

# Assessment of psychosocial aspects of patients with rectal cancer under chemotherapy in Baghdad city

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**Objectives** The study objectives are to determine and identify the association between the effect of chemotherapy upon psychological and social aspects of the quality of life for patients with rectal cancer treated by chemotherapy and demographic characteristics including age, gender, housing, marital status, educational level, occupation and income.

**Methods** Quantitative design (a descriptive study): The study was conducted at the Medical City/Baghdad Teaching Hospital, Al-Kadhimiya Teaching Hospital and Radiation and Nuclear Medicine Hospital in Baghdad, starting from December 30, 2014 to February 15, 2015. To achieve the objectives of the study, according to special criteria, a non-probability (purposive) samples of (50) patient who reviewed the hospitals above to receive chemotherapy drugs to treatment disease. The data were collected by self-reporting of patients with rectal cancer. Instrument validity was determined through content validity by a panel of experts. Reliability of the instrument was determined through the use of Pearson correlation coefficient for the test–retest approach, which was 0.88. The analysis of data was performed through the application of descriptive statistics (frequency, percentage and mean of score) and inferential statistics (Chi-square [ $\chi^2$ ] test).

**Results** The results of the study indicated most of patients with rectal cancer have side effects of chemotherapy related to psychological and social aspects through the increase significant of items related to side effects during assessment of these items, and there is no significant association between the effect of chemotherapy upon quality of life for patients and gender, housing, occupation and income. While, there is significant relationship between the effect of chemotherapy upon the quality of life for patients and age, marital status and educational level.

**Conclusion** The researcher can conclude most of patients with rectal cancer have side effects of chemotherapy related to the psychological and social aspects.

**Keywords** rectal cancer, chemotherapy, psychosocial

## Introduction

Colorectal cancer (also known as colon cancer, rectal cancer or bowel cancer) is the development of cancer in the colon or rectum (parts of the large intestine).<sup>1</sup> It is due to the abnormal growth of cells that have the ability to invade or spread to other parts of the body.<sup>2</sup> Signs and symptoms may include blood in the stool, a change in bowel movements, weight loss and feeling tired all the time.<sup>3</sup>

Risk factors for colorectal cancer include lifestyle, older age and inherited genetic disorders that only occur in a small fraction of the population.<sup>4,5</sup> Other risk factors include diet, smoking, alcohol, lack of physical activity, family history of colon cancer and colon polyps, presence of colon polyps, race, exposure to radiation and even other diseases such as diabetes and obesity. A diet, high in red, processed meat, while low in fiber, increases the risk of colorectal cancer. Other diseases such as inflammatory bowel disease, which includes Crohn's disease and ulcerative colitis, can also increase the risk of colorectal cancer. Some of the inherited conditions that can cause colorectal cancer include: familial adenomatous polyposis and hereditary non-polyposis colon cancer; however, these represent <5% of cases. It typically starts as a benign tumour, often in the form of a polyp, which over time becomes cancerous.<sup>4,5</sup>

Bowel cancer may be diagnosed by obtaining a sample of the colon during a sigmoidoscopy or colonoscopy. This is then followed by medical imaging to determine whether the disease has spread. Screening is effective for early detection to reduce colorectal cancer death, and consistent screening is

recommended starting from the age of 50–75.<sup>6</sup> During colonoscopy, small polyps may be removed if found. If a large polyp or tumour is found, a biopsy may be performed to check whether it is cancerous. Aspirin and other non-steroidal anti-inflammatory drugs decrease the risk. Their general use is not recommended for this purpose due to side effects.<sup>7,8</sup>

Treatments used for colorectal cancer may include some combination of surgery, radiation therapy, chemotherapy and targeted therapy. Cancers that are confined within the wall of the colon may be curable with surgery while cancer that has spread widely is usually not curable, with management focusing on improving quality of life and symptoms. Five-year survival rates in the United States are around 65%. This, however, depends on how advanced the cancer is, whether or not all the cancer can be removed with surgery, and the person's overall health. Globally, colorectal cancer is the third most common type of cancer making up about 10% of all cases. In 2012, there were 1.4 million new cases and 694,000 deaths from the disease. It is more common in developed countries, where more than 65% of cases are found. It is less common in women than men.<sup>9,10</sup>

## Materials and Methods

### Objectives of the Study

The study objectives are to determine the effect of chemotherapy upon psychological and social aspects of the quality of

life for patients with rectal cancer. And to identify the association between the effect of chemotherapy upon psychological and social aspects of the quality of life for patients and their demographic characteristics including age, gender, housing, marital status, educational level, occupation and income.

### Design of the Study

Quantitative design (a descriptive study) was carried out to determine the effect of chemotherapy upon psychological and social aspects of the quality of life for patients with rectal cancer.

### Setting of the Study

The study was conducted at the Medical City/Baghdad Teaching Hospital, Al-Kadhimiya Teaching Hospital and Radiation and Nuclear Medicine Hospital in Baghdad.

### Sample of the Study

A non-probability (purposive) sample of (50) patient who reviewed the hospitals above to receive chemotherapy drugs to treat the disease.

### Instrument Construction

After extensive review of relevant literature which includes the effect of chemotherapy upon psychological and social aspects of the quality of life for patients with rectal cancer. The questionnaire was constructed for the purpose of the study consisted of 40 items which include two parts:

#### Part I: Patients' Demographic Characteristics

The first part concerned with determination of the demographic characteristics of these patients through designated sheet which include ten items: age, gender, housing, marital status, level of education, occupation, income, method of taking the treatment, duration of the disease and body mass index.

#### Part II: Questionnaire to Side Effect of Treatment

This part is concerned with data to side effects of chemotherapy drugs upon patients with rectal cancer which include:

1. Effects related to the psychological situation consisted of 18 items.
2. Side effects related to the personal and social consisted of 12 items.

The questionnaire to side effect of treatment were ordinal according to the three level scale which were scored as (never = 1, sometimes = 2, always = 3) for each level respectively so the cutoff point was 2.

Content validity was determined through the use of panel of experts.

### Data Collection

The data were collected by self-reporting by patients with lung cancer for the period from 15th January to 14th February 2015.

### Statistical Data Analysis

Appropriate statistical approach is used that includes descriptive statistics (frequency, percentage and mean of score) and inferential statistics (Chi-square [ $\chi^2$ ] test).

## Results

Table 1 reveals that the majority (56%) of patients were 60 years old and more. 90% of patients were male, 62% of patients

Table 1. Distribution of the samples according to demographic characteristics

No.	Variables	F	%
<b>1.</b>	<b>Age* (years)</b>	<b>F</b>	<b>%</b>
1.1.	Less than 20	2	4
1.2.	20–29	2	4
1.3.	30–39	4	8
1.4.	40–49	5	10
1.5.	50–59	9	18
1.6.	60 and more	28	56
	Total	50	100
<b>2.</b>	<b>Gender</b>	<b>F</b>	<b>%</b>
2.1.	Male	45	90
2.2.	Female	5	10
	Total	50	100
<b>3.</b>	<b>Housing</b>	<b>F</b>	<b>%</b>
3.1.	Urban	19	38
3.2.	Rural	31	62
	Total	50	100
<b>4.</b>	<b>Marital status</b>	<b>F</b>	<b>%</b>
4.1.	Single	5	10
4.2.	Married	45	90
	Total	50	100
<b>5.</b>	<b>Level of education</b>	<b>F</b>	<b>%</b>
5.1.	Illiteracy	23	46
5.2.	Able to read and write	4	8
5.3.	Primary school graduate	10	20
5.4.	Intermediate school graduate	7	14
5.5.	High School graduate	2	4
5.6.	Institute and college graduate	4	8
	Total	50	100
<b>6.</b>	<b>Occupation</b>	<b>F</b>	<b>%</b>
6.1.	Student	1	2
6.2.	Government employee	3	6
6.3.	Retired	5	10
6.4.	Self-employee	8	16
6.5.	Other	33	66
	Total	50	100
<b>7.</b>	<b>Income</b>	<b>F</b>	<b>%</b>
7.1.	Adequate	17	34
7.2.	Not adequate	33	66
	Total	50	100
<b>8.</b>	<b>Body mass index</b>	<b>F</b>	<b>%</b>
8.1.	Less than 20	26	52
8.2.	20–25	10	20
8.3.	26–30	12	24
8.4.	31–35	2	4
	Total	50	100

F: frequency; %: percent.

live in rural house and 90% of patients were married. Concerning the level of education, 46% was illiteracy and 66% of patients had other occupation. In relation to income, 66% of patients were not adequate, 52% of patients had the body mass index of less than 20.

Table 2 shows that the significant side effect of treatment related to the psychological aspect was non-significant on items (3, 6, 8, 11 and 12) and significant on items (1, 2, 4, 5, 7, 9, 10, 13, 14, 15, 16, 17 and 18).

Table 3 reveals that the significant side effect of treatment related to social aspect was non-significant on item (6) and significant on items (1, 2, 3, 4, 5, 7, 8, 9, 10, 11 and 12).

Table 4 shows that there is high significant association between the level of education of sample and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores. And indicates that there is significant association between ages and marital status of sample and the effect of chemotherapy upon psychological and social aspects of the

Table 2. The mean of scores A. side effects related to the psychological aspect

No.	Items	Never		Sometime		Always		MS	S.
		F	%	F	%	F	%		
1.	Bank is very concerned for the future of your family	32	64	9	18	9	18	1.54	S
2.	Concerned about the length of treatment	25	50	20	40	5	10	1.6	S
3.	Disturbed for no reason	31	62	14	28	5	10	1.48	NS
4.	Feel pessimistic about the future	26	52	16	32	8	16	1.64	S
5.	Feel the loss your important when the other	13	26	25	50	12	24	1.98	S
6.	Feel a desire to cry	37	74	10	20	3	6	1.32	NS
7.	Feel that life is difficult	25	50	21	42	4	8	1.58	S
8.	Feel uncomfortable	45	90	2	4	3	6	1.16	NS
9.	Feel you are useless to your family	17	34	23	46	10	20	1.86	S
10.	Feel remorse for your actions the previous	22	44	19	38	9	18	1.74	S
11.	Feel sorry for yourself	32	64	14	28	4	8	1.44	NS
12.	Feel the fear of disease	34	68	11	22	5	10	1.42	NS
13.	Having difficulty adapting to the disease	27	54	18	36	5	10	1.56	S
14.	Is terrified of the disease	26	52	12	24	12	24	1.72	S
15.	Is fragmented and confused	22	44	20	40	8	16	1.72	S
16.	Suffer from sleep disturbances	23	46	25	50	2	4	1.58	S
17.	Suffers from disturbing dreams	11	22	22	44	17	34	2.12	S
18.	You feel you have become a secret passion	14	28	28	56	8	16	1.88	S

MS: mean of scores; S: significant; NS: non-significant.

Table 3. The mean of scores and significant side effect of treatment for section: B. side effects related to social aspect

No.	Items	Never		Sometime		Always		MS	S.
		F	%	F	%	F	%		
1.	Attention to yourself experiencing difficulty	18	36	21	42	11	22	1.86	S
2.	Changing family relationships suffer	17	34	18	36	15	30	1.96	S
3.	Experience to rely on family members	27	54	17	34	6	12	1.58	S
4.	Experiencing lack of social activities	19	38	23	46	8	16	1.78	S
5.	Experiencing unity	19	38	21	42	10	20	1.82	S
6.	Experiencing fear of the future	34	68	10	20	6	12	1.44	NS
7.	Stop experiencing the fear of family support	18	36	14	28	18	36	2	S
8.	Suffer change of family responsibilities	17	34	19	38	14	28	1.94	S
9.	Suffer from the impact of the disease on your work or study	29	57.9	6	12	15	30	1.72	S
10.	Suffer the loss of financial security	25	50	9	18	16	32	1.82	S
11.	Suffers from the difficulty of social integration	12	24	25	50	13	26	2.02	S
12.	Treatment of people suffering a difference to you about other	18	36	21	42	11	22	1.86	S

MS: mean of scores; S: significant; NS: non-significant.

Table 4. Association between age, gender, marital status, housing, level of education, occupation, income and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores

Scores	Good	Fair	Poor	Total	$\chi^2$ obs.	Sig.
	F	F	F	F		
<b>Age (years)</b>						
Less than 20	2	0	0	2	19.316	S
20–29	0	2	0	2		
30–39	3	1	0	4		
40–49	1	2	2	5		
50–59	1	7	1	9		
60 and more	8	19	1	28		
Total	15	31	4	50		

$P \leq 0.05$ ; df: 10;  $\chi^2$  crit.: 18.31.

Scores	Good	Fair	Poor	Total	$\chi^2$ obs.	Sig.
	F	F	F	F		
<b>Gender</b>						
Male	17	15	13	45	5.858	NS
Female	1	2	2	5		
Total	18	17	15	50		

$P \leq 0.05$ ; df: 2;  $\chi^2$  crit.: 5.99.

Scores	Good	Fair	Poor	Total	$\chi^2$ obs.	Sig.
	F	F	F	F		
<b>Housing</b>						
Urban	10	4	5	19	0.573	NS
Rural	5	24	2	31		
Total	15	28	7	50		

$P \leq 0.05$ ; df: 2;  $\chi^2$  crit.: 5.99.

Scores	Good	Fair	Poor	Total	$\chi^2$ obs.	Sig.
	F	F	F	F		
<b>Marital status</b>						
Single	2	3	0	5	6.523	S
Married	15	25	5	45		
Total	17	28	5	50		

$P \leq 0.05$ ; df: 2;  $\chi^2$  crit.: 5.99.

Scores	Good	Fair	Poor	Total	$\chi^2$ obs.	Sig.
	F	F	F	F		
<b>Level of education</b>						
Illiteracy	7	16	0	23	22.988	HS
Able to read and write	0	4	0	4		
Primary School graduate	3	5	2	10		
Intermediate School graduate	3	2	2	7		
High School graduate	2	0	0	2		
Institute and College graduate	3	1	0	4		
Total	18	28	4	50		

$P \leq 0.05$ ; df: 10;  $\chi^2$  crit.: 18.31.

Scores	Good	Fair	Poor	Total	$\chi^2$ obs.	Sig.
	F	F	F	F		
<b>Occupation</b>						
Student	0	1	0	1	11.425	NS
Government employee	3	0	0	3		
Retired	0	5	0	5		
Self-employee	1	5	2	8		
Other	12	17	4	33		
Total	16	28	6	50		

$P \leq 0.05$ ; df: 8;  $\chi^2$  crit.: 15.51.

Continued

Table 4. Continued

Income	Scores	Good	Fair	Poor	Total	$\chi^2$ obs.	Sig.
		F	F	F	F		
Adequate		10	7	0	17	4.071	NS
Not adequate		12	15	6	33		
Total		22	22	6	50		

$P \leq 0.05$ ; df: 2;  $\chi^2$  crit.: 5.99.

Sig.: level of significance; HS: highly significant; NS: non-significant; P: probability value;  $\chi^2$ : Chi-squared test; df: degree of freedom.

quality of life of patient's scores. Also reveals that there is no significant association between income, occupation and housing of sample and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.

## Discussion

Through the data analysis, distribution of demographic variables in Table 1 reports that, most of patients with rectal cancer are 60 years old and more and this account for 28 (56%).

This result is similar to the results obtained from the study done by Fu et al. (2007). These results indicate that the majority of aged patients with rectal cancer are diagnosed at the age of 55–64 years old.<sup>8</sup>

Regarding gender of patients with rectal cancer, 45 (90%) of patients were male. This finding is similar to the results obtained from the study done by Centers for Disease Control and Prevention (2009).<sup>9</sup>

Concerning the housing, most of patients with rectal cancer are living in rural house (31 [62%]). These findings are supported by World Cancer Report (2014). These results indicate that the majority of patients with rectal cancer are living in urban house.<sup>10</sup>

With regard to the marital status of patients with rectal cancer, it is demonstrated that most of the patients were married, 45 (90%). This finding is similar to the results obtained from the study which indicates that most of patients with rectal cancer are married.<sup>11</sup>

Forty two (84%) patients have children, while 90% of patients do not have children after the disease. This result is consistent with the study which indicates that the majority of patients do not have children after the disease (90%).<sup>12</sup>

In relation to level of education, the majority of patients with rectal cancer, 23 (46%) was illiterate. This result is inconsistent with the study which indicates that the majority of patients with rectal cancer are high school graduate (70%).<sup>13</sup>

The majority of patients in this study, 33 (66%), have other occupations. This result is disagreement with the study that the majority of patients in this study are working in industrial occupations (60%).<sup>14</sup>

The researcher refers that the occupations related to industrial materials have great effect for injuries with rectal cancer.

The monthly income was not adequate for 33 (66%) patients. This result is in agreement with a study which indicates that the monthly income of majority of patients is not adequate (65%).<sup>15</sup>

Twenty four (48%) of patients use intravenous for the administration of drugs. 47 (94%) of patients are suffering from disease for about 1–4 months. This result is in agreement with a study, which indicates that the majority of patients taking drugs of chemotherapy by intravenous administration and increase the side effects of chemotherapy.<sup>16</sup>

In relation to the body mass index of patients with rectal cancer, most of the patients are <20 which account 26 (52%). This result is inconsistent with the study which indicates that the majority of patients are above 25 (78%).<sup>17</sup>

Table 2 shows that the significant to side effect of treatment related to the psychological aspect was non-significant on items (feel a desire to cry, feel sorry for yourself, feel the fear of disease, disturbed for no reason and feel uncomfortable).

Significant on items (feel pessimistic about the future, feel that life is difficult, feel remorse for your actions than the previous, feel you have become a secret passion, bank is very concerned about the future of your family, feel the loss your important when the other, feel you are useless to your family, suffers from disturbing dreams, concerned about the length of treatment, fragmented and confused, having difficulty adapting to the disease, suffer from sleep disturbances, and terrified of the disease).

The result of this study disagrees with the study that indicates to increase the side effect of chemotherapy for patients with pulmonary cancer, especially these related to psychological aspects to feel pessimistic about the future, feel that life is difficult, feel remorse for your actions than the previous, feel you have become a secret passion, bank is very concerned about the future of your family.<sup>19</sup>

Table 3 reveals that the significant side effect of treatment related to social aspect was non-significant on item (experiencing fear of the future).

Significant on items (attention to yourself experiencing difficulty, suffer from the impact of the disease on your work or study, suffer the loss of financial security, stop experiencing the fear of family support, suffer change of family responsibilities, changing family relationships to suffer, experiencing lack of social activities, experience to rely on family members, treatment of people suffering a difference to you about other, experiencing unity and suffers from the difficulty of social integration).

This result disagrees with the study, which showed the high significant of score for all items of personal and social.<sup>20</sup>

Table 4 indicates that there is significant association between ages of sample and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores. This result agrees with the study which indicated there were no significant differences between the age of patients and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.<sup>21</sup>

The study shows that there is no significant association between gender of sample and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.

This results contability with the result obtained from study which indicated that there is no relationship between

gender and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.<sup>22</sup>

The analysis of the result of the study shows that there is no significant association between housing of sample and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.

This result agrees with the study which showed that there is no significant relationship between housing of sample and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.<sup>23</sup>

There is significant association between marital status of sample and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.

These finding agree with the results obtained from a study done by Möslein et al. 2003, which indicated that there is significant association between marital status of sample and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.<sup>24</sup>

Regarding the relationship between the level of education and the effect of chemotherapy upon quality of life of patient's scores, this study indicates that there is high significant association between level of education of sample and the effect of chemotherapy upon quality of life of patient's scores.

This result is in agreement with the study which indicates significant association between level of education of sample and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.<sup>25</sup>

The analysis of the result of the study shows that there is no significant association between occupation of sample and

the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.

This result agrees with the study which showed that there is no significant relationship between occupation of sample and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.<sup>25</sup>

There is no significant association between income of sample and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.

These findings agree with the results obtained from a study which indicated that there is no significant association between income of sample and the effect of chemotherapy upon psychological and social aspects of the quality of life of patient's scores.<sup>26</sup>

## Conclusion

The study concluded that most of patients with rectal cancer have side effects of chemotherapy related to the psychological and social aspects.

## Recommendations

1. Making quality information more available to assist patients in making informed decisions about change quality of life after treatment with chemotherapy.
2. Increased health education by focusing on the side effect of chemotherapy upon quality of life and how to prevent these effects through T.V. programs, radio, newspaper and medical magazines...etc. ■

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