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Prevalence of Depression and Anxiety in Breast Cancer Patients and its Comparison with Cervical Cancer Patients in a Tertiary Care Center

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ABSTRACT

Cancer is a series of traumatic stresses and events. Cancer patients and their families face multiple challenges in the areas of resuming and maintaining life activities, coping with treatment and side effects, managing the emotional impact and stresses and adjusting to significant long term losses and changes. To assess the difference among the two groups (Cervical cancer patient and breast cancer patient groups) and to assess the difference between quality of life among the two groups. This is a cross sectional prospective study. This study was conducted at Department of Radiotherapy in a tertiary care general hospital, R. G. Kar Medical College and Hospital, Kolkata, West Bengal from 18 months. We found that in Breast Cancer, the mean HAM A score (mean±S.D.) of patients was 22.0417± 6.9644. In Cervical Cancer, the mean HAM A score (mean± S.D.) of patients was 23.5521± 6.7009. Distribution of mean HAM A score with Type of cancer was not statistically significant (p = 6.7009). Studies that focus on prevention are minimal and research covering low- and middle-income populations is limited. Research is urgently needed into the possible impacts of long-term and late effects of cancer treatment on mental health and how these may be prevented, as increasing numbers of people live with and beyond both Breast and cervical cancer.

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Key Words
Breast cancer, HAM, CCS and YLDs

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INTRODUCTION

Cancer is a series of traumatic stresses and events. Cancer patients and their families face multiple challenges in the areas of resuming and maintaining life activities, coping with treatment and side effects, managing the emotional impact and stresses and adjusting to significant long term losses and changes. Depression and anxiety are not uncommon among people diagnosed with cancer. Patients with untreated depression or anxiety are less likely to take their cancer treatment positively and continue good health habits because of fatigue or lack of motivation. They may also withdraw from family or other social support systems, which means they will not ask for the needed emotional and financial support to cope with cancer. This in turn may result in increasing stress and feelings of despair. Routine screening for distress is internationally recommended as a necessary standard for good cancer care[1].

Body image perception is the image that is generated in the mind by perceiving physical appearance of the body, in other words how people view their bodies. Body image is a dynamic perception that is influenced by experiences and physiological status of the people, as well as emotional factors. Due to surgical intervention, loss of organ, pain and chemo radiation, there is chance of distorted body image perception as well as reduced quality of life among cancer patients.

An important component of Quality of life (QOL) of Breast cancer patients is Body Image perception. Both QOL and Body Image perception has role in coping mechanism of women with cancer, particularly Breast Cancer and thus maybe has relationship with depression[2].

Anxiety is an alerting signal, which warns of impending danger and enables a person to deal with a threat. Anxiety can be conceptualized as a normal and adaptive response to threat that prepares the organism for flight or fight[3]. Anxiety disorders can be viewed as a family of related but distinct psychiatric disorders, which include -

- Panic disorder
- Agoraphobia
- Specific phobia
- Social phobia
- Generalized anxiety disorder

An acute intense attack of anxiety accompanied by feelings of impending doom is known as Panic Disorder.

Aims and objective

General objectives:

- To assess depression and anxiety among breast cancer patients
- To assess depression and anxiety among cervical cancer patients
- To assess quality of life among patients of breast cancer
- To assess quality of life among patients of cervical cancer
- To assess the difference among the two groups (Cervical cancer patient and Breast Cancer patient groups)

Specific objectives:

- To assess the difference among occurrence of depression and anxiety between two groups (Cervical cancer patient and Breast Cancer patient groups)
- To assess the difference between quality of life among the two groups
- To assess the difference between body image perception among the two groups (Cervical cancer patient and Breast Cancer patient groups)

MATERIALS AND METHODS

Study design: This is a Cross Sectional Prospective study.

Study area and settings: Patient attending the outpatient facility of the Department of Radiotherapy in a tertiary care general hospital, R. G. Kar Medical College and Hospital, Kolkata, West Bengal.

The patients should be diagnosed cases of Breast Cancer and Cervical Cancer.

Study period: The study was completed within a period of 18 months from inception-first 3 months of preparatory work, followed by subject recruitment and data collection over a span of 12 months. (The study shall commence from the time of attainment of permission from ethical committee of university up to 12 months). Data analysis and reporting has taken another 3 months.

Inclusion criteria: The patients attending the outpatient facility of the Department of Radiotherapy, R.G. Kar Medical College and Hospital, Kolkata fulfilling the following criteria:

- Histopathologically proved and already diagnosed cases of breast cancer and cervical cancer
- Female patient of the age group 18-50 years
- Consented to participate in the study

Exclusion criteria: Cases to be excluded if:

- Diagnosis of cancer made in the current visit or within previous 2 week
- Patient is in critical condition
- Patient is unable to communicate

- Language or hearing difficulties
- Patient has cognitive impairment
- Incomplete records
- Patient has ongoing psychological treatment or have pre existing psychiatric diseases other than anxiety and depression
- Patient having both the breast and cervical cancer

RESULTS AND DISCUSSIONS

This is a cross sectional prospective study based on patients attending the outpatient facility of the Department of Radiotherapy in a tertiary care general Hospital R. G. Kar Medical College and Hospital, Kolkata, West Bengal.

Spiegel and Giese-Davis[4] found that Depression and anxiety co-occur commonly among Cancer patients.

In Our study, Association of Age in group with type of Cancer was not statistically significant (p = 0.9689).

Among Breast Cancer, 67 (69.8%) patients were belonging to Lower Class, 16 (16.7%) patients were belonging to Lower Middle Class and 13 (13.5%) patients were belonging to Middle Class. Among Cervical Cancer, 68 (70.8%) patients were belonging to Lower Class, 16 (16.7%) patients were belonging to Lower Middle Class and 12 (12.5%) patients were belonging to Middle Class. Association of SES with Type of Cancer was not statistically significant (p = 0.9766).

Also we found that in Breast Cancer, 73 (76.0%) patients were from rural area and 23 (24.0%) patients were from urban area. In Cervical Cancer, 74 (77.1%) patients were from rural area and 22 (22.9%) patients were from urban area. Association of residence with type of cancer was not statistically significant (p = 0.8647).

We showed that among patients with Depression, 30 (21.9%) patients appeared Illiterate. Association of Education with Depression was not statistically significant (p = 0.8538).

Yang *et al*.[5] found that the sample was extracted from a database that consists of 9000 patients who completed the Brief Symptom Inventory as a component of comprehensive cancer care. Relevant data points for each case included age, diagnosis, gender, insurance status, marital status, race and zip code.

Our study showed that in Breast Cancer, the mean Age (mean±S.D.) of patients was 47.6667±12.2248 years. In Cervical Cancer, the mean Age (mean± S.D.) of patients was 47.6667± 12.2085 years. Distribution of mean Age among different types of cancer was not statistically significant (p = 0.8272).

We found that in breast cancer, the mean HAM A score (Mean± SD.) of patients was 22.0417±6.9644. In Cervical Cancer, the mean HAM A score (Mean±S.D.) of patients was 23.5521±6.7009. Distribution of mean HAM A score with type of cancer was not statistically significant (p = 6.7009).

In Breast Cancer, the mean HAM D score (mean± S.D.) of patients was 14.4063±8.0231. In Cervical Cancer, the mean HAM D score (mean±S.D.) of patients was 14.4063±7.8531. Distribution of mean HAM D score with Type of cancer was not statistically significant (p = 7.8531). It signifies that though there is some clinical difference of Depression among Breast cancer and Cervical cancer patients in our study, there was no statistical difference present between these two.

In our study, among Initial stage of Breast cancer patients, 5 (71.4%) patients had Depression as per HAM D score while 2 (28.6%) patients didn't have Depression. Among middle stage of Breast cancer patients, 41 (68.3%) patients had Depression as per HAM D score while 19 (31.7) patients didn't have Depression and among advanced stage of Breast cancer patients, 17 (58.6%) patients had Depression as per HAM D score while 12 (41.4%) patients didn't have Depression. Association of Stages of Breast Cancer with Depression was not statistically significant (p=0.6280). In our study, it was found that among Initial stage of Cervical cancer patients, 4 (80.0%) patients had Anxiety as per HAM A score while 1 (20%) patients didn't have Anxiety. Among middle stage of Cervical cancer patients, 23 (63.9%) patients had Anxiety as per HAM A score while 13 (36.1%) patients didn't have Anxiety and among advanced stage of Breast cancer patients, 35 (63.6%) patients had Anxiety as per HAM A score while 20 (36.4%) patients didn't have Anxiety. Association of Stages of Cervical Cancer with anxiety was not statistically significant (p = 0.7601).

In our study, it was found that among Initial stage of cervical cancer patients, 5 (80.0%) patients had Depression as per HAM D score while 1 (20.0%) patient didn't have Depression. Among middle stage of Breast cancer patients, 30 (83.3%) patients had Depression as per HAM D score while 6 (16.7%) patients didn't have Depression and among advanced stage of Breast cancer patients, 40 (72.7%) patients had Depression as per HAM D score while 15 (27.3%) patients didn't have Depression. Association of stages of cervical cancer with depression was not statistically significant (p = 0.4939).

As both the Cervical as well as Breast cancer are very stressful condition and create similar type of distresses as both causes similar type of distortion among female sexual organs (As surgery is a mainstay of treatment, at least up to middle stage) and also causes significant economic difficulties, there is no significant difference between occurrence of Depression and Anxiety among Cervical and Breast cancers.

We found that in Advanced stage of Breast Cancer, the mean BIQ score (mean±S.D.) of patients was 50.4828±12.4143. In advanced stage of Cervical

Table 1: Distribution of mean WHOQOL BREF scores among type of cancer

WHOQOL BREF 1 physical health	No.	Mean	SD	Median	p-value
Breast cancer	96	11.0833	3.0493	10.0000	0.7152 (Insignificant)
Cervical Cancer	96	10.9271	2.8736	10.0000	
WHOQOL BREF 2 psychological					
Breast cancer	96	10.9375	3.0186	10.0000	0.3554 (Insignificant)
Cervical cancer	96	11.3229	2.7396	11.0000	
WHOQOL BREF 3 social					
Breast cancer	96	10.5938	2.5612	11.0000	0.5529 (Insignificant)
Cervical cancer	96	10.8229	2.7758	11.0000	
WHOQOL BREF 4 environmental					
Breast cancer	96	10.6146	2.8111	10.0000	0.2851 (Insignificant)
Cervical cancer	96	11.0625	2.9764	11.0000	

Table 2: Association of type of cancer and anxiety

HAM A (>7 = anxiety)					
Type of cancer	Anxiety	No anxiety	Total	Chi-square	p-value
Breast cancer	53	43	96	1.7563	0.1850
Row (%)	55.2	44.8	100.0		
Col (%)	46.1	55.8	50.0		
Cervical cancer	62	34	96		
Row (%)	64.6	35.4	100.0		
Col (%)	53.9	44.2	50.0		
Total	115	77	192		
Row (%)	59.9	40.1	100.0		
Col (%)	100.0	100.0	100.0		

Cancer, the mean BIQ score (mean± S.D.) of patients was 47.3636± 11.0326. Distribution of mean BIQ score with Advanced Stage of Cancers was not statistically significant (p = 0.2416) (Table 1).

In our study in Middle stage of Breast Cancer, the mean BIQ score (mean±S.D.) of patients was 49.5333±11.5075. In Middle stage of Cervical Cancer, the mean BIQ score (mean±S.D.) of patients was 47.3611±9.2309. Distribution of mean BIQ score among Middle Stage of Cancer was not statistically significant (p = 0.3388) and in Initial stage of Breast Cancer, the mean BIQ score (Mean±S.D.) of patients was 46.8571±9.9403. In Initial stage of Cervical Cancer, the mean BIQ score (mean±S.D.) of patients was 47.0000±12.9422. Distribution of mean BIQ score among Initial Stage of Cancers was not statistically significant (p = 0.9831) (Table 2).

Thus it was found in our study that overall cancer patients with both Anxiety and Depression had statistically significant disturbance in Body Image perception, which may be attributed to surgical loss of Female Sexual organs in our cases but there was no statistically significant difference between Body Image perception between breast cancer and cervical cancer patients, as shown in stage wise studies.

Yang *et al*.[6] concluded that higher prevalence of Anxiety and Depression among cervical cancer may be due to the fact that cervical cancer may affect female fertility directly and in sexually conservative developing countries it may lead to significant distress and disturbance in Body image perception leading to clinically significant Depression and anxiety and it may also affect QOL among those patients.

In our study among Patients with Anxiety, the mean WHOQOL BREF 1 physical health (mean±S.D.) of patients was 10.6000± 2.7492. Among patients without Anxiety, the mean WHOQOL BREF 1 physical health (mean±S.D.) of patients was 11.6104±3.1629. Distribution of mean WHOQOL BREF 1 physical health score among anxiety was statistically significant (p = 0.0199). It signifies that among cancer patients with Anxiety, there is statistically significant poorer Quality of life in respect to physical health than cancer patients without anxiety and in Middle stage of Breast Cancer, the mean WHOQOL BREF 1 physical health score (mean±S.D.) of patients was 11.4333±3.0773. In Middle stage of Cervical Cancer, the mean WHOQOL BREF 1 physical health score (mean±S.D.) of patients was 10.7222±2.5703. Distribution of mean WHOQOL BREF 1 physical health score among Middle Stage of Cancer was not statistically significant (p = 0.2475).

It was found that distribution of mean WHOQOL BREF 2 psychological score among anxiety patients was not statistically significant (p=0.2214), distribution of mean WHOQOL BREF 3 social score among Anxiety was not statistically significant (p = 0.8062) and distribution of mean WHOQOL BREF 4 environmental score among Anxiety was also not statistically significant (p = 0.1468), distribution of mean WHOQOL BREF 2 psychological score among cancer patients with Depression was not statistically significant (p = 0.5133), distribution of mean WHOQOL BREF 3 social score among cancer patients with Depression was not statistically significant (p = 0.9031) and the distribution of mean WHOQOL BREF 4 environmental score among cancer patients with depression in our study was also not statistically significant (p = 0.0527).

Our study showed that in Initial stage of Breast Cancer, the mean WHOQOL BREF 2 psychological score (mean±S.D.) of patients was 9.4286±1.7182. In Initial stage of Cervical Cancer, the mean WHOQOL BREF 2 psychological score (mean±S.D.) of patients was

11.6000±2.0736. Distribution of mean WHOQOL BREF 2 psychological score with Initial Stage of Cancer was not statistically significant (p = 0.0753). It also showed that in Initial stage of breast cancer, the mean WHOQOL BREF 3 social score (mean±S.D.) of patients was 9.7143±2.0587. In Initial stage of Cervical Cancer, the mean WHOQOL BREF 3 social score (mean±S.D.) of patients was 9.4000± 1.5166. Distribution of mean WHOQOL BREF 3 social score with Initial Stage of Cancer was not statistically significant (p = 0.7789).

There was no statistically significant difference of QOL in psychological, social and environmental aspect between Breast cancer and cervical cancer patients, even in stage wise comparison and also no difference in these aspects also found between cancer patients with anxiety and depression.

CONCLUSION

This study was aimed to find out the difference of occurrence of depression and anxiety between cervical cancer patient and Breast Cancer patient groups and to assess the difference between quality of life as well as body image perception among the two groups. It was found that though anxiety and depression were prevalent in both Breast cancer patients (55.2% had anxiety and 65.6% had depression) and cervical cancer patients (64.6% had Anxiety and 77.1% had Depression) but the difference of prevalence of both anxiety and depression between the groups were not significant. Though poorer physical health related QOL was found among initial stage of cervical cancer patients in comparison to initial stage of Breast Cancer patients, this difference was lost in later stages. It was also observed that QOL in psychological, social and environmental domain had no significant difference among Breast Cancer and Cervical Cancer patients, even on stage wise study. It was found that Body image perception was disturbed in cancer patients with both Depression and anxiety, however there was no significant difference of body image perception between Breast cancer and Cervical cancer patients across all stages. As also evident in previous studies the surgical intervention in both the cancers leads to disturbed sexual drive and fertility related factor which may be attributed to disturbance of Body Image Perception in both the groups. Studies that focus on prevention are minimal and research covering low- and middle-income populations is limited. Research is urgently needed into the possible impacts of long-term and late effects of cancer treatment on mental health and how these may be prevented, as increasing numbers of people live with and beyond both Breast and cervical cancer. Thus the present study justifies larger and more in-depth exploration of these issues, including studies focused more on causative factors of Depression and Anxiety among both Breast cancer and Cervical cancer patients.

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