Evaluation of psychological distress in breast cancer patients during the COVID- 19 pandemic

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Abstract

Cancer patients are the vulnerable group of population and have more chances of contracting Corona virus disease 2019 (COVID-19). They are at great risk of passing through very stressful events during this COVID-19 pandemic that may lead to different psychological problems. Different psychological symptoms of breast cancer patients are evaluated in this study during the COVID- 19 pandemic. Consecutive fifty women selected with a non-metastatic breast cancer, scheduled to receive cancer treatment in the upcoming days/weeks not Received treatment in the past, completed the Impact of Event Scale-Revised(IES-R), the Hospital Anxiety and Depression Scale (HADS-A and HADS-D), the Fear of Cancer Recurrence Inventory (FCRI) and the Insomnia Severity Index (ISI) and questionnaires. The study was conducted at Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh from the 1st July 2020 to the 30th June 2021. Patients were investigated about their worries regarding the impact of COVID-19 on their lives as carcinoma breast patients. Since the 1st July 2020 to the 30th June 2021, Consecutive 50 patients were prospectively evaluated. They were diagnosed with non-metastatic breast cancer. The mean age was 42.3 (range 30–70). Most of the patients (90%, n. 45) are married, 8% (n.4) patients are single and 2% (n. 1) patients are widowed. Among the patients 24 (48%) patients have high school or less education level, 19 (38%) have college experience and 7 (14%) have university degrees. Ten patients (20%) lived alone, 8 (16%) with one or two family members, and 32 (64%) with three or more family members. Concerning their working life, 36 (72%) were not working (namely housewives, retired, unemployed, or students) and 14 (28%) was occupied. In consideration of economic status 52% (n. 26) patients have annual family income in BDT 250001- 350000. On the other hand 22% (n. 11) within BDT 350001- 450000, 14% (n. 7) within BDT 150000- 250000, 6% (n. 3) within BDT 450001-550000 and 6% (n. 3) within BDT >550000 respectively. We found that 62% of patients had anxiety (HADS-A), 66% depression (HADS-D), and 68% fulfilled the diagnostic criteria for mild post-traumatic stress disorder (PTSD), 2% patients for moderate and 2% patients for severe PTSD. Results revealed that 50% (n.25) patients were suffering from subthreshold insomnia. On the other hand 46% (n.23) patients had no clinically significant Insomnia but 2% (n.1) patients had moderate and severe insomnia in each category. The Fear of Cancer Recurrence Inventory (FCRI) score was 14.7(SD ± 6.2) which was more than the cut-off value. Breast cancer patients pass through many stressful events that may develop significant psychological symptoms during this COVID-19 pandemic. The outcome of this study definitely contributes to understand the psychological distress of cancer patients and a to formulate a better plan for their management and psychological support.

Introduction

The recent pandemic situation with COVID-19 has been a factor causing intense mental stress for all but those who are fighting their battle with cancer seems to experience it even more than others.[1,2] This cohort group usually is immunocompromised due to their disease process as well as their treatment procedures like chemotherapy; which makes them more vulnerable and increases their risk of contracting the virus and going through

severe complications in comparison to general population[3–7]. On top of it, social distancing and lockdown in countries is making availability of social and mental support from other people around them very restricted.[3] Since in most of the countries, COVID19 has been the first priority to deal with in the hospital due to the emergency situation it creates, cancer has been marked as non-urgent and thus there treatment schedule has been changed and delayed in many centers. The cancer patients naturally got worried and anxious about their outcome in the long run.[3,7] The psychological aspect of the cancer patients was not studied much but some studies done on breast cancer patients showed that disruption in cancer treatment has made a significant effect on their mental health particularly in emotional vulnerability, anxiety and depression.[8] It was shown to be even worse for cancer patients who developed job insecurity in another study.[9] Interestingly, majority of the patients included in the studies were not even receiving any active cancer treatment.[8,9] This was a cross sectional study which aimed for assessing the connection with psychological symptoms like anxiety, depression, fear of cancer recurrence (FCR) of disease, insomnia etc. in breast cancer patients undergoing cancer treatments in relation to COVID 19. Anxiety, depression, insomnia and FCR was picked because these symptoms has also raised in general population as a whole ever since the pandemic has stricken.[10,11] or some factors having actual possibility of becoming true like FCR being a concern for real if treatment is being delayed for non-urgency.

Methods

Procedure

Patients with non-metastatic breast cancer between 30 and 70 years of age; Scheduled to receive cancer treatment in the upcoming days/weeks without Severe illness were included in this study after signing of informed written consent. All data were collected from 1st May 2020 to the 31st May 2021 at the Surgery department of Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh. Approval for the study was obtained from the local ethical committee. The Impact of Event Scale-Revised (IES-R), the Hospital Anxiety and Depression Scale (HADS), the Fear of Cancer Recurrence Inventory (FCRI), the Insomnia Severity Index (ISI) and structured questionnaires were administered to all patients.

Measures

The Impact of Event Scale-Revised (IES-R)

This scale measures a person's subjective reaction after a traumatic event by a self-administered questionnaire and helps to reach the diagnosis of post-traumatic stress disorder (PTSD). It has three subscales that measure avoidance, intrusion, and hyper arousal based on 22 items. Each answer ranges from 0 (not at all) to 4 (extremely).[12]

Insomnia Severity Index (ISI)

This questionnaire evaluates the perceived severity of insomnia for the past two weeks and based on 7 items[13] and total score ranging from 0 to 28. Every item is rated on a 5-point Likert scale that ranges from 0 ("not at all") to 4 ("extremely"). The sum of all scores exhibits the total score of the participant and a score 8 or more indicates a clinical level of insomnia symptoms. REF

Hospital Anxiety and Depression Scale (HADS)

This scale is developed to assess depressive symptoms and anxiety experienced in the past week with a total score ranges from 0 to 21. It is based on 14 items divided in two subscales of 7 items[14]. Each item is rated on a 4-point Likert scale ranging from 0 to 3. Clinical level of depression or anxiety is indicated when a total score of 7 or higher.REF

Fear of Cancer Recurrence Inventory (FCRI) screening

The FCRI is based on nine items rated on a 5-point Likert scale ranging from 0 ("not at all") to 4 ("a great deal"). The total score corresponds to the sum of all the items. A score of 13 or higher indicates a clinical level of FCR[15].

Structured interview

This interview was conducted by a preformed structured questionnaire to asses presence of psychological stress related with COVID 19, most important concern in this pandemic, felling the essentiality of Psychological assistance, alternate treatment and Drugs to reduce stress

Statistical Analysis

Data were collected in a dedicated database. All analyses were conducted using SPSS version 25 with statistical significance was achieved at a p < 0.05.

Results

Demographic Characteristics and Descriptive Statistics

Fifty patients were enrolled in this study with non-metastatic breast cancer. The mean age was 42.3 married, 8% (n. 4) patients are single and 2% (n. 1) patients are widowed. Among the patients 24 (48%) patients have high school or less education level, 19 (38%) have college experience and 7 (14%) have university degrees. Ten patients (20%) lived alone, 8 (16%) with one or two family members, and 32 (64%) with three or more family members. Concerning their working life, 36 (72%) were not working (namely housewives, retired, unemployed, or students) and 14 (28%) was occupied. In consideration of economic status 52% (n. 26) patients have annual family income in BDT 250001- 350000. On the other hand 22% (n. 11) within BDT 350001- 450000, 14% (n. 7) within BDT 150000- 250000, 6% (n. 3) within BDT 450001-550000 and 6% (n. 3) within BDT >550000 respectively (Table I).

Levels of the IES-R, HADS, ISI and FCRI

In this study, 62% (n. 31) were above the cut-off (score ≥8) for HADS-A (HADS Anxiety cases), and 66% (n. 33) for HADS-D (HADS-Depression cases). The mean for HADS-A was 6.8 (SD ± 3.89) and for HADS-D was 6.1 (SD ± 3.56). There were 36% (n. 18) patients for HADS-A and 30% (n. 15) patients for HADS-D showing no anxiety and depression but in both category 2% (n. 1) patients were definite cases.

The mean IES-R score of patients was 19.9 (SD ± 13.9), with 28% (n. 14) not showing a PTSD diagnosis but 68% (n.38)

patients showing diagnosis of mild PTSD and 2% (n.1) patients with moderate PTSD and 2% (n.1) patients was with severe PTSD respectively . Mean scores for the IES-R subscales were: avoidance 7.53 (SD ± 5.51), intrusion 6.23 (SD ± 5.12), and hyperarousal 5.95 (SD ± 4.94).

The mean ISI score was 8.4 (SD ± 5.82) with 50% (n.25) patients was suffering from subthreshold insomnia. On the other hand 46% (n.23) patients had no clinically significant Insomnia but 2% (n.1) patients had moderate and severe insomnia in each category.

Table-I		
Characteristics of participants & descriptive statistics (N = 50)		
Characteristics	M (SD)	N (%)
Age (years)		42.3 (10.7)
Time since cancer diagnosis (months)		7.1 (2.4)
Marital status		
Married		45 (90%)
Single		4 (8%)
Separated/divorced/widowed		1 (2%)
Number of cohabitants		
>3		32 (64%)
1-2		8 (16%)
Alone		10 (20%)
Education		
High school or less		24 (48%)
College		19 (38%)
University degree		7 (14%)
Current occupation		
Working (full/part time)		14 (28%)
Not working (Homemaker, Retired,		36 (72%)
Student, Unemployed)		
Annual family income in Bangladeshi Taka (BDT)		
150000-250000		7 (14%)
250001-350000		26 (52%)
350001-450000		11 (22%)
450001-550000		3 (6%)
>550000		3 (6%)

The FCRI-Fear of cancer recurrence score was 14.7(SD ± 6.2) which was more than the cut-off value (Table II).

Ninety percent patients (n=45) admitted that they had experienced increased psychological stress during this pandemic. The most important concerns were chance of delaying treatment (36%, n=18), risk of being infected during taking treatment at hospital (22%, n=11), concern about economic support (20%, n=10), fear of loss of job (12%, n=6), risk of infecting the relatives (6%, n=3), social distancing from closed ones (4%, n=2) respectively. Most of the patients had a strong feelings for necessity of psychological support (44%, n=22). Other forms of essentiality during this crisis period were thinking of alternate treatment (26%, n=13), no need of help (20%, n=10), taking drugs to reduce stress (10%, n=5) (Table III).

Table-II			
Analysis of anxiety, depression, PTSD, ISI and FCRI			
		N (50)	% (100)
HADS-A (0–21, cut-off 7)	6.8 (SD ± 3.89)		
	Normal (0-7)	18	36
	Borderline abnormal (8-10)	31	62
	Abnormal (Case)(11-21)	1	2
HADS-D (0–21, cut-off 7)	6.1 (SD ± 3.56)		
	Normal (0-7)	16	32
	Borderline abnormal (8-10)	33	66
	Abnormal (Case)(11-21)	1	1
IES-R	19.9 (SD ± 13.9)		
	No diagnosis of PTSD (23 or below)	14	28
	PTSD mild (24–32)	34	68
	PTSD moderate (33–36)	1	2
	PTSD severe (>37)	1	2
IES-R Intrusion	6.23 (SD ± 5.12)		
IES- R Avoidance	7.53(SD ± 5.51)		
IES-R Hyperarousal	5.95(SD ± 4.94)		
ISI-Insomnia (0–28, cut-off 8)	8.4 (SD ± 5.82)		
	No clinically significant Insomnia (0-7)	23	46
	Subthreshold insomnia (8-14)	25	50
	Clinical Insomnia (Moderate severity, 15-21)	1	2
	Clinical Insomnia (severe, 22-28)	1	2
FCRI-Fear of cancer recurrence (0–36, cut-off 13)	14.7(SD ± 6.2)		3 (6%)

3.3. Psychological stress concerning different matters related to COVID-19

Table-III		
Psychological stress concerning the crisis of COVID-19 as breast cancer patients		
	N (50)	% 100
COVID- 19 crisis increases your psychological stress		
Yes	45	90
No	5	10
The most important concern in this pandemic		
Fear of delaying treatment	18	36
Risk of being infected during taking treatment at hospital	11	22
Economic support	10	20
Loss of job	6	12
Risk of infecting the relatives	3	6
Social distancing from closed ones	2	4
Feeling the essentiality for		
Psychological assistance	22	44
Alternate treatment	13	26
No need of help	10	20
Drugs to reduce stress	5	10
	3 (6%)	

According to the line of treatment, surgery was performed to 26(52%) patients and 8(16%) patients received neoadjuvant chemotherapy, 14 (28%) patients adjuvant chemotherapy and 2 (4%) received radiotherapy (Table IV).

Table-IV		
Treatment received while pandemic		
	N (50)	% 100
Surgery	26	52
Neoadjuvant chemotherapy	8	16
Adjuvant chemotherapy	14	28
Radiotherapy	2	4

Discussion

The study correlates COVID-19 related stress factors to psychological symptoms in patients with non-metastatic breast cancer. About 90% patients experienced different level of stress due to this COVID-19 situation and higher level of worrying was seen to be associated with stronger symptoms of anxiety, depression, insomnia and FCR. The statistics is significant if attention is given to the timing of the study which is early in the beginning of the pandemic.

The result of this study supports the study conducted by Swainston et al. [8] and Véronique M. et al.[16] which says that incidence of psychological symptom was predicted to be higher in breast cancer patients and correlation between different stressors and psychological symptoms in breast cancer patients.. In addition to this, as a whole proportion of cases reporting higher clinical level of anxiety (62%), depression (66%) than what was being reported before (i.e.,19% [17].); also the proportion of subthreshold insomnia (50%) and FCR (52.8%) are higher than before (31% to 59% and 44% to 56% respectively.[18,19]

So combined, this study suggests that breast cancer patients are more prone to experiencing psychological stress in the COVID 19 situation and are in need of getting better mental support. Their access to health service could be made better through online support system like web conference since physical distancing is an issue.[20] Also online support group can compensate for previous social support groups so that the cancer patients get to have better quality of life.[21] Finally the study proves that delay in the cancer treatment, lack of economic support, fear of loss of job are having significant impact on their mental health as this is directly linked with their prognosis as well as possibility of recurrence.

Conclusions

By addressing these facts, the increasing psychological demands of cancer patients during this crisis period should be considered more carefully and regular screening of emotional and stress conditions should be done for better management of cancer suffering patients.

Study Limitations

The limitation of present study was small sample size and conducted in a single institution. Participants might suffer from preexisting various mental health disorder. Evaluation of preexisting mental health was not done. The exacerbation of psychological distress might be due to COVID-19 pandemic crisis or previous mental health disorder.

Conflict of interest

Authors declare no Conflict of interest.

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