRESSION

Out of 200 cases 51 patients were observed to be very severely depressed (25.5%), 37 patients were observed to be severely depressed (18.5%%), 30 patients were observed to be moderately depressed (15%), 29 patients were observed to be mildly depressed (14.5%), 53 patients were observed to be normal (26.5%).

SEVERITY DEPRESSION	NUMBER OF CASES	PERCENTAGE
NORMAL [0-7]	53	26.5%
MILD [8-12]	29	14.5%
MODERATE [13-17]	30	15%
SEVERE [18-29]	37	18.5%
VERY SEVERE [>30]	51	25.5%
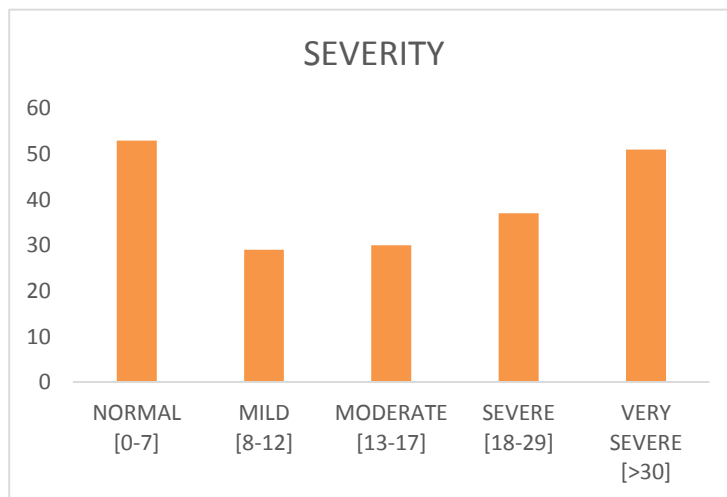
SEVERITY OF DEPRESSION REPRESENTING NO OF CASES AND Its PERCENTAGE
COUNSELLING SESSIONS

After giving   successful counseling sessions by us the patient's condition has been observed to be improved slightly.

TABLE REPRESENTING SEVERITY OF DEPRESSION IN CANCER PATIENTS AFTER THE COUNSELING SESSIONS.

FIRST SESSION		
SEVERITY	**NORMAL**	56
	MILD	27
	MODERATE	29
	SEVERE	37
	VERY SEVERE	51
SECOND SESSION		
SEVERITY	**NORMAL**	61
	MILD	25
	MODERATE	28
	SEVERE	35
	VERY SEVERE	51

THIRD SESSION		
SEVERITY	**NORMAL**	64
	MILD	24
	MODERATE	27
	SEVERE	34
	VERY SEVERE	51

• SSRIs	• Sertraline
	• Escitalopram
	• Citalopram
	• fluoxetine
• TCAs	• Amitriptyline
	• Imipramine
	• Clomipramine
• SNRIs	• Venlafaxine
• ATYPICAL GROUP	• Mirtazapine

Drugs used in management of depression

V. DISCUSSION:

• N M Mhaidat et al. Conducted study on "Prevalence of depression among cancer patients in Jordan: a national survey". Knowledge of having cancer and stage of the disease were also significantly associated with occurrence of depression.[9]

• In our study based on the depression rating scale we have investigated 64 patients were found to be normal (32%), 51 patients were found to be very severe (25.5%), 27patients were found to be moderate (13.5%), 24 patients were found to be mild (12%) & 34 patients were found to be severe (17%).

• Rebecca M Saracino et al. Conducted a study on "Assessing depression in a geriatric cancer population".[10]

• In our study we have categorized the patient's age as groups and classified into 3 age groups as 20-40, 41-60, and 61-80. As the age group of 41-60 are dominant with number of 123 (61.5%), followed by the age group of 61-80 with number of 46 patients (23%), and lastly the age group of 20-40 with number of 31 patients (15.5%).

• In our investigation we found that the patients with age group of 41-60 are recorded with the highest number cancer diagnosis.

• Wolfgang Linden et al. J Affect Disord.et al Conducted study on "Anxiety and depression after cancer diagnosis: prevalence rates by cancer type, gender, and age". Analysis by cancer type revealed significant differences such that patients with lung, gynecological, or hematological cancer reported the highest levels of distress at the time point of cancer diagnosis.[11] as expected, women showed higher rates of anxiety and depression, and for some cancer types the prevalence was two to three times higher than that seen for men.

• In our investigation, we found that the patients with age group of 41-60 are recorded with the highest number cancer diagnosis they include both male and females and they also found to be depressed than any other group, particularly males are 39 with (19.5%) and females are 84 patients with (42%). We recorded highest number of cases from breast carcinoma followed by cervical and followed by squamous cell carcinoma. Hence our results are almost similar to the above study performed.

- panel Karen O Anderson et al, conducted a study on" Fatigue and Sleep Disturbance in Patients with Cancer, Patients with Clinical Depression, and Community-Dwelling Adults". Most of the community subjects were male, and most of the depressed patients were female.[12]

- In our investigation we identified most of the depressed patients were female.

- Steven D Passik et al conducted a study on "Oncologists' recognition of depression in their patients with cancer. They reported 33% and 13% of the time in the mild-to-moderate/severe ranges, respectively.

- In our investigation, most of the cases are reported with very severe range of depression of 51 patients (25.5%).

- M V McDonald et al." Nurses' recognition of depression in their patients with cancer Nurses' ratings were most influenced by symptoms such as crying, depressed mood, and medical factors that are useful but perhaps not the most reliable indicators of depression in this population.[13]

- In our investigation mostly observed symptom found to be Insomnia (initial, delayed, and insomnia during night).

- Mary Jane, et al, Conducted a study on "Prevalence of depression in patients with cancer". Depression is highly associated with oropharyngeal, pancreatic, breast, and lung cancers. A less high prevalence of depression is reported in patients with other cancers, such as colon, gynecological, and lymphoma.[14]

- In our investigation depression highly associated with breast carcinoma with number of patients 51, followed by cervical carcinoma 16 patients, followed by Squamous cell carcinoma with 13 patients.

VI. CONCLUSION:

- Depression remains under recognized co-morbidity in cancer patients. It negatively affects cognitive emotion behavior functionality and quality of life and results in high rates of relapse, inability to perform occupational and social activities.

- We observed majority of patients were found to be suffering with various stages of depression namely mild, moderate, severe, very severe categorized based on score, mild (8-12)-24 patients, moderate (13-17)-27 patients, severe (18-29)-34 patients, very severe (>30)-51 patients. Hence based on our observation we conclude that majority of patients are found to be depressed with various ranges of depression with percentile of 68% (136) patients among them there were with very severe stage of depression 51(25.5%) percentile, and 64 patients were found to be normal with no depression.

- Pharmacist, as an integral member of health care team have a crucial role in patient counseling for managing depression in cancer patients. Their expertise in medication management, patient education and collaborative care can help to optimize mental health support, ultimately improving the patient's wellbeing and treatment journey.

- Conducting successful counseling sessions as proven to be effective in reducing severity of various issues. Counseling has the potential to alleviate severity, promote personal growth and well being.[17] However, it is important to note that each individual is unique, and the success of counseling may vary from person to person.

- The overall impact of successful counseling sessions on reducing severity is significant facilitating positive change.

LIMITATIONS OF THE STUDY:
- Less sample sizes.
- Duration of study.
- Single hospital study.

REFERENCES

[1]. https://scholar.google.co.in/scholar?q=vijaya lakshmi+k+assessment+of+depression+amo ng+cancer+paTients&hl=en&as_sdt=0&as_ vis=1&oi=scholar
[2]. https://pubmed.ncbi.nlm.nih.gov/19242730/
[3]. https://pubmed.ncbi.nlm.nih.gov/25462414/
[4]. https://scholar.google.com/scholar?q=related :oR2nreaWfYJ:scholar.google.com/&hl=en &as_sdt=0,5#:~:text=Oncologists%27%20re cognition%20of,who%20are%20depressed.
[5]. https://scholar.google.com/scholar?q=related :x-V-rZLriXAJ:scholar.google.com/&hl=en&as_s dt=0,5#d=gs_qabs&t=1669355949753&u= %23p%3DQNfJ9R1jqeEJ
[6]. https://pubmed.ncbi.nlm.nih.gov/24105788/
[7]. https://pubmed.ncbi.nlm.nih.gov/24105788/
[8]. https://pubmed.ncbi.nlm.nih.gov/20732716/
[9]. https://scholar.google.com/scholar
[10]. https://www.sciencedirect.com/science/articl e/abs/pii/S0022399998000117
[11]. https://reader.elsevier.com/reader/sd/pii/S08 85392402006826?token=32F5E7A8F38244 6323371C17237E0CB8A4D11E0EEB3C44

8D908910B6FB109F8F7763F276E59C7DD53C407F98E52F99A0&originRegion=eu-west-1&originCreation=20221125061749

[12]. https://www.researchgate.net/publication/361530222_Prevalence_of_depression_and_associated_factors_among_adult_cancer_patients_receiving_chemotherapy_during_the_era_of_COVID-19_in_Ethiopia_Hospital-based_cross-sectional_study

[13]. https://pubmed.ncbi.nlm.nih.gov/31001695/

[14]. https://pubmed.ncbi.nlm.nih.gov/17969824/

[15]. https://pubmed.ncbi.nlm.nih.gov/25462414/