# A Mixed Analysis On Coping And Social Support Needs Of Breast Cancer Survivors In Chennai, India

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## Abstract

A breast cancer survivor requires social support to live and have a good quality of life. Breast cancer survivors' psychological, physical, and cognitive performance declined more rapidly as a result of maladaptive coping and a lack of social support. 1. To assess the coping and social support needs among women who have had breast cancer. 2. To correlate breast cancer survivors' coping and social support needs with selected bio socio-demographic variables. 3. The aim of this research was to explore the breast cancer survivor's coping and social support needs. Methods: Data was obtained from breast cancer survivors attending the Medical Oncology OPD using a concurrent triangulation mixed-method study design and convenient and purposive sampling techniques. The Multidimensional Perceived Social Support Scale and Hamby, Grych, and Banyard Coping Scale were used to extract data quantitatively. In order to collect data in qualitative aspects, semi-structured interview schedules were used. The majority of participants (84%) had a moderate to high degree of perceived social support need, with an average coping score of 58.67%. Stress management, spiritual well-being, family reinforcement, depression, and low self-esteem were among the themes that emerged from in-depth interviews with the participants. Conclusion: Social support was found to have a reasonable relationship with coping among breast cancer survivors. It also suggests the creation of a specific nursing care strategy to enhance the well-being of breast cancer survivors.

## INTRODUCTION

Cancer, the big brother of non-communicable disease, is a phenomenal disease that takes the lives of about 9.6 million people worldwide, ranking it second in terms of global mortality [1]. Cancer is estimated to affect one in five people, and about one in eight men and one in eleven women die as a result of the disease[2]. The three most common types of cancer that killed women were lung, breast, and colorectal cancer, which caused 7% of female cancer deaths. [3].

For cancer patients, social support is absolutely important to their survival and quality of life, particularly those with breast cancer [4]. In women with breast cancer, social support is the greatest positive indicator of mental wellbeing [5]. Social encouragement from family members and friends is an important indicator of social well-

being [6]. A shortage of social support for breast cancer survivors has been shown to be related to an increase in cancer-related mortality and a decrease in quality of life. The spouse will provide the greatest amount of social support for breast cancer survivors (94.3 percent), followed by relatives (12 percent) and friends (5.4 percent) [7]. Anxiety, irregular mood, and depression were all found to be higher in breast cancer survivors. In comparison, the number of survivors living with their partner is significantly smaller, whereas the number of survivors living in a nuclear family is significantly higher[8].

Catastrophizing as well as other coping strategies may be important in the persistence of fatigue [9]. This last path model demonstrated that negative marital coping efforts, such as avoidance and self-blame, effectively mediate the relationship between women's body image and their sexual relationships[10].It was found that cancer coping style was correlated with lower cancer pain, anxiety, and depression levels and a higher quality of life score. No substantial relationship was found between cancer coping and cancer survival or recurrence [11].

Breast cancer survivors with more support from family members had better coping for the disease [12]. The rapid deterioration in mental, physical, and cognitive function was intensified by maladaptive coping and a lack of social support [13]. The aim of this research was to explore the breast cancer survivor's coping and social support needs as well as the relationship between both domains and bio socio-demographic variables.

## OBJECTIVES

1. To assess the level of coping and social support needs of Breast Cancer survivors.
2. To associate the selected bio-socio-demographic data with the coping and social support needs of the Breast Cancer Survivors.
3. To explore the coping and social support need experiences among the breast cancer survivors.

## MATERIALS AND METHODS:

**Study design:** A concurrent triangulation mixed-method research design was used. The breast cancer survivors numbered 150 and were used to obtain quantitative data. Three focused group discussions and five one-to-one in-depth interviews were conducted for qualitative data collection. Samples were chosen by convenient and purposive sampling techniques, respectively. The study was carried out at Medical Oncology OPD in a selected tertiary care hospital, Chennai. The eligibility criteria were a) Only female patients diagnosed with breast cancer b) able to understand and speak Tamil c) Should be at least 18 years of age d) Breast cancer patients seeking treatment at least for six months and e) Attending In-patient and Out-patient department in the selected tertiary care center.

**Data Collection:** Formal permission was obtained from the concerned authorities to conduct the study. Informed consent was obtained from participants in accordance with their preferred means of language. The data collection was done with a structured Bio-socio demographic questionnaire followed by Multidimensional Perceived Social Support Scale and Hamby, Grych & Banyard Coping Scale in quantitative aspect. About 15 minutes were spent on each participant to elicit data using the selected tool. In the qualitative aspect, semi-structured questionnaires were used in FGDs and one-on-one interviews to collect qualitative data.

**Ethical Approval:** Institutional Ethics Committee of Tamil Nadu Govt. Multi-Specialty Hospital vide ref. no. 1577/P&D-I/TNGMSSH/2017/PMS/003/07/2020 has granted the approval. Also registered with the Indian clinical trial registry no. CTRI/2020/08/027291.

## DATA ANALYSIS

### Quantitative analysis:

Socio-demographic and clinical factors, coping, and social support were analysed using descriptive statistics. Socio-demographic and clinical data will be averaged and tabulated with percentages. The coping and social support scores were given in mean, median, percentage of the mean score, and standard deviation. Association between the coping and social support with bio socio-demographic variables was analysed using nonparametric Mann Whitney U-test / Kruskal Wallis H –test.

### Qualitative analysis:

The audio contents were transcribed and the verbatim was developed, which made the researcher familiar with the data and acquire an overview of the text. Next, the transcripts were examined for content. The content corresponding to the variables was coded and categorized. Any coding issues have been discussed, and then consensus was reached. A description of each category was developed. In the mixed analysis, the individual studies' conclusions were combined in a discussion.

**RESULTS**

**Quantitative aspect:**

Among 150 participants, the participants' mean age was 51.57 ± 9.51 years, with 85 (56.67%) were overweight, and 89 (59.33%) had completed their primary education. 132 (88%) of them were married, 119(79.33%) were married for ten years, with 131 (87.33%) had children. About 122 (81.335%) of the participants were full-time homemakers, 84 (56%) were earning Rs. 5000 – Rs 10,000, 123 (82 %) lived in the nuclear family, and 50 (33.33%) lived alone or with one another. About 123(82%) belonged to the Hindu religion, with 94 (62.67%) were residing in semi-urban areas, and 87 (58%) had no comorbid disease conditions. The majority of 140(93.33%) were diagnosed for five years and had a survival of up to 5 years about the clinical variables. Considerably 92(61.33%) were in stage III of breast cancer( Figure 1),75 (50%) had a tumor at the right breast, 96(64%) were under hormonal therapy. Mostly 138(92%) were independent, and 114 (76%) had 4 to 8 hours of sleep.

Among the participants, 84% of them reported having a high level of social support, while 16% reported having a low level of social support by using Multidimensional Perceived Social Support scale. (Table1).

On analysing the coping scale, it was observed that, 88 (58.67%) had moderate level of coping score,42(28%) had poor coping score whereas only 20( 13..33%) had good amount of coping score( Figure 2).

Considering the association between the perceived social support with the socio-demographic, it was observed that graduate patients[$c_2$=8.56 p=0.03*(S)]**, patients with a** **Monthly income of > Rs 10000[$c_2$=19.17 p=0.001***(S)] and those who live with five or more persons[$c_2$=23.33 p=0.001***(S)]** were statistically significant with the perceived social support and among the clinical variables, reoccurrence of **cancer[$c_2$=8.45 p=0.04*(S)] was** significant.

On evaluating the association between the coping with demographic variables revealed that the patients with **Monthly income of > Rs 10000 [$c_2$=6.08,p=0.05*(S)]and those who live with five or more persons [$c_2$=8.40 p=0.02*(S)]** were statistically significant. Among the clinical variables, reoccurrence of **cancer [$c_2$=13.78, p=0.01**(S)],** those who were partially dependent on others [ **Z=2.83,p=0.01**(S)]**, and those who sleep for less than four hours **[Z=3.31,p=0.01**(S)] were** significant. ( Table 2).

**QUALITATIVE ASPECT:**

The inter core themes which evolved with the participants narratives were **stress management, spiritual well-being, family reinforcement, loneliness and low self-esteem.**

**(i)Stress management:**

The coping strategies followed by the participants vary significantly from person to person. Most of the respondents agreed that they manage their mental stress by talking to their near ones, Some participants will concentrate on their business to feel relaxed, and it acts as a diversion. Watching television and playing with their grandchildren, whereas in one case, children even made fun of their grandmother's baldness which made them relieved of mental stress. In one of the focus group discussions, all of them said that their worries disappeared when they saw women/ children of younger age also have this condition. Some of the participants found reading books and going to the temple.

The participant's narrations were *stroke their hand on my head and ask "Granny, when will your hair grow? It is like this' ' and makes fun (enjoying kind of tone), they are small kids. I feel very happy then".*

Another participant's narrations were *"I feel happy when my children, daughters-in-law and grandchildren come. Yes, they all visit once a week. Then I feel very happy. In between also when I am watching serials or speaking to neighbours, I feel happy. One 10th standard girl got admitted, even though she had the disease. At least we are elderly but that small girl has got it, she is a student, she is suffering, seeing all that I consoled myself. What to do, God has given this".*

**(ii)Spiritual Well-Being:**

Understanding of how the participants connect themselves with God is significant with the coping strategies adopted by them. Most of them considered god as a reason for their condition, for some out of it said that god has given them this, so they have to bear it. Whereas some others think God could have given more but he is grateful enough to be not doing that. Some other survivors think they survived only because of god's grace. For others going to temple or praying would give them satisfaction. Most of them agreed that their belief in god has increased to an extent.

*"I am alone. I feel happy when I go to temple. I go there and sit for a while and feel relaxed."*

*Whatever we have got is the fate written by God. With the grace of God I am happy. I pray God saying "Let me get sleep, let my hand pain get relieved", pray for half an hour and then go and lie down.*

**(iii)Family Reinforcement:**

Most of the participants insisted that they shared their condition with their family members and friends which reduced their burden due their condition. But on other hand they were disturbed that their condition impacts a lot and changed the routine of their family members and which in turn imposes a burden on the financial factor of the family. But all of them responded that they received a greater support from their family members.

A participant verbalized *"Even though it was tough for the mind, children solaced me, even my husband was very solacing. I don't wash clothes or any such work, the daughter does it. The siblings were the support for me. They filled courage saying "Don't get scared, nothing will happen, everything will be fine". Even the neighbours also told the same. About the help, it was relatives who gave some money and helped for the expenditures".*

**(iv)Loneliness:**

Most of them are in stress if they are alone. Some of them feel that whenever they go to a function, the people are talking about them and looking at them. So to avoid such a situation, they need company. In other words, it is difficult for most of the respondents to go out somewhere without someone accompanying them. But the situation is different for a person who thinks people around her interact in a loving and caring way which gives her more confidence, but she also needs someone to accompany her as well as she feels people look at her with wretchedness. In some cases, it is the family members who are making them not to go alone.

**(v)Low Self-Esteem:**

The breast cancer survivors were affected by their physical disfigurement which in turn made them to stigmatize themselves from the societal functions. They were lacking in their self-esteem and some of the respondents explained even though their family members and people were good to her but they might exhibit different thoughts when she was not present. Most of them found it reluctant to wear the sarees while going outside but some of them had their alternative arrangement to wear it.

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A participant verbalised that -*"Feeling sad is constant. If someone looks at us as an enemy, then I feel really bad. We don't know what they speak behind us. In front of us, they are all normal and they don't hurt us. First I had that hesitation but later I did not feel anything as such. Got the courage saying this is what I have got because of fate, after that, I haven't thought of it also".*

**DISCUSSION**

84% of participants had a high level of social support, and 16% had a low level of social support, which was supported by previous studies that showed that the perceived social support score from family increased, while the overall score of perceived social support increased [12]. Family, survivorship organisations, medical practitioners, and spirituality and religiosity were the sources of emotional support for approximately 33.45% of those with low PSS and 66.30% of those with moderate to high PSS[14]. Compared to other people, network participants were more likely to be identified as relatives (16) The patients' feelings of hopelessness decreased as their social support increased[17] 6.9%, 31.8 percent, and 7.6% of older survivors, respectively, had low mental, physical, and cognitive function[18]. The results of

the analysis of the breast cancer survivors' coping scores showed that 88 (58.67% of survivors) had a moderate level of coping score, which is consistent with a study that found that Class I survivors (those with low levels of pain, anxiety, and depression) had lower cancer pain, anxiety, and depression scores as well as higher quality of life scores than the Maladaptive Community (those with higher levels of pain, anxiety, and depression and lower quality of life)[11]. In emotional, physical, and cognitive function, women's levels of successful dealing with stress decreased with age, as seen in 6.9%, 31.8 percent, and 7.6% of older survivors, respectively. PA was the most common coping style (23.4–29.9%). [19] Social support was linked to general and cancer-specific depression (p=05), as well as cancer-specific wellbeing (p=001)(20), and social support was strongly associated with post-traumatic growth (p=0.001) and health literacy (p= 0.001) [21].

The study's findings revealed that the participants had a high level of social support and used a variety of coping strategies, which are supported by the qualitative analysis' evolved themes, which focused on stress management and spiritual well-being. They also received a large amount of social and family support, but some of them showed depression and low self-esteem, which was more prevalent among them, further complicating their situation. Nurses, as the primary and comprehensive care provider, should use appropriate assessment and training approaches while teaching different coping strategies. Breast cancer survivors' self-esteem is improved when family members are involved, and society as a whole should be educated on breast cancer and their role in reducing the loneliness of breast cancer survivors.

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**Figure 1: Stages Of Cancer Among Breast Cancer Survivors**
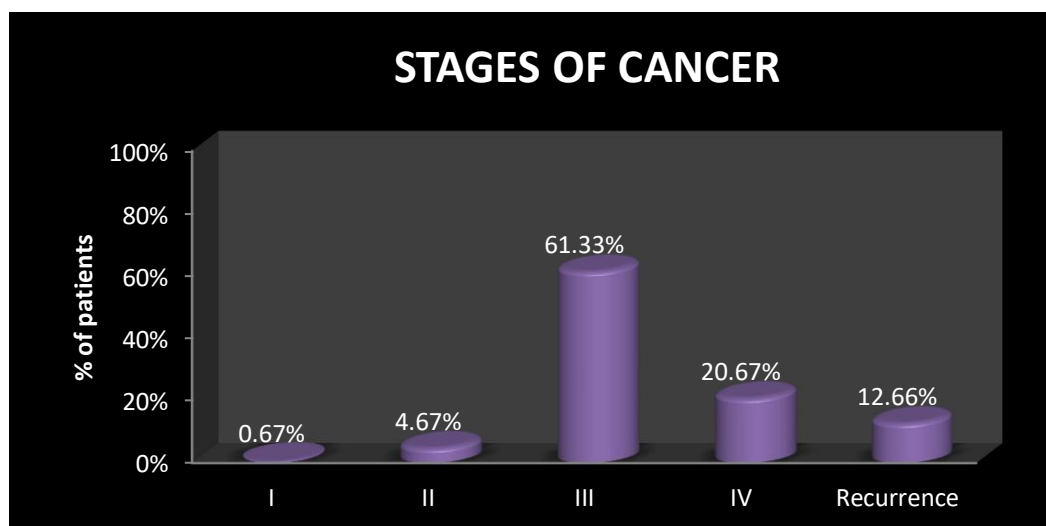


**Table 1: Level of Perceived Social Support Score**

| LEVEL OF PSS SCORE | NO. OF PATIENTS | % |
|---|---|---|
| <4 | 24 | 16.00 |
| ≥4 | 126 | 84.00 |
| **Total** | 150 | 100.00 |

**Figure 2: Level of Coping Score**
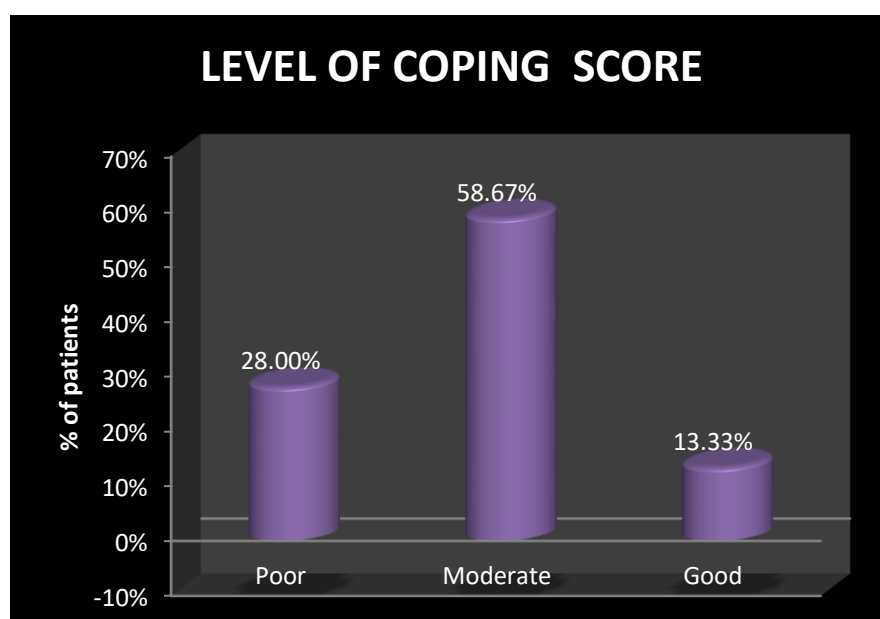
**Table 2: Association Between Perceived Social Support Score And Coping Scale Score With demographic Variables And Clinical Variables**

| Demographic variables | | PSS SCORE | | | | Mann Whitney U-test / kurskal Wallis H -test | COPING SCORE | | | Mann Whitney U-test / kurskal Wallis H -test |
|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Median | Percentile 25 | Percentile 75 | | N | Median | Percentile 25 | |
| Age group | 30-40 years | 22 | 64.50 | 60.00 | 69.00 | χ2=0.26 p=0.97(NS) | 35.00 | 32.00 | 37.00 | χ2=0.01 p=0.99(NS) |
| | 41-50 years | 46 | 66.00 | 55.00 | 69.00 | | 35.00 | 32.00 | 39.00 | |
| | 51-60 years | 52 | 64.00 | 56.50 | 69.50 | | 34.00 | 30.00 | 39.00 | |
| | 61-70 years | 30 | 68.50 | 39.00 | 72.00 | | 34.50 | 28.00 | 39.00 | |
| Body mass index | Underweight | 6 | 69.00 | 68.00 | 70.00 | χ2=3.47 p=0.33(NS) | 33.50 | 32.00 | 39.00 | χ2=4.46 p=0.21NS) |
| | Healthy weight | 41 | 66.00 | 58.00 | 69.00 | | 35.00 | 33.00 | 39.00 | |
| | Overweight | 85 | 64.00 | 54.00 | 69.00 | | 34.00 | 27.00 | 39.00 | |
| | Unhealthy overweight | 18 | 63.50 | 58.00 | 75.00 | | 35.50 | 30.00 | 39.00 | |
| Education status | Informal education | 29 | 63.00 | 55.00 | 68.00 | **χ2=8.56 p=0.03*(S)** | 33.00 | 29.00 | 35.00 | χ2=6.37 p=0.10(NS) |
| | Primary education | 89 | 66.00 | 58.00 | 69.00 | | 35.00 | 32.00 | 39.00 | |
| | Higher secondary education | 22 | 63.00 | 32.00 | 72.00 | | 31.00 | 26.00 | 39.00 | |
| | Graduate | 10 | 69.50 | 69.00 | 76.00 | | 36.50 | 36.00 | 39.00 | |
| | Professional | 0 | 0.00 | 0.00 | 0.00 | | . | . | . | |
| Marital status | Married | 132 | 64.00 | 56.00 | 70.00 | χ2=0.67 p=0.75(NS) | 34.00 | 30.00 | 39.00 | χ2=3.14 p=0.37(NS) |
| | Divorced/separated | 5 | 68.00 | 67.00 | 68.00 | | 36.00 | 36.00 | 37.00 | |
| | Partnered/ significant other | 2 | 65.50 | 64.00 | 67.00 | | 37.50 | 36.00 | 39.00 | |
| | Single | 8 | 66.50 | 60.50 | 73.00 | | 33.50 | 21.00 | 38.50 | |
| | Widow | 3 | 69.00 | 41.00 | 69.00 | | 44.00 | 39.00 | 50.00 | |
| Religion | Hindu | 123 | 64.00 | 56.00 | 69.00 | χ2=3.05 p=0.22(NS) | 35.00 | 30.00 | 39.00 | χ2=4.22 p=0.12(NS) |
| | Muslim | 15 | 68.00 | 57.00 | 69.00 | | 37.00 | 34.00 | 39.00 | |
| | Christian | 12 | 69.00 | 63.50 | 75.50 | | 32.00 | 29.50 | 34.50 | |
| Residential area | Urban | 54 | 64.00 | 58.00 | 69.00 | χ2=1.51 p=0.46(NS) | 33.50 | 27.00 | 39.00 | χ2=5.81 p=0.06(NS) |
| | Semi urban | 94 | 66.00 | 55.00 | 72.00 | | 35.00 | 33.00 | 39.00 | |
| | Rural area | 2 | 68.50 | 68.00 | 69.00 | | 43.50 | 37.00 | 50.00 | |

| Category | Subcategory | N | | | | χ2 | | | | χ2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Employment status | Full time | 3 | 76.00 | 58.00 | 76.00 | χ2=3.69 p=0.30(NS) | 13.00 | 13.00 | 39.00 | χ2=5.30 p=0.25(NS) |
| | Retired, not working at all | 4 | 66.50 | 62.50 | 69.00 | | 31.50 | 21.00 | 35.50 | |
| | Part time | 2 | 55.00 | 55.00 | 55.00 | | 33.00 | 33.00 | 33.00 | |
| | Retired, working part time | 0 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | |
| | Full time home maker | 122 | 65.50 | 58.00 | 70.00 | | 35.00 | 30.00 | 39.00 | |
| | Laid off /un employed | 4 | 60.50 | 48.50 | 71.50 | | 38.50 | 34.00 | 43.00 | |
| | Disabled | 0 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | |
| | Self employed | 5 | 70.00 | 34.00 | 80.00 | | 39.00 | 22.00 | 39.00 | |
| | Students | 0 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | |
| | Others | 10 | 55.00 | 47.00 | 67.00 | | 35.00 | 27.00 | 37.00 | |
| Monthly income | < Rs 5000 | 42 | 58.00 | 41.00 | 66.00 | **χ2=19.17 p=0.001\*\*\*(S)** | 31.00 | 27.00 | 37.00 | **χ2=6.08 p=0.05\*(S)** |
| | Rs 5000 – Rs 10000 | 84 | 66.50 | 58.00 | 69.50 | | 35.00 | 32.00 | 39.00 | |
| | > Rs 10000 | 24 | 69.50 | 64.00 | 75.00 | | 39.00 | 29.00 | 39.00 | |
| Type of family | Nuclear family | 123 | 64.00 | 55.00 | 69.00 | χ2=0.46 p=0.64(NS) | 35.00 | 30.00 | 39.00 | χ2=0.92 p=0.35(NS) |
| | Joint family | 27 | 69.00 | 62.00 | 74.00 | | 35.00 | 32.00 | 39.00 | |
| | Extended family | 0 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | |
| Co morbid disease conditions | Nil | 87 | 65.00 | 55.00 | 70.00 | χ2=1.46 p=0.22(NS) | 35.00 | 30.00 | 39.00 | χ2=0.19 p=0.66(NS) |
| | Arthritis | 1 | 52.00 | 52.00 | 52.00 | | 35.00 | 35.00 | 35.00 | |
| | Osteoporosis. | 0 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | |
| | Asthma | 0 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | |
| | Congestive heart failure | 0 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | |
| | Heart attack | 0 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | |
| | Stroke /TIA | 0 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | |
| | Neurological diseases | 0 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | |
| | Diabetes mellitus | 62 | 65.00 | 58.00 | 69.00 | | 34.00 | 30.00 | 37.00 | |
| | Hypertension | 0 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | |
| Cohabitation status | Lives alone or with one other person | 50 | 57.00 | 39.00 | 66.00 | **χ2=23.33** | 33.00 | 26.00 | 36.00 | **χ2=8.40** |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stays with two or more other persons | 63 | 67.00 | 60.00 | 74.00 | **p=0.001***(S)** | 35.00 | 32.00 | 39.00 | **p=0.02*(S)** |
| | Stays with five or more other persons | 37 | 68.00 | 63.00 | 72.00 | | 37.00 | 32.00 | 39.00 | |
| Duration of marriage | Nil | 8 | 66.50 | 60.50 | 73.00 | χ2=1.60 p=0.60(NS) | 33.50 | 21.00 | 36.00 | χ2=0.31 p=0.85(NS) |
| | Less than or equal to 10 years | 6 | 66.00 | 56.00 | 69.00 | | 34.00 | 27.00 | 39.00 | |
| | More than 10 years | 119 | 66.00 | 57.00 | 70.00 | | 35.00 | 30.00 | 39.00 | |
| | Unknown | 17 | 62.00 | 55.00 | 63.00 | | 37.00 | 32.00 | 39.00 | |
| Children | Yes | 131 | 64.00 | 55.00 | 69.00 | Z=1.35 p=0.17(NS) | 35.00 | 30.00 | 39.00 | Z=0.25 p=0.80(NS) |
| | No | 19 | 68.00 | 57.00 | 76.00 | | 35.00 | 32.00 | 37.00 | χ2=0.01 p=0.99(NS) |
| **CLINICAL VARIABLES** | | | | | | | | | | |
| Duration since diagnosis | Less than five years | 140 | 64.00 | 55.50 | 69.00 | z=1.03 p=0.30(NS) | 34.00 | 30.00 | 39.00 | z=1.21 p=0.22(NS) |
| | More than five years | 10 | 69.50 | 69.00 | 72.00 | | 34.50 | 28.00 | 39.00 | |
| Duration of survivorship | Upto five years | 140 | 64.00 | 55.50 | 69.00 | z=1.03 p=0.30(NS) | 35.00 | 30.00 | 39.00 | z=1.21 p=0.22(NS) |
| | More than five years | 10 | 69.50 | 69.00 | 72.00 | | 34.00 | 30.00 | 39.00 | |
| Stages of cancer | I | 0 | 0.00 | 0.00 | 0.00 | χ2=**8.45 p=0.04*(S)** | 0.00 | 0.00 | 0.00 | χ2=**13.78 p=0.01**(S)** |
| | II | 7 | 40.50 | 32.00 | 55.00 | | 25.50 | 24.50 | 30.00 | |
| | III | 92 | 65.00 | 57.00 | 70.00 | | 35.00 | 29.50 | 39.00 | |
| | IV | 31 | 66.00 | 60.00 | 69.00 | | 34.00 | 32.00 | 37.00 | |
| | Recurrence | 19 | 66.00 | 54.00 | 75.00 | | 39.00 | 35.00 | 39.00 | |
| Tumor location. | Left breast | 72 | 66.00 | 57.50 | 70.00 | χ2=0.88 p=0.64(NS) | 34.00 | 28.00 | 39.00 | χ2=1.18 p=0.55(NS) |
| | Right breast | 75 | 64.00 | 56.00 | 70.00 | | 35.00 | 30.00 | 39.00 | |
| | Both | 3 | 63.00 | 32.00 | 67.00 | | 36.00 | 25.00 | 51.00 | |
| Current anticancer treatment | Surgery | 0 | 0.00 | 0.00 | 0.00 | Z=1.48 p=0.47(NS) | 0.00 | 0.00 | 0.00 | Z=0.24 p=0.62 (NS) |
| | Chemotherapy | 46 | 66.50 | 58.00 | 70.00 | | 35.50 | 28.00 | 39.00 | |
| | Hormonal therapy | 96 | 64.00 | 54.50 | 69.50 | | 34.50 | 30.00 | 39.00 | |
| | Radiation therapy | 8 | 65.50 | 60.00 | 69.00 | | 35.00 | 32.00 | 37.50 | |
| Performance status | Fully dependent | 0 | 0.00 | 0.00 | 0.00 | Z=0.06 p=0.80(NS) | 0.00 | 0.00 | 0.00 | **Z=2.83 p=0.01**(S)** |
| | Partially dependent | 12 | 66.00 | 57.00 | 73.00 | | 39.00 | 27.00 | 42.50 | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Independent | 138 | 64.50 | 56.00 | 70.00 | | 35.00 | 30.00 | 39.00 | |
| Duration of sleep | < four hours | 36 | 64.50 | 54.00 | 69.00 | Z=0.55p=0.57(NS) | 35.00 | 34.00 | 39.00 | **Z=3.31p=0.01** (S)** |
| | 4 to 8 hours | 114 | 65.00 | 57.00 | 70.00 | | 34.00 | 28.00 | 39.00 | |
| | > ten hours | 0 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | |

S= significant, NS= not significant *p≤0.05 significant **p≤0.01 high significant   ***p≤0.001 very high significant