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Oncology Mental Health Distress: AddressingThe Prevalence Of Depression And Suicide Among Cancer Patients.

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ABSTRACT
Background:*A cancer diagnosis can have a substantial impact on mental health and wellbeing. Depression is the psychiatric syndrome that may hinder cancer treatment and recovery, as well as quality of life and survival.*
Aim of study*:To address prevalence of depression and suicide among cancer patients at oncology outpatients' clinics, Zagazig university hospitals.*
Method*: A cross sectional design was utilized in the current study on a sample of 513 cancer ill patients at oncology outpatients' clinic at Zagazig University Hospitals.*
Tools of data collection*: Demographic Characteristics and Medical Characteristics Questionnaire, Beck Depression Inventory (BDI-II) and Columbia Suicide Severity Rating Scale (C-SSRS).*
Results:*The current study findings revealed that depression is more prevalent in cancer patients and increases with age, intermediate level of education, being single or retired, and having cancer of the gastrointestinal system, head, or neck.*
Conclusion*:The current study concluded that cancer patients had prevalence rates of depression and suicide behavior of 30.4% and 0%, respectively. The suicide and depression scores have no relationship to one another.*
Recommendations:*It is recommending that each cancer patient's treatment plan include psycho-educational interventions and rehabilitation programs, as well as that more focus and resources be given to psychiatric consequences of cancer including depression and suicide ideation or impaired mental adaptability.*
Keywords:*Oncology mental health distress, CancerPatients-Depression-Suicide*

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I. INTRODUCTION

Worldwide, the number of cancer diagnoses has increased during the past few decades. According to statistics from the WHO, 27 million people will be diagnosed with cancer by 2030 **(Ministério, 2020),** and between 2008 and 2030, the incidence is estimated to increase globally by more than 80%, with the highest increases forecast in less developed nations **(Bray et al, 2012).**

Depression is twice as common in cancer patients as it is in the general population **(Naser et al., 2021).** Cancer is the second leading cause of death in the globe, with 17 million fatalities anticipated in 2030 and a general mortality rate of one in six **(Mendes et al., 2021).**In patients with cancer, the diagnosis and subsequent treatment can lead to psychological discomfort, anxiety, depressive symptoms, and physical distress, which adversely impacts life quality and even their will to live. There is generally a twofold higher suicide rate among cancer patients compared to the general population **(Park etal,2021&Xu et al., 2020).**

Unfortunately, 10-15% of people will experience depression at some point in their lives, and it is frequently regarded as one of the most debilitating conditions **(Dantzer et al., 2017).** The psychological syndrome that has drawn the greatest attention in cancer patients is depression. Additionally, people with severe illnesses and advanced stages of cancer are more likely to have depression **(Kaasa et al., 1993; Delgado-Guay et al., 2009).**

In the same way, depression and anxiety are psychological issues that continue to affect cancer patients and can make their treatment more difficult to manage and control **(Naser et al., 2021).** Furthermore, a typical side effect of cancer treatment is depression, which can result in a variety of physiological and psychological problems. Some of these symptoms include exhaustion, disturbed appetite or weight loss, sleep problems, memory and concentration problems, an increase in pain sensitivity, and a decrease in tolerance to the side effects of cancer treatment.

Additionally, that these symptoms significantly impair patients' ability to function, social duties, quality of life, adherence to therapy, and perhaps even lead to death. Suicide is defined as the deliberate act of killing oneself, and it is acknowledged as a serious global public health issue that must be addressed right away **(Sierra et al., 2021).** It is ranked as the tenth biggest cause of mortality in the United States and as a major cause of death in most Western nations **(Du et al., 2020).** Around 800,000 people die by suicide each year, and there are thought to be nearly twenty times as many suicide attempts **(Miola et al., 2021).**

Cancer patients have a suicide risk that is up to twice as high as the general population. In addition, the risk is greatest in the initial months and, in any case, in the first year or two after diagnosis. According to **Gentile et al. (2022)** the incidence increases with age and in cancer patients who are either in the advanced or terminal stages of the disease. Therefore, a number of variables, such as unmanageable pain, advanced sickness, loss of control, and hopelessness, will always lead to suicide **(Akechi et al., 2000).**

To improve quality of life and lower mortality, depression in cancer patients needs to be recognized and treated. It is still unknown how many cancer patients experience depression. Most of the current research on suicidal thoughts has been conducted on cancer samples with varying lengths of time following diagnosis.

To the best of our knowledge, there aren't much evidence-based analyses focusing on cancer patients who have just received a diagnosis. Moreover, because to the changes in the patients' physiology and psychological health, the first few months following a confirmed cancer diagnosis are a crucial time for them. Therefore, it is crucial to comprehend the epidemiology and correlates of suicidal ideation before designing preventative methods and reducing the detrimental effects of suicidal ideation for this susceptible population **(Zhang et al., 2020).**Therefore, this study aims toaddress prevalence of depression and suicide among cancer patients at outpatients' clinics, Zagazig university hospitals.

II. SIGNIFICANCE OF THE STUDY

A cancer diagnosis can drastically affect one's life and is a major cause of sadness and other psychological and emotional problems. As a result, cancer patients may have a suicide risk that is two times higher than the general population's **(Du et al., 2020; Miola et al., 2021; Sierra et al., 2021).** The first few months following a diagnosis are when suicide rates are highest, culminating in the first month after the condition is discovered **(Miola et al., 2021).** Common mental illnesses like depression and its symptoms can significantly lower a patient's happiness with their treatment and health-related quality of life.

Studies on the prevalence of anxiety and depression among cancer patients in the Middle East are scarce and have several drawbacks, including small sample sizes and restrictions to a particular form of cancer in a particular therapeutic context.

Therefore, it is crucial for clinicians and researchers to develop potentially life-saving interventions if they have a better understanding of the incidence of depression as one of common mental health problems and suicide among cancer patients **(Kolva et al., 2020).**

AIM OF THE STUDY

To address prevalence of depression and suicide among cancer patients at oncology outpatients' clinics, Zagazig university hospitals.

RESEARCH HYPOTHESIS

The following research hypothesis was developed to meet the study's aim:

- High prevalence of depression and suicide among cancer patients at oncology outpatients' clinics, Zagazig university hospital.

III. MATERIAL & METHODS

Research design:

This study was carried out using a cross-sectional design.

Settings:

The study was conducted at the Zagazig University Hospitals in Sharkia, Egypt, at the outpatient oncology clinics.

Subjects:

The subjects of the current study composed of 513 cancer ill patients.

Sampling strategy:

Utilizing a stratified sample survey, data from outpatient settings were gathered. Whereas the sample was determined to be 513 patients by (Epi info version 6.02) when the total number of cancer patients treated at

Zagazig University hospitals in 6 months was 12878 patients. The trial population consisted of oncology patients with any sort of cancer at any stage who were willing to take part in the investigation. Patients must be at least 18 years old, have a cancer diagnosis that has been confirmed, and not appear to have any mental or cognitive disabilities to be included. Patients under the age of 18 and those unable or unwilling to participate in the study owing to physical or psychological suffering were excluded. Due to patients' unwillingness to talk about their emotional health, it can be challenging to identify depression in cancer patients who are also experiencing emotional discomfort.

Tools of Data Collection:

To accomplish the study's aim, three tools were used.

Tool 1: Demographic Characteristics and Medical Characteristics Questionnaire:

This questionnaire was developed by the researchers and contained baseline characteristics and medical information about the patients under study, including their age, gender, marital status, employment status, type of cancer, medical diagnosis, number of cancerous organs, duration of cancer, stage, therapy, and number of treatment modalities.

Tool 2:Beck Depression Inventory (BDI-II)(Aaron T. Beck ,1996):

Itspurpose to assess whether depressive symptoms are present and how severe they are. There are 21 items on the Beck Depression Inventory that deal with changes in body image, somatic preoccupation, trouble at work, lack of sleep, and appetite loss. Participants in the study are asked to rate their current mood. Every item was rated on a 4-point scale from 0 to 3. The best overall score is sixty-three. Minimal depression (0–13), mild depression (14–19), moderate depression (20–28), and severe depression (29–63) are all evaluated in accordance with the scoring procedure.

Tool 3: Columbia Suicide Severity Rating Scale (C-SSRS) (Mann et al,2003):

Its purpose was to set apart the realms of suicidal behavior and suicidal ideation. We measure four structures. The first one is a 5-point ordinal scale rating of the intensity of ideation. The scoring system is as follows: 1 = wish to die; 2 = active suicidal thoughts without specific plans; 3 = suicidal thoughts with plans; 4 = suicide intent; and 5 = suicidal intent with a plan. The second subscale, consisting of five items, measures the intensity of ideation. Each factor was scored on a 5-point ordinal scale according to its frequency, duration, controllability, deterrents, and reason for ideation. The third subscale, which is ranked on a nominal scale, is the behavior subscale. Actual attempts, abandoned attempts, interrupted attempts, preparation behavior, and non-suicidal self-injurious conduct are all included in the scoring system. The fourth subscale, titled "Lethality," evaluates actual attempts and actual lethality. If actual lethality is zero, potential lethality of attempts is scored on a 3-point ordinal scale, and the scoring method is rated on a 6-point ordinal scale.

Validity& Reliability:

The data collection tool was presented to a jury of five experts in nursing and medicine for face and content validation. the reliability of the instrument used was evaluated by a pilot study using Cronbach's Alpha, which was 0.714 for depression.

Pilot study:

It was conducted on 10% of the study subjects to evaluate the clarity, applicability, and feasibility of the data collection tool. The main study sample included the patients from the pilot trial.

Ethical considerations:

To earn the trust of the patients to participate in the study, the aim of the study and its data collection procedures were fully explained to those who decided to take part. Patients were also made aware that their consent to participate in the study qualifies as written consent. The patients were informed that withdrawal was acceptable, and that participation was entirely optional. Throughout the course of the study, confidentiality was upheld; no personal information was disclosed, and patients were reassured that all information was handled solely for study purposes.

Administrative Design:

To collect the necessary data and gain the outpatient clinic directors' assistance, official authorization was acquired from the research ethics committee at the faculty of nursing, the dean of the nursing faculty at Zagazig University, and the outpatient clinic directors.

Field work:

Following approval, the researcher visited with oncology patients who fit the inclusion criteria and were receiving chemotherapy and radiotherapy at the oncology outpatients' clinics. Ambiguous questions were addressed for ease of completion of the instruments, and patients were instructed on how to accept and cooperate throughout the interview session. Before getting chemotherapy or radiotherapy, patients were given the data gathering instruments to complete, which took around 30 minutes. The six-month data gathering period ran from October 2021 to March 2022.

Statistical analysis:

The statistical software package SPSS 20.0 was used for data entry and statistical analysis. The mean, standard deviation, and (range) were used to describe quantitative data, and absolute frequencies (number) and relative frequencies (%) were used to convey qualitative data. Using the Chi-square test, percentages of categorical variables were compared. To evaluate the relationships between the numerous study variables, the Pearson correlation coefficient was determined. Values close to 1 indicate strong association, whereas values close to 0 indicate poor correlation. Every test had two sides. P-values of 0.05 or less were regarded as statistically significant (S), 0.001 or more as highly significant (HS), and 0.05 or less as statistically insignificant (NS). It is used to describe data and to explain the relationship between one dependent binary variable and one or more independent nominal, ordinal, interval, or ratio-level variables. Logistic regression is a type of predictive analysis.

IV. RESULTS

Table 1 provides a detailed breakdown of the patients' demographics in the outpatient settings. It shows that 49.1% of patients were housewives, 64.3% were single, 41.3% of patients were between the ages of 35 and 55, and 58.5% of patients were female.

Table 2 shows that among the patients in the study, gastrointestinal cancer accounted for 23.8% of all cases, followed by breast cancer (19.7%) and blood cancer (16.6%).

About 43.3% of the study participants reported having hypertension, as seen in **Table 3.** 98.2% of them had cancer in just one body system, 28.1% had been fighting the illness for more than six months to a year, 46.8% were in the second stage of the disease, and 55.4% were receiving intravenous chemotherapy. Most of them, 93.0%, had only one type of treatment.

Table (4) reveals that, regarding depressive symptoms, 100%, 99.8%, and 96.3% of the study participants had never experienced suicide thoughts, guilt feelings, or feelings of failure in the past. Most patients (62.8%) reported their sleep habits hardly ever changed, 38.9% reported they sometimes tiredness or fatigued and about one-fourth claimed they were always irritable (27.5%).

Figure 1 shows that depression affected 30.4% of the studied cancer patients.

Table (5) shows a statistically significant correlation between depression level of the studiedpatients and the cancer subtypes they had. According to this table's ranking of the studied cancer patients, those with gastrointestinal cancer had the highest levels of depression (13.9%), followed by those with head and neck cancer (11.1%), eye cancer (10%), and breast cancer (9.9%), all of whom had moderate levels of depression. Concerning depression, the majority of the study's participants with skin cancer (88.2%), endocrine cancer (83.3%), blood cancer (80%), musculoskeletal cancer (80%), and respiratory cancer (80%) had only minor symptoms.

According to **Table 6**; there was a statistically significant relationship between the level of depression and the demographic characteristics of the studied patient, regarding their age, education level, marital status, and employment (p=0.007, 0.0001, and 0.006 respectively). That highlights that many of demographic factors are linked to depression level. Patients between the ages of 18 and 35(77.7%), those with intermediate levels of education (79.2%), those who were unmarried in the study (82.7%), and those who were working (78.6%) all showed low levels of depression.

Table (7)indicates that none of the studied patients had either suicidal ideations or behaviors.

According to the prevalence of suicidal behavior statistic in **Table 8**, none of the investigated cancer patients had ever attempted suicide.

Table (9) shows that it is not possible to determine a correlation between depression and suicidal score because the value of the suicidal score is constant.

Table (1): Demographic Characteristics of the Studied Cancer Patients at the Outpatient Clinics(n:513).

Demographic	Frequency (No)	Percentage (%)
Age per years:		
18-35	139	27.1
>35-55	212	41.3

>55-75	140	27.3
> 75	22	4.3
Gender:		
Females	300	58.5
Males	213	41.5
Education level:		
Illiterate	168	32.7
Primary	56	10.9
Intermediate	207	40.4
High education	82	16.0
Marital Status:		
Single	52	10.1
Married	330	64.3
Divorced	32	6.2
Widowed	99	19.3
Employment status:		
Housewife	252	49.1
Employee	98	19.1
Retired	61	11.9
Wage earner	87	17.0
Others	15	2.9
Religion:		
Muslim	439	85.6
Christian	74	14.4
Total	513	100%

Table (2): Type of Cancer among the Studied Cancer Patients at the Outpatient Clinics(n:513).

Type of Cancer	**Frequency (No)**	**Percentage (%)**
Gastrointestinal	122	23.8
Breast	101	19.7
Blood	85	16.6
Genitourinary	45	8.8
Endocrine	30	5.8
Head and neck	27	5.3
Gynecologic	26	5.1
Musculoskeletal	20	3.9
Respiratory	20	3.9
Skin	17	3.3
Eye	10	1.9
Neurologic	10	1.9
Total	513	100

Table (3): Medical Characteristics of the Studied Cancer Patients at the Outpatient Clinics(n:513).

Variable	**Frequency (No)**	**Percentage (%)**
Medical diagnosis:		
Hypertension	222	43.3
Diabetes mellitus	101	19.7
Others	190	37.0
Number of cancerous organs:		
Only one system	504	98.2
More than one system	9	1.8
Cancer duration:		
From 1month to 6 months	140	27.2
> 6 months to 1 year	144	28.1
>1 year to 3 years	143	27.9
>3 years	86	16.8
Stage:		
First	137	26.7
Second	240	46.8
Third	118	23.0
Fourth	18	3.5
Therapy:		

Intravenous chemotherapy Radiotherapy	284 167	55.4 32.5
Oral chemotherapy	25	4.9
Hormonal therapy	37	7.2
Number of treatment modalities:		
Only one	477	93.0
More than one	36	7.0
Total	513	100%

Table (4): Frequency of Depressive SymptomsAmong the Studied Cancer Patients at the Outpatient Clinics(n:513).

	Never		Almost never		Sometimes		Always	
Variable	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Sadness	194	37.8	274	53.4	43	8.4	2	.4
Pessimism	297	57.9	196	38.2	18	3.5	2	.4
Sense offailure	494	96.3	15	2.9	4	.8	0	.0
Dissatisfaction	157	30.6	305	59.5	44	8.6	7	1.4
Guilt	512	99.8	1	.2	0	.0	0	.0
Expectation of punishment	256	49.9	231	45.0	22	4.3	4	.8
Self-dislike	475	92.6	31	6.0	5	1.0	2	.4
Self-blame	447	87.1	57	11.1	5	1.0	4	.8
Suicidal thoughts	513	100	0	0	0	0	0	0
Episodes of crying	461	89.9	36	7.0	14	2.7	2	.4
Agitation	324	63.2	161	31.4	23	4.5	5	1.0
Loss of Interest	222	43.3	196	38.2	90	17.5	5	1.0
Indecisiveness	233	45.4	237	46.2	39	7.6	4	.8
Worthlessness	367	71.5	135	26.3	8	1.6	3	.6
Loss of Energy	442	86.2	67	13.1	4	.8	0	.0
Changes in sleeping pattern	12	2.3	322	62.8	171	33.3	8	1.6
Irritability	87	17.0	148	28.8	137	26.7	141	27.5
Changes in appetite	306	59.6	197	38.4	7	1.4	3	.6
Concentration difficulty	117	22.8	272	53.0	124	24.2	0	.0
Tiredness or fatigue	120	23.4	174	33.9	200	38.9	19	3.7
Loss of interest in sex	7	1.4	342	66.7	156	30.4	8	1.6
Total	513							100%

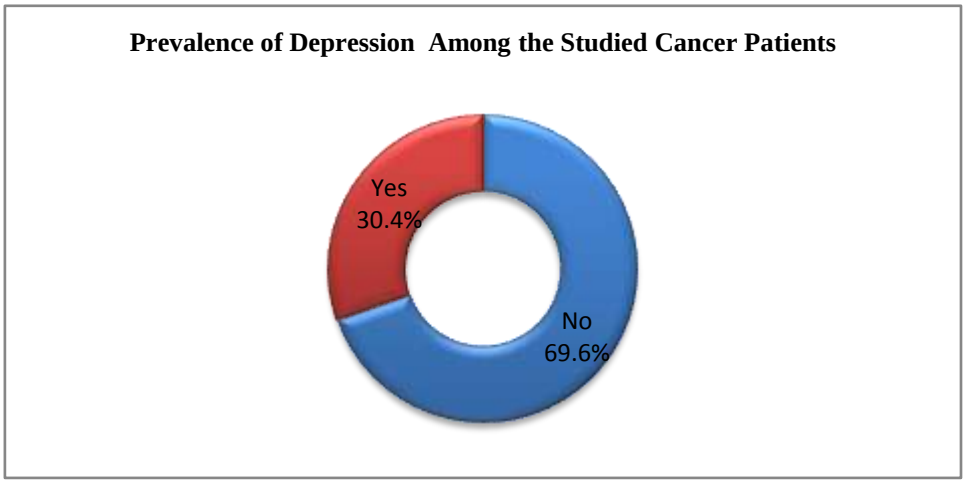

Figure (1): Prevalence of Depression Among the Studied Cancer Patients

V. DISCUSSION

Cancer patients frequently feel depression and anxiety, which can make managing and controlling their therapy more challenging **(Naser et al., 2021).**Uncontrollable pain, life-threatening illness, losing control, and hopelessness are only a few of the numerous factors that invariably cause suicide**(Akechi et al., 2000).** This study aimed to address prevalence of depression and suicide among cancer patients at oncology outpatients' clinics, Zagazig university hospitals.

According to the latest findings, almost two fifth of the studied cancer patients were between the ages of 35 and 55. This may be because of several variables that raise the risk of cancer in the adult population, such as long-term exposure to carcinogenic agents, hereditary immune system weaknesses, and bad lifestyle choices. And this shows that the chance of developing cancer and aging interact in a significant and complex way. However, incidence and mortality rates for most cancer types rise with age throughout much of adulthood and old age, with a tendency to level off at the oldest ages. More than two-thirds of the patients in an earlier study for **Xu et al., (2019),** which found similar results, were under the age of 60. In contrast to study conducted by **Massetti et al., (2018),** which found that more than half of cancer patients were 65 or older, and confirm existence of a substantial, positive association between age and total cancer incidence **(Bellizzi et al., 2012; Harding et al., 2012).**

The fact that slightly more than half of the participants in the current study were females is related to the finding that breast cancer is the second most prevalent type of cancer among the participants in the study. In fact, sex has a significant impact on the incidence, prognosis, and death of several malignancies **(Siegel et al., 2017).** Whereas gender differences affect a person's genetic/molecular vulnerability to cancer. Sex hormones can have a favorable or negative impact on the emergence of certain malignancies. The course of cancer and its response to treatment are determined by biological specificities. The results of an earlier study **Jimenez et al.,2018; Sisti et al.,(2020)** that found that breast cancer is the most frequent cancer in women and that more than half of cancer patients were female corroborate with the present findings. The outcome contrasts with a study by **Siegel et al. (2017)** that found that mortality rates for males were 40% higher than those for women and that men had a 20% higher incidence of cancer than women.

A little less than one fifth of the patients in the study had blood cancer, followed by around one fourth who had digestive system cancer and about one fifth who had breast cancer. This theoretically explains why the digestive system includes the pancreas, liver, rectum, colon, and stomach organs that are very susceptible to cancer. This result was consistent with study**Grotmol et al., (2017**), which showed that more than a quarter of the patients had cancer of the gastrointestinal tract, followed by cancer of the breast, and then cancers of other bodily systems. However, the results of the study carried out by **Bray et al., (2013)** indicated that the most common cancers were breast, colorectal, prostate, lung, and stomach cancers, while breast, cervical, and thyroid cancers were the most common among women.

The current study found that nearly two thirds of the cancer patients it examined had a history of hypertension and diabetes, and that most of them had cancer that affected only one system of the body and had only received one type of cancer treatment. Additionally, most cancer patients are treated with intravenous chemotherapy, which is more effective at treating malignant cancer and useful in cases of metastasis and consequently can increase survival rates **(Celia et al., 2021).**

Moreover, two fifths of cancer patients had a second-stage diagnosis. Unfortunately, cancer patients experience a variety of psychological symptoms that have an irreparable impact on their physical health and quality of life, which helps to explain why hypertension and diabetes mellitus are common among the patients in the study. Additionally, they stumbled upon it in a place with no routine checkups. Contrary to the study**Anuk et al., (2019**), which showed that most patients had no additional medical conditions and that about one-third of them were receiving more than one type of cancer therapy, this finding shows that patients did not generally have these additional conditions.

Approximately one fourth of the participants in the study had cancer that had been present for six months to a year. This is consistent with other data that showed that more than half of the patients were females, and that breast cancer was the second most frequent type of cancer among the participants. These results are consistent with a study conducted by **Alemayehu et al., (2018)** which revealed that roughly two-thirds of cancer patients had been afflicted by the condition for less than or equivalent to a year at the time of diagnosis.

The study's findings about the most common depressive symptoms among the participants showed that more than one-quarter of them had irritability, more than two-fifths of them had fatigue or tiredness, and more than three-fifths had changes in sleeping habits. These outcomes could be a result of chemotherapeutic side effects, and this fits the definition of depression. This result agreed with earlier study by**Tobias et al., (2017),** who found thatmost patients' most prevalent symptoms were tiredness or fatigue and a lack of energy, while a

small percentage of patients experienced changes in their sleeping patterns, almost a third experienced changes in their appetite and a loss of interest in sex, and more than two-thirds experienced concentration problems.

The findings of the current study showed that roughly one-third of the individuals investigated had depression, which is a common condition among cancer patients. This finding may be the result of the cancer itself, adverse treatment effects, and difficulties with routines and procedures to seek therapy, all of which result in psychological issues for patients, the most significant of which is depression. Regardless of where a patient is in their cancer's trajectory or whether they are receiving curative or palliative care, **Pitman et al. (2018) found** that depression and anxiety can affect up to 20% and 10% of cancer patients, respectively.

According to a study conducted in Spain by **Lee et al. (2018),** the prevalence of clinically severe depressive symptomatology was (27%). The study participants in Egypt, however, showed a high prevalence of depressive symptoms, with slightly more than two-thirds of them having depressive symptoms, according to **Abdalla et al.'s** (2020) study.

According to the results of the current study, patients with gastrointestinal and digestive cancers had the highest rates of depression, followed by those with head and neck, eye, and neurologic cancers, as well as breast and head and neck cancers. The type, stage, grade, and treatment option of the illness may all have an impact on the development of depression in cancer patients. Our findings, which are interestingly in line with those of several studies, show that certain tumor types, specifically head and neck, lung, breast, and prostate cancer, can cause depression and anxiety(**Pitman et al., 2018**).

The current finding revealed a strong relationship between depression level and age of the researched patients in terms of the sociodemographic characteristics of the patients. Whereas mild depression levels were more common in people between the ages of 18 and 35. This could be because of people under the age of 40 who are actively engaged in the workforce leaving their jobs after receiving a cancer diagnosis, leading to a loss of status and position, and making them more susceptible to developing depression.Like this,**Findley et al, (2012)** showed that 38%-58% of cancer patients of all ages had depression. In Ahwaz, Iran, 80 cancer patients with a mean age of 43.35 reported a 52.5% prevalence of depression. Contrary to the current findings, **Ladaninejad et al., (2019)**concluded that depression is more common in older cancer patients than in patients from other age groups and that it has an impact on survival, quality of life, and disease progression.

Additionally, there was a strong correlation between patients' education levels and depression. Minimal depression is more common in people with intermediate education. This suggests that the degree of education attained by the patients can serve as a predictor of depression because depression becomes less common the more educated a person is. Like this, a previous study by **Arasteh et al. (2019)** made clear that there was a connection between educational attainment and the likelihood of experiencing depression.

The current findings about the prevalence of suicidal behavior among the studied patients showed that none of them had either suicidal ideation or behavior. The possible explanation is that most of the studied patients had cancer in one system only and in the first &second stage &their diagnosed with cancer throughout one year. However, a number of factors, including age, sex, cancer stage, characteristics related to the disease or treatment, geographic region, religious concerns, and social support, were highly associated with the risk of suicide.In this regard **Kolva et al.,(2019),** conducted a study on suicidal ideation (SI) in cancer patients: A comprehensive review of prevalence, risk factors, intervention, and assessment, and concluded that the prevalence of SI varied widely, from 0.7% to 46.3%. Additionally, a study by **Nanni et al., (2018)** revealed that 8.3% of patients reported having suicidal thoughts.

The current study finding indicates that there is no connection between depressive symptoms and suicide thoughts or actions. The value of the suicidal score is constant, which may be the cause of these results. This finding was supported by a study conducted in the United States in by **Abdel-Rahman (2020),** which explained that suicide thoughts were not typically associated with depression in cancer patients. In contrast to the current finding, **Botega et al. (2010)** established a link between suicidal ideation and depression and discovered that depressive individuals had an 8.3-fold higher prevalence of suicidal thoughts.

VI. CONCLUSION

The current study concluded that cancer patients had prevalence rates of depression and suicide behavior of 30.4% and 0%, respectively. The suicide and depression scores have no relationship to one another.

VII. RECOMMENDATIONS

It is recommending that each cancer patient's treatment plan include psycho-educational interventions and rehabilitation programs, as well as that more focus and resources be given to psychiatric consequences of cancer including depression and suicide ideation or impaired mental adaptability.

VIII. ACKNOWLEGMENT

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