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Study of Quality of Life, Anxiety and Depression among Cancer Survivors at a Tertiary Care Teaching Hospital

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ABSTRACT

Introduction: Cancer survivors may experience mental health concerns that affect their emotions, behavior, memory, and ability to concentrate. For example, cancer survivors may feel emotional distress like depression, fear, and anxiety after being diagnosed with cancer. Present study was conducted to assess depression, anxiety level and quality of life of cancer patients.

Materials and Methods: 42 cancer survivors (under cancer therapy for 1 year and above) visiting Department of Radiotherapy, Rama Medical College Hospital & Research Centre, Hapur, UP, (India) are included in the present study. The study forms including the questions regarding the patient's demographic characteristics, Becks Depression Inventory (BDI), State and Trait Anxiety Inventory (STAI) and WHOQOL BREF were completed during face-to-face interviews for the determination of the psychological status of the patients.

Results: Study sample consists of 16 (38.1%) males and 26 (61.9%) females. Maximum number of the sample belongs to the age group of >61 years (33.3%, 14). Further, 35 (83.3%) out of total 42 cases are married. There was a positive correlation between BDI and STAI and there is negative correlation between BDI and quality of life. Study sample was compared in terms of Quality of Life and STAI scores. Comparison on both scales shows that all the dimensions of the Quality of Life except D3= Domain 3 (Social Relationship) is negatively correlated with both the two sub-types of STAI. The state anxiety score is negatively correlated with D1=Domain 1 (Physical health; p<0.001), D2= Domain 2 (Psychological; p<0.001), D4= Domain 4 (Environment; p<0.001) and also the trait anxiety score of the sample is also negatively correlated with D1=Domain 1 (Physical health; p<0.001), D2= Domain 2 (Psychological; p<0.001), D4= Domain 4 (Environment; p<0.001). However, there is no significant difference in terms of D3= Domain 3 (Social Relationship; state anxiety p > 0.001 and trait anxiety p > 0.001) and STAI scores.

Conclusion: There is a need for methodological studies that measure QOL among cancer survivors more precisely by taking into account the effects of the severity of the cancer and the long-term impact of different treatments. Additional data are needed to help us understand the needs of survivors and to identify those subgroups of survivors who are at greatest risk for the adverse sequelae of the disease and its treatment.

Key Words: Cancer Survivor, Anxiety, Depression, Quality of Life.

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INTRODUCTION

The quality of life (QOL) among cancer survivors and the means to accurately measure their QOL have commanded increased popularity and attention in the past decade. Several reasons are suggested for this increased attention. Vastly improved cancer treatment and supportive care have led to extended length of survival for many diseases.

Cancer survivor refers to a person who has been diagnosed with cancer, from the time of diagnosis throughout his or her life. The impact of cancer on survivors' family members, friends, and caregivers is also a part of survivorship. A cancer survivor is someone who is "living with or beyond cancer", someone who has completed initial cancer management and has no apparent evidence of active disease; is living with progressive disease and may be receiving cancer treatment, but is not in the terminal phases of illness; or has had cancer in the past.1

The number of cancer survivors has steadily increased over the last 3 decades and is expected to continue to increase with the implementation of improved cancer screening, the adoption of

more efficacious cancer treatment, and the aging of the population. Currently two-thirds of adults diagnosed as having cancer are expected to survive 5 years or more after diagnosis.[2] As more individuals survive cancer, it is important to understand how cancer and cancer therapies affect long-term quality of life and psychological adjustment.[3]

Cancer survivors may experience mental health concerns that affect their emotions, behavior, memory, and ability to concentrate. For example, cancer survivors may feel emotional distress like depression, fear, and anxiety after being diagnosed with cancer. Others may have trouble remembering things or paying attention as a result of side effects from their cancer treatment. Some survivors have only mild symptoms for a short time, while others have more severe symptoms that interfere with their normal daily activities, work, and personal relationships. Recent research shows that 10% of cancer survivors feel they have poor mental health, compared with only 6% of adults without a history of cancer. Cancer survivors who have other chronic illnesses are more likely to have mental health problems and poorer quality of life. Age, education level, income, marital status, and other factors can affect a cancer survivor's risk for mental health problems and poor quality of life. If left unaddressed, mental health problems can make it difficult for cancer survivors to make healthy choices such as physical activity and exercise, and can even affect survival. Unfortunately, fewer than one-third of survivors who have mental health concerns talk to their doctor about them, and many survivors do not use services like professional counseling or support groups.[4]

The need of psychological studies arises as substantial psychological distress has frequently been observed in people with chronic illness and cancer is also considered as a serious and potentially life-threatening illness, cancer patients do experience a range of psychological and physical medical challenges.[5] The main problems of long-term cancer survivors are in the areas of emotional and/or social support, health habits, spiritual/philosophical view of life and body image concerns.[6]

The characteristics used to define anxiety disorders in the common diagnostic systems employed in psychiatry, i.e. the World Health Organization's International Classification of Disorders (ICD–10).[7] and the American Psychiatric Association's Diagnostic and Statistical Manual (DSM-IV).[8] are

1) Symptoms of autonomic over-activity which includes palpitation and sweating, 2) Anxious behaviours such as restlessness and reassurance-seeking, 3) Changes in thinking include apprehension, worry and poor concentration, and 4) Physical symptoms such as muscle tension or fatigue may occur.

In context of cancer patients, anxiety levels are found high soon after the onset of cancer symptoms during investigation and diagnosis, but many people adapt over time. These effects can vary from person to person, change over time and range in intensity from mild and intermittent to fully disabling disorder. However, the prevalence of anxiety problems after a cancer diagnosis falls over the following years.[9] But may not return to population levels even with curative transation.[10] Therefore, it is well acknowledged that adults diagnosed with cancer are vulnerable to depression and anxiety.

Approximately 16-25% of newly diagnosed cancer patients experience depression or an adjustment disorder with depressed mood.[11] Depression has also been associated with functional limitations in cancer survivors[12] and both anxiety and depression can independently contribute to functional and overall health. Effective long-term management of these problems remains a challenge.[13-15]

World Health Organization (WHO).[16] defines quality of life as individual's perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. This definition reflects the view that quality of life refers to a subjective evaluation, which is embedded in a cultural, social and environmental context. Because this definition of quality of life focuses upon respondent's "perceived" quality of life, it is not expected to provide a means of measuring in any detailed fashion symptoms, diseases or conditions, but rather the effects of disease and health interventions on quality of life.

A number of illness-related factors exist that can affect QOL. The amount of symptoms distress experienced by an individual has been related to QOL in a number of people with cancer. Cancer can produce many different symptoms, some subtle and some not at all subtle. Some symptoms of cancer affecting QOL in patients would be cancer type and stage as some types of cancer do not present any symptoms until they are in advanced stages, time since diagnosis, patient acceptance and intensity of the disease and the level of psychological distress experienced by caregivers.

The concept of quality of life has particular relevance for long-term cancer survivors. While much of the focus of care during active treatment has been the support of physical and psychological well-being, aspects of social well-being (including family, friendship, and work issues) and spiritual well-being most often arise several months to years later. In addition, concerns about late effects of cancer and its treatment on physical and psychological well-being take on a vastly different picture with long term cancer survivors. For example, late effects of fatigue, pain, physical decline, sexual and intimacy issues, and cognitive impairments have been identified.[17-20] These late effects, while not life threatening, can affect day to day functioning and coping.

Psychologically, cancer survivors may be plagued by the fear associated with cancer recurrence, feelings of uncertainty over their future, loneliness, isolation, anxiety and depression.[19,21,22] Socially, cancer survivors may often face changes in their family structure and social supports. They may shield their concerns from their family in their desire to not burden them which can often lead to feelings of increased isolation from their usual friendships and supportive networks. Seeking solace and support in cancer support groups have been critical actions to help decrease feelings of loneliness and isolation. Work related fears include the concern over the extent of disclosure, change in work priorities, concern over employee benefits and insurance, discrimination and potential stigma.[23] Few employee programmes are available which address these enormous concerns. Spiritual and existential concerns most often arise after cancer treatment has been completed.[24-27] Measuring QOL among cancer survivors presents a major challenge for several reasons. First, the vast majority of standardized QOL tools focus primarily on acute treatment effects, and often do not contain a longer view of cancer survivorship with specific concerns and needs long term.[28] Current standardized QOL tools were developed to evaluate differences in cancer treatment. Much of their use in research has been to measure QOL as an intermediate endpoint in clinical trials.[29]

Present study was conducted to assess depression, anxiety level and quality of life of cancer patients visiting department of radiotherapy, Rama Medical College Hospital & Research Centre, Hapur, UP, (India) using the Beck Depression Inventory (BDI), State and Trait Anxiety Inventory (STAI) and WHOQOL BREF.

MATERIALS AND METHODS

42 cancer survivors (under cancer therapy for 1 year and above) visiting Department of Radiotherapy, Rama Medical College Hospital & Research Centre, Hapur, UP, (India) are included in the present study. Both males and females were included and age ranges between 20-70 years. Patients with mental retardation and past history of any major mental illness were excluded. Written informed consent was taken from each patient after full explanation of objectives of the study. The psychological status of the patients is assessed on BDI, WHOQOL BREF and STAI.

State and Trait Anxiety Inventory (Form Y) is developed by psychologists Charles Spielberger, R.L. Gorsuch and R.E. Lushene.[30] This self-report measure indicates the intensity of feelings of anxiety; it distinguishes between state anxiety (A temporary condition experienced in specific situations) and trait anxiety (A general tendency to perceive situations as threatening). Items 1 - 20 measure situational or state anxiety (STAI- S), and items 21 - 40 measure underlying or trait anxiety (STAI-T). Both scales are intended to form uni-dimensional measures. For the state items respondents are asked to indicate "How you feel right now, that is, at this moment." Responses indicate intensity of feeling on a 1 to 4 scale from "not at all" through "somewhat, moderately so" to "very much so." For the trait items, the question concerns "how you generally feel" and the response scale indicates frequency: "almost never," "sometimes," "often" and "almost always." After reversing scores for positively-worded items, total scores for state and trait are calculated, ranging from 20 – 80.

Beck's depression scale (BDI) is a series of questions developed to measure the intensity, severity and depth of depression in patients with psychiatric disorders. BDI was developed in 1961 by Beck.[31] and it composes 21 items, each with 4 possible responses. Each response is assigned a score ranging from zero to three indicating the severity of the symptom.

Individual questions of the BDI assesses mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, body image, work difficulties, insomnia, fatigue, appetite, weight loss, bodily preoccupation and loss of libido. Items 1 to 13 assess symptoms that are psychological in nature, while items 14 to 21 assess more physical symptoms. The standardized cut-offs used differ from the original: 0–13 (minimal depression), 14– 19 (mild depression), 20–28 (moderate depression) and 29–63 (severe depression).

The WHOQOL BREF Field Trial Version.[32] has been developed to provide a short form quality of life assessment that looks at Domain level profiles using data from the pilot WHOQOL assessment and all available data from the Field Trial Version of the WHOQOL-100. The WHOQOL-BREF contains a total of 26 questions. To provide a broad and comprehensive assessment, one item from each of the 24 facets contained in the WHOQOL-100 has been included. In addition, two items from the overall Quality of Life and General Health facet have been included. The WHOQOL-BREF should be self-administered if respondents have sufficient ability: otherwise, interviewer-assisted or interview-administered forms should be used. Standardised instructions, given on the second page of the WHOQOL-BREF example assessment, should be read out to respondents in instances where the assessment is interviewer-administered.[33]

RESULTS AND OBSERVATIONS

Observation from Table No. 1, it is cleared that the study sample consists of 16 (38.1%) males and 26 (61.9%) females. Maximum number of the sample belongs to the age group of >61 years (33.3%, 14). Further, 35 (83.3%) out of total 42 cases are married and only 7 (16.7%) cases are single (either unmarried or divorced or widowed). Maximum no. of the cases are educated up to high school (17, 40.5%). Occupation wise distribution indicates that 22 (52.4%) cases out of the total sample are housewives, 7 (16.7%) are govt. employees, 11 (26.2%) are self-employed and 2 (4.8%) are students. And monthly income wise distribution shows that out of the total sample, 13 (31%) cases earn below Rs. 10,000/, 17 (40.5%) cases earn Rs. 10,000-20,000/ and rest 12 (28.6%) cases earn above Rs. 20,000/. Further, 23 (54.8%) of the total cases live in nuclear family, whereas rest of the sample i.e. 19 (45.2%) of the cases live in joint family. And duration of the illness ranges from 2-5 years (21, 50%), 5 years and above (15, 35.7%) and 1-2 years (6, 14.3%).

Table no. 2 shows that there was a positive correlation between BDI and STAI and there is negative correlation between BDI and quality of life.

In Table 3, the study sample was compared in terms of Quality of Life and STAI scores. Comparison on both scales shows that all the dimensions of the Quality of Life except D3= Domain 3 (Social Relationship) is negatively correlated with both the two sub-types of STAI.

The state anxiety score is negatively correlated with D1=Domain 1 (Physical health; $p<0.001$), D2= Domain 2 (Psychological; $p<0.001$), D4= Domain 4 (Environment; $p<0.001$) and also the trait anxiety score of the sample is also negatively correlated with D1=Domain 1 (Physical health; $p<0.001$), D2= Domain 2 (Psychological; $p<0.001$), D4= Domain 4 (Environment; $p<0.001$). However, there is no significant difference in terms of D3= Domain 3 (Social Relationship; state anxiety $p > 0.001$ and trait anxiety $p > 0.001$) and STAI scores.

DISCUSSION

The study finding shows a positive correlation between BDI and STAI (Both State and Trait anxiety) scores indicating the relations between the two entities. Previous studies also found that in comparisons within the general population, pathological anxiety is commoner in people with cancer than in those without any chronic medical condition as well as also found that between 15% and 40% of cancer patients develop clinical anxiety and/or depression.[34-37]

On the other hand, a negative relation between BDI and Quality of Life is found signifying that level of depression directly affects the quality of life of the patients. And also the domains of the quality of life except Domain No. 3, i.e. social relationship are negatively correlated with state and trait anxiety.[33] Anxiety levels significantly affect the patient's physical and psychological health and environment as well.

Table 1: Socio-Demographic Characteristics of study population

Characteristics	Patients	N %
Gender		
Male	16	38.1
Female	26	61.9
Age Range		
21-30	3	7.1
31-40	4	9.5
41-50	11	26.2
51-60	10	23.8
>61 years	14	33.3
Marital Status		
Married	35	83.3
Single (Widowed, Divorced,	7	16.7
Education		
High school	17	40.5
University level	12	28.6
Illiterate	13	31.0
Occupation		
House Wife	22	52.4
Government Employee	7	16.7
Self-Employed	11	26.2
Student	2	4.8
Monthly Income in Indian Rupee		
<10,000	13	31.0
10,000-20,000	17	40.5
20,000 and above	12	28.6
Family Type		
Nuclear	23	54.8
Joint	19	45.2
Duration of Illness		
1-2 Years	6	14.3
2-5 Years	21	50.0
5 Years and above	15	35.7

Table 2: Correlations between Beck Depression Inventory (BDI) and State-Trait Anxiety (STAI) & Quality of Life Scale

Scales	BDI	Pearson Correlation
STAI	State anxiety	0.312*
	Trait anxiety	0.384*
Quality of life	D1	-0.513*
	D2	-0.419*
	D3	-0.321
	D4	-0.497*

D1=Domain 1 (Physical health), D2= Domain 2 (Psychological),
D3= Domain 3 (Social Relationship), D4= Domain 4 (Environment).

Table 3: Correlations between State-Trait Anxiety (STAI) & Quality of Life Scale

Scales	Quality of Life			
	D1	D2	D3	D4
State Anxiety				
Pearson Correlation	-0.424*	-0.436*	-0.239	-0.462*
P Value	<0.001	<0.001	>0.001	<0.001
Trait Anxiety				
Pearson Correlation	-0.419*	-0.497*	-0.193*	-0.489*
P Value	<0.001	<0.001	>0.001	<0.001

D1=Domain 1 (Physical health), D2= Domain 2 (Psychological),
D3= Domain 3 (Social Relationship), D4= Domain 4 (Environment).

Cancer survivors experience high levels of psychological distress, a range of feelings and emotions that people experience in reaction to cancer including depression and anxiety, with an important impact on health-related quality of life (HRQoL).[38,39]

Although most long-term cancer survivors successfully adapt to life after cancer and may even experience positive psychological effects from coping with their cancer,[40,41] but some cancer survivors develop significant and lasting psychological sequelae.[34-37] A cancer diagnosis and subsequent treatment can cause both physical and psychosocial effects. Cancer treatment can create immediate physical deficits as well as delayed physical effects that emerge many years after the completion of therapy, such as infertility, cardiac dysfunction, and a second malignant neoplasm.[42,43] A history of cancer can also have an impact on social adaptation by limiting employment opportunities and the ability to obtain health insurance coverage.[44] As a result of their cancer experience, many cancer survivors develop a fear of recurrence, health worries, a heightened sense of vulnerability, a sense of loss for what might have been, and alterations in social support.[45,46] It is important to study the psychological sequelae of the cancer experience because such mental distress is likely treatable, and early detection and intervention may improve the overall well-being and quality of life of cancer survivors.

CONCLUSION

In present study, we found that there is a positive correlation between BDI and STAI and there is negative correlation between BDI and quality of life. Study sample was compared in terms of Quality of Life and STAI scores. Comparison on both scales shows that all the dimensions of the Quality of Life except D3= Domain 3 (Social Relationship) is negatively correlated with both the two sub-types (state anxiety and trait anxiety) of STAI. There is a need for methodological studies that measure QOL among cancer survivors more precisely by taking into account the effects of the severity of the cancer and the long-term impact of different treatments. Additional data are needed to help us understand the needs of survivors and to identify those subgroups of survivors who are at greatest risk for the adverse sequelae of the disease and its treatment.

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