

Coping Strategies being Practiced by the Breast Cancer Survivors before Receiving First Cycle of Chemotherapy

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Objective: Breast cancer is the most common cancer among Indian females and chemotherapy is the most extensively used modality for these patients. Diagnosis of breast cancer is dreadful in itself and the initiation of chemotherapy causes stress and fear among patients. Breast cancer survivors (BCS) use different coping mechanisms to deal with these experiences and to handle these stressful events. The objective of this study was to assess the coping strategies being practiced by the BCS before receiving first cycle of chemotherapy.

Method: This descriptive study was conducted on BCS attending Radiation Oncology and General Surgery OPD, PGIMER, Chandigarh from July 2018 to December 2019. Sixty two BCS were recruited using purposive sampling.

Results: 51.7% participants were above 50 years of age, 56.5% had grade III breast cancer and 56.7% had left breast involvement. 62.9% were on neo-adjuvant chemotherapy and duration of confirmed diagnosis for 83.9% of them was less than a year. Most of the participants used positive coping strategies to overcome the stress related to diagnosis and chemotherapy. Out of the 46 coping activities participants retorted positive action for 31 coping activities whereas action was negative for 13 activities. Remaining two activities had equal number of positive and negative responses. Escape avoidance 'hoped a miracle would happen'; 'Wished that the situation would go away or somehow be over with' were used by all the participants. Though not dominant, negative coping activities were still used by the participants to deal with stressful situations.

Conclusion: BCS were predominantly using positive coping activities. In order to further increase this there is a need among medical professionals to make BCS aware and discourage the use negative coping behaviors. BCS can also be nudged to adopt positive coping styles by involving family and society in the provision of care.

Introduction

Breast cancer is the number one cancer among Indian females and chemotherapy is most often used modality to treat breast cancer [1-2]. India is facing a challenging situation with increase in mortality due to breast cancer. Available treatment options are surgery; chemotherapy; hormonal therapy; biological therapy and radiation therapy [3]. Chemotherapy can improve prospects for long term survival but is also associated with long term toxicity including possibility of physical, emotional and cognitive impairments [4].

When an individual is diagnosed with breast cancer, one can only notice the physical effects, but the diagnosis of breast cancer has many other concealed effects, unnoticeable to other people. One such effect is the psychological effect. Breast is an important part of woman's body, whether we see it from the point of view of beauty, sexuality or motherhood [5]. Every woman has her own capabilities to deal with the challenges in her life. Many women consider it as bad phase of life and move ahead while others may become stressed and depressed.

Factors like family involvement, social support, self belief and determination encourage patients to come out of this tragic phase and motivate to use positive coping strategies. Many myths and misconceptions are prevalent regarding chemotherapy like permanent hair loss, reoccurrence risks, and used only when the cancer is in advance stages. Chemotherapy has both direct and indirect psychological impacts. The psychologically active paraneoplastic hormones can affect the coping abilities directly whereas emotional reaction related to chemotherapy associated bodily symptoms can influence coping mechanism indirectly [6]. It is well documented in some literatures that in the face of stress and trauma people start using coping mechanisms to maintain psychological equilibrium. Coping strategies used by BCS can be positive or negative, positive use is always associated with better outcomes in terms of handling stressful situation and good QOL.

As per evidences, several factors influence the coping strategies of BCS including demographic characteristics; educational status; family and social support and psychological support [7]. Although there are many studies on how BCS overcome diagnosis by using positive and negative coping strategies. This will be the first study to show how BCS deal with chemotherapy experience after diagnosis. Therefore, the objective of this study was to assess the coping strategies practiced by BCS before receiving first cycle of chemotherapy.

Materials and Methods

Study Design and Setting

This descriptive study was conducted in Radiation Oncology and General Surgery OPD, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh from July 2018 to December 2019. PGIMER, is one of the leading medical Institute of India. It was established in 1962 and has been functioning as an autonomous body under Ministry of Health and family welfare, Government of India since 1967 through the parliament act of institute of National importance. The source population was all BCS attending Radiation Oncology and General Surgery OPD, PGIMER Chandigarh before chemotherapy during the study period.

Sample size and sampling techniques

The total sample size was calculated on the basis of the pilot study i.e. average number of patients starting first chemotherapy cycle at Radiation Oncology and General Surgery OPD, PGIMER, Chandigarh. Purposive sampling technique was used to enroll sixty two participants who were fulfilling the preset inclusion criteria.

Study Criteria

Inclusion criteria: (1) Breast cancer patients scheduled for first cycle of chemotherapy, before or after breast surgery, (2) Patients who were able to read write and to understand Hindi language. Exclusion criteria: (1) Having previous history of cancer, (2) Patients having neurological and mental health disorders, (3) Not willing to participate.

Data collection tools and techniques

Data was collected using Interview Schedule and Folkman and Lazarus questionnaire.

1. Interview Schedule -It is divided into two parts:

A. Socio- demographic profile sheet - To obtain socio - demographic information of the participants such as name, age in years, religion, habitat, educational status, occupation, marital status, family type, number of family members, total family income (in rupees), and socio-economic status (as per modified B.G Prasad scale 2019).

B. Clinical profile sheet- To collect information pertaining to menstrual history, parity, history of truncal obesity, BMI (Kg/m^2), co-morbidities, family history, laterality, stage (TNM), grade, quadrant and lymph node involvement and surgical treatment.

2. Folkman and Lazarus questionnaire to assess coping mechanisms.

The questionnaire used to assess coping mechanisms contains 46 items that is adopted from Folkman and Lazarus tool (1988). The tool contains eight major components of coping namely confrontive; distancing; self- controlling; seeking social support; accepting responsibilities; escape avoidance; plan full problem solving and positive appraisal, which further comprises of various coping activities with similar concepts. Participant's responses were assessed as Yes or No for the use of positive and negative coping strategies. Negative and uncertain responses for the given activity were categorized as unpracticed or unused responses. The response's such as 'quite a bit' and 'a great deal' were categorized as positive responses since both responses indicated that the respondent used the activities [5].

Pretest

Content validity of the tools was ensured and modifications were done after the pilot study on 10% of BCS in Radiation Oncology OPD. For flawless administration tool was written in clear and easily understandable Hindi language.

Ethical consideration

Ethical approval for the study was obtained from the Institute Ethics Committee of PGIMER, Chandigarh and complete autonomy was given to the participants in the study. After informing them about the study written informed consent was taken. Confidentiality was ensured.

Data analysis

Descriptive and inferential statistics were used to analyze the data. Calculations were carried out manually along with Microsoft excel and Statistically Package for Social Science (SPSS) program version 23. Frequencies, percentage, mean, range, SD, were used to describe the study population in relation to different variables. Analyzed data was presented in the form of tables and figures.

Results

Socio demographic Characteristics

Out of 62 BCS, more than half of participants (51.7%) were above the age of 50 years and Hindu

(51%) by religion. Majority of the participants belonged to rural area (62.9%) and were illiterate or educated up to primary level (54.8%). Most of the participants were married (83.9%) and 72.6% were unemployed. More than half (54.8%) of the participants were from nuclear families. Around half (48.4%) belonged to the middle and lower middle class of socio-economic status (as per modified B.G Prasad scale 2018) (Table1).

Socio-demographic characteristics	f (%)
Age (yrs)	
Less than 50	30 (48.3)
More than 50	32 (51.7)
Religion	
Hindu	51 (82.3)
Sikh	11 (17.7)
Habitat	
Rural	39 (62.9)
Urban	23 (37.1)
Educational Status	
Illiterate	17 (27.4)
Primary	17 (27.4)
Secondary	12(19.4)
Graduate or Above	16 (25.8)
Occupation	
Professional	12 (19.4)
Skilled worker	5 (8.1)
Unemployed	45 (72.6)
Marital Status	
Married	52 (83.9)
Widow	10 (16.1)
Family type	
Joint	28 (45.2)
Nuclear	34 (54.8)
Numbers of family members	
4-Jan	34 (54.8)
9-May	25 (40.3)
14-Oct	3 (4.8)
Total family income (in Rupees)	
1000-9999	28 (45.2)
10000- 29999	18 (29.1)
30000- 49999	6 (9.6)
50000 and above	10 (16.1)
Socio- Economic Status (As per modified B.G Prasad Scale 2018)	
Upper Class (>6754)	14 (22.6)
Upper middle Class (3287-6573)	10 (16.1)
Middle class (1972-3286)	13 (21)
Lower middle class (986-1971)	17 (27.4)
Lower class (<985)	8 (12.9)

Table 1. Socio-demographic Characteristics of Participants (N= 62).

Mean \pm SD (Range) 50.11 \pm 10.53 (28-75)

Clinical Characteristics

Majority of the participants (74.2%) had a history of irregular menstrual cycle. Most of the BCS were multiparous (98.4%). Only 14.5% had truncal obesity and 32.3% participants were overweight. Co-morbidities were present in 30.6% of the participants and hypertension was the most common co-morbidity found among BCS i.e. 89.4%. Only 4.8% of BCS had a positive family history of breast cancer. More than half (56.5%) of the participants had left side breast involvement. 53.2% of the participants had early stage as per TNM classification. Around (58%) of the BCS had grade III breast cancer. Majority of the BCS had upper outer quadrant (79%), and lymph node (72.6%) involvement (Table 2).

Variables	f (%)
Menstrual history	
Regular	16 (25.8)
Irregular	46 (74.2)
Parity	
Nulliparous	1 (1.6)
Multiparous	61 (98.4)
Truncal obesity	
Present	9 (14.5)
Absent	53 (85.5)
BMI (Kg/ m ²)	
Normal	26 (41.9)
Overweight	20 (32.3)
Obesity Class-I	11 (17.7)
Obesity Class-II	5 (8.1)
Co- morbidities (n=19)	
Hypertension	17 (89.4)
Diabetes mellitus	1 (5.2)
Thyroid disorders	1 (5.2)
Family history	
Yes	3 (4.8)
Laterality	
Ca left breast	35 (56.5)
Ca right breast	26 (41.9)
Ca bilateral breast	1 (1.6)
Stage (TNM)	
Early	33 (53.2)
Locally advanced	25 (40.3)
Metastatic	4 (6.5)
Grade	
I	5 (8.1)
II	21 (33.9)
III	36 (58.0)
Quadrant involved	
Upper outer quadrant	49 (79)
Upper inner	4 (6.5)
Lower outer	4 (6.5)
Lower inner	2 (3.2)
More than one	3 (4.8)
Lymph nodes	
Yes	45 (72.6)
No	17 (27.4)

Table 2. Clinical Profile of Participants Receiving Chemotherapy for Breast Cancer (N=62).

Treatment profile

More than half (62.9%) of the BCS were on neo-adjuvant chemotherapy (Table 3).

Variables	f (%)
Type of Chemotherapy	
Adjuvant	23 (37.1)
Neo- Adjuvant	39 (62.9)
Treatment plan	
Chemotherapy only	35 (56.5)
Chemotherapy+ Radiotherapy	8 (12.9)
Surgery + Chemotherapy	18 (29)
Chemotherapy +Surgery+ Hormonal therapy	1 (1.6)
Chemotherapeutic drugs	
Anthracyclin	47 (75.8)
Anthracyclin+ Taxane	15 (24.2)

Table 3. Treatment Profile of Participants Receiving Chemotherapy for Breast Cancer (N=62).

Only chemotherapy as a treatment modality was used in 56.5% of BCS and 53.2% participants were receiving anthracyclins drugs.

Surgical intervention profile

Surgical interventions were done in 48.3% of participants. Majority (27.4%) of them had undergone surgical procedure i.e. TMAC. None of the participants had reported any complication associated with surgery (Figure1).

Figure 1. Surgical Intervention Profile of Breast Cancer Survivors (N=62).

Coping Mechanisms

This questionnaire consists of 46 items designed to measure eight different coping styles namely confrontive;

distancing; self- controlling; seeking social support; accepting responsibility; escape avoidance; plan full problem solving and positive appraisal. Out of these, distancing and escape avoidance were the only negative coping styles whereas others were positive. It is evident from the (Table 4) that out of 46 coping activities participants responded positively for 31 whereas negative response was noticed for 13 activities.

Coping activities		Response	
		Yes N (%)	No N (%)
Confrontive	I did something which I didn't think would work, but at least I was doing something	16 (25.8)	46 (74.2)
	I let my feelings out somehow	57 (91.9)	5 (8.1)
	Stood my ground and fought for what I wanted	55 (88.7)	7 (11.3)



Distancing	Turned to work or substitute activity to take my mind off things	8 (12.9)	54 (87.1)
	Went along with fate; sometimes I just have bad luck	15 (24.2)	47 (75.8)
	Went on as if nothing had happened	8 (12.9)	54 (87.1)
	Looked for the silver lining, so to speak; tried to look on the bright side of things	23 (37.1)	39 (62.9)
	Didn't let it get to me; refused to think too much about it	25 (40.3)	37 (59.7)
	Made light of the situation; refused to get too serious about it	17 (27.4)	45 (72.6)
Self-controlling	Tried not to burn my bridges, but leave things open somewhat	31 (50)	31 (50)
	I tried to keep my feelings to myself	43 (69.4)	19 (30.6)
	I tried not to act too hastily or follow my first hunch	41 (66.1)	21 (33.9)
	I tried to keep my feelings from interfering with other things too much	61 (98.4)	1 (1.6)
Seeking social support	Talked to someone to find out more about the situation	57 (91.9)	5 (8.1)
	Accepted sympathy and understanding from someone	51 (82.3)	11 (17.7)
	I got professional help	56 (90.3)	6 (9.7)
	Talked to someone who could do something concrete about the problem	56 (90.3)	6 (9.7)
	I asked a relative or friend I respected for advice	25 (40.3)	37 (59.7)
	Talked to someone about how I was feeling	59 (95.2)	3 (4.8)
Accepting responsibilities	Criticized or lectured myself	7 (11.3)	55 (88.7)
	I told myself things that helped me to feel better	23 (37.1)	39 (62.9)
	I made a promise to myself that things would be different next time	15 (24.2)	47 (75.8)
Positive appraisal	Changed or grew as a person in a good way	14 (22.6)	48 (77.4)
	I came out of the experience better than when I went in	56 (90.3)	6 (9.7)
	Found new faith	55 (88.7)	7 (11.3)
	Rediscovered what is important in life	10 (16.1)	52 (83.9)
	I prayed	55 (88.7)	7 (11.3)
Escape avoidance coping activities	Hoped a miracle would happen	62 (100)	-
	Slept more than usual	14 (22.6)	48 (77.4)
	Got away from it for a while; tried to rest or take a vacation.	10 (16.1)	52 (83.9)
	Tried to make myself feel better by eating, drinking,	-	62 (100)

	smoking, using drugs or medication, etc		
	Avoided being with people in general	15 (24.2)	47 (75.8)
	Took it out on other people	6 (9.7)	56 (90.3)
	Refused to believe that it had happened	7 (11.3)	55 (88.7)
	Accepted it, since nothing could be done	55 (88.7)	7 (11.3)
	Wished that the situation would go away or somehow be over with	62 (100)	-
Planful problem solving	Just concentrated on what I had to do next - the next step	56 (90.3)	6 (9.7)
	I tried to analyze the problem in order to understand it better	60 (96.8)	2 (3.2)
	I felt that time would make a difference - the only thing to do was to wait	56 (90.3)	6 (9.7)
	Bargained or compromised to get something positive from the situation	7 (11.3)	55 (88.7)
	Changed something so things would turn out all right	56 (90.3)	6 (9.7)
	I knew what had to be done, so I doubled my efforts to make things work	7 (11.3)	55 (88.7)
	Came up with a couple of different solutions to the problem	51 (82.3)	11 (17.7)
	I prepared myself for the worst	60 (96.8)	2 (3.2)
	I went over in my mind what I would say or do	31 (50)	31 (50)
	I jogged or exercised	13 (21)	49 (79)

Table 4. Distribution of BCS on the Basis of Coping Activities Using Folkman and Lazarous Scale (N=62).

For the remaining two activities half of the participants responded in a positive way whereas remaining half had a negative response. Escape avoidance is one of the major predictor of negative coping among all the coping strategies, under its subparts “hoped a miracle would happen”; “Wished that the situation would go away or somehow be over with” were used by all the participants in this study. Although the negative coping activities were not predominant but were still used by the participants up to some extent.

Discussion

The results of this study highlighted that the use of positive coping strategies was predominant among BCS to overcome the stress and fear related to diagnosis and chemotherapy. In present study, out of the 46 coping activities participants retorted positive action for 31 whereas it was negative for 13 activities. Remaining two activities had equal number of positive and negative responses. Thus, in order to discourage the use of negative coping behaviors efforts are required on behalf of nursing professionals to make their patients aware about negative coping activities and at the same time encouraging them to use more of the positive coping strategies. Role of family and society cannot be ignored during this stressful period of life so both the family as well as society can be involved by nurses in nudging the BCS towards adopting positive coping styles.

Escape avoidance is one of the major predictor of negative coping among all the coping strategies. Out of its nine components participants showed a positive reaction towards six of them. It was astonishing that all the participants resorted to the negative strategies “hoped that a miracle would happen” and “wished that the situation would go away or somehow be over with” as a measure to cope. These findings were contrary to another study where wishful thinking was the least commonly used coping strategy six months after the diagnosis [8]. 88.7% participants of current study “accepted the situation, since nothing could be done”. This is consistent with the results reported by Chen et al. [9] where acceptance was one of the most common types of coping reactions and it can be directly linked to lower distress.

Helplessness and hopelessness are two factors responsible for the use of escape avoidance coping style by the patients instead of facing the situation. Therefore, escape-avoidance coping style strongly predicts a worse psychological well-being [5]. It has been recommended that medical professionals should be well versed in identifying the coping styles and treat accordingly [10]. It is good to see that in the current study out of nine coping activities under escape avoidance coping style, only three were used by the participants and majority of the BCS didn't use six negative coping activities which reflects a good state of their psychological health. Counseling sessions can be provided including information regarding coping strategies to make them aware about positive coping styles and discourage the use of negative coping activities.

Seeking social support is one of the major components of positive coping strategies. The result of the current study showed that majority of the participants took positive initiative for seeking social support. This reflects their readiness to seek help from family, friends, society and health care professionals which can contribute towards better treatment outcome. This is in agreement with the study where instead of religion and spirituality, social support has more significant association in coping [11]. Therefore, in order to make the patient strong at the emotional level, it is imperative that family, society and professionals participate actively in patient care. Therefore seeking social support can be an important aspect to improve QOL and deal with present situation by effective use of coping style.

Planful problem solving is another part of positive coping strategies. Out of ten coping activities under this component, participants responded positively for six activities and in a negative way for three activities. For ‘I went over in my mind what I would say or do’ equal number of participants responded in positive and negative way. The more effectively patients use planful problem solving, the more it helps them to cope positively with the situation. By using planful problem solving as a coping strategy a person can focus their efforts on planning and positive reframing that would help them to take action towards resolving their problems and help them better adjust to chemotherapy experience [12]. It has been documented that planful problem solving was frequently used coping strategy by breast cancer patients who were anxious [12].

Exercise is one of the major component of planful problem solving activities [5]. In the present study 79% of the participants did not jog or exercise. These findings were contrary to a study where physical exercise was identified as one of the coping strategies among cancer patients [13]. Exercises are required for healthy behavior change in patients in terms of adopting positive strategies to deal with the situation [14-15]. So keeping in mind the current study findings a need was felt to guide the BCS. They were encouraged and informed about the benefits of exercise in this traumatic phase of illness.

Positive appraisal is one of the major positive coping strategies, which has a greater influence on patient's coping style. In the present study majority of participants ‘prayed’ (88.7%), ‘found new faith’ (88.7%) and ‘came out of the experience better than went in’ (90.3%). Religious coping is one of the alternatives for making psychological adjustment [16]. Prayer and other religious practices helped the current study subjects to calm down mentally and at the same time provided courage to deal with the challenges in life. These results are consistent with the study conducted by Ahmad et al [17] where majority of participants used religious faith and practices as a coping style.

Self controlling, a positive coping strategy, was used by majority of participants to cope with the stressful situations. 98.4% of participants 'tried to keep their feelings from interfering with other things too much'. Therefore by keeping themselves busy or distracted in other activities they were able to avoid thinking too much about their problem. That's why self controlling is a good way to cope with this situation. These findings are supported by a study conducted by Burger [18] where self controlling as a coping strategy can positively influence the outcome of stressful event.

In the present study, majority of participants responded in a positive way to cope by confronting the situation. 91.9% of participants responded to positive coping strategies 'let their feeling out somehow' and 88.7% 'stood their ground and fought for what they wanted'. This suggested that acceptance of a situation is very important. Once the acceptance is there then only a person starts looking for alternatives, contrary to this chances of adopting negative coping styles are more when one runs away from the situation. Similar findings were also reported by Amare et al [5], where most of BCS had used confrontive as a coping strategy to cope up with breast cancer.

Distancing represents a major part of negative coping strategies. In the present study, for this component majority of the participants responded in a positive way. Similar findings were reported in a study by Amare et al [5] where distancing was the least used negative coping strategy. Distancing can be one of the reasons to have negative opinion about chemotherapy and thus delaying the early interventions. This highlights the importance of encouraging patients for the use of positive coping styles. The encouraging attitude of health care professionals can facilitate the process of problem solving rather than distancing from the actual scenario.

Accepting responsibilities is one of the positive coping styles. In the present study, majority of the participants responded negatively for this component. Wonghongkul et al. [19] supported the current findings that 'acceptance of responsibilities' was least used coping strategy among BCS.

In conclusion, the present study revealed that the use of positive coping activities was predominant among BCS to overcome the stress and fear related to diagnosis and chemotherapy. In spite of being lesser in number, negative coping strategies were still used by some of the participants to deal with stressful situations. After completion of the study all participants using negative coping strategies were contacted and counseled to encourage the use of positive coping styles.

Limitations

Limited data collection period and lesser number of patients, meeting our inclusion criteria, visiting OPDs per day resulted in a small sample size for this study. This sample size cannot capture the diversity of the country. Thus there is a scope for the future studies being done with a larger and more diverse sample size.

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Author's Contribution

Deeksha Sharma conceptualized and prepared the first draft, collected and analyzed the data and prepared the final paper. Monika Dutta reviewed and corrected the drafts and provided guidance to better shape the study. Sukhpal Kaur reviewed and corrected the drafts. Budhi Singh Yadav helped

in assignment of patients, reviewed and corrected the drafts. Krishan Kumar contributed in finalizing the tools. Divya Dahiya supported clinically.

Statement conflicts of Interest

The authors declare no conflict of interest.

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