

## Depression among cancer patients and its relationship with chemotherapy side effects

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Key words: depression, chemotherapy side effects.

الاكتئاب عند مرضى السرطان وعلاقته بالتأثيرات الجانبية للعلاج الكيماوي

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### الخلاصة

**الاهداف:** لتقييم مستوى الاكتئاب عند مرضى السرطان والتأثيرات الجانبية للعلاج الكيماوي وايجاد الفرق ذي الدلالة الاحصائية بين مستوى الاكتئاب نسبة الى التأثيرات الجانبية.  
**المنهجية:** دراسة وصفية تحليلية اجريت على عينة قصدية من ٥٠ مريض مصاب بالسرطان من الجنسين كليهما (الذكور والاناث) من الذين ادخلوا الى مستشفى الاشعاع والطب النووي بهدف اعطائهم العلاج الكيماوي للمدة من ٤ نيسان الى ٢٠ حزيران ٢٠٠٨. طبقت طريقة المقابلة الشخصية واستخدام مفكرة العناية الذاتية الخاصة بنيل واخرون (١٩٩١) ومقياس القلق والاكتئاب في المستشفى لغرض جمع المعلومات.

**النتائج:** وجد مرضى السرطان يعانون من درجة من الاكتئاب ذات دلالة احصائية لا ترتبط بما يظهر على المريض من تأثيرات جانبية للعلاج الكيماوي لكن من المحتمل ان تكون ناتجة عن المرض نفسه.

**التوصيات:** تطبيق برامج العلاج النفسي الجماعي والعلاج المعرفي السلوكي يمكن ان يحسن الوضع النفسي لمرضى السرطان.

### Abstract :

**Objectives:** to assess the level of depression among cancer patients and the chemotherapy side effects and to find out the significant difference between depression level regarding these side effects.

**Methodology:** A descriptive analytical study was conducted on a purposive sample of 50 cancer patients from both sexes who were admitted to Radiation and Neuclyr Medicine Hospital in Baghdad for the purpose of giving chemotherapy for the period from April 4<sup>th</sup> to June 20<sup>th</sup> , 2008. A structured interview using the Self Care Diary (SCD) of Nail et al (1991) and Hospital Anxiety and Depression Scale (HADS) was implemented for data collection.

**Results:** It was found that cancer patient has a significant level of depression which was not related to chemotherapy side effect but may be due to the disease it self.

**Recommendations:** Group and cognitive behavioral psychotherapy programs can be implemented for cancer patients to improve the psychological wellbeing of cancer patients.

## **Introduction**

Treatment of cancer is by three main modalities namely surgery, radiotherapy and chemotherapy. The hematological malignancies and lympho-prolifaretive disorders are mainly managed by chemotherapy while in solid tumors chemotherapy is used either as adjuvant or neoadjuvant. The chemotherapy is an intense and cyclic treatment and unlike surgery has many side-effects like nausea, vomiting and diarrhea. long periods of treatment, repeated hospitalizations and side effects of chemotherapy beside the knowledge of having cancer can all affect the psyche of these patients [6]. The prevalence of psychological morbidity in hospital clinics is high, depression is most common mental disorder among whole population of cancer patients. To the extent that alleviating suffering and improve end-of-life care, an emphasis on physical symptom management that ignores psychological aspects may be seriously limited in effectiveness [10]. Therefore, routine screening of emotional distress throughout the course of cancer is mandatory because it will identify patients for whom pharmaceutical management and/or psychological intervention may be most warranted and salutary[4]and [2]

## **Methodology**

A descriptive analytical study was conducted on a purposive sample of 50 cancer patients (different types of cancer) from both sexes who were admitted to Radiation and Neuclyr Medicine Hospital in Baghdad for the purpose of giving chemotherapy for the period from April 4th to June 20<sup>th</sup>, 2008. A structured interview using the Self Care Diary (SCD) [5] was implemented for data collection to assess chemotherapy side effects and Hospital Anxiety and Depression Scale (HADS) [12] was used as self reporting questionnaire to assess the level of depression. Forward and backward translation for both questionnaires was implemented to get the translation validity. A formal consent was gathered from ministry of health for collecting the data then the agreement of patients to participate in the study were got personally from each subject. The subjects were interviewed by the researcher inside the wards and the selection has been under the following criteria:

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1. patient who was diagnosed with any type of cancer.
2. patient who take at least two sessions of chemotherapy.
3. male or female patient.

The researcher excluded the patient who were under 18 years old and patients who were unable to complete the interview or the self reporting questionnaire as well as patients who were under radiation therapy.

Descriptive (frequencies, percentages, means, and standard deviations) and inferential statistic procedures (t. test) are implemented for data analysis.

### **Results:**

**Table 1: Sociodemographic characteristics of the sample**

Variables		F.	%
1.	Sex: male	26	52
	Female	24	48
2.	Age: 18-27	5	10
	28-37	14	28
	38-47	9	18
	48-57	5	10
	58-67	14	28
	68 or over	3	6
3.	Employment: yes	14	28
	No	36	72
4.	Marital status: Married	37	74
	Separated	4	8
	Single	7	14
	widowed	2	4
5.	Level of education: Illiterate	10	20
	Primary school	10	20
	Intermediate	8	16
	Secondary school	7	14
	Institute/ college	14	28
	Master/ doctorate	1	2

The result reveals that most of the sample (52%) are males and the majority of them (28%) are within the age groups 28-37 and 58-67 , (72%) are unemployed , (74%) are married, and (28%) are graduated from institute or college.

**Table 2: Chemotherapy side effects among the sample**

Side effects		F.	%
1.	Difficulty in sleeping	23	46
2.	Decreased in appetite	34	<b>68</b>
3.	Constipation	31	62
4.	Diarrhea	24	48
5.	Mouth ulceration	16	32
6.	Nausea	43	<b>86</b>
7.	Change with taste	41	<b>82</b>
8.	Anxiety	43	<b>86</b>
9.	Skin irritation	10	20
10.	Fatigue	42	<b>84</b>
11.	Nausea before taking the last dose	18	36
12.	Vomiting before taking the last dose	8	16

The finding indicates that most prevalent chemotherapy side effect among the sample are nausea and anxiety (86%) followed by change with taste (82%) and the lowest one is vomiting before taking the last dose(16%).

**Table 3: The level of depression among the sample**

Items		Mean	SD.
1.	I still enjoy the things I used to enjoy	2.50	0.863
2.	I can laugh and see the funny side of things	2.54	0.973
3.	I feel cheerful	2.62	0.830
4.	I feel as if I am slowed down	2.86	0.881
5.	I have lost interest in my appearance	2.66	1.042
6.	I look forward with enjoyment to things	2.62	0.901
7.	I can enjoy a good book or radio or TV program	2.04	1.049
Total average		2.54	0.973

The result indicates that the study subjects have a significant level of depression ( Total average mean = 2.54 , SD.=0.973).

**Table 4: Statistical differences in the level of depression regarding chemotherapy side effects.**

Side effects		YES	NO	df.	t.	P<0.05
		Depression (mean)	Depression (mean)			
1.	Difficulty in sleeping	18.652	17.148	48	1.240	N.S
2.	Decreased in appetite	17.941	17.625	48	0.240	N.S.
3.	Constipation	18.516	16.737	48	1.437	N.S.
4.	Diarrhea	17.958	17.730	48	0.185	N.S.
5.	Mouth ulceration	18.375	17.394	48	0.755	N.S.
6.	Nausea	18.046	16.571	48	0.840	N.S.
7.	Change with taste	18.024	17.000	48	0.644	N.S.
8.	Anxiety	17.837	17.857	48	0.011	N.S.
9.	Skin irritation	17.300	18.000	48	-0.451	N.S.
10.	Fatigue	17.809	18.000	48	-0.114	N.S.
11.	Nausea before taking the last dose	17.235	18.267	48	-0.766	N.S.
12.	Vomiting before taking the last dose	16.625	18.071	48	-0.870	N.S.

The result reveals that there is no significant differences are found in the level of depression regarding chemotherapy side effects at  $p < 0.05$ .

## Discussion

In this study the researcher investigated the prevalence of 12 chemotherapy side effects, the depression morbidity among cancer patients, and the difference in the depressive symptoms among those who were suffering from any one of side effect and those who have not that type of side effect.

The descriptive statistics reveals that most of the sample (74%) are married and unemployed (72%)(table 1).This finding may depicts the critical situation of these group of patients. Un employment may increase the psychological distress and suffering.

Concerning the prevalence of side effect it was found that nausea and anxiety are most prevalent (86%) followed by fatigue, Change with taste, and decrease in appetite (84%, 82% and 68% respectively) and nearly half of the sample suffering from difficulty in sleeping (46%) and diarrhea (48%)(table 2), it is consistent with Theobald (2004) results who revealed that fatigue is commonly reported by cancer patient with a prevalence of nearly 80% in some tumor types. Cancer related fatigue occurs most often after surgery, chemotherapy, radiotherapy, or immunotherapy, insomnia is common also among cancer patients, occurring in approximately 30% to

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50% of the cancer population. This reflects an association also among these group of side effects as revealed by Berger and Higginbatham (2000) who concluded that frequent and problematic symptoms associated with fatigue as a side effect of chemotherapy are sleep disturbance, nausea, anxiety and depression.

While the result of Anxiety and Depression Scale (7 items of depression) indicated that all subjects have a significant level of depression (average mean = 2.54 , SD= 0.973)(table 3), this finding is consistent with Delgado-Guay et al (2008) who stated that mood disorders are among the most distressing psychiatric conditions experienced by patients with advanced cancer. It was supported also by Tiernan (1998) who mentioned that mood disorder may obviously be part of a reaction to the news of diagnosis, but in many patients it will persist, causes an added burden during treatment and leading to more difficulty with general management and symptom control.

No significant differences was found between level of depression between those who are suffering from any one of chemotherapy side effects and those who have not that type of side effect (table 4) which is agree with Delgado-Guay et al (2008) who stated that studies have not shown a direct association of physical symptoms with depression and anxiety. Teunissen et al (2007) also revealed that the relationship between depression and the presence of physical symptoms in hospitalized cancer patients is very limited. This result indicated that the presence of depression symptom among cancer patients undergoing chemotherapy may be resulted from the disease it self.

### **Recommendations:**

- 1- Implementing an educational programs for cancer patients undergoing chemotherapy about the management of chemotherapy side effects to alleviate suffering.
- 2- Group and Cognitive Behavioral Therapy should be implemented for cancer patients to treat the depressive symptoms.
- 3- Conducting further similar studies on a larger sample of cancer patients are recommended.

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