Original Article

Psychological Changes of Patients with Cancer

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ABSTRACT

Objective: To assess psychological changes of patients with cancer at oncology teaching hospitals.
Study Design: Descriptive cross sectional study
Place and Duration of Study: This study was conducted at the Hillah city (Al-Imam Al-Sadiq Teaching Hospital and Babylon Cancer Treatment Center from 1st March 2025 to 30th June 2025.
Methods: Two hundred and eighty patients selected to carrying out and distributed as 30 patients who participate in the pilot study, 250 patients who assigned to engage the original study sample.
Results: There were 150 (60%) females and 100 males, married 187 (74.8%), between (51-60) years of age, 155 (62%) lived in urban area. Overall, the mean score indicated a moderate level of psychological distress among participants.
Conclusion: No significant association is observed between psychological changes and educational level or residency.

Key Words: Psychological changes, Anxiety, Depression, Cancer

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INTRODUCTION

Uncertainty cancer diagnosis may cause worry, despair, a decline in quality of life, thoughts of suicide, and other possibly severe life changes.[1] Psychological problems such as depression and anxiety persist and can cause an additional burden during their treatment, making it more challenging in terms of its management and control, compliance during the treatment course, duration of hospital stay, and, survival rate in the end. According to previous research, cancer patients are two to three times more likely than the general population to suffer from depressive disorders.[2]

Depression is a common mental illness affecting about 5% of people worldwide. It is characterized by persistent sadness, loss of interest, changes in appetite and sleep, fatigue, and difficulty concentrating. Depression significantly impacts daily functioning and quality of life.

It results from complex social, psychological, and biological factors, with triggers including early-life adversity, loss, and unemployment.[3]

Anxiety is the expectation of a threat in the future that shows up as excessive and ongoing worry or fear.

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An essential psychological component of cancer survivorship care is addressing anxiety.[4]

In today's world, anxiety, tension, worry, stress, and strain are all normal emotions. We won't seek a professional for simple stress or anxiety, but when these emotions become chronic and start to interfere with our lives, we need to take action and find strategies to cope in order to continue living our best lives. It is a typical symptom of cancer since it can be described as an unpleasant subjective experience connected to the sense of actual danger. An adaptive response, which is a difficult and unusual feeling, and represents a state of fear, but it is not specified, a feeling that is not commensurate with the situation attributed to it. Adaptive, in response to the risk caused by cancer, it is a normal response that lasts from 7 to 10 days after diagnosis (suspicion, suffering, death).[3]

Anxiety is more common in cancer survivors than in healthy controls, and this effect is true for individuals whose cancer was discovered ten years or more ago. Anxiety can negatively impact quality of life in cancer survivors, impacting mental health and functioning and Increasing the severity of somatic symptoms.[4]

Oncology nurses play a vital role in cancer care through supportive care and patient empowerment. Their broad responsibilities significantly impact outcomes and should be included in national cancer strategies.[5]

Supportive-expressive group psychotherapy, cognitive-behavioral and cognitive-existential therapy, meaning-centered psychotherapy, mindfulness, and mindfulness stress reduction programs are the interventions that have the strongest empirical backing for addressing suffering in cancer patients. Additionally, there is mounting evidence that integrative therapies

particularly mind-body therapies are useful supportive care tactics for cancer patients.[6]

To treat progression anxiety, a number of therapy ideas have been explored. In a (partially) RCT in a rehabilitation hospital context, a group therapy founded on cognitive behavioral principles was found to reduce anxiety of advancement. In a pilot phase for an outpatient setting, it also demonstrated some encouraging outcomes, although with some changes. Another therapy has recently demonstrated notable gains in an RCT among survivors of colorectal, prostate, and breast cancer. It employs behavioral modification, cognitive restructuring, and psycho-education in an individual therapeutic environment.[7,8]

METHODS

This descriptive cross sectional study was conducted at teaching oncology hospitals in Hillah city (Al-Imam Al-Sadiq Teaching Hospital and Babylon Cancer Treatment Center from 1st March 2025 to 30th June 2025. One of the most crucial components of quantitative research is ethical concern, as these studies frequently involve human participants. Depending on the study's objectives, consent is typically sought verbally (orally or in writing). This type of ethical grade may safeguard the study participants' privacy and dignity. Therefore, following outlining the goals of the study, a formal consent form was applied for each participant in order to get their formal consent. The non-probability convenience sample method was used with 280 patients were selected distributed as 30 patients who participate in the pilot study, 250 patients who assigned to engaged to the original study samples. Demographic characteristics consist of 5 items, which include age, sex, educational level, marital status and residency. Psychological changes include 14 items adapted from Osse et al[9], translated to Arabic language to facilities data collection.

Content validity of the questionnaire was obtained by panel of 10 experts from multidisciplinary field, who have not less than 7 years of experience in their specialty. Changes and modification performed according to the advises and opinion of the expert in order to reach the proper degree of understanding, clearness and relevance of questionnaire obtained to facility data collection, factors analysis approach carried out which estimated as 0.748 with statistically accepted. The pilot study is conducted on 30 patients undergoing chemotherapy carried out at Al-Marjan Medical city (Babylon Cancer Treatment Center) to assess the stability of the instrument which is prepared to collect the data. Using a questionnaire (Arabic version), interview and self-report procedures with patients, data was gathered after the cooperation and approval of hospitals administration. After introducing herself and outlining the study's objectives to the participants, the researcher obtained their verbal consent before giving them the questionnaire. The participants (patients) complete the form and provide a response. The participants separately respond to a questionnaire. It takes roughly fifteen to twenty minutes for each self-report. Data collection took place throughout the span of time about (18) days, it started from 15th March 2025 to 1st April 2025. The data was entered and analyzed through SPSS-26.

RESULTS

The study sample consists of 250 participants, with a diverse distribution across various demographic characteristics, regarding age, the majority of the sample fall within the 51-60 years age group 65(26.0%). The sample comprises more females (60.0%) than males (40.0%). while educational attainment varies, recorded that the highest proportion of the sample having an education level of institute and above (30.0%), while 24.0% are illiterate. Marital status reveals that most participants are married (74.8%), while smaller proportions are single (10.0%), widowed (13.2%), divorced (1.6%), or separated (0.4%). Residency-wise, the majority of participants reside in urban areas (62.0%), whereas 38.0% live in rural settings. These demographic insights provide a comprehensive understanding of the study sample's distribution, which may have implications for the study's findings (Table 1).

Table No. 1: Patients responses related to demographical characteristics

Categories	No.	%
Age (years)		
30-40	46	18.4
41-50	42	16.8
51-60	65	26.0
61-70	52	20.8
71-80	45	18.0
Gender		
Female	150	60.0
Male	100	40.0
Education Level		
Illiterate	60	24.0
Educated	30	12.0
Elementary	56	22.4
Intermediate	29	11.6
Institute and above	75	30.0
Marital status		
Married	187	74.8
Single	25	10.0
Divorced	4	1.6
Separated	1	0.4
Widow	33	13.2
Residency		
Rural	95	38.0
Urban	155	62.0

Table No.2: Patients responses related to psychological changes

Questions	No		Somewhat		Yes		Mean	St. Dev	Level
	No.	%	No.	%	No.	%			
Depressed mood	64	25.6	55	22.0	131	52.4	2.27	.843	Moderate
Fearing from physical suffering	91	36.4	35	14.0	124	49.6	2.13	.920	Moderate
Fear of treatments	112	44.8	27	10.8	111	44.4	2.00	.946	Moderate
Fear of death	112	44.8	14	5.6	124	49.6	2.05	.972	Moderate
Fear from metastases	79	31.6	24	9.6	147	58.8	2.27	.913	Moderate
Fear from being alone	107	42.8	22	8.8	121	48.4	2.06	.955	Moderate
Feelings of guilt	103	41.2	22	8.8	125	50.0	2.09	.953	Moderate
Feelings of shame	114	45.6	29	11.6	107	42.8	1.97	.942	Moderate
Loss of control over emotions	74	29.6	72	28.8	104	41.6	2.12	.837	Moderate
Difficulties to accept a changed bodily appearance	80	32.0	26	10.4	144	57.6	2.26	.913	Moderate
Find it difficult and feel unable to deal with future events.	88	35.2	20	8.0	142	56.8	2.22	.936	Moderate
Difficulties in showing emotions.	116	46.4	48	19.2	86	34.4	1.88	.893	Moderate
Difficulties to See positive aspects of the situation.	100	40.0	20	8.0	130	52.0	2.12	.954	Moderate
Being overwhelmed by all decisions that have to be made.	82	32.8	18	7.2	150	60.0	2.27	.926	Moderate
General mean and standard deviation							2.122	0.921	Moderate

Low 1-1.69; Moderate 1.7-2.39; High 2.4-3

Table No. 3: Association between psychological changes of patient with cancer and demographical characteristics

Parameter	Chi square	Degree of freedom	P. value	Significance
Physical needs of patients Age	158.221	112	.003	S
Physical needs of patients Sex	8.945	1	.003	S
Physical needs of patients Educational level	107.817a	112	.594	NS
Physical needs of patients Marital status	142.619a	112	.027	S
Physical needs of patients Residency	16.924a	28	.950	NS

The table 2 presents the distribution of responses regarding the psychological needs of the study sample. It highlights the prevalence of various psychological concerns among participants, with a focus on symptoms such as depressed mood, fear of physical suffering, fear of treatments, fear of death, fear of metastases, feelings of guilt and shame, emotional control issues, difficulties in accepting bodily changes, and challenges in dealing with future events. Across all 14 items, a moderate level of psychological need was reported, with means ranging between 1.88 and 2.27. The highest levels of concern were seen in fear of metastases (58.8% responded "Yes") and fear of death (49.6% responded "Yes"), while difficulties in showing emotions and seeing positive aspects of the situation had slightly lower percentages. Overall, the mean score of 2.12, with a standard deviation of 0.921, indicates a moderate level of psychological distress among the study participants.

Table 3 presents the association between the psychological needs of cancer patients and their demographic characteristics using the Chi-square test. The results indicate a significant association between the physical needs of patients and age ($\chi^2 = 158.221$, df=112, p=0.003), as well as sex ($\chi^2 = 8.945$, df=1, p=0.003), suggesting that these factors play a role in

influencing patients' physical needs. Additionally, marital status is significantly associated with physical needs (χ^2 = 142.619, df=112, p=0.027). However, no significant association is observed between physical needs and educational level (χ^2 = 107.817, df=112, p=.594) or residency (χ^2 = 16.924, df=28, p=0.950).

DISCUSSION

Related to the demographical characteristics of the study sample explain that most patients age undergoing chemotherapy were between (51-60) years. This result supported by result conducted by study in Asian by Wisesrith et al[10], that show majority of terminal ill cancer patients aged between (51 and 60) years. As the point view, the risk of cancer increases between the ages of 51 and 60 due to the accumulation of genetic mutations with age, prolonged exposure to carcinogenic factors such as smoking and pollution, as well as weakened immunity and hormonal changes during this period. Increased screening also contributes to the detection of more cases. In short, it's a combination of time, body changes, and screening.

Regarding to sex, this study show that majority of patients undergoing chemotherapy were female. This outcome followed with Shi et al[11] that demonstrates that most of the patients were female. The logical interpretation of this point go under women are more likely to develop cancer due to their predisposition to specific cancers, such as breast and ovarian cancers, the influence of hormones, increased screening for early detection, and their often longer life spans, which increases their risk of developing the disease.

According to the educational level most of the patients were with high educational level. The finding shows that most of the patients were married. This result follows with Gupta et al[12] that majority of patients were high level of education (high school/college) were married. As the point of view, married people and those with a high school or higher appear at higher rates in cancer statistics and are more likely to develop cancer. This is often attributed to their greater health awareness and interest to seek early screening, which increases the chances of detecting the disease. Additionally, their lifestyle may include work stress, lack of physical activity, or unhealthy habits. Marriage, on the other hand, makes it easier to detect symptoms thanks to the support of a partner, which speeds up diagnosis.

This study showed that 62% of cancer patients undergoing chemotherapy lived in urban areas. This result supported by result conducted by study in Iraq by Ajel[13] that 61.25% the majority of cancer patients undergoing chemotherapy lived in urban areas. To discuss this point, the logical interpretation is that, cancer is a disease that can affect individuals regardless of their geographic location, including both urban and rural areas. While cancer may be more prevalent in urban populations due to factors such as lifestyle choices, environmental exposures, higher levels of air pollution, stress, sedentary lifestyles.

Responses regarding the psychological changes of the study sample. It highlights the prevalence of various psychological concerns among participants. Overall, the mean score of 2.12, with a standard deviation of 0.921, indicates a moderate level of psychological distress among the study participants. This result agree with the result of study conducted by Karunanithi et al[14] reported that psychological distress = 44 (11–98) as the median score, over 62.4% of respondents indicated that they were in moderate distress. The logical interpretation of this point is that Cancer patients experience moderate levels of psychological distress due to a combination of initial shock and gradual adjustment to the disease, along with psychological and social support that alleviates the severity of stress. Fear of the future, the possibility of relapse, and the daily challenges of treatment also contribute to persistent but mild anxiety, which explains the prevalence of moderate levels of psychological distress among this group.

Responses regarding association between psychological changes of patient with cancer and demographical characteristics, the results indicate a significant association between the psychological changes of patients and age, as well as sex, suggesting that these factors play a role in influencing patients' psychological changes. Additionally, marital status is significantly associated with psychological changes. This result of this study is comparable with Hamilton et al[15] illustrated that distress score variations between age groups were significant and participants who were 70 years of age or older showed much less distress than those who were younger, according to post hoc tests. The emotional demands of younger people were substantially greater than individuals in the other age groups and significantly more physical needs than older adult individuals. Women had higher distress greater than men's. The number of needs for men and women was similar. The total distress score showed significant results for marital status. The distress scores of married people were lower than those of unmarried people. Psychosocial requirements were lower among married people. Compared to married people, single people reported substantially higher practical and nutritional needs, according to post hoc studies.

In this study the results indicate a significant association between the psychological needs of cancer patients and age, gender, and marital status. Younger, female, and unmarried patients reported higher psychological needs than others. This is attributed to social support, anxiety about the future, and psychological changes that vary by gender and marital status, underscoring the importance of this factor when providing psychological support to patients.

CONCLUSION

Moderate level of psychological distress among participants reported, no significant association is observed between psychological changes and educational level or residency.

Recommendation: Psychological program therapy may be established in oncology centers to encourage feeling sharing, and counselling to decrease patient emotional impact. This program may be extended to engage patient's family members in the supporting process to enhance patient's responses to treatment.

Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Amna Hamid Hussein, Sahar Adham Ali
Drafting or Revising Critically:	Amna Hamid Hussein, Sahar Adham Ali
Final Approval of version:	All the above authors
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