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Stressors and Coping Strategies Among Women Breast Cancer Survivors at Kenyatta National Hospital, Nairobi County, Kenya

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Abstract*: A diagnosis of breast cancer often leads to psychological distress among the affected women, and the distress often continues even after recovery and this affects their quality of life. They continue to suffer serious psychological distress even many years after treatment and recovery thus there is need to help them effectively cope with their situation. There are different coping strategies that cancer survivors use to try and overcome the stressors facing them with some being effective while others are not. The aim of this study was identifying the stressors and coping strategies among women breast cancer survivors. A descriptive cross-sectional study was conducted. Study sample size was 132 clients diagnosed with breast cancer at Kenyatta National Hospital (KNH) Cancer Treatment Center (CTC). The data was analyzed using Stata version 15 statistical software and descriptive and inferential statistics were generated and used to make appropriate conclusions and recommendations. Data was presented using graphs, pie charts, tables and other diagrams. The findings revealed that the average age of respondents was 43.5 (SD±12.7) years. The minimum age was 26 years while the maximum age was 63 years. On level of education 29.5% (n =39) of the respondents had secondary level education, 25%(n =33), 53%(n =70) were single. Our findings revealed that 54% of the respondents were able to cope effectively while 46% of the respondents had challenges in coping with the disease after treatment. Most of the respondents employed problem-based strategies such as accepting their condition, seeking emotional support from friends and family and seeking religious intervention. Emotion based strategies were also prevalent including application of humor to deal with their condition, crying and employing self-distraction through participating in social activities. Age, level of education and financial burden were found to have an influence on coping among patients. The findings have showed both psychological and physiological stressors are high among breast cancer survivors. Thus, it is imperative to encourage breast cancer survivors to conducted regular tests to evaluate their progress. This would be essential in controlling recurrence of the disease as a barrier and encourage breast cancer survivors to adopt problem-based strategies for improved quality of life.

***Keywords*: breast cancer, coping, strategies, stressors, women.**

1. Introduction

Cancer continues to be a major health concern globally despite all efforts by individual countries and the international community to overcome the disease. The WHO estimated that in 2018 alone, cancer accounted for 9.6 million deaths world-wide, and was the second leading cause of death globally (WHO, 2018). The burden of cancer has continued to grow causing significant strain on the physical, emotional and economic well-being of individuals.

Breast cancer is among the most common cancers in women among others that include cervical cancer, colorectal, lung, skin and thyroid cancers. It was observed by Levkovich (2021) that the burden of breast cancer globally is on an increase as indicated by measures such as its incidence, mortality and economic implications. According to DeSantis *et al*. (2014), skin cancer is the most common cancer among women seconded by breast cancer in the United States. Also, it's the second leading cause of death in women following deaths to lung cancer (DeSantis *et al*., 2014).

A diagnosis of breast cancer often leads to psychological distress among the women, and the distress often continues even after recovery. A study among women diagnosed with breast cancer in Iran indicated that the condition is a significant stressor in women, and it may affect their quality of life (Khalili *et al*., 2013). Uncertainty about treatment, attitude towards body image changes and changes in lifestyle are among the stressors facing breast cancer survivors Makumi (2019). According to Kvillemo & Bränström (2014), cancer survivors continue to suffer serious psychological distress even many years after treatment and recovery. The need to help breast cancer survivors effectively cope with their situation cannot be over emphasized as this is the only way they can avoid continued psychological suffering.

Studies have indicated that cancer survivors use different coping strategies which can help them overcome the psychological distress that face them. In their review of literature, Naik *et al.* (2016) found that seeking social support, reliance on God, positive affirmations, and acquisition of education are some of the coping strategies used by breast cancer survivors. In a study among women in Turkey, Tuncay (2014) indicated that coping is core for a high quality of life among cancer survivors. Determining which coping strategies

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are effective and feasible for breast cancer survivors is an important step towards ensuring they will have a high-quality life.

Several factors have been shown to influence coping among breast cancer survivors. Information, social support, access to resources, guidance and age are some of the factors that influence coping among breast cancer survivors Naik et al. (2016). In a study among breast cancer patients in Ghana, Benson et al. (2020) found that social demographic characteristics and social support had an influence on coping among the women. A study conducted in Kenya among breast cancer patients in Moi Teaching and Referral Hospital found that breast cancer patients were susceptible to depression, dysthymia, and suicidal thoughts due to ineffective coping (Angachi *et al.*, 2016). Factors influencing coping among breast cancer survivors can lead to negative or positive outcomes and understanding them is a significant step in ensuring effective coping.

Although several studies on stressors and coping strategies among women breast cancer survivors have been conducted in other countries, little research has been done in Kenya on this area. There is need to explore the stressors and coping strategies among women breast cancer survivors in Kenya. Understanding the factors that influence coping will also inform policies and nursing interventions that can help to ensure effective coping among breast cancer survivors in the country.

A. Broad Objective

To determine the stressors and coping strategies among women breast cancer survivors in Kenyatta National Hospital.

B. Specific Objectives

1. To identify the stressors among women breast cancer survivors at KNH CTC
2. To identify the coping strategies among women breast cancer survivors at KNH CTC
3. To determine the social-demographic factors influencing coping among women breast cancer survivors at KNH CTC
4. To determine the economic factors influencing coping among women breast cancer survivors at KNH CTC
5. To determine health-system factors influencing coping among women breast cancer survivors at KNH CTC

2. Methodology

1) Study Design

The study adopted a descriptive cross-sectional study design which was suitable for collecting data to establish the stressors and coping strategies among women breast cancer survivors since one-time study can show the relationship between these variables.

2) Study Area and Setting

The study was conducted in Kenyatta National Hospital (KNH) which is in Nairobi City County, Kenya at the Cancer Treatment Center (CTC). Study population was women breast cancer survivors attending clinic.

3) Sampling Method and Sample Size Determination

The study adopted a Convenience sampling method. Fischer's formula (1998) was applied to calculate the desired sample size. A sample size of 132 respondents was randomly selected from a study population of 200 patients from KNH.

4) Inclusion and exclusion criteria

Women aged 18 years and above, who are breast cancer survivors, attending clinic at the KNH CTC clinic and willing to provide an informed consent were included in the study. KNH CTC is our study site and thus a client must be enrolled there for them to participate. Those not willing to participate in the study and to provide an informed consent and those not attending the CTC clinic were excluded from the study.

5) Data collection method

Self-administered as well as interviewer administered questionnaire was used.

6) Validity and Reliability of Study Instrument

The study tool was self-developed and its validity was determined in terms of its content and face validity. Both were established through pretesting which was done at Moi Teaching and Referral Hospital (MTRH) CTC In Eldoret, Kenya and incorporating the experts' opinions.

Cronbach's alpha test was applied to evaluate the consistency and reliability of the study tool and yielded a reliable score of 0.773.

7) Study Variables

Independent variables: stressors, social-demographic factors, economic factors, health-system factors. Intervening Variables: coping strategies. Dependent Variables**:** effective coping.

8) Data collection process

The researcher who was the principal investigator collected data over a period of 8 weeks between July and September2022. Women breast cancer survivors attending the CTC clinic at KNH were approached and assessed for study eligibility. Those found eligible were given full details of the study and asked to give an informed consent to participate in the study. The study questionnaire was administered to the study population to collect all data as required by the research. Completed questionnaires were then assessed for completeness and data extracted and entered in excel sheets where it was arranged per variables and their corresponding responses. The excel sheets were then imported in Stata version 14 statistical software that was used for data analysis.

9) Data Analysis

Descriptive statistics was used to analyze data on social-demographic factors, economic factors, healthy-system factors, stressors and coping strategies. Statistics such as frequencies, percentages, means, medians and standard deviation were generated and presented using graphs, pie charts, tables and other diagrams.

10) Level of coping

Coping was grouped into positive and negative coping based on summary scores from the problem based and emotional based the total scores. The coping strategies among breast cancer survivors were assessed using a five-point Likert scale where 1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Thus, coping strategies were scored

minimum 13 to maximum of 65 scores. The positive and negative coping were evaluated based on the average score where those who scored above the mean were considered to positively cope while those who scored below the mean were perceived to negatively cope. Chi-square test or Fischer's test for association was used to investigated categorical independent factors associated with coping which was grouped into positive and negative. Multivariate analysis was performed to control for confounding variables. Odds ratio were calculated to determine the extent of association.

11) Ethical Considerations

Approval of the study proposal was sought from Kenyatta University Graduate School. Ethical clearance was then be sought from Kenyatta University Ethical Review Committee (KUERC). Research permit were obtained from the National Commission for Science Technology and Innovation (NACOSTI) before proceeding with data collection. Approval to conduct research within the hospital was also be sought from Kenyatta National Hospital Management. An informed consent was obtained from each participant before including him or her in the sample. Respondents were assured of privacy and confidentiality and their right to remain anonymous throughout the study. The WHO, MOH-Kenya guidelines on containment, mitigation and management strategies related to Covid-19 pandemic was strictly observed.

3. Results

Demographic Characteristics of Women Breast Cancer Survivors at Kenyatta National Hospital:

The findings revealed that the average age of the respondents was 43.5 (SD±12.7) years. The minimum age was 26 years while the maximum age was 63 years. On level of education 29.5% (n=39) of the respondents had secondary level education, 25% (n =33), 53% (n =70) were single. The findings established that, 51.5% (n=68) of the respondents were unemployed. On family annual income, 74.2% (n =98) had average annual income of less than Ksh.100,000. Payment of treatment was majorly done using NHIF, 75.8% (n =100). The findings also showed that 62.9% (n =83) were unable to meet the financial demands of the illness since its onset a shown in Table 1.

Health Related Characteristics of Breast Cancer Survivors at Kenyatta National Hospital:

The findings revealed that 31.8% (n=42) of the respondents had been diagnosed with breast cancer at stage 3. Almost half of the respondents, 40.2% (n=53) were treated using chemotherapy only. The average period since ending treatment was 2.3±1.4 weeks as shown in Table 2.

The Stressors Among Breast Cancer Survivors at Kenyatta National Hospital:

The stressors among breast cancer survivors were assessed using a five-point Likert scale where 1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. The average score of between 1 to 2.4 was perceived as disagreement with the statement, an average score of between 2.5 to 3.4 was perceived to be neutral while an average score of between 3.5 to 5 showed high agreements with the statement.

Table 1
Demographic characteristics of women breast cancer survivors at Kenyatta National hospital

Demographic factors	Frequency	Percent
Age (Mean -SD)	43.5±12.7	
Education level		
Primary	33	25
Secondary	39	29.5
Certificate	28	21.2
Diploma	9	6.8
Higher diploma	16	12.1
Bachelor's degree	5	3.8
Post-graduate	2	1.5
Marital status		
Single	70	53
Married	39	29.5
Divorced	13	9.8
Widowed	10	7.6
Religion		
Christian	108	81.8
Muslim	24	18.2
Number of children (Mean -SD)	3±1.7	
Employment status		
Employed	64	48.5
Unemployed	68	51.5
Income		
Less than 100,000	98	74.2
Ksh 100,00 - 500,000	26	19.7
Ksh 500001 - 1,000000	8	6.1
Method of payment for treatment		
NHIF	100	75.8
Salary	17	12.9
Spouses	9	6.8
Friends	6	4.5
Meet financial needs		
Yes	49	37.1
No	83	62.9

Table 2
Health related characteristics of women breast cancer survivors

Disease related factors	Frequency	Percent
Stage at diagnosis		
Stage 1	29	22.0
Stage 2	39	29.5
Stage 3	42	31.8
Stage 4	16	12.1
I don't know	6	4.5
Type of treatment		
Radiotherapy	18	13.6
Chemotherapy	53	40.2
Both chemotherapy and radiotherapy	48	36.4
Oral medication	3	2.3
Surgery	10	7.6
Time since treatment ended (Mean -SD)	2.3±1.4	

Psychological Stressors Among Women Breast Cancer Survivors at Kenyatta National Hospital:

Psychological stressors were assessed among the study participants. Majority of the respondents agreed that they normally experience difficulty in concentrating at work since the diagnosis with breast cancer (M =3.98, SD =0.977), Respondents also agreed that having breast cancer has stressed their family (M =4.03, SD =1.152). The findings also revealed that most of the respondents were unsure on whether diagnosis has made their friend treat them differently (M =3.13, SD=

Table 3
Psychological stressors among women breast cancer survivors at Kenyatta National hospital

Psychological stressors	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
I normally experience difficulty in concentrating at my work since the diagnosis with breast cancer	2(1.5)	13(9.8)	13(9.8)	62(47)	42(31.8)	3.98	0.977
I find it difficult coping with my feelings due to my diagnosis	6(4.5)	12(9.1)	25(18.9)	60(45.5)	29(22)	3.71	1.052
The diagnosis has changed my professional expectations at work place	7(5.3)	34(25.8)	22(16.7)	33(25)	36(27.3)	3.43	1.279
I find myself being isolated by others since diagnosis	20(15.2)	33(25)	14(10.6)	36(27.3)	29(22)	3.16	1.413
The diagnosis has made my friends treat me differently	22(16.7)	26(19.7)	21(15.9)	39(29.5)	24(18.2)	3.13	1.373
I have not been able to cope with the financial demands since the onset of illness	9(6.8)	20(15.2)	10(7.6)	48(36.4)	45(34.1)	3.76	1.261
Having breast cancer has stressed my family	7(5.3)	12(9.1)	7(5.3)	50(37.9)	56(42.4)	4.03	1.152
Having breast cancer has affected my problem-solving ability	7(5.3)	14(10.6)	15(11.4)	51(38.6)	45(34.1)	3.86	1.160
I experience rejection from friends and family	35(26.5)	34(25.8)	20(15.2)	24(18.2)	19(14.4)	2.68	1.411
Overall Mean						**3.53**	

Table 5
Physiological stressors among women breast cancer survivors

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
I have experienced physical pain after treatment	6(4.5)	11(8.3)	20(15.2)	55(41.7)	40(30.3)	3.85	1.088
Breast cancer diagnosis has altered my sexuality	12(9.1)	12(9.1)	29(22.0)	54(40.9)	25(18.9)	3.52	1.169
Lack of insurance to cater for my bills have crippled me financially	4(3.0)	21(15.9)	14(10.6)	49(37.1)	44(33.3)	3.82	1.151
Since my diagnosis I find myself not able to engage in physical activities	3(2.3)	25(18.9)	15(11.4)	54(40.9)	35(26.5)	3.70	1.124
During interaction with others I feel a demand for being cheerful	6(4.5)	18(13.6)	23(17.4)	54(40.9)	31(23.5)	3.65	1.119
Breast cancer diagnosis and treatment has altered my identity in the society	9(6.8)	28(21.2)	20(15.2)	43(32.6)	32(24.2)	3.46	1.256
The diagnosis has changed the perception I have of myself due to my physical appearance	6(4.5)	28(21.2)	23(17.4)	39(29.5)	36(27.3)	3.54	1.226
My post treatment life experience has been traumatizing due to the fear of the disease recurring	10(7.6)	14(10.6)	18(13.6)	38(28.8)	52(39.4)	3.82	1.271
Overall Mean						**3.67**	

1.373). The overall mean score of psychological stressors was 3.53 which shows that majority of the respondents agreed that psychological stressors were key challenge among them as presented in Table 3.

Main Source of Psychological Support During Illness:

The findings also established that, 36.4% (n =48) stated that family was the main source of psychological support, 22.7% (n =30) cited healthcare providers and 21.2% (n =28) stated that support groups were the main source of psychological support as shown in Table 4.

Table 4
Main source of psychological support during your illness

Main source of psychosocial support	Frequency	Percent
Social networks	6	4.5
Healthcare providers	30	22.7
Support groups	28	21.2
Religious groups	16	12.1
Family members	48	36.4
Children	2	1.5
Parents	2	1.5

Physiological Stressors Among Women Breast Cancer Survivors at Kenyatta National Hospital:

Physiological stressors were also investigated among the respondents as shown in Table 5. The findings revealed that majority of the respondents agreed that they have experienced physical pain after treatment (M =3.85, SD =1.088). They also agreed that lack of insurance to cater for their bills crippled financially (M =3.82, SD =1.151). Most of the respondents also agreed that their post treatment life experience has been traumatizing due to the fear of the disease recurring (3.82, SD =1.271). The overall physiological stressors mean score was 3.67 which shows that many of the respondents agreed that they had physiological stressors relating to breast cancer.

The coping strategies among breast cancer survivors:

Problem based coping strategies among breast cancer survivors:

Problem focused and emotion focused coping strategies were assessed among the respondents as shown in Table 6. The findings revealed that respondents agreed that they have accepted their condition since diagnosis (M =4.21, SD =0.811). They also agreed that they have sought emotional support from family and friends (M =4.17, SD =0.990). The respondents were unsure on whether they have made plans to deal with symptoms of the disease (M =2.72, SD =1.321).

Emotional based coping strategies among breast cancer survivors:

In assessing emotional based coping strategies, many of the respondents agreed that they have applied humour to deal with their condition (M =3.67, SD =1.175). Other emotional based coping strategies that were assessed were not commonly utilized by the respondents. The average coping score was 3.81 which illustrate that both problems based and emotional based strategies have been utilized by the respondents to a varied

extent as shown in Table 7.

Coping among women breast cancer survivors:

Coping was grouped into positive and negative coping based on summary scores from the problem based and emotional based the total scores from the 13 items was 65 ranging from 13 – 65 scores. The mean score was 45. Thus scores ≥45 were considered to be positive coping while those who scored <40 were deemed to have adopted negative coping strategies. The findings showed that 54% (n =71)) of the respondents had positive coping strategies while 46% (n =61) had negative coping strategies as showed in Figure 1.

The relationship between patient factors and coping among breast cancer survivors at Kenyatta National Hospital CTC:

Social-demographic factors influencing coping among women breast cancer survivors:

A Chi-square test for association was conducted to investigate socio-demographic characteristics associated with positive coping. The findings established that age (χ^2 (2) =28.26, p<0.001) and level of education (χ^2 (2) =13.36, p<0.001) were significantly associated with positive coping among the respondents. Those who were aged more than 30 years cope better while those having secondary level education or higher coped better with their condition as shown in Table 8.

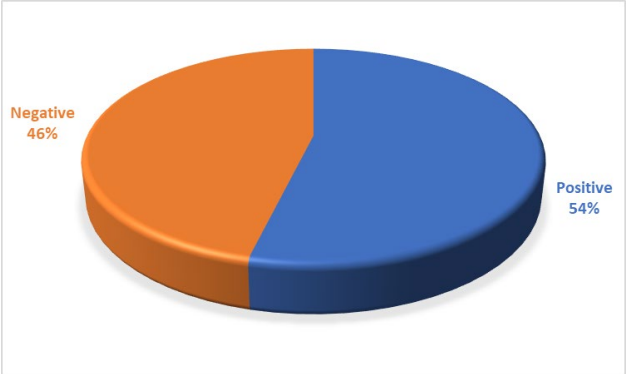

Fig. 1. Type of coping among women breast cancer survivors

Table 6
Problem based coping strategies among breast cancer survivors

Coping	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
Problem focused							
I have accepted my condition since my diagnosis	2(1.5)	2(1.5)	14(10.6)	62(47)	52(39.4)	4.21	0.811
I have sought emotional support from family and friends	5(3.8)	5(3.8)	10(7.6)	55(41.7)	57(43.2)	4.17	0.99
I have sought religious intervention to deal with trauma	5(3.8)	11(8.3)	21(15.9)	50(37.9)	45(34.1)	3.9	1.083
I have sought for information regarding treatment and care	4(3.0)	12(9.1)	21(15.9)	46(34.8)	49(37.1)	3.94	1.083
I rely on follow-up care offered by the healthcare facilities	16(12.1)	21(15.9)	16(12.1)	23(17.4)	56(42.4)	3.62	1.465
I have made plans to deal with symptoms	11(8.3)	75(56.8)	16(12.1)	0	30(22.7)	2.72	1.321

Table 7
Emotional based coping strategies among breast cancer survivors

Coping	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
Emotional based							
I have applied humour to deal with my condition	11(8.3)	11(8.3)	20(15.2)	58(43.9)	32(24.2)	3.67	1.175
I blame myself because of my condition	35(26.5)	32(24.2)	24(18.2)	27(20.5)	14(10.6)	2.64	1.349
I relieve distress by crying	17(12.9)	27(20.5)	28(21.2)	41(31.1)	19(14.4)	3.14	1.265
I repeatedly deny my condition	21(15.9)	33(25.0)	19(14.4)	38(28.8)	21	3.04	1.35
I have withdrawn from people and disengaged in social activities	23(17.4)	29(22)	23(17.4)	43(32.6)	14(10.6)	2.97	1.296
I distract myself with social activities to deal with distress	9(6.8)	26(19.7)	22(16.7)	46(34.8)	29(22.0)	3.45	1.225
I have applied other coping measures not listed above	12(9.1)	26(19.7)	20(15.2)	40(30.3)	34(25.8)	3.44	1.309

Table 8
Social-demographic factors influencing coping among women breast cancer survivors

Socio-demographic factors	Coping		Df	χ^2	P-value
	Positive	Negative			
Age					
≤ 30 years	5(7.0)	25(41)			
30 - 45 years	44(62)	14(23)	2	28.26	<0.001
>45 years	22(31)	22(36.1)			
Education level					
Primary level	12(16.9)	24(39.3)			
Secondary	18(25.4)	20(32.8)	2	13.36	<0.001
Tertiary	41(57.7)	17(27.9)			
Marital status					
Single	40(56.3)	30(49.2)			
Married	20(28.2)	19(31.1)	3	1.18	0.758
Divorced	7(9.9)	6(9.8)			
Widowed	4(5.6)	6(9.8)			
Religion					
Christian	60(84.5)	48(78.7)	1	0.747	0.498
Muslim	11(15.5)	13(21.3)			
Number of children					
Less than 3	38(53.5)	39(63.9)	1	1.464	0.288
3 or more	33(46.5)	22(36.1)			

Table 9
The economic factors influencing coping among women breast cancer survivors at Kenyatta National hospital

Economic factors	Coping		Df	Chi-square	P-value
	Positive	Negative			
Employment status					
Employed	36(50.7)	28(45.9)	1	0.303	0.604
Unemployed	35(49.3)	33(54.1)			
Average monthly income					
Less than 100,000	55(77.5)	43(70.5)			
Ksh 100,00 - 500,000	14(19.7)	12(19.7)	2	2.882	0.237
Ksh 500001 - 1,000000	2(2.8)	6(9.8)			
Method of payment for treatment					
NHIF	54(76.1)	46(75.4)			
Salary	8(11.3)	9(14.8)	3	0.947	0.814
Spouses	6(8.5)	3(4.9)			
Friends	3(4.2)	3(4.9)			
Unable to meet financial needs					
Yes	14(19.7)	35(57.4)	1	19.935	<0.001
No	57(80.3)	26(42.6)			

Table 10
Clinical factors influencing coping among women breast cancer survivors

Clinical factors	Coping		Df	χ^2	P-value
	Positive	Negative			
Stage at diagnosis					
Stage 1	17(23.9)	12(19.7)			
Stage 2	24(33.8)	15(24.6)	4	2.96	0.564**
Stage 3	20(28.2)	22(36.1)			
Stage 4	8(11.3)	8(13.1)			
I don't know	2(2.8)	4(6.6)			
Time since finished treatment					
Less than 2	49(69)	41(67.2)	1	0.049	0.853*
2 or more	22(31)	20(32.8)			
Type of treatment					
Radiotherapy	4(5.6)	14(23)			
Chemotherapy	25(35.2)	28(45.9)			
Both chemotherapy and radiotherapy	32(45.1)	16(26.2)	4		0.006*
Oral medication	2(2.8)	1(1.6)			
Surgery	8(11.3)	2(3.3)			

*Pearson chi-square, **Fischer's exact test

The economic factors influencing coping among women breast cancer survivors at Kenyatta National hospital:

A chi-square test for association conducted revealed that there was significant association between ability to meet financial needs and coping (χ^2 (1) =19.935, p<0.001) among respondents. Thus, those who were unable to meet their financial needs coped poorly with their condition as breast cancer survivors as shown in Table 9.

Clinical factors influencing coping among women breast cancer survivors at Kenyatta National hospital:

Pearson chi-square and Fischer's exact test were conducted because of small number of samples (n<5) in cross tabulated tables). The findings established that there was significant association between type of treatment (df =4, p=0.006) and coping among the respondents as shown in Table 10.

Health-system factors influencing coping among women breast cancer survivors at Kenyatta National hospital:

Health system related factors:

The health system factors were assessed using a five-point Likert scale where 1 = strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. The average score of between 1 to 2.4 was perceived as disagreement with the statement, an average score of between 2.5 to 3.4 was perceived to be neutral while an average score of between 3.5 to 5 showed high agreement with the statement.

The findings show that most of the respondents agreed that since diagnosis the hospital has been offering psychological counselling services during their visits (M =3.85, SD =1.257), they also agreed that, the healthcare workers are the ones who offer information and guidance regarding counselling services (M =3.90, SD =1.062). The average score was 3.72 which show that health systems have been integral in improving the wellbeing of breast cancer patients as presented in Table 11.

Health related factors associated with coping among breast cancer patients:

Pearson Chi-square and Fischer's exact test (n<5) were conducted to investigate health related factors associated with coping with breast cancer patients. The findings revealed that there was significant association between coping and those who affirmed that counselling services are offered every time they visit the clinic (df =2, p=0.001). The findings also revealed that there was significant association between those who asserted that healthcare workers are the ones who offer information and guidance regarding counselling services (df =2, p =0.026) as shown in Table 12.

Predictors of coping among breast cancer survivors:

Variables that were significant under the bivariate analysis were exposed into a multivariate model to control for confounders. The findings revealed that those aged between 30 and 45 years were 15 times more likely to cope better compared

to those who were aged below 30 years, (AOR =15.76, 95%CI: 3.86 – 64.35, p<0.001). The results also revealed that those who had secondary level education were 4.5 times more likely to cope better compared to those who had primary level education, (AOR = 4.5, 95%CI:1.37 – 14.94, p = 0.013). Breast cancer survivors with tertiary level education were 4.3 times more likely to cope better compared to those who had primary level education.

Table 11
Health system related factors associated with coping

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
Since diagnosis the hospital has been offering psychological counselling services during my visits	13(9.8)	10(7.6)	7(5.3)	56(42.4)	46(34.8)	3.85	1.257
The counselling services are offered every time I come for a clinic	14(10.6)	13(9.8)	17(12.9)	48(36.4)	40(30.3)	3.66	1.295
The healthcare workers are the ones who offer information and guidance regarding counselling services	4(3.0)	13(9.8)	18(13.6)	54(40.9)	43(32.6)	3.90	1.062
The healthcare workers offer individualised follow up services even after my treatment	5(3.8)	24(18.2)	26(19.7)	47(35.6)	30	3.55	1.141
I feel that support groups provide the psychological support you need	13(9.8)	7(5.3)	21(15.9)	68(51.5)	23	3.61	1.137
Overall Mean						3.72	

Table 12
Health-system factors influencing coping among women breast cancer survivors

Health-system factors		Coping		Df	χ^2	P-value
		Positive	Negative			
Since diagnosis the hospital has been offering psychological counselling services during my visits	Disagree	7(9.9)	6(9.8)			
	Neutral	1(1.4)	9(14.8)	2		0.227**
	Agree	63(88.7)	46(75.4)			
The counselling services are offered every time I come for a clinic	Disagree	3(4.2)	11(18.0)			
	Neutral	4(5.6)	9(14.8)	2		0.001**
	Agree	64(90.1)	41(67.2)			
The healthcare workers are the ones who offer information and guidance regarding counselling services	Disagree	10(14.1)	11(18.0)			
	Neutral	0	13(21.3)	2		0.026**
	Agree	61(85.9)	37(60.7)			
The healthcare workers offer individualised follow up services even after my treatment	Disagree	7(9.9)	4(6.6)			
	Neutral	3(4.2)	18(29.5)	2		0.086**
	Agree	61(85.9)	39(63.9)			
I feel that support groups provide the psychological support you need	Disagree	8(11.3)	5(8.2)			
	Neutral	17(23.9)	11(18)	2	1.078	0.299*
	Agree	46(64.8)	45(73.8)			

*Pearson chi-square, **Fischer's exact test

Table 13
Predictors of coping among breast cancer survivors

Factors	AOR (95%CI)	P-value
Age		
< 30 years	Ref	
30 - 45 years	15.76(3.86 - 64.35)	<0.001
>45 years	0.73(0.26 - 2.06)	0.551
Education level		
Primary level		
Secondary	4.5(1.37 - 14.94)	0.013
Tertiary	4.33(1.42 - 13.21)	0.010
Able to meet financial needs		
Yes	7.05(2.75 - 18.06)	<0.001
No	Ref	
Type of treatment		
Radiotherapy	0.31(0.11 - 1.21)	0.615
Chemotherapy	0.78(0.33 - 2.81)	0.713
Both chemotherapy and radiotherapy	1.61(0.51 - 3.911)	0.441
Oral medication	1.2(0.34 - 2.11)	0.811
Surgery	Ref	
The counselling services are offered every time I come for a clinic		
Disagree	Ref	
Neutral	0.67(0.32 - 2.11)	0.511
Agree	1.11(0.44 - 3.22)	0.071
The healthcare workers are the ones who offer information and guidance regarding counselling services		
Disagree	Ref	
Neutral	1.32(0.66 - 3.28)	0.231
Agree	0.61(0.55 - 2.11)	0.651

Those who were able to meet their financial needs were seven times more likely to cope better (AOR =7.05, 95%CI: 2.75 – 18.06, p<0.001) as shown in Table 13.

4. Discussion

A. Patient Characteristics of Breast Cancer Patients

The findings revealed that the average age of respondents was 44 years, which is consistent with other past studies (World Health Organization, 2021; Anusasananun et al.,2013; Hinyard et al., 2017).. A report published by the World Health Organization revealed that breast cancer increases with increase in age thus the likelihood of breast cancer in younger women is less likely. Similarly, Anusasananun et al. (2013) revealed that the average age of breast cancer patients was 45 years with the risk increasing with increasing age. The findings from the present study also showed that more than half, 53% of the respondents were single. A diagnosis of cancer causes significant emotional suffering for a substantial proportion of patients as well as their partners, which presents a great deal of difficulty for both individuals in a couple. Couples who receive a diagnosis of breast cancer may face psychosocial distress, which may also damage both partners' ability to function individually and together. These findings are comparable to a study in United States which found that unmarried women were more likely to be diagnosed at a later stage than married women (Hinyard et al., 2017).

The stressors among breast cancer survivors at Kenyatta National Hospital:

The findings from the present study have identified that physical pain after treatment as the most common stressor. These results are consisted with past studies (Alkan et al., 2016)(Gosain et al., 2020) which established that pain after treatment is the commonly occurring stressor among breast cancer survivors. The current study also established that trauma resulting from uncertainty of disease recurring has also been widely identified as a stressor. These findings compare with a qualitative study conducted by Lagendijk et al. (2019) established that breast cancer survivors are vulnerable to a variety of stress due to the consequences of cancer diagnosis and treatment. For example, fear of recurrence, financial burden of cancer treatment and perceived discrimination in the social participation and employment can place great stress on BCSs. Costanzo (2018) revealed that fear of recurrence was the most prevalent because they affect patient physical being and they are easily identified.

The present findings have showed that financial constraints have been key stressors among breast cancer patients. These were comparable to past studies (De Souza and Wong, 2013; States and Accountability, 2013). Finance has been identified as a major stressor which has an influence on both physiological and psychological wellbeing of a BCs. Cancer treatment is highly draining financially and lack of a sponsor or insurance has negative implications on quality of life of a patient. The treatment sessions and medication are expensive. De Souza & Wong (2013) also affirms that financial distress is a major challenge among cancer patients and survivors. The distress caused also has an influence on the patient family. In United States, it has been established that by 2010, three out of 10 drugs in the outpatient setting were cancer treatment drugs. The cost of cancer medications procured in the united States are estimated at $5 billion annually (States & Accountability, 2013).

The coping strategies among breast cancer survivors:

Our findings revealed that 54% of the respondents were able to cope effectively while 46% of the respondents had challenges in coping with the disease after treatment. These findings compare with those from other studies which found that slightly more than half of the breast cancer survivors were coping effectively (Hajian et al., 2017)(Chapman et al., 2022)(Kelkil et al., 2022). In a study conducted in Ethiopia, 51% of the respondents had effective coping (Kelkil et al., 2022). Hajian et al. (2017) also found that 53% of the breast cancer patients who participated in their study had positive coping.

Most of the patients in the present study had accepted their condition as a coping strategy. These findings compare with past studies (Hajian et al., 2017; Makumi et al., 2019). Accepting current condition was considered as the most efficient approach in developing key ways to manage possible complications associated with the condition. Hajian et al. (2017) stated that most of breast cancer survivors had accepted their condition and likely risks involved. Makumi et al. (2019) also asserted that self-acceptance was fundamental to leading a positive life. Further, comparable findings were also found in a study conducted South Africa by Barnard et al. (2016) who stated that majority of breast cancer survivors seek to accept their situation to boost their confidence and improve quality of life.

The present findings also revealed that seeking emotional support from friends, family and intervention from religious institutions has also been one of the major coping strategies. These findings are consistent with Makumi et al. (2019) in a study conducted in Kenya revealed that key coping strategies among cancer survivors were seeking social support and help from religious institutions. These approaches have been mainly prioritized. Another study conducted by (Tarkowska et al., 2021) established that that spirituality provided considerable emotional and logistical assistance to both survivors and their supporters, with particularly churches playing a potentially important role in the development of social support programs for both groups.

The present study also found that many of the breast cancer survivors were applying humor to deal with their condition. These findings are in line with Yoo et al. (2017) who maintained that cancer survivors who apply humor understand their situation and seek to get the best out of their lives. Further, Grozdziej, (2017) highlighted that pparticipants identified humor as an important coping factor. They also believed it played a role in their spirituality and their perception of the meaning and purpose of life. Nurses' use of humor is important to foster deeper, more trusting relationships with patients. Humor must be recognized as an element of spiritual coping in patients with breast cancer. In addition Melton (2016) also affirmed that in breast cancer group, humor coping was

correlated the coping subscales of self-distraction, positive reframing, planning, and active coping.

Self-distraction has also been identified as a major coping strategy among breast cancer survivors in present study. These findings compare with other studies (Tuncay, 2014; Yoo et al., 2017). These findings are consistent with a study in Turkey which revealed that integration of emotional based strategies is effective at advanced stages of disease and allow an individual to understand themselves and key processes and approaches that need to be successfully managed (Tuncay, 2014). Yoo et al (2017) also established that the women used expression of emotional vulnerability and reaching out to other breast cancer survivors as their coping strategies. The findings from a study conducted in Iran affirmed that the most common coping strategies were religion, acceptance, self-distraction, planning, active coping, positive reframing and denial (Khalili et al., 2013). Another study in China revealed that key coping strategies self-strategies and help from others; from the perspective of the survivors, they put forward their expectations for both the society and themselves (Hu et al., 2021).

Factors associated with coping among breast cancer survivors:

The ability of a patient to cope with given stressors is determined by other factors. The findings from our present study revealed that there was significant association between age and coping strategies. This is consistent with Rezaaei et al. (2016) and Benson et al. (2020) who found that older adults (>30 years) were more likely to cope better. This is primarily influenced by higher level of commitment and understanding the extent of disease. Breast cancer occurs with increasing age. This means that younger patients aged less than 30 years are unable to understand the diagnosis and have negative feelings towards their life.

Our present findings also revealed that there was significant association between level of education and coping. Respondents who had higher level of education had positive coping. These findings are consistent with Jie et al. (2019) in China found that people with higher level of education were able to cope positively. In Bangladesh, it was found that patients with higher education level were more likely to cope compared to those with little or no education. Their study also established that there was significant association between marital status and coping. However, in our present study marital status was not found to be significant factor associated with coping effectively although there was higher proportion of single patients who coped effectively compared to married or divorced respondents. Another study investigating influence of demographic factors on coping with cancer among patients in Bangladesh found that people with a higher education level were more likely to cope than those with little or no education. Also, not being married, being a woman, and being unemployed negatively influenced coping (Grozdziej, 2017). People who had strong religious faith also had better coping outcomes compared to those without strong religious affiliations.

Ability to meet financial needs was found to be significantly associated with coping. Respondents who were able to meet their financial needs were able to cope effectively. These findings align to those from a study conducted in United States which found that financial wellbeing of a patient had a significant influence on their wellbeing and ability to cope effectively (Doherty et al., 2021).

5. Conclusion

- The findings from present study established that physiological stressors were more common among study participants compared to psychological stressors.
- The common physiological stressors identified in present study were experiencing physical pain after treatment, trauma due to disease recurring, lack of insurance and inability to engage in physical activities.
- Common psychological stressors identified included: difficulty in concentrating at work, inability to cope with financial demands, difficult in coping with feelings after diagnosis.
- The common stressors that were identified included difficulty in concentrating at work, inability to cope with financial demands, difficult in coping with feelings after diagnosis.
- The findings revealed that 54% of the respondents were able to cope positively while 46% of the respondents had challenges in coping with the disease after treatment.
- Most of the respondents employed problem-based strategies such as accepting their condition, seeking emotional support from friends and family and seeking religious intervention.
- Emotion based strategies were also prevalent including application of humor to deal with their condition, crying and employing self-distraction through participating in social activities.
- Age, level of education and financial burden were found to have an influence on coping among patients.

6. Recommendations

- To encourage breast cancer survivors to conduct regular tests to evaluate their progress. This would be essential in controlling recurrence of the disease as a barrier.
- Encourage breast cancer survivors to adopt problem-based strategies for improved quality of life.
- Provide regular health education for breast cancer survivors to understand key ways to control their stress levels and improve health outcomes.
- Psychosocial support services are an important component of modern cancer treatment. A major challenge for all psychosocial services is the achievement of access and utilization of the service. Emotional and social support can help cancer patients learn to cope with psychological and social issues. This can reduce levels of depression and anxiety, among patients and help cope with the illness.
- Health care professionals need to perform regular psychological and physiological assessment and manage the patients alongside medical intervention.

Areas for further research:

- Future studies should include both public and private health facilities offering Cancer treatment for in-depth understanding of the complex issues surrounding Survivorship.
- It would also be helpful to capture qualitatively the experiences and perspectives of caretakers and health care providers taking care Of Breast Cancer Survivors.

References

[1] Alkan, A., Guc, Z. G., Senler, F. C., Yavuzsen, T., Onur, H., Dogan, M., Karci, E., Yasar, A., Koksoy, E. B., Tanriverdi, O., Turhal, S., Urun, Y., Ozkan, A., Mizrak, D., & Akbulut, H. (2016). Breast cancer survivors suffer from persistent postmastectomy pain syndrome and posttraumatic stress disorder (ORTHUS study): a study of the palliative care working committee of the Turkish Oncology Group (TOG). *Supportive Care in Cancer.*

[2] Angachi M.O., Itsura Peter, Kigamwa P., Ndetei D.M. (2016). Psychological Concerns among. Adult Cancer Patients in Kenya. *British Journal of Psychology Research,* 4(2), 1-14.

[3] Anusasananun, B., Pothiban, L., Kasemkitwatana, S., Soivong, P., & Trakultivakorn, H. (2013). Coping behaviors and predicting factors among breast cancer survivors during each phase of cancer survivorship. *Pacific Rim International Journal of Nursing Research*, *17*(2), 148-166.

[4] Banegas, M. P., Schneider, J. L., Firemark, A. J., Dickerson, J. F., Kent, E. E., de Moor, J. S., & Varga, A. M. (2019). The social and economic toll of cancer survivorship: a complex web of financial sacrifice. *Journal of Cancer Survivorship*, *13*(3), 406-417.

[5] Barnard, A., Clur, L., & Joubert, Y. (2016). Returning to work: The cancer survivor's transformational journey of adjustment and coping. *International journal of qualitative studies on health and well-being*, *11*(1), 32488.

[6] Benson, R. B., Cobbold, B., Boamah, E. O., Akuoko, C. P., & Boateng, D. (2020). Challenges, Coping Strategies, and Social Support among Breast Cancer Patients in Ghana. *Advances in Public Health*.

[7] Chapman, B., Derakshan, N., & Grunfeld, E. A. (2022). Exploring primary breast cancer survivors' self-management of sustained cancer-related cognitive impairment in the workplace. *Psycho-Oncology*.

[8] de Souza, J. A., & Wong, Y.-N. (2013). Financial distress in cancer patients. *Journal of Medicine and the Person.*

[9] DeSantis, C. E., Lin, C. C., Mariotto, A. B., Siegel, R. L., Stein, K. D., Kramer, J. L., ... & Jemal, A. (2014). Cancer treatment and survivorship statistics, 2014. *CA: a cancer journal for clinicians*, *64*(4), 252-271.

[10] Doherty, M., Gardner, D., & Finik, J. (2021). The financial coping strategies of US cancer patients and survivors. *Supportive Care in Cancer.*

[11] Gosain, R., Gage-Bouchard, E., Ambrosone, C., Repasky, E., & Gandhi, S. (2020). Stress reduction strategies in breast cancer: review of pharmacologic and non-pharmacologic based strategies. *In Seminars in Immunopathology.*

[12] Grozdziej, A. (2017). The influence of treatment modality and psychological factors on fear of cancer recurrence and health-related coping behaviors among breast cancer survivors. *Psycho-Oncology.*

[13] Hajian, S., Mehrabi, E., Simbar, M., & Houshyari, M. (2017). Coping strategies and experiences in women with a primary breast cancer diagnosis. *Asian Pacific journal of cancer prevention: APJCP*, *18*(1), 215.

[14] Hinyard, L., Wirth, L. S., Clancy, J. M., & Schwartz, T. (2017). The effect of marital status on breast cancer-related outcomes in women under 65: A SEER database analysis*. Breast.*

[15] Hu, R. Y., Wang, J. Y., Chen, W. L., Zhao, J., Shao, C. H., Wang, J. W., Wei, X. M., & Yu, J. M. (2021). Stress, coping strategies and expectations among breast cancer survivors in China: a qualitative study. *BMC Psychology*.

[16] Jie, B., Feng, Z. Z., Qiu, Y., & Zhang, Y. Q. (2019). Association between socio-demographic factors, coping style, illness perceptions and preference for disclosure/nondisclosure of diagnosis in Chinese patients with hepatocellular carcinoma. *Journal of Health Psychology*, *24*(11), 1473-1483.

[17] Kahana, E., Kahana, B., Langendoerfer, K. B., Kahana, B., & Smith-Tran, A. (2016). Elderly cancer survivors reflect on coping strategies during the cancer journey. *Journal of gerontology & geriatric research*, *5*(5).

[18] Kelkil, B. A., Atnafu, N. T., Dinegde, N. G., & Wassie, M. (2022). Coping strategies of stress and its associated factors among breast cancer patients in Tikur Anbesa specialized hospital, Ethiopia: Institution-based cross-sectional study. *BMC Women's Health,* 22(1), 1–8.

[19] Kenya National Bureau of Statistics. (2019). Kenya Population and Housing Census.

[20] Khalili, N., Farajzadegan, Z., Mokarian, F., & Bahrami, F. (2013). Coping strategies, quality of life and pain in women with breast cancer. *Iranian journal of nursing and midwifery research*, *18*(2), 105.

[21] Kobayashi, K., Morita, S., Shimonagayoshi, M., Kobayashi, M., Fujiki, Y., Uchida, Y., & Kvillemo, P., & Bränström, R. (2014). Coping with breast cancer: a meta-analysis. *PloS one*, *9*(11), e112733.

[22] Lagendijk, M., Van Egdom, L., van Veen, F., Vos, E., Mureau, M., van Leeuwen, N., Hazelzet, J., Lingsma, H., & Koppert, L. (2019). Patient Reported Outcome Measures may add value in breast cancer surgery. *European Journal of Surgical Oncology*.

[23] Levkovich, I. (2021). Coping strategies and their impact on emotional distress and fatigue among breast cancer survivors: A cross-sectional survey. *In Cancer Journal (United States).*

[24] Maass, S. W. M. C., Boerman, L. M., Verhaak, P. F. M., Du, J., de Bock, G. H., & Berendsen, A. J. (2019). Long-term psychological distress in breast cancer survivors and their matched controls: A cross-sectional study. *Maturitas*, *130*, 6-12.

[25] Makumi, J. (2019). Stress Reactions, Coping Strategies and Counselling Needs of Family Caregivers of Colorectal Cancer Survivors in Aga Khan University Hospital Nairobi Kenya (Doctoral dissertation).

[26] Matsuda, A., Yamaoka, K., Tango, T., Matsuda, T., & Nishimoto, H. (2014). Effectiveness of psychoeducational support on quality of life in early-stage breast cancer patients: a systematic review and meta-analysis of randomized controlled trials. *Quality of Life Research*, *23*(1), 21-30.

[27] Melton, L. M. (2016). If I don't laugh, I'll cry: Exploring humor coping in breast cancer. *Journal of Psychosocial Oncology*.

[28] Naik, H., Qiu, X., Brown, M. C., Eng, L., Pringle, D., Mahler, M., & Gonos, C. (2016). Socioeconomic status and lifestyle behaviors in cancer survivors: smoking and physical activity. *Current Oncology*, *23*(6), e546.

[29] Rajendran, S. S. (2021). A Descriptive Analysis of the Psychosocial Status of Breast Cancer Survivors from Chennai, India. *Bioscience Biotechnology Research Communications.*

[30] Rand, K. L., Cohee, A. A., Monahan, P. O., Wagner, L. I., Shanahan, M. L., & Champion, V. L. (2019). Coping Among Breast Cancer Survivors: A Confirmatory Factor Analysis of the Brief COPE. *Journal of Nursing Measurement*.

[31] Rezaei, M., Elyasi, F., Janbabai, G., Moosazadeh, M., & Hamzehgardeshi, Z. (2016). Factors influencing body image in women with breast cancer: a comprehensive literature review. *Iranian Red Crescent Medical Journal*, *18*(10).

[32] Silva, G. D., & Santos, M. A. D. (2020). Stressors in breast cancer post-treatment: a qualitative approach. *Revista latino-americana de enfermagem*, *18*(4), 688-695.

[33] Song, Y., Lv, X., Liu, J., Huang, D., Hong, J., Wang, W., & Wang, W. (2016). Experience of nursing support from the perspective of patients with cancer in mainland China. *Nursing & Health Sciences*, *18*(4), 510-518.

[34] States, U., & Accountability, G. (2013). Medicare: High-expenditure Part B drugs. *Medicare Part B: Premiums and High-Expenditure Drugs*, 45–81.

[35] Tarkowska, M., Głowacka-Mrotek, I., Nowikiewicz, T., Goch, A., & Zegarski, W. (2021). Quality of life in women subjected to surgical treatment of breast cancer depending on the procedure performed within the breast and axillary fossa—a single-center, one-year prospective analysis. *Journal of Clinical Medicine.*

[36] Tuncay, T. (2014). Coping and quality of life in Turkish women living with ovarian cancer. *Asian Pac J Cancer Prev*, *15*(9), 4005-12.

[37] World Health Organization. (2018). Latest global cancer data: Cancer burden rises to 18.1 million new cases and 9.6 million cancer deaths in 2018. *International Agency for Research on Cancer. Geneva: World Health Organization*.

[38] World Health Organization. (2021). Breast cancer. https://www.who.int/news-room/fact-sheets/detail/breast-cancer

[39] Yoo, G. J., Sudhakar, A., Le, M. N., & Levine, E. G. (2017). Exploring coping strategies among young Asian American women breast cancer survivors. *Journal of Cancer Education*, *32*(1), 43-50.