Mansoura Nursing Journal (MNJ) Vol. 12. No. 2 – 2025 **Original Article**
Print ISSN: 2735 – 4121 Online ISSN : 2735 – 413X

Relationship Between Body Image Concerns, Depression and Suicidal Ideation Among Elderly Patients with Cancer

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ABSTRACT

Background: Cancer is a disease of aging causes a variety of mental and physical health conditions. The impact of cancer and its treatment on body image can lead to depression and suicidal thoughts. **Aim:** Assess the relationship between body image concerns, depression and suicidal ideation among elderly patients with cancer. **Method:** A descriptive, correlational research design was utilized. A convenience sample of 208 elderly patients with cancer was recruited for this study. The study was conducted at Outpatient Clinics of Oncology Center, Mansoura University. Four tools were used. Tool I: Structured Interview Schedule, Tool II: Hopwood Body Image Scale, Tool III: Geriatric Depression Scale (short form) and Tool IV: Scale for Suicidal Ideation. **Results:** It was found that 52.0% of the elderly patients with cancer had mild level of body image concerns, 72.1% of them had moderate level of depression, while 81.7% of elderly patients with cancer had no suicidal ideation. **Conclusion:** There was a statistically significant strong positive correlation between level of body image concerns of elderly patients with cancer and their level of depression. Moreover, there was a statistically significant strong positive correlation between level of depression of elderly patients with cancer and their suicidal ideation, while a statistically significant negative correlation was found between their level of body image concerns and suicidal ideation. **Recommendations:** Designing educational programs to improve awareness of elderly patients with cancer about cancer treatment, side effects, body image concerns, depression symptoms, warning signs of suicide for early detection and preventing its worsening.

Keywords: *Body Image Concerns, Cancer, Depression, Elderly Patients, Suicidal Ideation*

Introduction:

Aging is a known risk factor for cancer, which is associated with increased incidence and mortality rates. In 2020, there were about 10 million cancer-related deaths and 19.3 million new cancer cases worldwide. Notably, more than half of these new cases occurred In people over the age of 65, highlighting the impact of cancer on the elderly and the significance of addressing the relationship between aging and cancer **(Kadambi et al., 2020; Li, Shan, Zhang & Ma, 2024**).

Cancer refers to a group of diseases in which abnormal cells proliferate without control, infiltrating nearby tissues and spread to other organs. It is accompanied by various symptoms like fatigue, anorexia, and pain.

Cancer treatments often cause significant side effects, increasing patient distress. Elderly patients are particularly at risk for physical complications, hospitalizations, and functional decline, which can lead to psychological stress and increase the likelihood of psychiatric issues (**Lee et al., 2023; World Health Organization, 2022)**.

One of the psychological aspects for elderly patients who have cancer is body image. This is a multidimensional concept that encompasses perceptive, emotions, beliefs, and behaviors regarding one's body and its functioning. Cancer and its treatments have a substantial impact on body image since they

change both physical features and functionality, these changes can influence self-esteem and social interactions, especially when they affect parts of the body associated with a person's perception of masculinity or femininity, or when the changes are very noticeable, like on the face **(Grogan, 2021; Esplen et al., 2021)**.

Patients may experience sadness, embarrassment and body image concerns throughout cancer treatment however, many of these feelings fade as they recover. But, for others the consequences are long lasting leading to negative body image which is linked to poorer physical and mental wellbeing, chronic fatigue, and poor quality of life, moreover, body image concerns frequently lead to low self-esteem, reduced sexual

function, depression, and social anxiety **(Henry et al., 2022; Dunne et al., 2022).**

The shock of cancer diagnosis and its subsequent treatment can lead to both psychological and physical distress, affecting elderly patients' quality of life and even their will to live, it has been associated with fear and negative emotions, which is a source of patients distress and sufferings. Patients' concerns about the disease and its symptoms, loss of independence, body image issues, disruption of personal relationships, and cancer stigma are some of the concerns that can cause a lot of stress, it is estimated that, 30%–40% of cancer patients struggle with mood disorder as anxiety and depression **(Antoni, Moreno & Penedo, 2022)**.

Depression is the most prevalent psychological reaction to cancer diagnosis especially in older adults. This population is estimated to have 17–26% prevalence of depression which is characterized by feeling of sadness, emptiness or irritability and mood swings along with somatic, cognitive and physical changes **(Paiva, Soares & Faria, 2023)**. Depression negatively affects patients' outcomes through reduced treatment compliance, diminished decision-making, prolonged hospitalization, and increase the risk of suicide **(Low et al., 2024)**.

Depression, demoralization and body image concerns are significant psychological risk factors related to suicidal ideation among elderly cancer patients. Suicidal ideation is a cognitive construct linked to suicide risk and serves as an indicator for psychological distress, encompassing contemplating, planning or preparing suicide. The prevalence of suicidal ideation among cancer patients varied 0.7 to 46.3%. Past history of suicidal ideation is a contributing factor for suicidal actions **(Luo et al., 2022)**. According to past research, more than two-thirds of patients with suicidal thoughts would make plans to end their lives, and 26.8% will attempt suicide within the first year of having suicidal thoughts **(Kolva, Hoffecker, & Cox-Martin, 2020)**.

Synergistic combination of geriatric care and oncology provides a complementary approach for assessment of elderly cancer patients, as a core member of the Multi-Disciplinary Team (MDT), the geriatric nurse plays a key role in facilitating and coordinating the activities between all specialists of MDT, framing their activities within care plans, integrating healthcare processes and collaborating with other professionals involved in cancer care. It is obvious that the cancer patient's needs extend beyond physical aspects of the disease and its treatment; instead, they encompass a variety of emotional, inter-personal and social implications, their consequences should be continuously monitored throughout the course of illness for both patients and their family members **(Lyu, Jiang, Lee, Yang & Sun, 2024; Karnakis et al., 2024)**.

1.1 Aim of the Study

This study aimed to assess the relationship between body image concerns, depression and suicidal ideation among elderly patients with cancer

1.2 Research questions

Q1: What is the level of body image concerns among elderly patients with cancer?

Q2 What is the level of depression among elderly patients with cancer?

Q3:Do elderly patients with cancer have suicidal ideation?

Q4 What is the relationship between body image concerns, depression and suicidal ideation among elderly patients with cancer?

2. Method

2.1 Research Design: A descriptive correlational study design was utilized to accomplish the aim of the study. It was used to assess two or more variable to examine the extent to which they are related (Seeram, 2019).

2.2 Setting

The study was carried out at outpatient Clinics of the Oncology Center Mansoura University, it provides comprehensive management of all types of tumors and blood diseases for Dakahlia and Delta Governorates residents, with bed capacity of 500 beds and it consists of basement, ground floor and 11 floors. The center has many different clinics specialized in different fields. The clinics work all days of the week and receive approximately from 300 to 500 patients per day. These clinics are Hematology clinic (working on Saturdays and Tuesdays), Medical oncology clinic (working all days of the week except Saturday and Tuesday) and surgical clinic (working all days of the week).

2.3 Subjects

A convenience sample of 208 elderly patients with cancer who attending the above-mentioned setting were selected for the study according to the following **criteria:**

1. Aged 60 years and above.
2. Diagnosed with cancer (all stages).
3. Able to communicate.
4. Participating in the study voluntarily.

2.4 Sample size calculation

According to data from literature **(Akechi, et al., 2012)** to calculate the sample size with precision/absolute error of 5% a, type 1 error of 5% and power of study of 80.

Sample size is calculated according to the following formula,n=

Where, Z1-α/2 at 5% type 1 error ($p < 0.05$) is 1.96, P is the expected proportion in population based on previous studies and d is the absolute error or precision. Therefore, sample size

$$n = \frac{(1.96)^2.(10.3)^2}{(1.4)^2} =$$

207.5

Based on the formula,the total sample sizerequired for the study will be **208**

2.5 Data Collection Tools

In order to gather the required data four tools were used:

Tool I: Structured Interview Sheet

It was developed by the investigator after reviewing relevant literature and divided into 2 parts:

Part I: Demographic characteristics of elderly patients such as age, gender, residence, marital status, educational level, occupation before retirement and monthly income.

Part II: Medical history of elderly patients such as: (cancer site, its stage, duration, treatment type and its side effects, presence of chronic diseases, complaints and medication taken).

Tool II: Hopwood Body Image Scale (HBI)

It was developed originally by **Hopwood, Fletcher, Lee** and **Al Ghazal (2001),** to evaluate body image concerns in cancer patients. It has been translated into Arabic and examined for its validity and reliability (Cronbach's α=0.93) by a study conducted in Mansoura by **Hamed, El-Etreby, Mahgoub, El-Boraie** and **Esmail (2019)**. It includes three domains: affective domain (e.g. Feeling less physically attractive), behavioral domain (e.g. Avoid people) and cognitive domain (e.g. satisfaction with body). It has been used by any type of cancer patients or patients receiving cancer treatment. The HBIS is composed of ten items which are measured using four points Likert rating scale that assess how self-consciousness, physical and sexual attractiveness, body integrity, scar satisfaction, and avoidance behavior are affected by cancer.

The scoring system uses 4 points Likert rating scale ranging from 0 = (Not at all), 1= (A little), 2 = (Quite a bit), 3 = (very much). Total score ranges from 0 to30 degrees as zero represent "No symptoms of distress" and higher scores corresponding to "Increasing distress and concerns of body image" while elderly with score from 11 to 20 have moderate concerns of their body image, and elderly with score from 21 to 30 have high concerns of their body image

Tool III: **Geriatric Depression Scale (GDS)**

This scale was developed by **Sheikh** and **Yesavage (1986)**, to assess depression and the general wellbeing of the elderly.

Elhusseini (2008) translated the scale into Arabic and confirmed its validity and reliability. It consists of 15 items self- reported instrument. Elderly chooses the best answer either yes: one (1) or No: zero (0) for how he/ she has felt over the last week. From the 15 questions, 10 questions were indicating the presence of depression when answered positively, while the rest (question numbers 1, 5, 7, 11, 13) were indicating depression when answered negatively.

Scores range from zero to 15, items are summed for total scores. A score from zero to 4 indicates no depression, a score from 5 to 8 indicates mild depression, and a score from 9 to

11 indicates moderate depression and score from

12 to 15 indicates severe depression.

Tool IV: Scale for Suicidal Ideation (SSI)

It was developed by **Beck**, **Kovacs** and **Weissman (1979)** to evaluate the presence and intensity of suicidal thoughts in a week before evaluation. **Mubarak, Gad, Saada, Ftouh** and **Seleem (2020)** verified the validity and reliability of the scale after translate it into Arabic. It consists of 19-items instrument, each item is scored based on an ordinal scale ranging from 0 to 2 (no ideation to strong ideation). The ratings are then summed to yield a total score, which ranges from 0 to 38. Individuals answer to the first 5 items which is excerpted. If elderly patient's response to the 5th item is positive (scores 1 and 2), he/she proceeds to answer the rest of the items and otherwise the questionnaire is completed. Individual items assess characteristics such as wish to die, desire to make an active or passive suicide attempt, the duration and frequency of thoughts, sense of control over

making the attempt, the number of deterrents, and the degree of actual preparation for anticipated attempt.

2.6 Data Collection process

Phase I: Preparatory phase

- **Administrative stage:** An official written letter was issued from Faculty of Nursing, Mansoura University and forwarded to the director of Oncology Center Mansoura University in order to obtain his approval to permit the researcher to conduct the study.
- The head of Oncology Center Mansoura University was informed about the purpose of the study and the time of data collection.
- **Literature review** was completed through reviewing academic works from around world and nationally on various aspects including body image concerns, depression and suicidal ideation among elderly patients with cancer by using different resources like textbooks, online searches, and scientific published articles. This review served as a framework for designing study tools.

Developing the data collection study tools

- Tool I (Structured Interview Sheet) was developed by the researcher drawn from relevant literatures.
- Arabic version of tool II, tool III and tool IV were utilized in the study.
- **Content validity:** The study tools were evaluated for its content validity by seven experts; five in the field of Gerontological Nursing and two experts in the Psychiatric Nursing Mansoura University. Accordingly, their recommended modifications were done and the final versions were utilized for data collection.
- **The reliability:** Tool II, tool III and tool IV were used in the study and had been assured by means of the Cronbach Alpha test (r=0.93, r =0.96 and r = 0.91) respectively.
- **A pilot study** was carried out on 10% (21) of elderly patients from Outpatient Clinics at Oncology Center Mansoura University before starting the data collection to ascertain clarity, simplicity, relevance, comprehensiveness and applicability of the study tools. The elderly patients participate in the pilot study were not included in the study sample.

Ethical Considerations

An ethical permission from Research Ethics Committee at Mansoura University's Faculty of Nursing has been granted to conduct this study (Ref. N. 360). A written informed consent was obtained from each elderly patient enrolled in the study after they were fully informed about the study's nature

Confidentiality of the data acquired and the privacy of the elderly patients were guaranteed, and they were utilized exclusively for the study. Each elderly patient was reassured that the participation was voluntary, and they were informed that they had the right to withdraw from the study at any time without penalties or repercussions.

Phase II: Operational phase This phase lasted 3 months, from the beginning of January 2024 till the end of march 2024, and included the following:

- The researcher started data collection when the necessary approval was obtained.
- According to the outpatient clinic schedule at the Oncology Center, Mansoura University, the researcher visited the clinics four days a week, from Saturday to Tuesday. A face-to-face interview was held with each elderly patient who met the study's inclusion criteria. The researcher began each interview by introducing herself to the patients and providing a brief overview of the study's purpose.
- Data collection started by assessing demographic and health-relevant data, through interviewing with elderly patients using tool I (Structured Interview sheet).
- The researcher assessed body image concerns in elderly patients with cancer using tool II (Body Image Scale), assessed depression and the general wellbeing of elderly patients using tool III (Geriatric Depression Scale), and evaluated the presence and intensity of suicidal thoughts using tool IV (Scale for Suicidal Ideation).

2.7 Data Analysis

Collected data were structured, tabulated and analyzed statistically using SPSS software (Statistical Package for the Social Sciences, version 25, SPSS Inc., Chicago, IL, USA). The normality assumption was confirmed, so categorical variables were presented as frequencies and percentages, while continuous variables were expressed as means and standard deviations.

Reliabihity

Cronbach's Alpa is an international measure of reliability. Its maximum value is 1.0 which indicate highest reliability and the minimum accepted value is 0.60 below this value indicate unreliable tool. Chi-square test (· 2) was used for comparison of categorical variables, and was replaced by Mont Carlo Exact test if the expected value of any cell was less than 5. Pearson's correlation was used to find correlation coefficient (r) between two quantitative variables. Level of significance for all of the above-mentioned statistical tests done, the threshold of significance is fixed at 5% level (p-value).

3. Results

Table 1 shows demographic characteristics of elderly patients with cancer. This table reveals that elderly patients' age ranged from 60 to 83 years, 58.7% of them aged from 60 to less than 75 years with a mean of 64.74 ± 4.38 years. Regarding sex, males were more prevalent in this study compared to females; they constituted 58.7% of the elderly patients while 41.3% of them were female. With regard to the marital status 84.6% of the elderly patients were married and only 15.4% were widowers. Secondary education was prevailing among 40.9% of the elderly patients, while 21.2% of them had university education.

Table 2 shows distribution of the elderly patients with cancer according to their cancer history. Regarding the cancer duration,77.9 % of the elderly patients had cancer for one year to less than three years. As for the type of cancer 26% of the elderly patients had colorectal cancer while 24 % had breast cancer. As regard to cancer stage, 63% of them were in stage II, while 22.1% were in stage III. As regard to their past history of cancer, it was noticed that 83.7% of the elderly patients had no past history of cancer. Concerning the side effects of cancer treatments 99% of the elderly patients were suffering from stress/extreme fatigue followed by weight loss, mouth dryness, difficulty swallowing, alopecia vomiting and loss of taste as (90.9%, 87.5%, 62.5%, 56.7%, 52.4% and 51.4% respectively). With regard to the number of side effects 94.7 % of the elderly patients had more than 10 side effects of cancer treatments.

Figure1 displays current cancer treatment of elderly patients with cancer. It observes that 69.2% of the elderly patients with cancer were undergoing chemotherapy followed by 19.2% of them had surgery.

Table 3 shows distribution of the elderly patients with cancer according to their medical history. The table demonstrates that, presence of other chronic diseases in 92.3 % of the elderly patients, diabetes mellitus was reported by 65.9% of them, hypertension in 62.5 %, urinary system disorders in 18.8% and respiratory disorders in 17.8%. Regarding to the medication intake, all of them take medication, analgesics were the mostly drugs taken by 92.8% of them followed by hypoglycemic agents in 63.0% and antihypertensive drugs in 62.5%.

Figure 2 displays level of body image concerns in elderly patients with cancer. It notices that 52.0% of the elderly patients with cancer were have mild concerns with their body image. While, 48.0% of them were have moderate concerns with their body image.

Figure 3 shows level of depression among the elderly patients with cancer. It reveals that 72.1% of the elderly patients reported that they had moderate level of depression, while 15.4% of them had severe level of depression and only 12.5% had mild level of depression

Figure 4 shows suicidal ideation among the elderly patients with cancer. It reveals that 81.7% of the elderly patients had no suicidal ideation, while only 18.3% had suicidal ideation.

Figure 5 clarifies correlation between body image concerns and depression among the elderly patients with cancer. It indicates that, there was a statistically significant strong positive correlation between body image concerns and depression of the elderly patients with cancer evidenced by ($p \leq 0.001$), indicating that, as the level of body image concerns increases, severe depressive symptoms increase among elderly patients with cancer.

Figure 6 shows correlation between body image concerns and suicidal ideation among the elderly patients with cancer. It illustrates that, a statistically significant negative correlation was found between body image concerns and suicidal ideation. As the level of body image concerns increases, suicidal ideation decreases among elderly patients with cancer.

Table 1: Distribution of the Elderly Patients with Cancer According to Their Demographic Characteristics (n=208).

Demographic Characteristics	n (208)	%
Age (years)		
• 60 years to less than 75	122	58.7
• 75 years and more	86	41.3
Mean ± SD (Min – Max)	**64.74± 4.38 (60-83years)**	
Sex		
• Male	122	58.7
• Female	86	41.3
Marital status		
• Married	176	84.6
• Widower	32	15.4
Educational level		
• Read and write	44	21.2
• Primary education	35	16.8
• Secondary education	85	40.9
• University education	44	21.2
Occupation before retirement		
• Unemployed	135	64.9
• Employed	73	35.1
Monthly income		
• Not enough	126	60.6
• Enough	82	39.4
Residence		
• Rural	155	74.5
• Urban	53	25.5
Living arrangements		
• Living with family (husband and siblings)	176	84.6
• Living with one of siblings	29	14.0
• Alone	3	1.4

(n) sample size, (%) percentage

Table 2: Distribution of the Elderly Patients with Cancer According to Their Cancer History (n=208).

Cancer History	n (208)	%
Cancer duration		
• Less than 1 year	25	12.0
• From 1 year to less than 3 years	162	77.9
• From 3 years to less than5 years	21	10.1
Type of cancer		
• Colorectal cancer	54	26.0
• Breast cancer	50	24.0
• Thyroid cancer	19	9.1
• Lung cancer	18	8.7
• Lymphoma	16	7.7

• Hepatic cancer	15	7.2
• Prostate cancer	14	6.7
• Others*	21	10.1
Cancer stage		
• Stage I	29	13.9
• Stage II	131	63.0
• Stage III	46	22.1
• Stage IV	2	1.0
Past history of cancer		
• No	174	83.7
• Yes	34	16.3
Side effects of cancer treatment		
• Stress/ extreme fatigue	206	99.0
• Weight loss	189	90.9
• Mouth dryness	182	87.5
• Difficulty of swallowing	130	62.5
• Alopecia	118	56.7
• Vomiting	109	52.4
• Loss of taste	107	51.4
• Surgical scars	105	50.5
• Inflammation of the mouth or gum	88	42.3
• Skin ulcers	69	33.2
• Resection of parts of body	62	29.8
• Pain in breast	50	24.0
• Dysuria	31	14.9

More than one answer was given

*Others (Uterine cancer, Leukemia, Bone cancer, Head and neck cancer, Brain tumor and Stomach cancer)

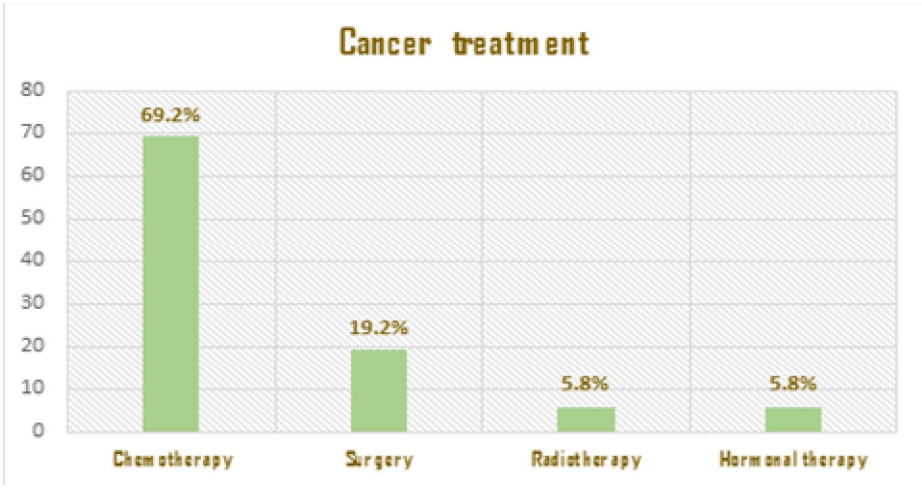

Figure 1: Distribution of the Elderly Patients with Cancer According to Their Current Cancer Treatment

Table 3: Distribution of the Elderly Patients with Cancer According to Their Medical History (n=208)

Medical History	n (208)	%
Presence of other chronic disease		
• No	16	7.7
• Yes	192	92.3
Type of other diseases		
• Diabetes mellitus	137	65.9
• Hypertension	130	62.5
• Urinary system disorders	39	18.8
• Respiratory disorders	37	17.8
• Cardiovascular disorders	29	13.9
• Musculoskeletal disorders	22	10.6
Medication intake		
• Yes	208	100
Type of medication		
• Analgesic	193	92.8
• Hypoglycemic agents	131	63.0
• Antihypertensive drugs	130	62.5
• Urinary system drugs	39	18.8
• Respiratory drugs	37	17.8
• Cardiovascular drugs	29	13.9
• Orthopedic drugs	25	12.0

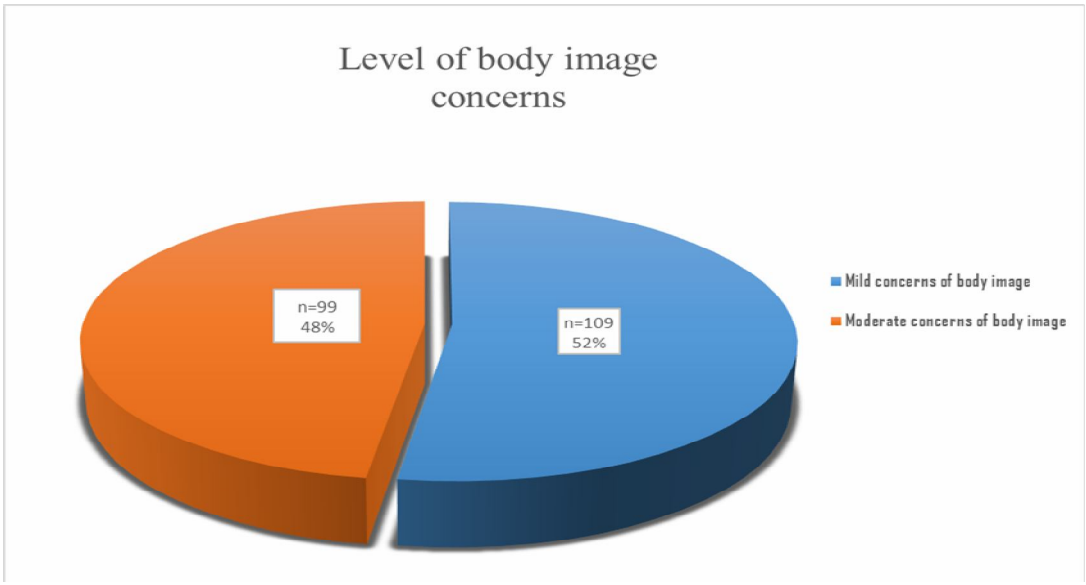

Figure 2: Level of Body Image Concerns Among the Elderly Patients with Cancer

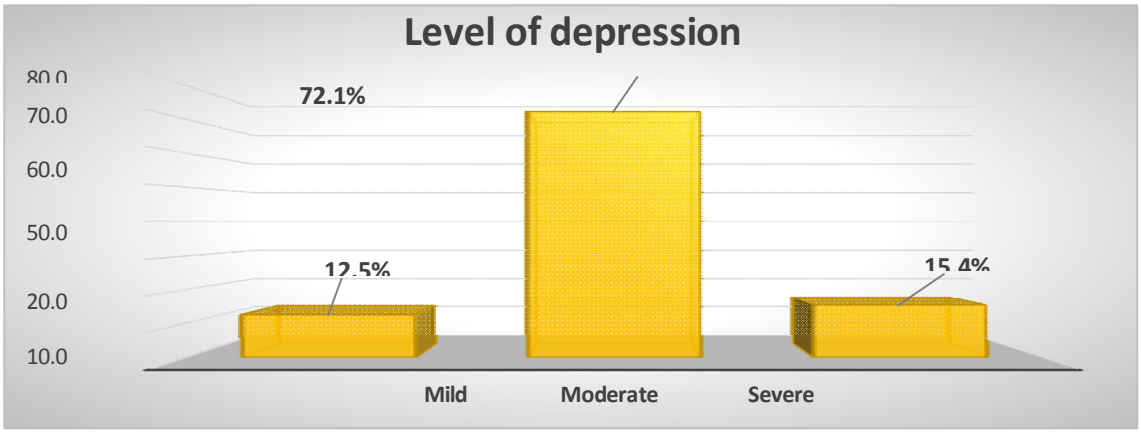

Figure 3: Level of Depression Among Elderly Patients with Cancer

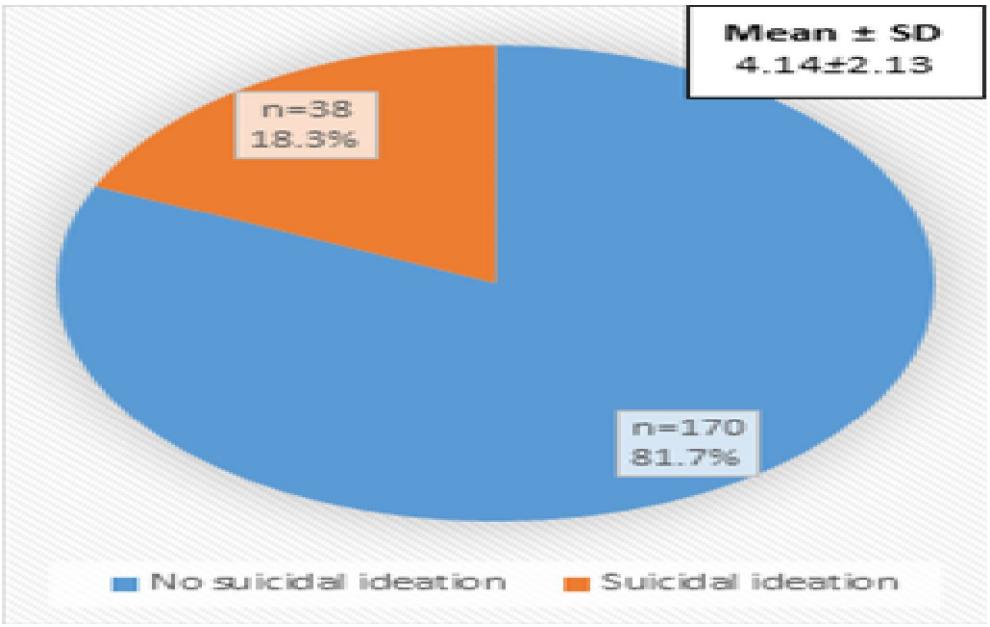

Figure 4: Suicidal Ideation Among Elderly Patients with Cancer

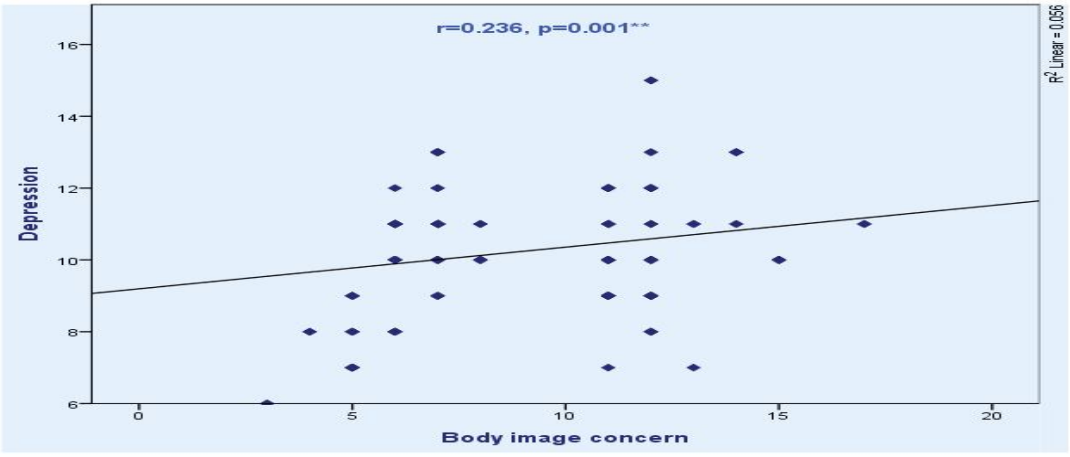

Figure 5: Correlation Between Level of Body Image Concerns, and Depression Among Elderly Patients with Cance

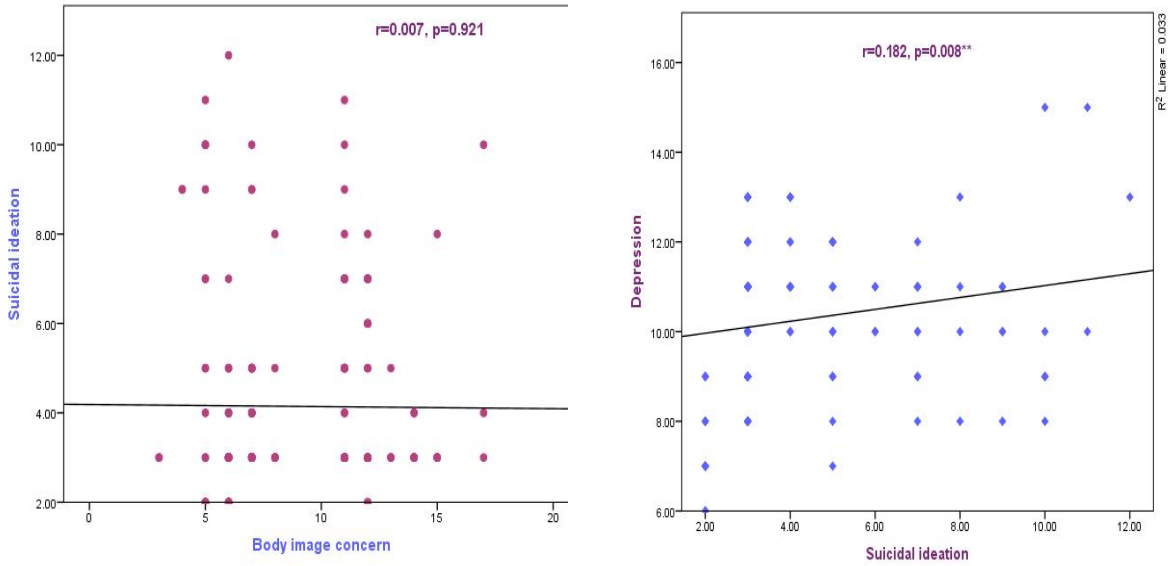

Figure 6: Correlation between Level of Body Image Concerns and Suicidal Ideation Among Elderly Patients with Cancer

4. Discussion

Cancer's affect not only the physical health but also the psychological well-being due to the unpredictable nature of the disease and its taxing treatments. It is important to consider the connection between cancer and body image as cancer and its treatments had many adverse effects the body image, mental health, emotions, feelings, self-preservation, cognitive coping processes, psychosocial changes and overall quality of life **(Scandurra et al., 2022; Verri et al., 2024)**.

Demographic background of the present study showed that, elderly cancer patients' age ranged between 60 to 83 years old. More than half of them were young old. Males were more prevalent in this study compared to females as they constituted more than half of the elderly patients with cancer. As regard to marital status, the majority of them were married and living with their families. Concerning the level of education, it was observed that secondary education was prevailing among more than one third of them. As for monthly income, more than half of them reported that their income wasn't enough and nearly three quarters of them are rural residence.

The current study revealed that, more than half of the elderly patients with cancer were in stage II of cancer and the majority of Figure 7: Correlation between Level of Depression and Suicidal Ideation Among Elderly Patients with Cancerthem were diagnosed with cancer from one year to less than three years. Delayed diagnosis may be due to lack of elderly patients' knowledge of early cancer signs, restricted access to healthcare facilities and reduced utilization of effective screening methods by older individuals. This result is in harmony with a study held in China by **Li (2022)** who displayed that more than half of the participants were in stage II. On the other hand, a study held in Canada by **Henry et al. (2022)** who displayed that the majority of the participants were in advanced stage (III/IV) of cancer.

The results of present study illustrated that; about one quarter of the elderly patients with cancer had colorectal cancer followed by breast cancer. This result contributed to the fact that colorectal and breast cancers are most commonly cancers diagnosed in the elderly because the risk of developing these types increases with age. Consistently, a study held in Norway by **Borza et al. (2022)** who stated that more than one quarter of their study samples had colorectal and nearly one quarter had breast cancer. In contrast, a study held in Turkey by **Atag et al. (2018)** who demonstrated that more than one third of the participants had gastrointestinal cancer

As for current cancer treatment, the result of the present study displayed those two thirds of the elderly patients with cancer were undergoing chemotherapy. This might be justified aschemotherapy remains the first line of treatment for many cancers, as it uses powerful chemicals to kill fast-growing cancers' cells in the body. This

result is consistent with a study performed in China by **Li (2022)** who revealed that the majority of the participants were undergoing chemotherapy only. On the other hand, a study carried out in Canada by **Tripp et al. (2020)** who reported that more than one third of their study samples were undergoing radiation only or radiation and chemotherapy.

In relation to side effects of cancer treatments, it was observed that stress/ extreme fatigue was reported by nearly all elderly patients with cancer. This might be explained by the fact that cancer-related fatigue is most prevalent side effects of cancer treatments in older adults. It has negative effects on the activity level, physical functions, quality of life and overall wellbeing of elderly patients with cancer **(Özdemir& Taşcı, 2023)**. Consistently, a study held in Egypt by **Hegazy, Hassanein, Awad** and **Meawad (2017)** who demonstrated the same findings.

In relation to the presence of other chronic diseases, diabetes mellitus was reported by almost two third of the elderly patients with cancer followed by hypertension. This can be attributes to the fact that aging itself is linked to a higher risk of developing chronic conditions like diabetes mellitus and hypertension. Cancer treatment and its side effects can worsen pre-existing conditions or cause new ones. This study is in agreement with a study held in Turkey by **Cavdar et al. (2024)** who mentioned that most of the participants had other chronic diseases and a study held in Austria by **Wenkstetten-Holub, Fangmeyer-Binder** and **Fasching (2021)** who reported that DM was the most common chronic conditions.

Regarding the level of body image concerns, the current study found that, more than half of the elderly patients with cancer were have mild concerns with their body image. From the researcher point of view; elderly patients tend to prioritize their health over physical appearance, they have passedthrough many life events that have shaped theirperspectives and priorities. This result is in accordance with a study held in Canada by **Henry et al. (2022)** who revealed that more than half of the participants have mild concerns with their body image. In contrast, a study carried out in Egypt by **Hamed, El-Etreby, Mahgoub, El-Boraie** and **Esmail (2019)** who displayed that the majority of the participants were have high concerns with their body image.

Depression is a significant concern among elderly patients with cancer, as they face not only the physical challenges of cancer but also the emotional burden of dealing with serious disease at an older age **(Chen et al., 2024)**. From this respect the present study revealed that, nearly three quarters of the elderly patients with cancer had moderate level of depression. This may be attributed to certain factors such as the stress of cancer diagnosis, concerns about their health and mortality. This comes in agreement with a study held in Iran by **Bazghaleh et al. (2024)** who revealed that more than half of the participants had moderate level of depression. In contrast, a study carried out in Turkey by **Cavdar et al. (2024)** who mentioned that nearly half of the participants haven't depression.

Suicidal ideation in elderly patients with cancer is a serious concern needs to be addressed promptly. Combination of cancer diagnosis, advanced age, and debilitating treatments can significantly affect the mental health and well-being of elderly resulting in occurrence of negative thoughts and suicidal ideation **Michalek, Dos Santos, Wojciechowska** and **Didkowska (2023)**.The present study revealed that more than three quarters of the elderly patients with cancer haven't suicidal ideation ,this may be influenced by cultural factors; valuing familial support, community links, and religious convictions that provide hope and support. Similarly, a study held in Egypt by **Ibrahim, El-Malky** and **Sayed (2021)** who displayed that more than three quarters of the studied older adults haven't suicidal thoughts.

The present study displayed that, there was a statistically significant strong positive correlation between body image concerns and depression of the elderly patients with cancer, indicated that, as the level of body image concerns increase, sever depressive symptoms increase among elderly patients with cancer.

Body image is a contributing factor to depression, it can lead to negative emotions and self-perceptions, which in turn increase the likelihood of depression. This connection highlights the importance of addressing body image issues in mental health interventions to reduce depression level. This result is in accordance with a study conducted in Italy by **Scandurra et al. (2022)**, who displayed that there was a statistically significant correlation between the total score of body image and the depressive symptoms.

The current study revealed that, a statistically significant negative correlation was found between body image concerns and suicidal ideation among elderly patients with cancer. This means that as the level of body image concerns increases, the likelihood of experiencing suicidal ideation decreases among elderly patients with

cancer. Because elderly patients with cancer may prioritize health over body image issues which reducing the risk of suicidal thoughts. This result is inconsistent with a study carried out in Egypt by **Ibrahim et al**. **(2021)** and a study held in United Kingdom by **Akram et al. (2022)** they displayed that there was a highly statistically significant positive correlation between the total score of body image and the total score of suicidal thoughts.

Elderly cancer patients with depression are more likely to have suicidal thoughts compared to others, as depression serves as an independent risk factor for suicidal ideation, regardless of the cancer diagnosis **(Stanbouly et al., 2023)**.

Supporting this, the present study showed that there was a statistically significant positive correlation between depression and suicidal ideation, indicating that, the higher depressive symptoms, the higher suicidal ideation among

elderly patients with cancer. The implication for this might be depression can cause negative beliefs about self and the world, which may contribute to suicidal thoughts. Moreover, loss of interest, hopelessness, and impaired decision-making can lead depressed patients towards suicidal thought as a mean of escaping their distress. Similarly, a study done in Ethiopia by **Nigussie et al. (2023)**, a study held in China by **Xu et al. (2019)** and another study carried out in USA by **Grobman et al. (2023)** who mentioned the same result and the finding of their study showed that a depression was found to be an independent risk factor for suicidal ideation and attempt among elderly patients with cancer.

5. Conclusion

A strong statistically significant positive correlation was found between elderly cancer patients' level of body image concerns and depression. Moreover, there was a strong statistically significant positive correlation between their level of depression and suicidal ideation. While, there was a statistically significant negative correlation between elderly cancer patient's level of body image concerns and suicidal ideation.

6. Recommendations

-Designing a psycho-educational program as a crucial component of comprehensive care for elderly patients with cancer to improve their body image and manage their worries.

-Encourage participation of elderly cancer patients in supportive counseling and peer to peer group therapy to diminish their concerns about body image and therefore decrease their level of depression and suicidal thoughts.

7. Acknowledgment

The authors would like to express thankfulness to all staff members at Oncology Center Mansoura University, and all elderly patients who took part in this study for their cooperation throughout the study.

8. Conflicts of interest disclosure

The authors declare that they have no conflict of interest.

9. Fundings

This research didn't get a particular grant from any funding sources

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