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Research Article

Impact of Rural-Urban Differences in Acceptance and Meaning of Life among Breast Cancer Patients in India

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India is a land of unity in diversity and it is not only true about its sociocultural but also holds residential areas too. Rural and urban areas associated with different sociostructural characteristics may contribute variation in behavioural adaptation. We studied the impact of rural-urban differences on the acceptance level and meaning of life among breast cancer patients in India. The present analytical descriptive cross-sectional study was conducted under superspecialty hospital, West Bengal, India. We compared the acceptance capability and meaning in life in breast cancer patients from rural areas ($N = 122$) and urban areas ($N = 99$). Patient-reported data concerning selected psychological (acceptance ability and the meaning of life), sociodemographic, and biological factors were collected by using validated tools. To identify the impact of sociocultural variation, descriptive statistics were calculated as the mean ± standard deviation of the score of validated tools based on acceptance and meaning of life. Patients from urban areas perceived meaning of life significantly worse than rural individuals (33.1 ± 2.44 vs. 24.2 ± 1.02). Education ($p = <0.01$), family per capita income ($p = 0 < 0.01$), and family structure ($p = 0.004$) factors were evaluated for being predictors of acceptance levels, whereas the educational level ($p = <0.01$) has significantly interacted with the meaning of life among both areas' patients. Disease acceptance levels were found to be significantly higher in urban area's patients than rural ones (38.6 ± 1.9 vs. 32.7 ± 1.92). The current study demonstrates that the patients of rural background and low education are more likely than their respective counterparts to have a lower level of acceptance capability and meaning of life.

1. Introduction

According to the GLOBOCAN project in 2018, breast cancer (BC) reports for 11.6% (2.08 million) of all new cancer cases and 6.6% of all cancer deaths [1, 2]. The annual age-standardized incidence rate of BC worldwide in 2012 was 43.1/100,000 women and 25.8/100,000 in India. The epidemiologic evidence presents that late-stage diagnosis for breast cancer is related to several of sociodemographic characteristics such as age, religion, level of education, occupation, marital status, food habit, family size, monthly income, unemployment, and family history of breast cancer [3]. With the continuation of this line, those factors are causal factors behind substantial differences in BC incidence rates between rural and urban areas within India. As per

research reports, BC is said to be most common cancer in females of urban India [4].

When a person knows that he or she is a diagnosed cancer patient, from that point, they start to struggle with the acceptance of cancer or "making peace with the disease" [5]. Yet, acceptance is not related to the cancer diagnosis but also the entire treatment process. So, acceptance of the disease is related to acceptance of ups and downs during the period of journey either physically or psychologically [6]. Likewise, acceptance is a sensible way of living with illness; that is, an accepting patient does not judge, avoid, or deny the illness but continues feasible engagement in daily life activities. Resignation and fighting spirit are the statistically significant cofactors in variation of acceptance ability [7].

"Meaning of life" is one of the major concerns in oncology. Underlying psychological distress and difficulty in adjusting to cancer could be a loss of meaning in life. It might threaten the patients' psychosocial well-being and quality of life and increase their level of anxiety, depression, and suicidal thoughts, as well as lowering their desire. The word of cancer may violate one's ability to believe that life is ordered and meaningful [8].

Meaning in life and acceptance of cancer are critical for patients to adjust to a cancer diagnosis and to improve psychological well-being. Little is known about the relationship between meaning in life and the acceptance of cancer. Thus, finding meaning could reduce patients' psychological distress, leading to acceptance of the cancer experience. When patients are able to find positive meanings in their experience, they may have greater adjustment and improvements in their general well-being [9].

There are no longer studies that had discussed about the impact of sociodemographic factors in meaning of life and level of acceptance among cancer patients. Therefore, we undertook this study to analyse the impact of variation in sociocultural factors on the acceptance level and meaning of life among diagnosed breast cancer patients in India.

2. Methods and Methodology

This analytical descriptive cross-sectional study was conducted at a tertiary cancer hospital, India, after approval from the institutional ethical review board. Patients were identified for recruitment by a trained clinical research assistant (who attend daily OPD timings) and treating medical oncologists, and they had used a simple sampling method. A total of 382 diagnosed breast cancer patients those were undergoing treatment according to the status of their present disease were selected between August 2019 and December 2019. Only 279 patients were enrolled in the study after fulfilling eligibility criteria. For descriptive estimation of such observational studies, a sample size of 221 as recommended in the literature was adopted for assessing the impact of sociocultural factors on acceptance and meaning of life among breast cancer patients [10]. Patients were assigned into two groups according to their living areas to observe sociocultural differences on the level of acceptance and meaning of life:—rural ($N = 152$) named as "group A" and urban ($N = 127$) area was "group B." The sample size was calculated based on power 80% and alpha 0.05, and few patients previously agreed to take part in the study and refused later. Hence, we omitted those patients leading to the sample size of group A = 122 and group B = 99. Psychologist had assessed the acceptance level and meaning of life of all the patients. The value of the questionnaire filled out by a patient depended on norms of two standard questionnaires. Inclusion criteria included adults above the age of 18 years to not more than 65 years with diagnosed breast cancer patients, patients were able to read and respond the questions, attending the outpatient clinic in the department of oncology, and who were cooperative and gave consent to complete the questionnaires in the interview. Patients with any physical or mental condition impeding the process of

the interviews with the use of a structured questionnaire and those who cannot understand Bengali were excluded. Patients deemed cognitively impaired at the discretion of the oncologist and psychologist during the OPD or had a significant psychiatric or other disease that would interfere with participation were not eligible. Patients were explained about the study, and written informed consent was obtained. Patients were interviewed by experienced psychologist using structured questionnaires. The questionnaire was validated in local language, Bengali. It took about 15–20 mints to take interview from a single patient, which was done during the time the patient was waiting to see the doctor or after the completion of the visit to doctor.

2.1. Instrument. In order to assess the scientific credibility of the questionnaire, its content validity was evaluated. In details of questionnaires are given in the following.

Semistructured Proforma. A semistructured proforma was developed to assess the sociodemographic and clinical details of the study subjects. The questionnaire included demographic characteristics (age, level of education, marital status, residence, and occupation) as well as clinocopathological history (histology and tumor grade) and treatment history (surgery, chemotherapy, radiotherapy, and hormonal therapy) [11].

2.2. Meaning of Life Questionnaire (MLQ). Meaning of Life Questionnaire consists of ten items which are rated on a seven-point scale as absolute untrue = 1, mostly untrue = 2, somewhat true = 3, cannot say true or false = 4, somewhat true = 4, mostly true = 6, and absolutely true = 7. The range scores obtained for the presence of 1, 4, 5, 6, and 9 reverse coded on the other side search = 2, 3, 7, 8, and 10 [12].

2.3. Acceptance and Action Questionnaire II (AAQ-II). The Acceptance and Action Questionnaire II (AAQ-II) is a 10-item instrument measuring psychological flexibility, obtained through ratings of acceptance or avoidance of unpleasant thoughts and feelings. Items are rated on a seven-point scale from 0 = never true to 7 = always true. The AAQ-II had satisfactory reliability (pre = 0.82, mid = 0.78, post = 0.87, and follow-up = 0.78 [12]).

Consent Form. Informed consent was obtained from all participants in writing according to the format laid down by the Indian Council for Medical Research (ICMR), the apex body governing research in India [2].

2.4. Statistical Analysis. SPSS program version 21 was used for compilation and analysis of data. Descriptive statistics were calculated as the mean ± standard deviation of age and frequency of demographic factors and were tabulated according to age, relationship status, education, occupation, family structure, and per capita family income. The Chi-square test was used to compare categorical variables. The correlation of results depending on the sociodemographic

characteristics of two areas (rural and urban) was defined using Spearman's rank correlation test. Spearman's rank correlation test included factor affecting the scores on AAQ-II and MLQ, such as residence. The results were considered significant at a p value < 0.05.

3. Results

Out of 221 patients, 55.2% ($n = 122$) were coming from rural areas and 44.79% ($n = 99$) were from urban areas. The mean age of group A was 44.83 ± 12.18 years, while it was 52.65 ± 12.26 years in group B. There was statistically significant difference in the two groups in terms of education and economical condition ($p = 0.003$ and $p = 0.002$). The marital status, age, occupation, and family structure of the two groups are shown in Table 1.

All groups were comparable in terms of sociodemographic variables and clinicopathological variables.

Results from our study showed that patients' education, family income, and family structure are important variables affecting the assessment of acceptance level ($p = <0.05$), whereas education is an important determining factor for the assessment of meaning of life ($p = <0.05$) (Table 2).

Rural groups performed poorly in both assessment (acceptance and meaning of life) compared to urban patients (AAQ-II: 32.7 ± 1.92 and MLQ: 24.2 ± 1.02 vs. AAQ-II: 38.6 ± 1.9 and MLQ: 33.1 ± 2.44) and were statistically significantly lower than their urban patients' counterparts ($p = <0.05$) (Table 3).

4. Discussion

According to the present descriptive cross-sectional study, varying results were found with regard to the relationship among a patient's acceptance level, meaning of life, and rural-urban residence when one consider the sociodemographic (e.g., education) variable. Acceptance was significantly statistically associated with sociocultural factors such as education, family structure, and occupation [7]. Patients those were belonging to the urban area had significantly higher capability of acceptance comparing to those who were from rural areas (38.6 ± 1.9 vs. 32.7 ± 1.92), and it was statistically significant at $p < 0.001$. In our study, we found that meaning of life significantly differs from a patient's level of education. In other words, education is necessarily implying a meaning of life that establishes a link between the act of existing and life satisfaction. Rural populations have lower levels of educational achievement that leads to the inferior survival rate and at least partially explained by having more advanced disease at the time of diagnosis. This education helps a cancer patient to attempt to answer questions about the meaning of this illness and their suffering. From our result, it can be said that patients facing cancer tend to search for a meaning in the experience that appears to moderate cultural influences on the presence of meaning in an attempt

to make it fit the existing beliefs or to revise the beliefs to better match the experience [13]. Our findings also indicate that a low level of education and a low socioeconomic status led to the poor uptake of screening by women because they feel shy to share personal health problems, and most of the time, the women underestimate themselves in the family and hesitate to share their problems. A vicious circle of the problems starts without having an end, and these are impacted to accept the present situation [14]. The patients who belong to a joint family were reported as better acceptance ability rather than the opposite one because the quality of family relationships, including social support (e.g., providing love, advice, and care) and strain (e.g., arguments, being critical, and making too many demands), can influence well-being through psychosocial, behavioural, and physiological pathways. Stressors and social support are core components of the stress process theory. Supporting other research outcomes, it has been concluded that middle-aged (45–55 years) breast cancer women can better adopt the present situation rather than other age groups. Following outcomes of the present study, age is a negative predictor of the acceptance of disease among patients with breast cancer. This finding was also supported by the available literature [15]. Contradicting the previous research-documented result, it has been proved that cancer patients with the age group of above 60 years have higher level acceptance capability of the disease comparing to other age group. Along with this, being active in the physical, mental, social, and professional sense allows for better adaptation to change conditions, emerging difficulties, and limitations associated with the disease [16].

Such high proportion of lack of acceptance ability is a reflection of cultural norms, e.g., they signify that cancer is just because of "Bad Karma" [17]. India is a broad country with differing social, cultural, and religious practices. Sociocultural dynamics and sociodemographic differences across population have crucial roles in determining women's behavioural adaptation. Breast cancer in developing country is characterized by late presentation, advanced stage of disease at diagnosis, and worse biologic behaviour due to ignorance of their health and taking care of family and home responsibility. On the contrary to this point, a recent study said that only the level of education was highly associated with the stage of breast cancer at presentation [18].

4.1. Study Strengths. (1) The present study is the 1st study in West Bengal. (2) We included a large sample of breast cancer patients, with broad varieties of treatment modalities.

4.2. Study Limitations. We observed the following few limitations while conducting the study: (1) only 39% respond due to lack of concerns about psychological impact and (2) there is lack of studies in India as well as out of India related this topic.

TABLE 1: Prevalence of demographic characteristics of the participants.

Demographic characteristics	Group A (N = 122)	Group B (N = 99)	p value
Age	56.63 ± 0.12	51.82 ± 0.35	1.67
Relationship status (%)			
Living with spouse	87.16	94.33	0.06
Living alone	12.95	5.71	
Education (%)			
Primary education	41.93	59.13	0.001*
High school	43.11	22.12	
Graduate	15	38.82	
Family income (%)			
<500	62.32	10.12	0.001*
500–1000	26.41	26.43	
1000–2000	9.42	39.41	
>2000	1.93	24.12	
Occupation (%)			
Home maker	94.35	87.17	0.07
Engaged with type of work	5.71	12.92	
Family structure (%)			
Joint	17.12	25.21	1.13
Nuclear	82.91	74.83	
Tumor grade (%)			
I	21.53	28.90	0.06
II	41.6	35.45	
III	37.47	35.65	
Histology (%)			
Duct carcinoma	69%	68.34%	0.08
Lobular carcinoma	31%	31.66%	
Treatment (%)			
Standardized palliative care	39.32	44.13	1.01
Standardized palliative care therapy combined with standard care	60.71	55.91	
Duration of illness (%)			
≤6 months	53.42	61.27	0.001*
>6 months	46.63	38.88	

TABLE 2: Association between the scoring of acceptance and meaning of life and selected demographic variables among all participants.

	Rural area				Urban area			
Demographic variables	The Acceptance and Action Questionnaire II (AAQ-II) 32.7 ± 1.92		Meaning of Life Questionnaire (MLQ) 24.2 ± 1.02		The Acceptance and Action Questionnaire II (AAQ-II) 38.6 ± 1.9		Meaning of Life Questionnaire (MLQ) 33.1 ± 2.44	
	Mean ± SD	p value	Mean ± SD	p value	Mean ± SD	p value	Mean ± SD	p value
Age								
26–35	28.1 ± 1.02		28.3 ± 1.21		30.2 ± 1.01	0.07	29.1 ± 1.41	1.53
35–45	29.6 ± 1.14	0.06	30.1 ± 1.04	0.08	33.5 ± 0.74		26.2 ± 0.87	
45–55	32.5 ± 0.87		29.2 ± 1.13		31.3 ± 1.12		27.6 ± 1.13	
55+	30.1 ± 0.76		23.2 ± 1.09		30.9 ± 1.03		26.3 ± 1.13	
Education								
Primary level	36.7 ± 1.10	0.001*	25.4 ± 1.10	0.001*	31.5 ± 1.07	0.001*	27.1 ± 0.56	0.001*
Secondary level	34.4 ± 1.03		29.3 ± 1.36		28.1 ± 1.03		28.9 ± 1.12	
Graduate level	30.1 ± 1.41		30.1 ± 1.03		26.2 ± 1.10		33.4 ± 0.87	
Family income								
<500	35.1 ± 1.05	0.001*	29.4 ± 1.10		33.1 ± 2.10	0.09	30.3 ± 1.30	
500–1000	38.3 ± 1.10		30.2 ± 1.15	1.43	31.6 ± 0.81		29.2 ± 1.50	1.13
1000–2000	33.1 ± 0.76		31.3 ± 0.76		30.3 ± 1.10		31.2 ± 1.21	
>2000	30.5 ± 1.05		33.5 ± 1.20		31.2 ± 1.05		32.5 ± 0.91	

TABLE 2: Continued.

Demographic variables	Rural area				Urban area			
	The Acceptance and Action Questionnaire II (AAQ-II) 32.7 ± 1.92		Meaning of Life Questionnaire (MLQ) 24.2 ± 1.02		The Acceptance and Action Questionnaire II (AAQ-II) 38.6 ± 1.9		Meaning of Life Questionnaire (MLQ) 33.1 ± 2.44	
	Mean ± SD	p value	Mean ± SD	p value	Mean ± SD	p value	Mean ± SD	p value
Marital status								
Living with spouse	36.4 ± 1.13	1.12	29.1 ± 1.02	1.59	33.4 ± 1.13	1.15	31.2 ± 1.51	1.82
Living without spouse	37.2 ± 1.02		32.3 ± 1.70		32.2 ± 1.07		32 ± 0.87	
Family structure								
Joint	38.2 ± 1.01	0.04*	30.1 ± 0.78	0.001*	31.2 ± 0.87	0.001*	30.3 ± 2.10	1.02
Nuclear	35.13 ± 0.98		32.4 ± 1.30		29.1 ± 1.10		31.9 ± 0.74	
Occupation								
Home maker	36.5 ± 1.73	1.09	27.3 ± 1.13	0.001*	32.3 ± 1.02	0.001*	32.4 ± 1.40	1.23
Engaged with the type of work	35.2 ± 1.21		33.1 ± 1.07		29.1 ± 1.12		33.1 ± 0.71	

TABLE 3: Correlation between acceptance and meaning of life domains according to the residence area.

Acceptance and Action Questionnaire	Mean ± SD		p value
	Rural	Urban	
My painful experiences and memories make it difficult for me to live a life that I would value	3.2 ± 0.41	1.3 ± 0.34	
I am afraid of my feelings	4.6 ± 0.24	5.1 ± 0.20	
I worry about not being able to control my worries and feelings	5.1 ± 0.03	6.7 ± 0.23	
My painful memories prevent me from having a fulfilling life	6.2 ± 0.32	7 ± 0.56	$(p = <0.01)^*$
Emotions cause problems in my life	5.4 ± 0.21	7.20 ± 0.41	
It seems like most people are handling their lives better than I am	4 ± 0.34	5.20 ± 0.32	
Worries get in the way of my success	4.2 ± 0.72	6.10 ± 0.20	
Meaning of Life Questionnaire	Mean ± SD		p value
I understand my life's meaning	Rural	Urban	
I am looking for something that makes my life feel meaningful	2.4 ± 0.11	2.10 ± 0.25	
I am always looking to find my life's purpose	3.1 ± 0.62	4.23 ± 0.30	
My life has a clear sense of purpose	2.2 ± 0.12	4.15 ± 0.21	
I have a good sense of what makes my life meaningful	2.5 ± 0.23	3.34 ± 0.32	
I have discovered a satisfying life purpose	3.1 ± 0.14	4.22 ± 0.33	$(p = <0.01)^*$
I am always searching for something that makes my life feel significant	2.1 ± 0.12	5.10 ± 0.25	
I am seeking a purpose or mission for my life	1.2 ± 0.03	3.21 ± 0.40	
My life has no clear purpose	5.3 ± 0.40	3.52 ± 0.21	
I am searching for meaning in my life	2.3 ± 0.50	3.13 ± 0.36	

5. Conclusion

Different residential positions of the patient have significant impact on disease acceptance levels and meaning of life. These data clearly indicate that the patients of rural background and low education are more likely than their respective counterparts to have a lower level of acceptance capability and meaning of life. Our results may be considered the keys to determining how sociostructural factors during disease trajectory for optimal quality of life are related. Our results may be considered the keys to determining how sociocultural variation may be related to patients' acceptance level and meaning of life where limited resources need to be invested to ensure the word "Cancer" is not death knocking at the door.

Data Availability

The data used to support the findings of this study are included within the article.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Acknowledgments

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