Influences of Cognitive Representations of Cancer on Emotional Responses and Coping Strategies With Relation to Their Comfort Level Among Breast Cancer Women

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ABSTRACT

Cancer remains a life-threatening situation and often has profound emotional impact even years after treatment has started. Emotional distress is considered a normal response around the time of cancer diagnosis. It is also common across the cancer trajectory with many patients in treatment or long-term follow-up reporting clinically significant levels of distress, including anxiety and depression.¹ To evaluate the coping strategies used by the women having breast cancer .2. To identify the correlation between the stages of cancer and coping strategies among the women having breast cancer. 3. To identify the correlation between coping strategies among the women having breast cancer.4. To find out association between the coping strategies with selected demographical variables among the women having breast cancer. The nature and extent of coping strategies used by the participants showed that in the first interview 95.6% reported facing life threatening diagnosis which increased to 96.4% in the second and to 96.8% in the third interview. During the first interview 90.8% had their lines of communication open which increased to 95.2% in second interview and then slightly reduced to 94.4% in the third interview. In the first interview 95.6% anticipated physical changes which increased to 99.2% in the second interview and reduced to 98.4% in the third interview. Among the participants, 85.2% reported of maintaining a healthy lifestyle in the first interview which increased to 93.6% in the second interview but gradually reduced to 92.8% in third interview. 92.8% reported of getting help from their family and friends in the first interview which increased to 98.4% in the second interview and again came down to 97.6% in the third interview. Regarding psychological pain; 1.2% reported the pain of facing the stigma in first interview which remained constant in second interview with a minimal increase to 1.6% in the third interview. Self-blame was common with 73.6% reporting of blaming self in the first interview which reduced to 69.9% in the second interview and again increased to 72% in third interview. Among the study participants 30.4% had reported of being religious which remained constant in second interview but reduced to 27.2% in the third interview. During the second interview which was 1 month after the first interview the use of coping strategies had increased which reduced again in third interview which was again after 2 months after the first interview. This indicates that the use of coping strategies was fluctuating. The study participants used a wide range of coping strategies to a variable extent.

KEY WORDS: COGNITIVE REPRESENTATIONS, COPING STRATEGIES

INTRODUCTION

Newly diagnosed breast cancer patients display high levels of distress, and loss of effectiveness in key cognitive

activities, increasing concern over the psychological impact of being offered a role in decision making for treatment. The extent to which patients are affected by their emotional reaction to their diagnosis may be closely related to their ability to plan their medical care.

Need of the Study: Fear of uncertainty, intense emotional reactions to diagnosis and time pressures to take treatment, decision can leave women feeling overwhelmed. In such a mental state they are unable to process the information or take on the responsibility in decision making. To make an informed choice, patients have to digest a lot of

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information, and the way in which it is presented may impact on the decision they make.

Statement: Influences of cognitive representations of cancer on emotional responses and coping strategies with relation to their comfort level among breast cancer women.

AIM: Evaluating the influences of cognitive representations of cancer on coping strategies at all stages of cancer that is first, second and third stage among breast cancer women.

Objectives

1. To evaluate the coping strategies used by the women having breast cancer
2. To identify the correlation between the stages of cancer and coping strategies among the women having breast cancer.
3. To identify the correlation between coping strategies among the women having breast cancer.
4. To find out association between the coping strategies with selected demographical variables among the women having breast cancer.

Sample Size: The sample size in this study was 250 women suffering from various stages of breast cancer except fourth stage of cancer.

Variables

The variables under study were -

Dependent variables: Cognitive representations on coping strategies of women suffering from breast cancer.

Independent variable: Breast cancer

Review of Literture: Literature related to coping strategies used by breast cancer women A Research study conducted in Bangalore among the cancer patients who were receiving radiation therapy showed that ineffective coping mechanisms such as, helplessness and fatalism were leading to incomplete resolution. Interventions to minimize these concerns and handle the associated anxiety, depression would improve their quality of life. A variety of coping skills are required to adjust to and life successfully with cancer. One's ability to cope affects how one perceives or appraises the situation, how well one relates to others and how one can manage side effects of treatment, including pain. Patients who cope effectively are being able to accept a diagnosis, seek more information, talk with others to relieve stress and undertake some positive, constructive action.

A study reported that problem-focused coping strategies, such as cognitive acceptance, positive and constructive thinking, and using emotional support and religion were mostly considered as beneficial coping strategies. The results indicated that trying to be hopeful and trying to have a positive, optimistic perspective and cognitive

acceptance have very important roles among young women who are married and having children with breast cancer.

Methodology

- **Research Setting:** The study was conducted in the selected multidisciplinary hospitals of Wardha, Maharashtra.
- **Study Design:** Analytical Survey
- **Participants:** Adult women with breast cancer who had undergone chemotherapy and mastectomy in the age group of 20 years to 62 years and in between the diagnosis of any three stages, first, second and third.
- **Sampling Techniques:** Purposive Sampling technique.

Material with their standardization: The tools used for data collection were modified standardized tools. The tools used in this study includes

1. Demographic data sheet:
2. Cognitive assessment tool: It includes the cognition of breast cancer patient related to their experiences and suffering with the disease.
3. To assess the coping strategies of breast cancer women Brief Coping Orientations to Problems Experienced Inventory (Brief COPE) (Carver, 1997) was modified according to Indian setting and utilized.

Eligibility Criteria:

Inclusion Criteria includes:

- Women who have been diagnosed with I to III stage of breast cancer and are under treatment.
- Women aged 18 years and above.
- Who are willing to participate in the study
- Exclusion criteria includes
- Women with alteration of consciousness.
- Women who have previous history of other cancer.
- Women with mental illness.
- Breast cancer women who are at fourth stage (Metastasis).

Analysis and Deliberations:

Part I: Demographic distribution of the participants

Part II: Cognitive levels of study participants regarding breast cancer

Part III: Correlation between the nature of coping strategies by the participants.

Part IV: Correlation between the stages of cancer and their coping strategies among the women having breast cancer.

Part V: Level of significance difference in the coping

strategies of the participants in three different interviews

the demographic variables.

Part VI: Association of nature of coping strategies with

Part I: Demographic distribution of the study participants

Table 1. Distribution of Participants according to their Demographic Characteristics N=250

S. N.	Demographic Characteristics	Categories	Freq.	%
1	Age in Years	<ul style="list-style-type: none"> • 20 – 30 • 31 – 40 • 41 – 50 • 51 – 60 • 61 – 70 • > 70 	37 48 94 70 01 00	14.8 19.2 37.6 28 0.4 0
2	Residence	<ul style="list-style-type: none"> • Urban • Rural • Semi-urban 	167 51 32	66.8 20.4 12.8
3	Education	<ul style="list-style-type: none"> • Illiterate • Primary • Secondary • Higher Secondary • Graduation • PG or Other 	49 55 77 44 23 2	19.6 22 30.8 17.6 9.2 0.8
4	Occupation	<ul style="list-style-type: none"> • Farmers • Homemakers • Private Service • Govt. Service • Students 	52 58 111 25 4	20.8 23.2 44.4 10 1.6
5	Monthly Family Income in Rupees	• Less than 10000/-	32	12.8
		• 10001 – 20000/-	73	29.2
		• 20001 – 30000/-	48	19.2
		• More than 30001/-	97	38.8
6	Age of Menarche	<ul style="list-style-type: none"> • Less than 10 yrs. • 10 – 12 yrs. • 13 – 15 yrs. • More than 15 yrs. 	0 1 210 39	0 0.4 84 15.6
7	Marital Status	<ul style="list-style-type: none"> • Unmarried • Married • Widow/Separated/Divorced 	8 197 45	3.2 78.8 18
8	Years of marriage	<ul style="list-style-type: none"> • Not Applicable • Less than 10 yrs. • 10 – 20 yrs. • 21 – 30 yrs. • More than 30 yrs. 	8 19 45 78 100	3.2 7.6 18 31.2 40
9	Number of children	<ul style="list-style-type: none"> • Not Applicable • No children • One • Two • Three • More than 3 	8 20 48 78 57 39	3.2 8 19.2 31.2 22.8 15.6
10	History of Breast Feeding	<ul style="list-style-type: none"> • Not applicable • No history of breast feeding • Regular 	8 20 211	3.2 8 84.4

11	Type of Family	•Irregular	11	4.4
		•Joint	127	50.8
		•Nuclear	123	49.2
12	Health Insurance	•Yes	22	8.8
		•No	228	91.2
13	History of Breast Cancer in the family	•Yes	6	2.4
		•No	244	97.6
14	If yes, relationship with the patient	•Not Applicable	244	97.6
		•Maternal Aunt	1	0.4
		•Paternal Aunt	2	0.8
		•Granddaughter	2	0.8
		•Niece	1	0.4
15	Duration of Diagnosis	•Less than one year	185	74
		•1 – 5 yrs.	65	26
		•6 – 10 yrs.	0	0
		•More than 10 years	0	0
16	Current stage of Breast Cancer	•Stage I	30	12
		•Stage II	188	75.2
		•Stage III	32	12.8
17	Line of Treatment& Management	•Just Diagnosed & no Treatment started	20	8
		•Only Chemotherapy	128	51.2
		•Only Surgery	65	26
		•Chemo + Surgery	37	14.8
18	Source of information	•Mass media	193	77.2
		•Health professional	42	16.8
		•Family and friends	15	6

This part of the study deals with the demographic variables of the samples of the study i.e. age in years, residence, education, occupation, monthly family income, age of menarche, marital status, age of marriage, number of children, history of breast feeding, type of family, health insurance status, family history of breast cancer, if yes, relationship with the patient, duration of diagnosis of breast cancer, current stage of breast cancer, line of treatment and management and source of information. The above table no. 1 reveals that 37(14.8%) participant were in the age group of 20–30 years, 48(19.2%) in the age group of 31–40 years, 94(37.6%) in the age group of 41–50 years, 70(28%) in the age group of 51–60 years and there was only 1 (0.4%) in the age group of 61–70 years. One sixty seven (66.8%) participant resides in the urban area, 51 (20.4%) resides in the rural area, whereas 32(12.8%) resides in semi urban area. Forty nine (19.6%) participants were illiterate, 55(22%) have primary education, 77(30.8%) up to secondary, 44 (17.6%) up to higher secondary, 23 (9.2%) upto graduation and only 2(0.8%) were upto the post-graduation education.

Fifty two (20.8 %) participants were farmer, 58(23.8%) were homemakers, 111 (44.4%) have private service, 25(10%) have government service, whereas only 4(1.6%) were students. Thirty two (12.8%) participants have less than 10,000 rupees monthly income, 73(29.2%) between 10001–20000 rupees, 48(19.2%) between the 20001–30000 rupees and 97(38.8 %) were having more than 30001 rupees. Only 1(0.4%) participant was between age group of 10–12 years old of menarche, 210 (84%) were

between age group of 13–15 years old and 39 (15.6%) were more than 15 years old at menarche. Eight (3.2%) participants were unmarried, 197(78.8%) were married and 45 (18%) were from the widow/separated/divorced. Participants who were under the category of less than 10 years of marriage were 19(7.6%), 45(18%) were between 10–20 years, 78(31.2%) were in between the 21–30 years and 100(40%) were more than 30 years. Eight(3.2 %) participants were not applicable as they were unmarried, 20(8%) participants had no children, 48(19.2%) were having only one child, 78(31.2%) were having two children, 75(22.8%) were having three children and 39(15.6%) were having more than three children.

Eight (3.2 %) participants were not applicable as they were unmarried, 20(8 %) participants had no history of breast feeding, 211(84.4%) had given regular breast feeding and 11(4.4%) had given irregular breast feeding. One hundred twenty seven (50.8%) participants belongs to joint family and 123(49.2%) belongs to nuclear family. Twenty two (8.8%) participants were having health insurance and 228(91.2%) were not having any health insurance.

Six (2.4%) participants were having family history of cancer, whereas 244(97.6%) were not having any family history of cancer. Only 1(0.4%) participant's maternal aunt had history of cancer, 2(0.8%) participant's paternal aunt had history of cancer, 2(0.8%) participant's grand-daughter had history of cancer and 1 (0.4%) participant's niece had history of cancer. One hundred eighty five

(74%) participants were diagnosed within less than one year duration and 65(26%) participants were diagnosed between last 1 to 5 years. Thirty (12%) participants were at stage I, 188(75.2%) participants were at stage II and 32(12.8%) participants were at stage III. Twenty (8 %) participants were just diagnosed and did not receive any treatment, 128(51.2%) participants were receiving only chemotherapy, 65(26%) participants have undergone surgery (Mastectomy) and 37 (14.8%) participants were receiving both chemotherapy and undergone surgery (Mastectomy). One hundred ninety three (77.2 %) participants got the source of information from the mass media and 42 (16.8%) got from the health professional whereas 15(6%) got information from the family and friends.

Part II: Cognitive levels of study participants regarding breast cancer

The above table no. 2 shows the level of cognitive of study participants regarding breast cancer. It reveals that 17(6.8%) participants had poor cognitive level, 199(79.6%) had average cognitive level and only 34(13.6%) had good cognitive level regarding breast cancer.

Part III: Correlation between the nature of coping strategies by the participants

The above table No. 3 shows that the nature and extent of coping strategies used by the participants. During the first interview 11(4.4%) participants reported that they did not feel that they are facing life threatening diagnosis, this number reduced to 9(3.6%) in second interview and further reduced to 8(3.2%) in the third interview. On the other hand, 239(95.6%) in the first interview reported that they were facing life threatening diagnosis which increased to 241(96.4%) in the second and to 242(96.8%) in the third interview. During the first interview 23(9.2%) they did not keep their line of communication open which were decreases in second 12(4.8%) and in third 14(5.6%). On the other hand, 227(90.8%) had their lines of communication open which increased to 238(95.2%) in second interview and reduced to 236(94.4%) in the third interview. During the first interview 11(4.4%) they did not anticipated possible physical changes which decreased in second 2(0.8%) and 4(1.6%) third interview. On the other hand, in the first interview 239(95.6%) participants anticipated physical changes which increased to 248(99.2%) in the second interview but reduced to 246(98.4%) in the third interview.

Table 2. Cognitive levels of study participants regarding breast cancer
N=250

Cognitive Levels	Cognitive Score range	Percentage range	Freq.	Percentage
Poor	0 - 3	0 - 30	17	6.8
Average	4 - 6	40 - 60	199	79.6
Good	7 - 10	70 - 100	34	13.6

Table 3. Use of coping strategies by the participants N=250

Coping Strategy	Scores Range	% Range	Interview I		Interview 2		Interview 3	
			Freq.	%	Freq.	%	Freq.	%
Facing a life-threatening diagnosis	1 - 22	<50	11	4.4	9	3.6	8	3.2
	23 - 44	>50	239	95.6	241	96.4	242	96.8
Keep the lines of communication open	1 - 8	<50	23	9.2	12	4.8	14	5.6
	9 - 16	>50	227	90.8	238	95.2	236	94.4
Anticipate possible physical changes	1 - 26	<50	11	4.4	2	0.8	4	1.6
	27 - 52	>50	239	95.6	248	99.2	246	98.4
Maintain a healthy lifestyle	1 - 18	<50	37	14.8	16	6.4	18	7.2
	19 - 36	>50	213	85.2	234	93.6	232	92.8
Friends and family help	1 - 8	<50	18	7.2	4	1.6	6	2.4
	9 - 16	>50	232	92.8	246	98.4	244	97.6
Fighting stigma	1 - 14	<50	247	98.8	247	98.8	246	98.4
	15 - 28	>50	03	1.2	03	1.2	4	1.6
Self-blame	1 - 20	<50	66	26.4	76	30.4	70	28
	21 - 40	>50	184	73.6	174	69.6	180	72
Religiosity	1 - 14	<50	174	69.6	174	69.6	182	72.8
	15 - 28	>50	76	30.4	76	30.4	68	27.2

During the first interview 37(14.8%) participants did not maintained their healthy lifestyle which decreased

more in second interview 16(6.4%) but increase in third interview 18(7.2%). On the other hand, 213(85.2%)

participants were maintaining a healthy lifestyle in the first interview which increased in the second interview 234(93.6%)but reduced in third interview 232(92.8%).

Table 4. Descriptive Statistics

	Mean	Std. Deviation	N
Coping Strategy in stage I	165.96	10.10	30
Coping Strategy in stage II	159.65	13.33	188
Coping Strategy in stage III	147.37	12.98	32

Table 5. Level of significance difference in the coping strategies of the participants in three different interviews N=250

Variable	Interview	Mean	SD	't'	'p'
Coping Strategies	1	1.57	15.65	5.653	0.000 S, p<0.05
	2	1.60	13.92		
	1	1.57	15.65	4.325	0.000 S, p<0.05
	3	1.59	12.87		
	2	1.60	13.92	2.054	0.041 S, p<0.05

During the first interview 18(7.25) participants were not taking help from friends and family which decreased more in second 4(1.6%) but increased in third interview 6(2.4%). On the other hand, 232(92.8%) participants were taking help from family and friend in the first interview which increased to 246(98.4%) in the second interview but again decreased to 244(97.6%) in the third interview. During the first interview 247(98.8%) participants did not had stigma, which was same in second interview 247(98.8%) and decreased 246 (98.4%) in third interview. On the other hand, 3(1.2%) participants were facing the pain of stigma in first interview, which remained constant in second interview with a minimal increase to 4(1.6%) in the third interview. During the first interview 66(26.4%) participants did not blame self for having breast cancer in first interview which increased in second interview 76(30.4%) and again decreased 70(28%) in 3rd interview. On the other hand, 184(73.6%) participants blamed themselves for having breast cancer in the first interview which reduced to 174(69.9%) in the second interview and again increased to 180(72%) in third interview.

During the first interview 174(69.6%) participants believed that religiosity will not help them in treatment of breast cancer, which was constant in second interview but increased 182(72.8%) in third interview. On the other hand, 76(30.4%) participants believe that being religious will help them in treatment of breast cancer, which remained constant in second interview but reduced to 68(27.2%) in the third interview. The above table no. 3

shows that during the second session of interview which was after 1 month of first interview, the use of coping strategies had increased which reduced again in third interview. This indicates that the use of coping strategies was fluctuating. It also reveals that participants used a wide range of coping strategies to variable extent. The pattern of nature and extent of use of coping strategies shows that during the first month there is maximum utilization of coping strategies as reported in the second interview and then the use of coping strategies starts reducing as reported in the third interview.

Part IV: Correlation between the stages of cancer and their coping strategies among the women having breast cancer.

Correlation for stage I,II and III breast cancer patients

Table no. 4 shows that mean between the stage I, II and III breast cancer women's in coping strategy, comfort level score was 165.96, 159.65, 147.37 whereas Std. Deviation was 10.10, 13.33 and 12.98 respectively.

Part V: Level of significance difference in the coping strategies of the participants in three different interviews

The difference in the coping strategies was significant between first, second and third interview with $p=0.000$. This reveals that the use of coping strategies was dropping over the course of disease as indicated by the reducing means values (15.65, 13.92 and 12.87 respectively for 1st, 2nd and 3rd interview). This is because of progression of disease condition and there emotion was not stable.

Part VI: Association of nature of coping strategies with the demographic variables.

The above table No. 6 shows association of coping strategies with demographic variables of the study participants. It shows that coping strategies were significantly associated with age, residence, education, occupation, monthly family income, age at menarche, marital status, age of marriage, number of children, type of family health insurance, duration of cancer, current status of cancer and line of treatment and management given to the participant as $p=0.05$. Whereas history of breast cancer in the family was not significant. This indicates that coping strategies are influenced by almost all demographic characteristics of the participants.

DISCUSSION

Coping strategies of the participants were decreased from first to second and then increased in third interview this indicates that this could be due to fast advancement of treatment they have received. Between the three interviews the coping strategies had been found inconsistent and in third interview the participants started adapting coping strategies positively for their disease and treatment. The coping strategies were found significantly associated with majority of demographic variables i.e. age, residence,

education, occupation, monthly family income, age at menarche, marital status, age of marriage, number of children, type of family health insurance, duration of cancer, current status of cancer and treatment given to the participant as $p < 0.05$. This indicates that coping

strategies were influenced by almost all demographic variables of the participants. This shows that as the positive emotional status were influenced by the above demographic variables, indicating that they are good source for the coping strategies.

Table 6. Association of Coping Strategies with demographic variables N=250

Demographic Characteristics	Categories	N	Mean	SD	"F"/"t"	p
Age in Years	20 - 30	37	1.67	16.08	F=26.812	0.000 S, $p < 0.05$
	31 - 40	48	1.65	11.85		
	41 - 50	94	1.59	12.00		
	51 - 60	70	1.44	13.80		
	61 - 70	1	1.52	.		
	> 70	0	1.67	16.08		
Residence	Urban	167	1.61	13.82	F=25.815	0.000 S, $p < 0.05$
Education	Rural	51	1.44	17.70	F=25.392	0.000 S, $p < 0.05$
	Semi-urban	32	1.59	9.99		
	Illiterate	49	1.42	12.97		
	Primary	55	1.51	15.46		
	Secondary	77	1.63	10.31		
	Higher Secondary	44	1.63	14.43		
	Graduation	23	1.68	9.55		
	PG Or Other	2	1.73	2.83		
Occupation	Farmer	52	1.47	16.66	F=15.135	0.000 S, $p < 0.05$
	Homemaker	58	1.41	12.18		
	Private Service	111	1.63	11.54		
	Govt. Service	25	1.67	9.92		
	Student	4	1.76	3.61		
Monthly Family Income in Rupees	Less than 10000/-	32	1.42	16.61	F=23.171	0.000 S, $p < 0.05$
	10000 - 20000/-	73	1.53	14.30		
	20001 - 30000/-	48	1.59	13.15		
Age at Menarche	More than 30000/-	97	1.64	12.97	F=9.706	0.000 S, $p < 0.05$
	Less than 10 yrs	0	0	--		
	10 - 12 yrs	1	1.53	--		
	13 - 15 yrs	210	1.59	14.84		
	More than 15 yrs	39	1.47	16.91		
Marital Status	Single	8	1.70	9.49	F=27.819	0.000 S, $p < 0.05$
	Married	197	1.60	14.00		
	Widow/Separated/Divorced	45	1.43	15.66		
Years of marriage	Not Applicable	8	1.70	9.49	F=23.389	0.000 S, $p < 0.05$
	Less than 10 yrs	19	1.65	15.88		
	10 - 20 yrs	45	1.63	12.79		
	21 - 30 yrs	78	1.58	12.09		
	More than 30 yrs	100	1.44	14.27		
Number of children	NA	8	1.66	10.88	F=4.422	0.001

	Nil	20	1.54	19.33		S, p<0.05
	One	48	1.62	18.98		
	Two	78	1.58	14.58		
	Three	57	1.54	13.76		
	More than 3	39	1.51	13.97		
History of Breast Feeding	Not applicable	8	1.66	10.47	F=3.263	0.022 S, p<0.05
	No	20	1.69	--		
	Regular	211	1.56	16.10		
	Irregular	11	1.58	11.50		
Type of Family	Joint	127	1.58	13.54	t=8.200	0.000 S, p<0.05
	Nuclear	123	1.58	16.69		
Health Insurance	Yes	22	1.72	8.51	t=22.615	0.000 S, p<0.05
	No	228	1.56	15.45		
History of Breast Cancer in the family	Yes	6	1.48	23.12	t=2.159	0.143 NS, p>0.05
	No	244	1.57	15.42		
If yes, relationship with the patient	Not Applicable	244	1.57	15.42	F=3.320	0.011 S, p<0.05
	Maternal Aunt	1	1.69	--		
	Paternal Aunt	2	1.66	7.07		
	Granddaughter	2	1.21	3.54		
	Niece	1	1.45	--		
Duration of Diagnosis	Less than one year	185	1.59	14.74	F=13.465	0.000 S, p<0.05
	1 – 5 yrs	65	1.51	16.71		
	6 – 10 yrs	0	0	--		
	More than 10 years	0	0	--		
Current stage of Cancer	Stage I	30	1.67	10.83	F=22.044	0.000 S, p<0.05
	Stage II	188	1.58	14.81		
	Stage III	32	1.43	15.40		
Line of treatment and management	Just Diagnosed & no Treatment started	20	1.60	12.37	F=6.505	0.000 S, p<0.05
	Only Chemo	128	1.60	14.94		
	Only Surgery	65	1.54	14.74		
	Chemo + Surgery	37	1.49	18.14		
Source of information	Mass media	193	5.35	1.11	F=4.83	0.009 S,p<0.05
	Health professional	42	4.78	1.11		
	Family and friends	15	5.00	1.19		

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