

## Depression Symptoms among Patients with Lung Cancer and their Relations with Demographic Characteristics

### أعراض الاكتئاب لدى مرضى سرطان الرئة وعلاقتهم بالخصائص الديموغرافية

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الخلاصة:

**خلفية البحث:** تعد الأعراض النفسية المختلفة أحد أكثر الظواهر شيوعاً والتي يعاني منها المرضى المزمنين والمرضى المصابين بالسرطان، يتناول هذا البحث الاكتئاب باعتباره جانباً مهماً يحتاج إلى تسليط الضوء والدراسة المكثفة غاية في تقليل العبء النفسي على مرضى سرطان الرئة.

**الاهداف:** تقييم اعراض الاكتئاب لدى مرضى سرطان الرئة لمعرفة العلاقة بين اعراض الاكتئاب مع الخصائص الديموغرافية.

**المنهجية:** أجريت هذه الدراسة الوصفية التحليلية لتقييم اعراض الاكتئاب لدى مرضى سرطان الرئة لمعرفة العلاقة بين اعراض الاكتئاب مع العمر والنوع الاجتماعي والمستوى التعليمي والمهنة والإقامة وتكرار القبول والحالة الاجتماعية والدخل الشهري، على مرضى سرطان الرئة لكلا الجنسين خلال الفترة من 15 / ايلول / 2020 إلى 15 / نيسان / 2021 في قسم الأورام بمستشفى الديوانية التعليمي. اختيرت عينة غير احتمالية (غرضية) مكونة من (100) مريض مصاب بسرطان الرئة. تم تصميم الاستبيان المكون من جزأين: الجزء الأول يتضمن قسمين تناول البيانات الديموغرافية للمريض ومعلومات حول المرض، والجزء الثاني يتضمن مقياس الاكتئاب في المستشفى. تم تحديد مدى ثباتية الاستبانة من خلال اجراء الدراسة المصغرة (الاستدلالية) وحددت مصداقيتها من خلال مجموعة خبراء بالاخصاص في قائمة من (11) خبير علمي، وجمعت البيانات من خلال الاستبانة الورقية، واستخدم الباحث الاحصاء الوصفي لتحليل البيانات.

**النتائج:** تظهر نتائج الدراسة الحالية إلى أن اعراض الاكتئاب كانت شديدة لدى معظم مرضى سرطان الرئة ولا توجد علاقة بين اعراض الاكتئاب والخصائص الديموغرافية.

**الاستنتاج:** استنتجت هذه الدراسة بأن معظم المرضى المصابين بسرطان الرئة يعانون من الاكتئاب نتيجة للحالة المرضية التي يمرون بها، وأن الخصائص الديموغرافية للمرضى المشاركين في الدراسة ليست لها علاقة بحالة الاكتئاب.

**التوصيات:** توصي الدراسة باستخدام البرامج التثقيفية والملصقات لزيادة وعي مرضى السرطان حول سرطان الرئة ومراحله وعلاجه وآثاره الجانبية وكيفية تجنب الاكتئاب.

**الكلمات المفتاحية:** سرطان الرئة، اكتئاب.

#### ABSTRACT:

**Background:** Different psychological symptoms are the most common phenomenon's that patients with depression and chronic diseases suffer from.

**Aims of the study:** the study aims to assessment of depression symptoms among patients with lung cancer and their relations with demographic characteristics.

**Methodology:** Descriptive analysis design is used to assess the level of depression among patients with lung cancer and to find out the relationship between the level of depression and age, gender, educational level, occupation, residence, number of admission, marital status, and monthly income. The study period started from September 15th, 2020 to April 15th, 2021 at the Department of Oncology in Al- Diwaniya Teaching Hospital. total of (110) patients are selected from the oncology department in Al-Diwaniya Teaching Hospital. Ten patients were excluded from the study for the pilot study. So the total number of patients participating in the study was (100) patients. The depression Scale is consisting of 7 items self-rated questionnaire that involves two dimensions.

**Results:** The vast majority of the patients are males (73%), and (85%) are married couples, (48%) the participants are housewives and unemployed, (62%) from lung cancer patients are urban. Concerning the significant differences between depression with patients' age, the study showed that there is a highly significant difference in depression symptoms with regard to older age patients at p-value= 0.001 respectively.

**Conclusion:** Most lung cancer patients have severe levels of depression. Nearly two-thirds of the patients are older age, with low income, and urbanized.

**Recommendations:** Encourage further efforts to improve the psychological and emotional status of lung cancer patients; especially by nursing staff after taking chemotherapy treatment and Increase the level of awareness for lung cancer patients and their families about the nature and stage of the disease and how to minimize their distress. Also, encourage organized coordination between the oncology center and the Department of Psychiatry in the hospital for giving the required treatment to reduce depression levels.

**Keywords:** lung cancer, depression.

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## INTRODUCTION

Lung cancer is a serious disease that puts people's lives in jeopardy, Lung cancer in charge of more than a quarter (27%) of both cancer-related deaths. The diagnosis and

treatment of cancer will bring up a wide range of negative emotions, including anxiety and depression. Patients with malignant diseases, especially lung cancer, suffer from a high rate of depression. Depression and other forms of emotional distress have been shown in studies to have a detrimental impact on lung cancer patients' standard of living and even survival <sup>(1)</sup>.

Lung cancer survivors suffer from physical and psychosocial issues for a longer period than survivors of other cancers. Lung cancer survivors had a much worse general health condition and more psychological issues than those who had other types of cancer, according to a study of health and impairment among cancer survivors. Lung cancer sufferers whether they have ever smoked or not, are stigmatized because their disease is highly linked to smoking. Furthermore, lung cancer stigma (LCS) has been experienced to be a strong predictor of depression and poor quality of life (QOL). Additional study is needed to investigate not just the relationships between LCS and psychosocial characteristics, but also the correlations between LCS and physical symptom load, given the growing number of lung cancer survivors and the scarcity of information on all aspects of their health and QOL <sup>(2)</sup>.

Nowadays, depression is a growing health issue. According to the World Health Organization (WHO), unipolar major depression was the world's fifth most serious health problem in 1990, and it is expected to be the second most serious health problem in 2020, after ischemic heart disease <sup>(3)</sup>.

Comorbid depression and other psychological disorders are common in lung cancer patients, also a wide range of physical symptoms. For example, in Progressive illness, pulmonary veno-thrombosis is a complication of lung cancer, or until therapy lung cancer may cause anemia and anorexia. Progression of disability exacerbates distress, anxiety, and depression in people with metastatic lung cancer, a lack of autonomy, unrelenting physical symptoms like pain, or underlying mechanistic triggers like systemic inflammation are all possible causes <sup>(4)</sup>.

## AIMS OF THE STUDY

The study aims to assessment of depression symptoms among patients with lung cancer and their relations with demographic characteristics.

## METHODOLOGY

A Descriptive design cross-sectional study analysis design is used to conduct the study. The study period started from September 15th, 2020 to April 15th, 2021 at the Department of Oncology in Al-Diwaniya Teaching Hospital. Total of (100) patients selected from the oncology department in Al-Diwaniya Teaching Hospital. Ten patients were chosen for the pilot study. The study instrument includes the patients' socio-demographic sheet and the Depression, Anxiety, and Stress Scales. The reliability of the instrument was determined through the computation of Alpha Cronbach's test (Alpha Correlation Coefficient); the internal consistency method was used for determining the reliability. The data were analyzed using SPSS (Statistical Package for Social Sciences) version 25 application of statistical analysis system.

## RESULTS:

**Table (1):** Distribution of Patients According to their Socio-demographic Characteristics

L.	Characteristics	f	%
1	Gender	Male	73
		Female	27
		<b>Total</b>	<b>100</b>

2	Age	18 – 28 year	5	5
		29 – 38 year	4	4
		39 – 48 year	5	5
		49 – 58 year	28	28
		59 ≤ year	58	58
		<b>Total</b>	<b>100</b>	<b>100</b>
3	Residency	Urban	62	62
		Rural	38	38
		<b>Total</b>	<b>100</b>	<b>100</b>
4	Level of education	Doesn't read & write	34	34
		Read & write	44	44
		Primary school	3	3
		Intermediate school	5	5
		Secondary school	2	2
		Institute/college +	12	12
		<b>Total</b>	<b>100</b>	<b>100</b>
5	Marital status	Unmarried	14	14
		Married	52	52
		Widowed/er	13	13
		Divorced	13	13
		Separated	8	8
		<b>Total</b>	<b>100</b>	<b>100</b>
6	Occupation	Employee	14	14
		Free works	16	16
		Retired	22	22
		Jobless/ housewife	48	48
		<b>Total</b>	<b>100</b>	<b>100</b>
7	Monthly income	Insufficient	68	68
		Barely sufficient	23	23
		Sufficient	9	9
		<b>Total</b>	<b>100</b>	<b>100</b>
8	House ownership	Owned	51	51
		Rented	36	36
		Shared	13	13
		<b>Total</b>	<b>100</b>	<b>100</b>

This table shows that more of the patients are males (73%) and the remaining are females (27%). The variable of age refers that they are older patients of which the highest percentage is 58% for those aged 59 years or more. Regarding residency, 62% of them are residents in urban areas and 38% are residents in rural areas.

The level of education among patients refers to “read and write” as recorded with a high percentage of 44% among them. The marital status indicates that more than half of patients are married (52%) and 14% are still unmarried. The occupational status refers that 48% of them are jobless or housewives and 22% of them are retired while only 14% are still working as an employee. The patients are perceived insufficient monthly income as reported among 68% while 23% are perceived barely sufficient monthly income. 51% of them are having their own house while 36% are life in rented houses.

**Table (2):** Assessment of Depression Levels among Patients with Lung Cancer

Level of depression	f	%	M	SD
Mild	1	1	14.87	2.665
Moderate	36	36		
Severe	63	63		
<b>Total</b>	<b>100</b>	<b>100</b>		

f: Frequency, %: Percentage M: Mean for total score, SD: Standard Deviation for total score.

This table indicates that 63% of patients are associated with severe symptoms of depression and 36% are associated with moderate symptoms of depression.

**Table (3):** Assessment of the Level of Depression Symptoms among Patients with Lung Cancer (N=100)

L.	Items	Responses	f (%)	M.S	Evaluation
1	<b>I could not seem to experience any positive feeling at all</b>	Not applicable	6(6)	1.89	Moderate
		Somewhat applicable	31(31)		
		Often remarkable	31(31)		
		Very often applicable	32(32)		
2	<b>I found it difficult to work up the initiative to do things</b>	Not applicable	5(5)	1.82	Moderate
		Somewhat applicable	32(32)		
		Often remarkable	39(39)		
		Very often applicable	24(24)		
3	<b>I felt that I had nothing to look forward to</b>	Not applicable	3(3)	2.13	High
		Somewhat applicable	22(22)		
		Often remarkable	34(34)		
		Very often applicable	41(41)		
4	<b>I felt down-hearted and blue</b>	Not applicable	5(5)	2.17	High
		Somewhat applicable	17(17)		
		Often remarkable	34(34)		
		Very often applicable	44(44)		
5	<b>I was unable to become enthusiastic about anything</b>	Not applicable	4(4)	2.09	High
		Somewhat applicable	23(23)		
		Often remarkable	33(33)		
		Very often applicable	40(40)		
6	<b>I felt I was not worth much as a person</b>	Not applicable	6(6)	1.98	Moderate
		Somewhat applicable	26(26)		
		Often remarkable	32(32)		
		Very often applicable	36(36)		
7	<b>I felt that life was meaningless</b>	Not applicable	1(1)	2.79	High
		Somewhat applicable	3(3)		
		Often remarkable	12(12)		
		Very often applicable	84(84)		

M.S: Mean of Score, Assess: Assessment, Low= 0 – 1, Moderate = 1.1 – 2, High= 2.1– 3

This table presents the mean scores for assessing the depression symptoms among patients with lung cancer; the findings indicate that patients are with moderate to severe symptoms of depression in which the mean scores are seen moderate among the items of 1, 2, and 6 while seen high among items 3, 4, 5, and 7.

## DISCUSSION

According to the findings of the study, the vast majority of the patients were (73%) were all males, as showed in (Table 4-1). This finding was supported by a study <sup>(1, 5)</sup> that discovered that the vast majority of the study participants were men.

In terms of age, the findings of this research indicate that the majority of the patients surveyed are in the age group of (59 and more) years, as shown in (Table 1). This result is consistent with the results <sup>(6)</sup> which show that the majority of the studied subjects were (>50) years old. Furthermore, another one <sup>(7)</sup> discovered that the bulk of the study participants were (60) years old.

Another study was done <sup>(8)</sup> which found in their study that the majority of the sample within the age group (51–60 years).

In terms of marital status, the majority of lung cancer patients in the study (85%) are a married couple, which is appropriate for our society, where both males and females appear to marry young, as shown in Figure 1. (Table 1). McFarland concurs with this conclusion (2019). The majority of the participants are married, according to their findings <sup>(4)</sup>.

Concerning educational levels, the majority of the sample patients (44%) was read and writes, as showed in (Table 1). The patient's level of education could control detecting of the symptoms in the earlier stages of cancer, and decreasing the effect of the risk factors as well as the complications by enhancing their awareness toward the disease and also treatment modalities. So, most persons who suffer from is poor education have higher risks of cancer. The educational level indicates patients' awareness toward illness so, a high level of education means a high level in their awareness toward the disease, and a low level of education means less awareness with increasing stress levels in their lives. This finding comes along with <sup>(1)</sup> who discovered that the bulk of the study subjects came from elementary school and lower (50 percent).

In terms of employment status, the current study's results show that most of the participants (48%) were housewives and unemployed, as showed in (Table 4-1). This result is supported by a study <sup>(1)</sup> which founds that 85.1 percent of the people in the study were unemployed. The higher the educational standard is the higher the number of people who can read and write.

In terms of homeownership, most of the study patients (51%) are homeowners, as shown in Figure 1. (Table 1). This contradicts the findings <sup>(9)</sup>, which found that the majority of the study participants were share (85 percent).

Regarding residency, the bulk of the lung cancer cases in the sample, (62%) from lung cancer patients are urban, as mentioned, one of the most important causes of increased risk of cancer in the environment. In Iraq, highly increment of environmental pollution as a result of the chemical factors affecting the air like industrial pollution and explosions also the remnants of War, participates in being the most important risk leading to cancer factors especially in big cities. This finding disagrees with a study <sup>(10)</sup> in Uttarakhand shown the area of living most of the cancer patients 35 (58%) belonged to the rural area, 25 (42%) were from urban area.

Related to monthly income, the majority of the sample patients are insufficient monthly income (46.8%). Monthly income maybe plays a role in patient information about self-care; poverty is considered an important indicator that may raise the risk of developing cancer and delay the early detection due to the money shortage of the family. This result is supported by Cancer Research UK (2012) in their reports, The study found that as the prevalence of cancer rises in low and middle-income countries, the global risk of cancer and cancer-related death rises.

It has been shown out of the analysis that 69% of patients are with 3-4 years duration of illness and 16% are diagnosed since 1-2 years. This means that is recently diagnosed with

cancer and this duration may be a source of stress for these patients diagnosed with such illness. This finding is slightly different from the findings of Polanski and others who report that patients with limited-stage are between 1 and 1.5 years while those with end-stage are between a half year to one year <sup>(11)</sup>.

The number of admissions referred that 66% of patients are admitted more than three times to hospitals and 32% are admitted only twice. This finding indicates that patients are on regular treatment which may contribute to their stress and markedly increase their depression and anxiety. Skaug and his colleagues found in their study and stated “Median survival time was 170 days. The mean age at the first admission was 67.4 years (range 21–89 years). Median number (interquartile range) of admissions was 3 (2, 5) and total hospitalization days 35 (18, 58)” <sup>(12)</sup>.

According to the findings, patients with lung cancer experience mild depression as a result of their illness. These findings are along with a study performed by a study <sup>(13)</sup>, which revealed the lung cancer patients experience a lot of depression. Hospitalization is linked to higher rates of depression, necessitating effective interventions. Hu et al. (2018) published another study that found that the diagnosis and treatment of lung cancer patients has a significant impact on their mood.

Patients with lung cancer experience mild anxiety as a result of their illness, according to the findings of the report. In most of the questions, anxiety levels were higher. Patients with lung cancer may be increasingly sensitive and feel the pressure, which can impact their recovery and make them more frustrated. These findings are along with a study performed by Khue et al., (2019), depression was found to have the highest proportion of respondents having any issues (92.8 percent).

## **CONCLUSION:**

1. Most lung cancer patients have severe levels of depression.
2. Most socio-demographic characteristics of the sample are: age (59 and more) years old, males, married, insufficient monthly income, reads and writes, housewives, live in the urban area, owned house, duration of lung cancer (3-5), and admitting frequently three times through the month.
3. There is no significant association between the level of depression with the patient's age, gender, educational level, marital status, monthly income, occupation, residence, frequency of admission, duration of lung cancer.
4. There is a significant difference in depression symptoms with the patient's age.
5. There is a significant difference in anxiety symptoms with the patient's level of education and occupation.

## **RECOMMENDATIONS:**

1. Increase the level of awareness for lung cancer patients and their families about the nature and stage of lung cancer and how to minimize the distress caused by the disease.
2. Improve the psychological and emotional status of lung cancer patients; especially by nursing staff after taking chemotherapy treatment use psychological treatment to reduce depression for the cancer patient.
3. By using educational programs and posters about lung cancer, development stages, treatment and side effects of treatment and how to prevent depression for cancer patient.
4. Coordinate between the oncology center and the Department of Psychiatry in the hospital for giving treatment to reduce depression levels.
5. Provide special nursing care for lung cancer patients, especially illiterate people living in rural areas.



6. Support for lung cancer patients through the government economically and provide the required treatment.
7. Conducting similar studies at the national level on the largest sample to assess depression among lung cancer patients.

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