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Psychological Distress among Breast Cancer Survivor and Their Spousal Caregiver

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ABSTRACT

Background: Cancer journey increases the risk for anxiety and depression not only for the breast cancer survivor but also for the spousal caregiver. The purpose of this study was to determine the relationship between psychological distress among breast cancer survivors and their spousal caregivers.

Methods: This study used a cross-sectional design where the baseline data on anxiety and depression of breast cancer survivors and their spousal caregivers (dyads) collected for Randomized Controlled Trial were analyzed. Hospital Anxiety and Depression Scale was used to collect data from 64 breast dyads during June to July 2022.

Results: Among breast cancer survivors 37.6% had moderate to severe anxiety while 15.6% of spouses had moderate anxiety. Among breast cancer survivors 35.9% had mild, 15.6% had moderate and 4.5% had severe depression level. Among spouses 18.8% had mild and 7.8% had moderate depression level. The anxiety and depression of dyads were positively correlated. There has been significant direct effect of anxiety of survivor on depression of survivors. Moreover, there is significant direct effect of spouse' anxiety and survivor's depression on spouse's depression while survivor's anxiety has significant indirect effect on spouse's depression.

Conclusions: There has been significant influence of spouse's anxiety, survivors' anxiety and depression on the depression level of the spouse. Thus, early dyadic stress management interventions are warranted.

Keywords: Anxiety; breast cancer survivor; depression; Nepal; spousal caregiver.

INTRODUCTION

Distress is an important sequela of cancer diagnosis and treatment.[1] Among breast cancer survivors (BCS) along with higher prevalence [2,3], odds of symptoms of anxiety and depression were significantly higher than matched controls.[3] Cancer journey puts significant demands on spousal caregiver of BCS increasing psychosocial challenges leading to anxiety and depression. [4,5] Psychological distress among cancer patients and caregivers is positively associated [6] and is interdependent between BCS and caregiver.[7] Significant BCS to caregiver partner effects for anxiety and depression exists.[7]

Biopsychosocial frameworks of Biobehavioral Family Model[8] and Dyadic Coping Theory[9] indicate that significant stressors like cancer have potential to influence psychological and physical health of more than the afflicted patient. The stress of a survivor can influence another's and can result in a deleterious spiral of psychological health. This study aimed to determine the relationship between anxiety and depression among breast cancer survivors and their spousal caregivers.

METHODS

This study is a part of Randomised controlled trial study conducted among breast cancer survivors and their spouse for determining the effects of dyadic psychoeducational intervention in Nepal. This study used a cross-sectional

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design where the baseline data on anxiety and depression of breast cancer survivors and their spousal caregivers were analyzed. Breast cancer survivors and their spouses were contacted from the registry and outpatient department of Bhaktapur Cancer Hospital and were recruited. The study was carried out during June to July 2022.

The study was conducted after receiving ethical approval from Institutional Review Board of Faculty of Nursing, Mahidol University (COA No. IRB-NS2022/660.1402) and Nepal health research council (Ref. No. 2620). Informed verbal consent was recorded from the participants. Voluntary participation was ensured.

Study sample for this study included female breast cancer survivors of Nepal who had completed the primary treatment from Bhaktapur Cancer Hospital for at least one year and not more than 5 years without the sign of recurrence and their spouses. The spousal caregivers were recruited if they were of age greater than 18 years, had been identified as a caregiver by their breast cancer survivor wife and if they could access and communicate via telephone or mobile phone.

Kline (1998) asserts that a sufficient sample size should always be 10 times the number of parameters in a path analysis. [10] As there are 4 parameters; anxiety and depression for each breast cancer survivor and their spouse, sample size above 40 was the requirement. With the inclusion criteria 64 dyads were recruited in the study.

Hospital Anxiety and Depression Scale (HADS) developed by Zigmond and Snaith was used to measure anxiety and depression among breast cancer survivors and their spousal caregivers.[11] It consists of 14 items (7 each for anxiety and depression) rated on a four-point scale ranging from 0 (not at all) to 3 (very often). Scores range from 0-21 for each subscale. Nepali version of HADS with Cronbach's alpha of 0.76 for anxiety (HADS-A) and 0.68 for depression (HADS-D) was used in the study.[12]

Data collection occurred using telephone. Further, the study was conducted during COVID-19 pandemic. When potential breast cancer survivors and their spousal caregivers met inclusion criteria, they were provided with all the information regarding the study and their queries were answered. Verbal consent was recorded from the couple who met the inclusion criteria and volunteered to participate. BCS and their spouses were called separately for the data collection.

Data were analyzed using a Statistical Package for Social Sciences. Descriptive statistics and a hierarchical regression analysis were performed. In the first step, spousal depression was a dependent variable while spousal anxiety, survivor's anxiety and depression were independent variables. In the second step, survivor's depression was a dependent variable while survivors and spouse's anxiety were independent variables. A Sobel test was conducted to test the mediating criteria and to assess whether indirect effect was significant or not. A P-value of <0.05 indicated statistical significance.

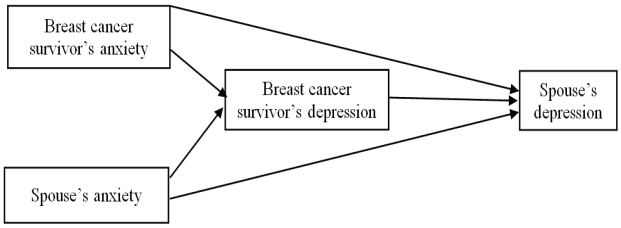

Figure 1. Hypothesized Path Model.

RESULTS

The mean age of BCS was 42.8 years (SD=6.89) and the spouses was 47.6 years (SD=8.42). The mean score for anxiety for BCS was 9.953 (SD=3.670) while that for spouse was 7.515 (SD=3.172). Among BCS 37.6% had moderate to severe anxiety while 15.6% of spouses had moderate anxiety. The mean score for depression for BCS was 7.421 (SD=4.385) and that for spouses was 5.093 (SD=3.56). Almost 5% BCS had severe depression and almost 8% spouses had moderate level of depression (Table 1). Significant positive correlation was observed for survivor's depression with survivor's anxiety (r=0.576, p<0.001), spouse's depression (r=0.352, p=0.002) and spouse's anxiety (r=0.247, p=0.025). Similarly, significant positive correlation was observed for spouse's depression with spouse's anxiety (r=0.532, p<0.001), survivor's anxiety (r=0.301, p=0.008). Moreover, there was a positive correlation between spouse's anxiety and survivor's anxiety (r=0.265, p=0.017) (Table 2).

The hierarchical regression analysis was performed. In the first step, spouse's anxiety score (β=0.474, p<0.001), survivor's depression (β=0.235, p=0.033) explained 33.5% variance on spouse's depression score. In the second step, survivor's anxiety (β=0.576, p<0.001) explained 33.2% variance on survivor's depression score (Table 3). A Sobel test was conducted to test the mediating criteria and to assess whether indirect effect was significant or not. The result test showed that survivor's anxiety score had indirect effect (β=0.135) on spouse's depression. Further,

the Sobel test value (z) was 2.315 (p=0.020).

Survivor's depression score (β=0.235) and spouse's anxiety score (β=0.474) had significant direct effect while survivor's anxiety score had significant indirect effect (β=0.135) on spouse's depression score. Survivor's anxiety score had significant direct effect (β=0.576) on survivor's depression score (Table 4).

Table 1. Level of anxiety and depression among breast cancer survivors and their spouse (N=64).

Variable	Survivor		Spouse	
	Frequency	Percent	Frequency	Percent
Level of anxiety				
Normal (0-7)	13	20.3	30	46.9
Mild case (8-10)	27	42.2	24	37.5
Moderate case (11-15)	20	31.3	10	15.6
Severe case (16-21)	4	6.3		
Range	0-21		0-14	
Mean (SD)	9.953 (3.670)		7.515 (3.172)	
Level of depression				
Normal (0-7)	28	43.8	47	73.4
Mild case (8-10)	23	35.9	12	18.8
Moderate case (11-15)	10	15.6	5	7.8
Severe case (16-21)	3	4.7		
Range	0-19		0-14	
Mean (SD)	7.421 (4.385)		5.093 (3.562)	

Table 2. Correlation of study variables (N=64).

Variables	Survivor's depression	Survivor's anxiety	Spouse's anxiety	Spouse's depression
Survivor's depression	1.000			
Survivor's anxiety	0.576 (0.000)	1.000		
Spouse's anxiety	0.247 (0.025)	0.265 (0.017)	1.000	
Spouse's depression	0.352 (0.002)	0.301 (0.008)	0.532 (0.000)	1.000

Table 3. Hierarchical regression analysis for depression scores of survivors and spouses (N= 64).

Dependent variable	Independent Variable	B	Std Error	Beta	T	Sig	R	R square	F	Sig
Spouse's depression	Spouse anxiety score	0.533	0.121	0.474	4.403	0.000	0.579	0.335	15.378	0.000
	Survivor's depression score	0.191	0.088	0.235	2.183	0.033				
Durbin-Watson 1.678, VIF=1.065										
Survivor's depression	Survivor's anxiety score	0.688	0.124	0.576	5.550	0.000	0.576	0.332	30.802	0.000
Durbin-Watson 1.510, VIF=1.000										

Table 4. Standardized total effect, direct effect and indirect effect between study variables (N=64).

Variables	Spouse's depression			Survivor's depression		
	TE	DE	IE	TE	DE	IE
Survivor's depression	0.235	0.235	-			
Survivor's anxiety	0.135	-	0.135	0.576	0.576	-
Spouse's anxiety	0.474	0.474	-	-	-	-

Note: TE=total effect, DE=direct effect, IE= indirect effect

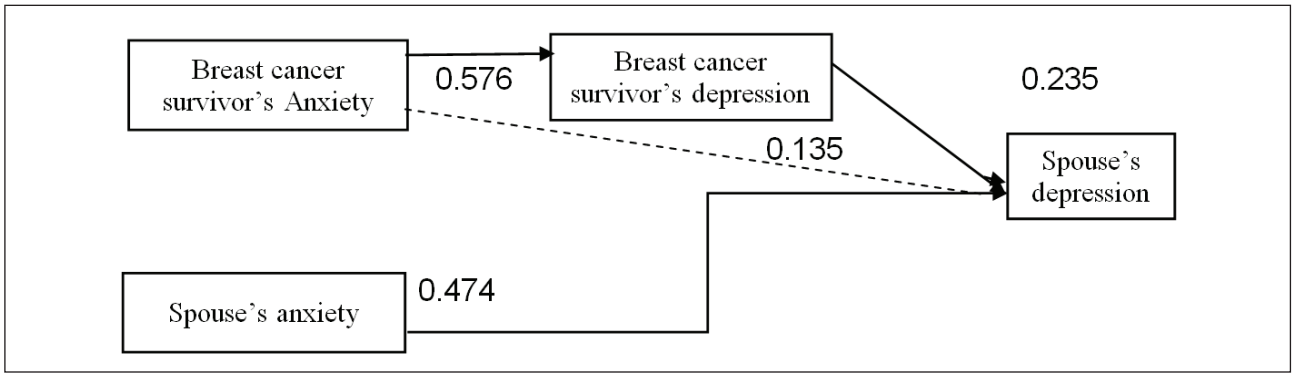

Figure 2. Final Path Model.

DISCUSSION

In the present study among survivors, the mean score for anxiety was 9.953 (SD=3.670) and for depression was 7.421 (SD=4.385). Moreover, 42.2% BCS had mild, 31.3% had moderate and 6.3% had severe level of anxiety while 35.9% of BCS had mild, 15.6% had moderate and almost 5% of BCS had severe level of depression. The findings are comparable with a study exploring psychological distress among cancer survivors in Southeast Asia (eight low- and middle-income countries of this region) including 1654 BCS where 37% of survivors had mild level of anxiety while 46% had mild level of depression.[13] In Nepal a study including both breast cancer patients and survivors suggest that 4.2 % had severe, 60% had moderate and 29.2% had mild depression, 48.3% had moderate and 15.8% had severe anxiety.[14] The prevalence was higher among BCS from Saudi Arabia where 57% had moderate to severe depression and 44% had moderate to severe anxiety.[15] This finding is not consistent with previous studies in USA[16], Spain.[17] Among breast cancer patients in India mean score for anxiety 11.14 (SD=4.23) and depression 6.87 (SD=3.11) at diagnosis decreased after 12 months follow up to 8.64 (SD=3.63) and 5.13 (SD=4.51) respectively which is still less than the findings of this study.[18] Although it has been mentioned that the follow up was done after 12 months of diagnosis it does not specify what treatment did these breast cancer patients underwent. As per our study all the breast cancer survivors underwent surgery, chemotherapy, radiation therapy and or hormonal therapy so this cohort of BCS might have different anxiety and depression score for those who did different treatment regime.

Living with cancer is associated with the emergence of numerous fears in the minds of breast cancer patients, including the fear that the disease is incurable, changes in body image, fear of death, separation from loved ones, fear of pain, and loss of the feminine symbol, which causes fear of disfigurement, disability, dependence, and disruption of relationships. This results in issues of anxiety, depression, mood, and sexual function disorder.[19, 20] In addition to this survivor indicated challenges with upholding family roles and responsibilities, insecurities in marriage, and other concerns that made them anxious and depressed. Among women, various life changes in personal, family as well as professional areas resulting from disease may condition survivor's adaptation to their new state and leads to anxiety, depression or stress related disorders which can even co-occur.[21]

Additionally, research eveals that anxiety and depression are linked to high levels of stigma. Stigma is related to complex social appraisal of cancer. In the context of Asia, stigma journey begins with misattribution of cause and nature of disease.[22] Thus, higher level of education leads to better awareness regarding breast cancer and less stigma. In developing countries, helping women comprehend the disease process and addressing unwarranted worries

during their cancer journey is recommended. [22]

In current study among spouses of BCS, the mean score for anxiety was 7.515 (SD=3.172) and for depression was 5.093 (SD=3.56). Moreover, 37.5% of spouses had mild and 15.6% had moderate level of anxiety while 18.8% had mild and almost 8% of spouses had moderate level of depression. Findings from Malaysia were comparable where 17.69% of caregivers of women with breast cancer (17.69%) were diagnosed to have depressive disorders. [23] A systematic review and meta-analysis reported that anxiety was reported by 8.9%-41% and depression by 8.9%-60% of breast cancer caregivers. [24] Findings from India indicates higher prevalence compared to current study, 35% had mild depression, 16% had moderate depression, and 2% had severe depression .[25] This finding from India is from the caregivers of breast cancer patients undergoing active anticancer treatment and the study was also conducted in tertiary care cancer hospital. This suggests that psychological morbidities like anxiety and depression start among caregivers of breast cancer patients from the beginning of cancer journey. As in our study we had caregivers of breast cancer survivors who had already completed the cancer treatment, the prevalence of anxiety and depression was comparatively less. As we know that diagnosis, treatment related side-effects, prognosis related issues and other issues like financial issues are more prominent during the treatment phase because of which there might have higher prevalence of anxiety and depression among caregivers of breast cancer patients from India.

In this study survivors were more anxious and depressed compared to spouses. As this study previous studies among partners of breast cancer survivors also suggest that anxiety scores were more than depression scores in HADS.[26]

Given that the majority (62.5%) of the dyads in this study came from nuclear families, increased roles and obligations within the family and home may be the cause of anxiety among spouses. Additionally, the majority of spouses are engaged in income generating work. Maintaining balance between caregiving, familial, societal, income generating roles and responsibilities increases burden among caregivers.[25] Further burden of caregiving is linked with emotional distress, financial distress, physical stress, fear of uncertainty and caregivers from low- and middle-income countries face special challenge because of under resourced and limited cancer support systems.[27] Also, the majority of spouse in the intervention group indicated that they rarely express their feelings and emotions during hard times with family and friends, which reflect the societal construct of Nepal where males are always supposed to stay strong. They should not cry, which limits emotional ventilation and may lead to anxiety.

The findings of this study are in line with previous studies where a positive correlation was found between the anxiety and depression scores of dyads. [28] Additionally, one longitudinal study discovered that the link between patient psychological morbidity and caregiver psychological morbidity might be stronger in partner-dyads as compared to non-partner dyads.[29] Further, Actor Partner Interdependence Modeling also showed that Patients' anxiety symptoms were positively correlated with their own depression symptoms, with a similar effect on caregivers. Patients' own anxiety was concurrently positively associated with their caregivers' depressive symptoms, with an equal effect for caregivers to patients.[30] A systematic review of dyadic studies examining depression in couple facing breast cancer concluded that depression is prevalent in both patients and partners, and depression in one member of the dyad predicted depression in their companion.[29]

There are some limitations of this study. This study included breast cancer survivor dyads from the registry of only one hospital (Bhaktapur Cancer Hospital). A broader study including all of Nepal's cancer treatment facilities, can be conducted. A formal sample size calculation was not calculated for this study. During the interpretation of current findings, we must consider that this study was conducted during the time of COVID-19 pandemic which might have significant influence on the prevalence of anxiety and depression among breast cancer survivors as well as their spousal caregivers.

Conclusion

Psychological morbidities like anxiety and depression affect both breast cancer survivors and their spousal caregivers. Anxiety and depression among BCS and their spousal caregivers are positively correlated. Further, there has been a significant direct effect of anxiety of BCS on depression of BCS. Moreover, there is significant direct effect of spouse' anxiety and survivor's depression on spouse's depression while survivor's anxiety has significant indirect effect on spouse's depression. This demonstrates how important it is to do early psychological screening for BCS and their spousal caregivers, along with stress prevention and stress management programs, in order to reduce the likelihood of developing anxiety and depression. This emphasizes the need of treating cancer patients/survivors, and their spouses as a single unit of care within the field of psycho-oncology.

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CONFLICT OF INTEREST

There are no conflicts of interest.

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