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ASSESS THE EFFECTIVENESS OF SURVIVORSHIP PROGRAM (SP) IN MEETING THE HOLISTIC NEEDS OF BREAST CANCER SURVIVORS

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ABSTRACT

Aim: The aim of the study was to assess the unmet needs of breast cancer survivors and intended to meet the holistic needs of the survivors in order to enhance their survival and reduce the burden of breast cancer symptoms. Methods: The True experimental design and the participants of 32 were selected, for experimental and control group divided into each 16, simple random sampling technique was used to collect the data from samples by using Structured Questionnaires assessing the demographic variables, holistic care needs that is Physical, Psychological, Social & Spiritual aspects among breast cancer survivors. Experimental group received the survivorship program, whereas the control group received only the routine treatment and at the end of sixth month this group also received the intervention for the benefits of breast cancer survivors. Results: The present study findings revealed that, in experimental group, there was a reduction by 28.51% physical needs score whereas control group are reduced only 1.81%. In Experimental group are reduced 26.53% psychological needs score whereas control group are reduced only 1.90%. In Experimental group are reduced 31.80% social needs score whereas control group are reduced only 1.80%. In Experimental group are reduced 35.56% Spiritual needs score whereas control group are reduced only 2.88%, it shows the effectiveness of the survivorship program. Conclusion: In all the domain, effectiveness of survivorship program with percentage of reduction score shows that the survivorship program had effectiveness in meeting the holistic needs in experimental group when compared to control group. The study findings help the survivors to enhance the survival through reduction of morbidity associated breast cancer and helps to identify and fulfill the need without dependency.

Keywords: Survivorship program, Holistic needs, Breast Cancer Survivors.

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INTRODUCTION

In the past 30 years, Cancer has been the leading cause of death in the world. Furthermore, cancer continues to be one of the most important public health issues worldwide [1]. Cancer is clearly a health issue that cannot be ignored. In the developing world, more than 50 million people die every year around the world with cancer. Of these deaths, 80% occur is incurable on diagnosis, these patients with incurable cancer need holistic care. The demand for holistic care is a challenge facing healthcare systems. The twentieth century has often been called as the cancer century. This is because more than a hundred types of cancer have been discovered in this century, and secondly, because enormous medical efforts were made to fight all kinds of cancers all over the world [2].

In the early decades of the century, cancer was considered to be a fatal disease, and although many

cancers remain fatal, medical therapy has developed significantly over the years such that most cancers can be treated and cured. After decades of struggling with various cancers, Medical professionals are now becoming more aware of the causes of these diseases, how they can be treated, and what can be done to prevent them [3]. The most beautiful creation of God, women, are often considered the creator of the universe. Women are responsible for reproduction, the prevalence of love on Earth, and are also the epitome of courage and strength. But like everything else beautiful and perfect women often have to prove their worth by fighting some of the most difficult of struggles [4]. Struggles which they never chose, struggles that people wish never come in anybody's life, struggles which leave a human being weak and wretched. Breast cancer one of the deadliest illnesses has found its way into the womankind and is proving to be the biggest enemy of all times.

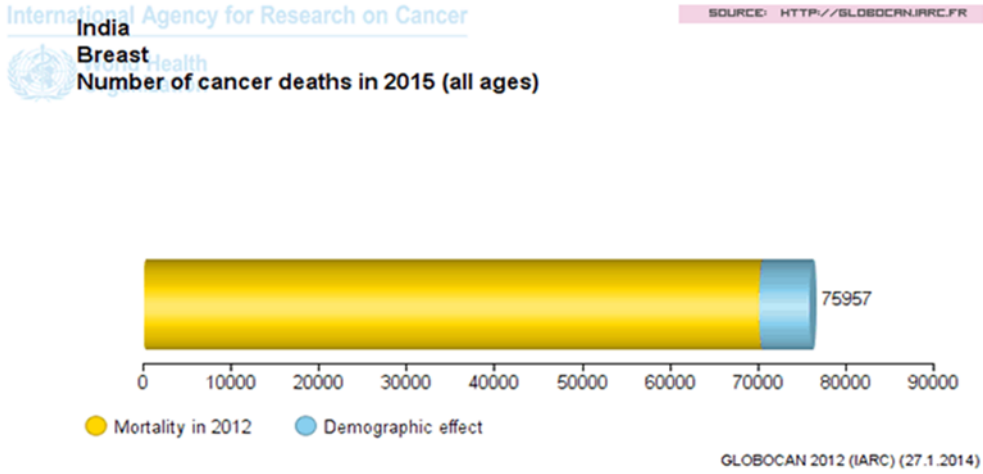
Today, one in every 25 women suffers from breast cancer and not many win the battle. Breast cancer, however, remains one of the major concerns in the medical field, mainly because it has many forms and happens to strike a large number of women. The most common cancers diagnosed worldwide have changed little over the last 40 years [5]. Breast cancer is the top and most common cancer in women both in the developed and the developing world. The incidence of breast cancer is increasing in the developing world due to increase life expectancy, increase urbanization and adoption of western lifestyles. Although some risk reduction might be achieved with prevention, these strategies cannot eliminate the majority of breast cancers that develop in low- and middle-income countries where breast cancer is diagnosed in very late stages [6]. Therefore, early detection in order to improve breast cancer outcome and survival remains the cornerstone of breast cancer control.

Overall estimates of Breast Cancer in the U.S

In 2017, it's estimated that among U.S. women there will be, 252,710 new cases of invasive breast cancer (This includes new cases of primary breast cancer among survivors, but not recurrence of original breast cancer among survivors.) 63,410 new cases of in situ breast cancer (This includes ductal carcinoma in situ (DCIS) and lobular carcinoma in situ (LCIS). Of those, about 83 percent will be DCIS [7]. DCIS is a non-invasive breast cancer and LCIS is a condition that increases the risk of invasive breast cancer. 40,610 breast cancer deaths.

WHO (World Health Organization) prediction for Breast Cancer in India

For the years 2015, there will be an estimated 1,55,000 new cases of breast cancer and about 76000 women in India are expected to die of the disease. The gap only seems to be widening, which means, we need to work aggressively on early detection [8].



Significance and Need of the study

The prospect of developing breast cancer is a source of anxiety for many women. After lung cancer, it is the second most common cause of mortality from cancer for women, with about 39,520 deaths expected in the United States in 2011. The number of global cases of cancer is projected to increase 65% from 12.7 million in 2008 to 21 million in 2030 [9]. Based on these trends, cancer survivorship has growing individual and societal ramifications. There are more than 13 million cancer survivors in United State whose needs for holistic care are not being met. India is experiencing an unprecedented rise in the number of breast cancer cases across all sections of society, as are also other countries. There is no way we can prevent breast cancer, but we can definitely detect it early and treat adequately. Presently, India already has one of the worst survivals from breast cancer in the world has the highest number of women dying from breast cancer in the world and India ranks number one in the numbers of healthy life years lost (DALY - Disability Adjusted Life Years) due to breast cancer and if this trend is not broken, we can't imagine how bad it will become [10]. Breast

cancer patient's survival rates are constantly increasing and this is related to early detection, advanced technology and improved treatment options. The improved oncological treatment such as chemotherapy, Radiation therapy and Surgical therapy options lead the Breast cancer patients to face side effects of chemotherapy, Body image disturbance, Psychological distress and reduced Quality of life (QOL) [11]. The increased survival rate leads the Breast cancer patients to have a sustained holistic care such Survivorship program to progress towards positive healthy life in the course of cancer trajectory. It seems, in India there is no specific tailored survivorship program for the Breast cancer Survivors apart from the Medical & Surgical options [12]. This research will address the need for the survivorship program for Breast cancer Survivors.

HYPOTHESES

H1: There will be a significant difference between before and after implementation of the Survivorship program in experimental and control among Breast Cancer Survivors.
H2: There will be a significant difference between experimental and control group among Breast Cancer Survivors.
H3: There will be a significant association between Survivorship program in holistic needs and selected demographic variables in experimental and control group.

METHODOLOGY

RESEARCH APPROACH

In this study, a Quantitative research approach will be selected to determine the effectiveness of Survivorship program in meeting the holistic need of Breast cancer survivors [13].

RESEARCH DESIGN

A True Experimental designed (Randomized Control Trial) has been conducted on Breast Cancer survivors in Rajiv Gandhi General Hospital, (MMC)Chennai.

Group	Pre-test	Intervention	Post-test-I	Post-test-II
Experimental group	A0	X	A1	A2
Control group	B0	--	B1	B2

A0 – initial assessment, X – Survivorship program, A1 – assessment after the survivorship program in 3rd month & A2 - 6th month, B0- initial assessment, B1-assessment after 3rd month & B2 - 6th month

Section - A
PART – I: Demographic variables of the breast cancer survivors
PART-II – Gynaecological and Obstetrical History related to breast cancer survivors
PART-III – Breast cancer and its risk factors of the breast cancer survivors.

Section – B
PART-I: Assessing the Physical Needs of the breast cancer survivors
PART-II: Assessing the Nutritional Needs of the breast cancer survivors
PART-III: Assessing the Psychological Needs of the breast cancer survivors
PART-IV: Assessing the Social Needs of the breast cancer Survivors
PART-V: Assessing the Spiritual Needs of the breast cancer survivors.

RESULTS

Data analysis and interpretation

Table 1. Demographic Profile

Demographic variables		Group			
		Experimental(n=16)		Control(n=16)	
		n	%	n	%
Age in Years	30-39 Years	3	18.75%	3	18.75%
	40-49 Years	6	37.50%	5	31.25%
	50-59 Years	7	43.75%	8	50.00%
Marital Status	Single	1	6.25%	1	6.25%
	Married	13	81.25%	12	75.00%
	Divorced	1	6.25%	1	6.25%
	Widow	1	6.25%	2	12.50%
Personal habits	Tobacco chewing	4	25.00%	3	18.75%
	Betel leaves	4	25.00%	2	12.50%
	Smoking	0	0.00%	0	0.00%
	Alcoholism	0	0.00%	0	0.00%
	Nil	8	50.00%	11	68.75%

BMI	Underweight	9	56.25%	8	50.00%
	Normal weight	4	25.00%	4	25.00%
	Over weight	3	18.75%	4	25.00%
Food pattern	Vegetarian	5	31.25%	3	18.75%
	Ova vegetarian	4	25.00%	4	25.00%
	Non-vegetarian	7	43.75%	9	56.25%

Table 2: Gynaecological and Obstetrical History

		Group			
		Experimental(n=16)		Control(n=16)	
OG history		n	%	n	%
Age at Menarche	<9 Years	0	0.00%	0	0.00%
	9 -10 years	2	12.50%	3	18.75%
	10 -11years	3	18.75%	4	25.00%
	11- 12 above	2	12.50%	3	18.75%
	>12 Years	9	56.25%	6	37.50%
Duration of Menstrual cycle	Within 28 days	4	25.00%	5	31.25%
	29 days	4	25.00%	3	18.75%
	30 days	5	31.25%	8	50.00%
	More than 30 days	3	18.75%	0	0.00%
Menopause History	< 45 years	0	0.00%	0	0.00%
	45 – 50 years	3	18.75%	2	12.50%
	50 – 55 years	3	18.75%	2	12.50%
	More than 55 years	10	62.50%	12	75.00%
Pregnancy History	Normal delivery	10	62.50%	13	81.25%
	Instrumental delivery	3	18.75%	2	12.50%
	Vacuum Extraction	0	0.00%	0	0.00%
	Caesarean section	3	18.75%	1	6.25%
Children	One	4	25.00%	5	31.25%
	Two	7	43.75%	7	43.75%
	More than two	5	31.25%	4	25.00%

Table 3: Breast cancer and its Risk Factors

		Group			
		Experimental(n=16)		Control(n=16)	
Risk Factors		n	%	n	%
Family history of Breast cancer	Yes	5	31.25%	4	25.00%
	No	11	68.75%	12	75.00%
Did you breastfeed any of your children?	Yes	10	62.50%	14	87.50%
	No	6	37.50%	2	12.50%
How many months or years did you breastfeed them in total	0 – 6 months	1	6.25%	0	0.00%
	6 – 12 months	6	37.50%	4	25.00%
	1 year – 2 years	9	56.25%	7	43.75%
	4.0	0	0.00%	5	31.25%
How was that Breast cancer first detected?	Breast Self-Examination (BSE)	0	0.00%	1	6.25%
	Breast Examination by medical care Provider	16	100.00%	14	87.50%
	Mammogram	0	0.00%	1	6.25%
Do you know about the BSE?	Yes	0	0.00%	1	6.25%
	No	16	100.00%	15	93.75%
Do you know about the mammogram?	Yes	4	25.00%	3	18.75%
	No	12	75.00%	13	81.25%
How many Mammogram have	None	13	81.25%	15	93.75%

you had in the past 5 years?	1	1	6.25%	0	0.00%
	2	1	6.25%	1	6.25%
	3	1	6.25%	0	0.00%
	4	0	0.00%	0	0.00%
	5 or more	0	0.00%	0	0.00%
Do you know about the Survivorship Program for Breast cancer survivors?	Yes	0	0.00%	0	0.00%
	No	16	100.00%	16	100.00%

Table 4: Comparison of mean Physical needs score During Pretest, Posttest-I and Posttest-II among experimental and control group

	Group				Mean Difference	Student independent t=test
	Experimental (n=16)		Control (n=16)			
Physical needs	Mean	SD	Mean	SD		
Pretest	143.06	13.66	144.50	14.42	-1.44	t=0.29 P=0.77 DF=30 (NS)
Posttest-I	106.56	13.18	142.31	10.19	35.75	t=8.59 P=0.001*** DF=30 (S)
Posttest-II	83.19	11.43	140.69	11.97	57.50	t=13.90 P=0.001*** DF=30 (S)

NS = Not significant P>0.05 is not significant S= significant, P≤0.001 very high significant

Fig 1: Comparison of experimental and control group Mean Physical needs reduction score During Pretest, Posttest-I and Posttest-II

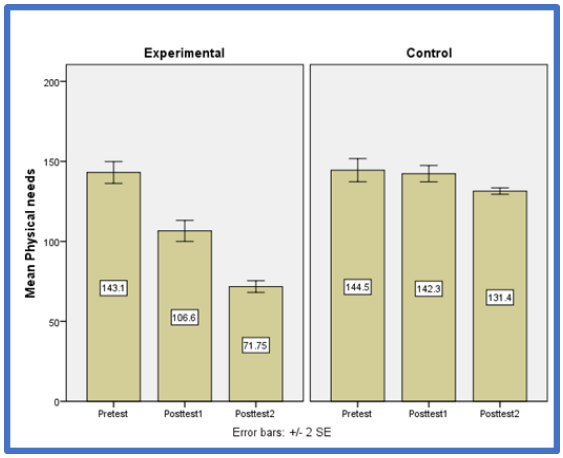


Table 5: Multiple comparison of Physical needs score between pretest, posttest-I, and posttest-II using Repeated ANOVA test score, Bonferroni t-test

	Assessment	Experiment		Repeated ANOVA test score		Bonferroni t- test		
		Mean	SD	F value	P value	Comparison	MD	P value
Experimental	Pretest	143.06	13.66	F=91.72	P=0.001***	Pretest vs post-I	36.47	0.001
	Posttest-I	106.56	13.18			Pretest vs Post-III	59.87	0.001
	Posttest-II	83.19	11.43			Posttest-1 Vs posttest-II	23.37	0.001
Control	Pretest	144.50	14.42	F=2.02	P=0.15	Pretest vs post-I	2.19	0.19
	Posttest-I	142.31	10.19			Pretest vs	3.62	0.07

						Post-III		
	Posttest-II	140.69	11.97			Posttest-1 Vs posttest-II	1.62	0.05

MD=mean difference P≤0.05 significant P>0.05 not significant P≤0.01 highly significant P≤0.001 very high significant

Table 6: Comparison of Level of Physical Needs Score

		Experiment(n=16)		Control(n=16)		Chi-square test
		N	%	n	%	
Pretest	Met	0	0.00%	0	0.00%	$\chi 2=0.18$ p=0.67 not significant
	Partially met	13	81.25%	12	75.00%	
	Unmet	3	18.75%	4	25.00%	
3rd month	Met	7	43.75%	0	0.00%	$\chi 2=10.72$ p=0.01** significant
	Partially met	9	56.25%	13	81.25%	
	Unmet	0	0.00%	3	18.75%	
6th month	Met	13	81.25%	0	0.00%	$\chi 2=22.11$p=0.001*** significant
	Partially met	3	18.75%	14	87.50%	
	Unmet	0	0.00%	2	12.50%	

Not significant P >0.05 ** P<0.01 highly significant *** very high significant at P≤0.001

In pretest there is no difference between experiment and control but in 3rd month and 6th month there is a significant difference between experiment and control. It was calculated using chi square test.

Table 7: Comparison of experimental and control group Mean Psychological needs reduction ratio score During Pretest, Posttest-I and Posttest-II

	Group				Mean Difference	Student independent t=test
	Experimental (n=16)		Control (n=16)			
Psychological needs	Mean	SD	Mean	SD		
Pretest	134.19	3.62	132.31	4.25	1.88	t=1.34 P=0.19 DF=30 (NS)
Posttest-I	111.38	6.85	131.44	4.07	20.06	t=10.07 P=0.001*** DF=30 (S)
Posttest-II	81.13	6.31	130.25	3.07	49.12	t=28.80 P=0.001*** DF=30 (S)

NS = Not significant; P>0.05 is not significant; S= significant; P≤0.001 very high significant

Fig 2: Comparison of experimental and control group Mean Psychological needs reduction score During Pretest, Posttest-I and Posttest-II

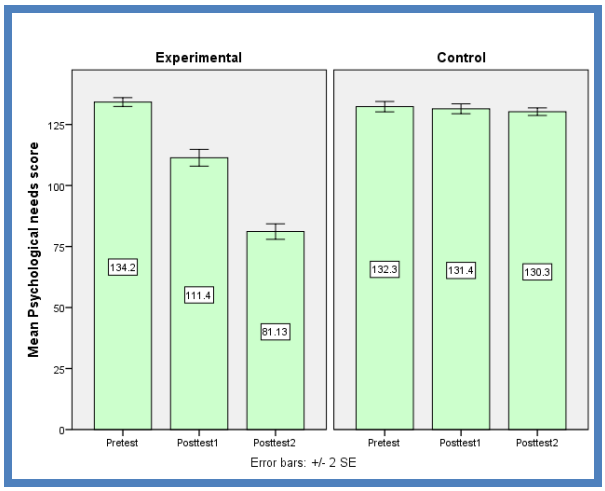


Table 8: Multiple comparison of Psychological needs score between pretest, posttest-I, and posttest-II using Bonferroni t-test

	Assessment	Experiment		Repeated ANOVA test score		Bonferroni t- test		
		Mean	SD	F value	P value	Comparison	MD	P value
Experimental	Pre-test	134.19	3.62	F=151.28	P=0.001***	Pretest vs post-I	22.81	0.001
	Post-test-I	111.38	6.85			Pretest vs Post-III	53.06	0.001
	Post-test-III	81.13	6.31			Posttest-1 Vs posttest-II	30.25	0.001
Control	Pre-test	132.31	4.25	F=3.32	P=0.07	Pretest vs post-I	0.87	0.18
	Post-test-I	131.44	4.07			Pretest vs Post-III	2.06	0.08
	Post-test-III	130.25	3.07			Posttest-1 Vs posttest-II	1.19	0.15

MD=mean difference; P≤0.05 significant; P>0.05 not significant; P≤0.01 highly significant; P≤0.001 very high significant

Table 9: Comparison of Level of Psychological Needs Score

		Experiment(n=16)		Control(n=16)		Chisquare test
		N	%	n	%	
Pretest	Met	0	0.00%	0	0.00%	$\chi2$=0.00 p=1.00 not significant
	Partially met	16	100.00%	16	100.00%	
	Unmet	0	0.00%	0	0.00%	
3rd month	Met	6	37.50%	0	0.00%	$\chi2$=7.38 p=0.01** significant
	Partially met	10	62.50%	16	100.00%	
	Unmet	0	0.00%	0	0.00%	
6^{th} month	Met	12	75.00%	2	12.50%	$\chi2$=12.70p=0.001*** significant
	Partially met	4	25.00%	14	87.50%	
	Unmet	0	0.00%	0	0.00%	

Not significant P >0.05**P<0.01 highly significant*** very high significant at P≤0.001

In pretest there is no difference between experiment and control but in 3rd month and 6th month there is a significant difference between experiment and control. It was calculated using chi square test.

Table 10: Comparison of experimental and control group Mean Nutritional needs reduction ratio score During Pretest, Posttest-I and Posttest-II

	Group				Mean Difference	Student independent t=test
	Experimental (n=16)		Control (n=16)			
Nutritional needs	Mean	SD	Mean	SD		
Pretest	5.69	.87	5.38	1.31	0.31	t=0.79 P=0.43 DF=30 (NS)
Posttest-I	4.13	1.45	5.19	1.22	1.06	t=2.23 P=0.03* DF=30 (S)
Posttest-II	3.38	.81	4.94	.93	1.56	t=5.08 P=0.001*** DF=30 (S)

NS = Not significant; P>0.05 is not significant; S= significant; P≤0.001 very high significant

Fig 3: Comparison of experimental and control group Mean nutritional needs reduction score During Pretest, Posttest-I and Posttest-II

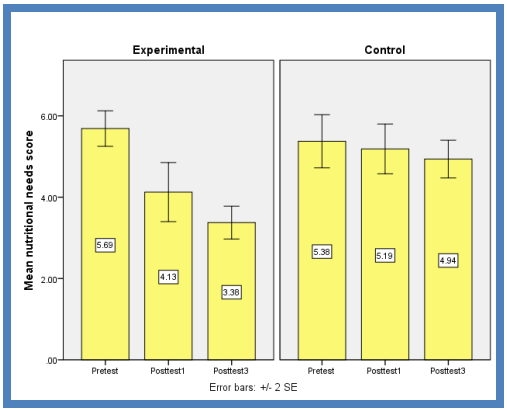


Table 11: Multiple comparison of Nutritional needs score between pretest, posttest-I, and posttest-II using Repeated ANOVA test score & Bonferroni t-test

	Assessment	Experiment		Repeated ANOVA test score		Bonferroni t- test		
		Mean	SD	F value	P value	Comparison	MD	P value
Experimental	Pretest	5.69	.87	F=24.33	P=0.001***	Pretest vs post-I	1.56	0.01
	Posttest-I	4.13	1.45			Pretest vs Post-III	2.31	0.001
	Posttest-III	3.38	.81			Posttest-1 Vs posttest-II	0.75	0.05
Control	Pretest	5.38	1.31	F=1.57	P=0.22	Pretest vs post-I	0.19	0.58
	Posttest-I	5.19	1.22			Pretest vs Post-III	0.44	0.25
	Posttest-III	4.94	.93			Posttest-1 Vs posttest-II	0.25	0.43

MD=mean difference; P≤0.05 significant; P>0.05 not significant; P≤0.01 highly significant; P≤0.001 very high significant

Table 12: Comparison of level of Nutritional Needs Score

Assessments		Experiment(n=16)		Control(n=16)		Chi-square test
		N	%	n	%	
Pretest	Met	0	0.00%	0	0.00%	χ^2=0.16 p=0.69 not significant
	Partially met	12	75.00%	11	68.75%	
	Unmet	4	25.00%	5	31.25%	
3rd month	Met	10	62.50%	0	0.00%	χ^2=14.55 p=0.01** significant
	Partially met	5	31.25%	13	81.25%	
	Unmet	1	6.25%	3	18.75%	
6th month	Met	12	75.00%	1	6.25%	χ^2=15.67p=0.001*** significant
	Partially met	4	25.00%	15	93.75%	
	Unmet	0	0.00%	0	0.00%	

Not significant P >0.05; ** P<0.01 highly significant; *** very high significant at P≤0.001

In pretest there is no difference between experiment and control but in 3rd month and 6th month there is a significant difference between experiment and control. It was calculated using chi square test.

Table 13: Comparison of experimental and control group Mean Social needs reduction ratio score During Pretest, Posttest-I and Posttest-II

Social needs	Group				Mean Difference	Student independent t=test
	Experimental (n=16)		Control (n=16)			
	Mean	SD	Mean	SD		
Pretest	67.94	4.27	67.44	4.90	0.50	t=0.31 P=0.76 DF=30 (NS)
Posttest-I	54.56	8.72	66.81	5.66	12.25	t=4.71 P=0.001*** DF=30 (S)
Posttest-II	42.50	3.48	66.00	4.95	23.50	t=15.52 P=0.001*** DF=30 (S)

NS = Not significant; P>0.05 is not significant; S= significant; P≤0.001 very high significant

Fig 4: Comparison of experimental and control group Mean social needs reduction score during Pretest, Posttest-I and Posttest-II

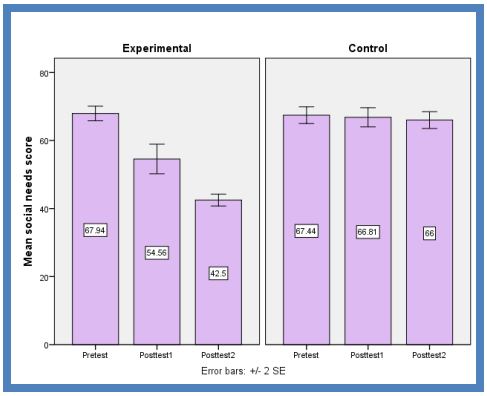


Table 14: Multiple comparison of Social needs score between pretest, posttest-I, and posttest-II using Repeated ANOVA test score, Bonferroni t-test

	Assessment	Experiment		Repeated ANOVA test score		Bonferroni t- test		
		Mean	SD	F value	P value	Comparison	MD	P value
Experimental	Pretest	67.94	4.27	F=123.66	P=0.001***	Pretest vs post-I	13.36	0.001
	Posttest-I	54.56	8.72			Pretest vs Post-III	25.44	0.001
	Posttest-III	42.50	3.48			Posttest-1 Vs posttest-II	12.06	0.001
Control	Pretest	67.44	4.90	F=2.56	P=0.09	Pretest vs post-I	0.63	0.33
	Posttest-I	66.81	5.66			Pretest vs Post-III	1.44	0.10
	Posttest-III	66.00	4.95			Posttest-1 Vs posttest-II	0.81	0.13

MD=mean difference; P≤0.05 significant; P>0.05 not significant; P≤0.01 highly significant; P≤0.001 very high significant

Table 15: Comparison of level of Social Needs Score

Assessments		Experiment(n=16)		Control(n=16)		Chi-square test
		N	%	n	%	
Pretest	Met	0	0.00%	0	0.00%	$\chi2$=0.00 p=1.00 not significant
	Partially met	1	6.25%	1	6.25%	
	Unmet	15	93.75%	15	93.75%	
3rd month	Met	0	0.00%	0	0.00%	$\chi2$=12.50 p=0.01**

	Partially met	13	81.25%	3	18.75%	significant
	Unmet	3	18.75%	13	81.25%	
6th month	Met	8	50.00%	0	0.00%	$\chi 2$=19.69p=0.001*** significant
	Partially met	8	50.00%	5	31.25%	
	Unmet	0	0.00%	11	68.75%	

Not significant P >0.05 ** P<0.01 highly significant *** very high significant at P≤0.001

In pretest there is no difference between experiment and control but in 3rd month and 6th month there is a significant difference between experiment and control. It was calculated using chi square test.

Table 16: Comparison of experimental and control group Mean spiritual needs reduction ratio score During Pretest, Posttest-I and Posttest-II

	Group				Mean Difference	Student independent t=test
	Experimental (n=16)		Control (n=16)			
Spiritualneeds	Mean	SD	Mean	SD		
Pretest	66.00	7.18	65.44	5.91	-0.56	t=0.24 P=0.56 DF=30 (NS)
Posttest-I	43.75	6.69	63.69	6.22	19.94	t=8.73 P=0.001*** DF=30 (S)
Posttest-II	30.44	6.35	62.56	5.84	32.12	t=14.89 P=0.001*** DF=30 (S)

NS = Not significant; P>0.05 is not significant; S= significant; P≤0.001 very high significant

Fig 5: Comparison of experimental and control group Mean spiritual needs reduction score During Pretest, Posttest-I and Posttest-II

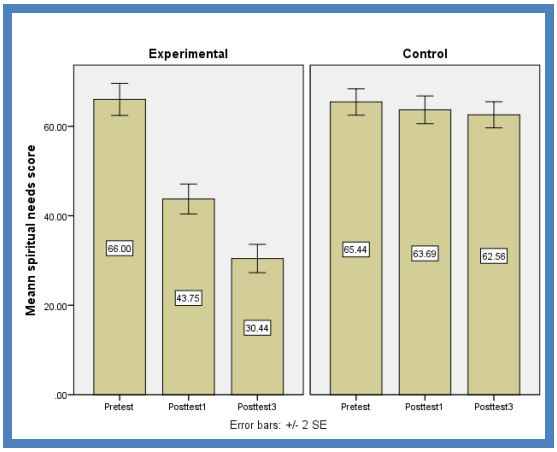


Table 17: Multiple comparison of Spiritual needs score between pretest, posttest-I, and posttest-II using Repeated ANOVA test score, Bonferroni t-test

	Assessment	Experiment		Repeated ANOVA test score		Bonferroni t- test		
		Mean	SD	F value	P value	Comparison	MD	P value
Experimental	Pretest	66.00	7.18	F=86.05	P=0.001***	Pretest vs post-I	22.25	0.001
	Posttest-I	43.75	6.69			Pretest vs Post-III	35.56	0.001
	Posttest-III	30.44	6.35			Posttest-1 Vs posttest-II	13.31	0.001
Control	Pretest	65.44	5.91	F=3.02	P=0.08	Pretest vs post-I	1.75	0.18
	Posttest-I	63.69	6.22			Pretest vs	2.88	0.09

						Post-III		
	Posttest-III	62.56	5.84			Posttest-1 Vs posttest-II	1.13	0.33

MD=mean difference; P≤0.05 significant; P>0.05 not significant; P≤0.01 highly significant; P≤0.001 very high significant

Table 18: Comparison of Level of Spiritual Needs Score

Assessments		Experiment(n=16)		Control(n=16)		Chi-square test
		N	%	n	%	
Pretest	Met	0	0.00%	0	0.00%	$\chi2=0.00$ p=1.00 not significant
	Partially met	1	6.25%	1	6.25%	
	Unmet	15	93.75%	15	93.75%	
3rd month	Met	0	0.00%	0	0.00%	$\chi2=3.86$ p=0.05* significant
	Partially met	13	81.25%	3	18.75%	
	Unmet	3	18.75%	13	81.25%	
6th month	Met	8	50.00%	0	0.00%	$\chi2=10.17$p=0.001*** significant
	Partially met	8	50.00%	5	31.25%	
	Unmet	0	0.00%	11	68.75%	

Not significant P >0.05; ** P<0.01 highly significant; *** very high significant at P≤0.001

In pretest there is no difference between experiment and control but in 3rd month and 6th month there is a significant difference between experiment and control. It was calculated using chi square test.

Table: 19 Effectiveness of Survivorship program on holistic needs among breast cancer survivors in experimental and control group.

Physical Needs Reduction Score		Maximum score	Mean score	% of mean score	% of Reduction of physical needs score
Experimental	Pretest	210	143.06	68.12%	28.51%
	Posttest-I	210	106.56	50.74%	
	Posttest-III	210	83.19	39.61%	
Control	Pretest	210	144.50	68.81%	1.81%
	Posttest-I	210	142.31	67.77%	
	Posttest-III	210	140.69	67.00%	
Psychological Needs Reduction Score					
Experimental	Pretest	200	134.19	67.10%	26.53%
	Posttest-I	200	111.38	55.69%	
	Posttest-III	200	81.13	40.57%	
Control	Pretest	200	144.50	72.25%	1.90%
	Posttest-I	200	142.31	71.16%	
	Posttest-III	200	140.69	70.35%	
Nutritional Need Reduction Score					
Experimental	Pretest	8	5.69	71.13%	28.88%
	Posttest-I	8	4.13	51.63%	
	Posttest-III	8	3.38	42.25%	
Control	Pretest	8	5.38	67.25%	5.50%
	Posttest-I	8	5.19	64.88%	
	Posttest-III	8	4.94	61.75%	
Social Needs Reduction Score					
Experimental	Pretest	80	67.94	84.93%	
	Posttest-I	80	54.56	68.20%	
	Posttest-III	80	42.50	53.13%	
Control	Pretest	80	67.44	84.30%	1.80%

	Posttest-I	80	66.81	83.51%	
	Posttest-III	80	66.00	82.50%	
Spiritual Needs Gained Score					
Experimental	Pretest	100	66.00	66.00%	35.56%
	Posttest-I	100	43.75	43.75%	
	Posttest-III	100	30.44	30.44%	
Control	Pretest	100	65.44	65.44%	
	Posttest-I	100	63.69	63.69%	
	Posttest-III	100	62.56	62.56%	2.88%

Table: 20 Association between post interventional level of holistic needs with selected demographic variables among breast cancer survivors.

Demographic variables		**Experimental** **Mean ± S. D (n)**	**Control** **Mean ± S. D**	**Experimental** **Oneway ANOVA F-test/t-test**	**Control** **Oneway ANOVA F-test/t-test**
Physical Needs Reduction Score					
Age in Years	30-39 Years	45.00 ± 22.07 (3)	-2.00 ± 10.58 (3)	F=1.40 p=0.28(NS)	F=1.38 p=0.28(NS)
	40-49 Years	58.67 ± 18.90 (6)	2.80 ± 6.26 (6)		
	50-59 Years	67.29 ± 18.86 (7)	6.63 ±7.73 (7)		
Marital Status	Single	92.00 ± 0.00 (1)	4.00 ± 0.00 (1)	F=2.72 p=0.09(NS)	F=1.75 p=0.21(NS)
	Married	54.54 ± 17.18 (13)	2.25±6.57 (13)		
	Divorced	66.00 ± 0.00 (1)	0.00±0.00 (1)		
	Widow	91.00 ± 0.00 (1)	15.00±14.14 (1)		
Type of work	Heavy	0.00 ± 0.00 (0)	0.00± 0.00 (0)	t=2.16 p=0.05*(S)	t=0.41 p=0.53(NS)
	Moderate	70.95 ± 17.01 (9)	2.50± 10.50 (9)		
	Sedentary	50.86 ± 20.14 (7)	5.13± 4.91(7)		
Personal habits	Tobacco chewing	66.00 ± 24.52 (4)	5.00± 3.46 (4)	F=0.40 p=0.68(NS)	F=0.46 p=0.65(NS)
	Betel leaves	62.75 ± 4.99 (4)	7.50± 7.78 (4)		
	Smoking	0.00 ± 0.00 (0)	0.00± 0.00 (0)		
	Alcoholism	0.00 ± 0.00 (0)	0.00± 0.00 (0)		
	Nil	55.38 ± 23.07 (8)	2.55± 5.22 (8)		
BMI	Underweight	63.89 ± 16.24 (9)	4.25± 9.21 (9)	F=0.58 p=0.57(NS)	F=0.04 p=0.96(NS)
	Normal weight	58.75 ± 29.38 (4)	2.75±10.24 (4)		
	Over weight	49.33 ± 19.60 (3)	4.00±4.24 (3)		
Food pattern	Vegetarian	53.60 ± 26.12 (5)	1.67 ±2.89 (5)	F=0.38 p=0.68(NS)	F=1.82 p=0.20(NS)
	Ova vegetarian	59.75 ± 26.27 (4)	-1.50 ±5.97 (4)		
	Non-vegetarian	64.43 ± 11.60 (7)	6.89 ± 8.89 (7)		
Psychological needs reduction score					
Age in Years	30-39 Years	45.00 ± 5.20 (3)	0.00 ± 6.24 (3)	F=4.29 p=0.05*(S)	F=0.53 p=0.60(NS)
	40-49 Years	52.33± 5.98 (6)	2.80 ± 2.95 (6)		
	50-59 Years	58.43± 7.48 (7)	2.38 ±3.46 (7)		
Marital Status	Single	57.00 ± 0.00 (1)	0.00 ± 0.00 (1)	F=0.97 p=0.44(NS)	F=0.64 p=0.61(NS)
	Married	53.77 ± 7.17 (13)	1.83±4.00 (13)		
	Divorced	51.00 ± 0.00 (1)	7.00±0.00 (1)		
	Widow	42.00 ± 0.00 (1)	2.00±2.83 (1)		
Type of work	Heavy	0.00 ± 0.00 (0)	0.00± 0.00 (0)	t=2.14 p=0.05*(S)	F=0.41 p=0.53(NS)
	Moderate	57.24± 5.34 (9)	0.75± 4.10 (9)		
	Sedentary	49.03± 8.97 (7)	3.37± 3.11(7)		

Personal habits	Tobacco chewing	51.50± 9.15 (4)	-0.33± 2.89 (4)	F=0.22 p=0.80(NS)	F=0.62 p=0.55(NS)
	Betel leaves	56.50± 6.86 (4)	4.00± 0.00 (4)		
	Smoking	0.00 ± 0.00 (0)	0.00± 0.00 (0)		
	Alcoholism	0.00 ± 0.00 (0)	0.00± 0.00 (0)		
	Nil	52.13 ± 6.64 (8)	2.36± 4.13 (8)		
BMI	Underweight	53.89± 5.95 (9)	1.38± 3.42 (9)	F=1.31 p=0.32(NS)	F=0.43 p=0.66(NS)
	Normal weight	49.50± 10.66 (4)	0.50±4.04 (4)		
	Over weight	55.33± 5.86 (3)	5.00±3.37 (3)		
Food pattern	Vegetarian	49.80± 5.45 (5)	-0.67 ±1.15 (5)	F=1.18 p=0.33(NS)	F=2.28 p=0.14(NS)
	Ova vegetarian	52.00± 8.21 (4)	0.50 ±4.93 (4)		
	Non-vegetarian	56.00± 7.37 (7)	3.67 ± 3.20 (7)		
Nutritional needs reduction score					
Age in Years	30-39 Years	3.33 ± 1.15 (3)	1.00 ± 1.00 (3)	F=1.73 p=0.25(NS)	F=0.38 p=0.69(NS)
	40-49 Years	1.83± 0.75 (6)	1.00 ± 1.00 (6)		
	50-59 Years	2.29± 1.38 (7)	0.38 ±1.92 (7)		
Marital Status	Single	3.00 ± 0.00 (1)	4.00 ± 0.00 (1)	F=0.85 p=0.49(NS)	F=3.23 p=0.06(NS)
	Married	2.15 ± 1.21 (13)	0.17±1.27 (13)		
	Divorced	2.00 ± 0.00 (1)	1.00±0.00 (1)		
	Widow	4.00 ± 0.00 (1)	-0.50±0.71(1)		
Type of work	Heavy	0.00 ± 0.00 (0)	0.00± 0.00 (0)	t=1.21 p=0.29(NS)	F=1.00 p=0.33(NS)
	Moderate	2.11± 1.17 (9)	0.00± 1.07 (9)		
	Sedentary	2.57± 1.27 (7)	0.75± 1.83(7)		
Personal habits	Tobacco chewing	2.50± 1.29 (4)	0.33± 1.53 (4)	F=0.55 p=0.58(NS)	F=0.07 p=0.73(NS)
	Betel leaves	1.75± 0.50 (4)	0.00± 1.41 (4)		
	Smoking	0.00 ± 0.00 (0)	0.00± 0.00 (0)		
	Alcoholism	0.00 ± 0.00 (0)	0.00± 0.00 (0)		
	Nil	2.50 ± 1.41 (8)	0.45± 1.63 (8)		
BMI	Underweight	2.23± 0.87 (9)	0.50 ±1.77 (9)	F=4.01 p=0.05*(S)	F=0.15 p=0.86(NS)
	Normal weight	3.35± 1.50 (4)	0.00±0.82 (4)		
	Over weight	1.00± 0.00 (3)	0.50±1.73 (3)		
Food pattern	Vegetarian	3.20± 0.84 (5)	-0.67 ±0.58 (5)	F=2.46 p=0.12(NS)	F=1.09 p=0.36(NS)
	Ova vegetarian	1.75± 1.50 (4)	1.00 ±2.16 (4)		
	Non-vegetarian	2.00± 1.00 (7)	0.44 ± 1.33 (7)		
Social needs reduction score					
Age in Years	30-39 Years	23.00 ± 5.20 (3)	3.00 ± 3.00 (3)	F=3.83 p=0.05*(S)	F=0.46 p=0.64(NS)
	40-49 Years	25.00± 2.83 (6)	0.80 ± 1.10 (6)		
	50-59 Years	30.14± 5.30(7)	1.25 ±4.03 (7)		
Marital Status	Single	17.00 ± 0.00 (1)	-5.00 ± 0.00 (1)	F=1.26 p=0.33(NS)	F=2.58 p=0.10(NS)
	Married	26.00 ± 4.98 (13)	2.33±2.84 (13)		
	Divorced	23.00 ± 0.00 (1)	0.00±0.00 (1)		
	Widow	29.00 ± 0.00 (1)	0.00±0.00 (1)		
Type of work	Heavy	0.00 ± 0.00 (0)	0.00± 0.00 (0)	t=1.21 p=0.29(NS)	F=0.15 p=0.70(NS)
	Moderate	26.67 ± 4.95 (9)	1.75± 2.92 (9)		
	Sedentary	23.86± 5.24 (7)	1.13± 3.48(7)		
Personal habits	Tobacco chewing	24.25± 4.11 (4)	2.00± 4.00 (4)	F=0.32 p=0.73(NS)	F=0.24 p=0.79(NS)
	Betel leaves	24.50± 2.65 (4)	0.00± 0.00 (4)		
	Smoking	0.00 ± 0.00 (0)	0.00± 0.00 (0)		

	Alcoholism	0.00 ± 0.00 (0)	0.00± 0.00 (0)		
	Nil	26.50 ± 2.65 (8)	1.55± 3.30 (8)		
BMI	Underweight	25.22± 5.38 (9)	1.13± 3.76 (9)	F=2.79 p=0.10(NS)	F=1.41 p=0.27(NS)
	Normal weight	29.25± 1.26 (4)	0.00±0.00 (4)		
	Over weight	21.00± 4.36 (3)	3.50±2.65 (3)		
Food pattern	Vegetarian	26.00± 7.35 (5)	-0.67 ±1.15 (5)	F=0.58 p=0.57(NS)	F=2.32 p=0.13(NS)
	Ova vegetarian	23.00± 5.35 (4)	-0.75±2.99 (4)		
	Non-vegetarian	26.43± 3.10 (7)	3.11 ± 2.71 (7)		
Spiritual needs reduction score					
Age in Years	30-39 Years	1.33 ± 1.15 (3)	1.00 ± 1.00 (3)	F=2.20 p=0.05*(S)	F=2.98 p=0.09(NS)
	40-49 Years	2.53± 0.75 (6)	1.00 ± 1.00 (6)		
	50-59 Years	3.29± 1.18 (7)	0.38 ±1.92 (7)		
Marital Status	Single	3.00 ± 0.00 (1)	4.00 ± 0.00 (1)	F=1.71 p=0.21(NS)	F=0.31 p=0.81(NS)
	Married	2.15 ± 1.21 (13)	0.17±1.27 (13)		
	Divorced	2.00 ± 0.00 (1)	1.00±0.00 (1)		
	Widow	4.00 ± 0.00 (1)	-0.50±0.71 (1)		
Type of work	Heavy	0.00 ± 0.00 (0)	0.00± 0.00 (0)	t=1.40 p=0.18(NS)	F=1.82 p=0.07(NS)
	Moderate	2.11± 1.17 (9)	0.00± 1.07 (9)		
	Sedentary	2.57± 1.27 (7)	0.75± 1.83(7)		
Personal habits	Tobacco chewing	2.50± 1.29 (4)	0.33± 1.53 (4)	F=0.64 p=0.54(NS)	F=1.27 p=0.32(NS)
	Betel leaves	1.75± 0.50 (4)	0.00± 1.41 (4)		
	Smoking	0.00 ± 0.00 (0)	0.00± 0.00 (0)		
	Alcoholism	0.00 ± 0.00 (0)	0.00± 0.00 (0)		
	Nil	2.50 ± 1.41 (8)	0.45± 1.63 (8)		
BMI	Underweight	2.33± 0.87 (9)	0.50± 1.77 (9)	F=0.15 p=0.86(NS)	F=0.63 p=0.54(NS)
	Normal weight	3.25± 1.50 (4)	0.00±0.82 (4)		
	Over weight	1.00± 0.00 (3)	0.50±1.73 (3)		
Food pattern	Vegetarian	3.20± 0.84 (5)	-0.67 ±0.58 (5)	F=0.76 p=0.48(NS)	F=0.41 p=0.67(NS)
	Ova vegetarian	1.75± 1.50 (4)	1.00 ±2.16 (4)		
	Non-vegetarian	2.00± 1.00 (7)	0.44 ± 1.33 (7)		

DISCUSSION

A modified structured questionnaire was used to collect data from breast cancer survivors. Experimental group received a survivorship program, control group received routine care. We collected data from both groups at 3rd and 6th months. Inferential and descriptive statistics were used to analyze the data, and the results were interpreted. Discussion based on study objectives. Out of 16 samples from the experimental group, 43.7% were in the 50-59 age group, whereas out of 16 samples from the control group, 50% were in that age group. Regarding marital status, 81.2% were married in experimental group, whereas in control group, 75% were married. In the experimental group and the control group, respectively, 50% and 68.7% did not chew tobacco, chew betel leaves, smoke, or drink alcohol. Experimental and control groups had underweight samples in 56.2% and 50%, respectively. Experimental and control groups had menopause rates of 62.5% and 81.25%, respectively. A family history of breast cancer was found in 31.2% of experimental samples and 25% of control samples. There were 81.2% of experimental samples and 93.7% of control samples without a mammogram in the past five years. The experimental group and control group were both unaware of survivorship programs. According to table 6, out of 16 samples in the experimental group, 81.2% were satisfied with their physical needs and 18.7% were not. Before implementing the survivorship program, 75% of the samples were satisfied with their physical needs, but 25% were unmet. At the end of the survivorship program at 3 and 6 months, 43.7% and 81.2% of the experimental groups met the physical needs and 56.2% & 18.7% were satisfied, whereas in the control groups, 81.2% & 87.5% were satisfied and 18.7% & 12.5% were unmet. Furthermore, table 9 shows that psychological needs were satisfied in both experimental and control groups before implementing survivorship program. The experimental group met 37.5% and 75% of psychological needs at the third and sixth month after survivorship program and 62.5% and 25% of them were satisfied, while the control

group met 100% & 87.5%. The nutrition needs were satisfied in 75% of cases and unmet in 25% of cases, whereas before implementing survivorship programs, 68.7% of participants were satisfied and 31.2% were unsatisfied with nutrition. During the 3rd and 6th month after survivorship program, experimental group met 56.0% & 79.5% nutrition needs, and 31.2% & 25.0% were satisfied, while control group met 81.2% & 93.7% of nutritional needs, but 18.7% & 6.2% were unsatisfied. As shown in table 15, 6.2% of the social needs were met in both the experimental and control groups before the survivorship program was implemented. The experimental group had 81.2% & 50% satisfied and 18.7% & 50% unmet social needs, but the control group had 18.7% & 31.2% satisfied and 81.2% & 68.7% unmet social needs at 3rd and 6th month after survivorship program. Among the experimental group, 6.2% were satisfied with spiritual needs and 93.7% unsatisfied with nutritional needs, whereas 93.7% of the control group were unsatisfied with spiritual needs before implementing survivorship programs. On the third- and sixth-month following survivorship program, 81.2% and 50% of experimental group showed satisfaction, while 18.7% & 50% showed unmet spiritual needs, whereas 81.2% in control group said they were satisfied.

A Survivorship program was evaluated in experimental and control groups for its effectiveness on holistic needs. Pretest-posttest-I mean differences in physical need are 36.47 ($p \leq .001$). Score increased to 59.87 after post-test II ($p \leq .001$). A repeated measures ANOVA F-test shows that there is no statistical significance between pre-test and post-test-II in the control group ($F = 2.02$, $p > 0.05$). Psychological mean difference from pretest to posttest-I is 22.81 ($p \leq 0.001$). Post-test II showed a mean difference of 30.25.87 from pre-test to post-test II ($p \leq .001$). The difference between pre-test and post-test-II is not statistically significant in the control group ($F = 3.32$, $p > 0.05$). From pretest to posttest-I, nutritional needs mean difference score is 2.31 ($p \leq .001$). After post-test II, score is 0.75, which is statistically significant from pre-test to post-test II. There is no statistically significant difference between pre-test and post-test-II in the control group ($F = 1.57$, $p > 0.05$). The mean difference in social needs between pretest and posttest is 25.44 ($p \leq .001$). There was statistically significant difference from pre-test to post-test II ($p \leq .001$) after post-test II. In the control group, there is no statistically significant difference between pretest and posttest-II ($F = 2.56$, $p > 0.05$). Between pre-test and post-test-I, there is a 35.56 difference in mean spiritual needs scores ($p \leq .001$). In comparison to the pre-test score, the post-test II score is 13.31, which is statistically significant ($p \leq .001$). Statistically, there is no significant difference between pre-test and post-test-II in the control group ($F = 3.02$, $p > 0.05$). A 5% level of significance was found for psychological needs, nutritional needs, social needs, and spiritual needs reduction scores with selected demographic variables such as age, BMI, type of job, food pattern, and personal habits.

CONCLUSION

This study provides the first evidence that a survivorship program effectively changes patient behavior in important ways despite its time and resource demands. Setting up survivorship programs can be time-consuming and resource-intensive, but they are well worth the investment. Regardless of whether patients attend SCs, we seem to be doing well with many aspects of survivorship care. Our measures can assist us in improving the care we provide to cancer survivors as well as help other institutions measures the quality and effectiveness of their programs. When comparing the effectiveness of survivorship programs with percentages of reduction scores, the results indicate that survivorship programs were effective in meeting the holistic needs of experimental group members as compared to control group members in all domains. There is no doubt that the findings of this study will help the survivors to improve their survival through the reduction of morbidity associated with breast cancer and also help to identify and fulfill their needs without becoming dependent on others.

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