

Mental adjustment to cancer and quality of life among women living with breast cancer in Ghana

The International Journal of

Psychiatry in Medicine

2019, Vol. 54(3) 217–230

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DOI: 10.1177/0091217418805087

journals.sagepub.com/home/ijp



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Abstract

Objective: This study examined whether cancer-specific coping strategies have any significant influence on the quality of life of 205 women living with breast cancer in Ghana.

Methods: Using a cross-sectional survey design, participants were administered questionnaires which measured their cancer-specific coping strategies and health-related quality of life.

Results: Correlation analysis showed that helplessness-hopelessness negatively correlated with physical wellbeing, emotional wellbeing, functional wellbeing, and breast cancer additional concerns. Anxious preoccupation negatively correlated with all the domains of quality of life, whereas fighting spirit was positively correlated with emotional and functional wellbeing. Cognitive avoidance was positively correlated with functional wellbeing, while fatalism was positively related with all the domains of quality of life. Regression analysis revealed that anxious preoccupation predicted significant decreases in all the domains of quality of life, while

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helplessness-hopelessness predicted significant decreases in emotional and functional wellbeing domains. However, cognitive avoidance predicted significant increase in the functional domain of quality of life.

Conclusion: These findings underscore the need for psychosocial support for breast cancer patients to adopt effective coping strategies to deal with their challenges in managing their illness.

Keywords

coping strategies, quality of life, breast cancer, Ghana

Introduction

Breast cancer prevalence in sub-Saharan Africa is relatively low, but the mortality rates are higher than developed countries.¹⁻⁴ This has made breast cancer a growing health problem, as it has surpassed cervical cancer and is diagnosed in one out of every four cancer cases.^{1,5} Despite the lack of national statistics, breast cancer among women is identified as one of the most prevalent forms of cancer after cervical cancer with a high proportion of cases only diagnosed in the later stages of the disease in Ghana.⁶⁻⁹ Medical advancements in the treatment options available in the management of breast cancer have led to increased chances of survival in cancer patients.¹⁰ Notwithstanding this, research evidence suggests that living with a chronic illness like breast cancer is accompanied by comorbid physical and mental health and social problems such as hypertension, depression, anxiety, and loss of social contacts due to stigma.^{6,11,12} In dealing with the diagnosis and treatment, patients adopt several coping mechanisms which have been found to significantly influence their health and wellbeing.¹³

Coping with chronic illnesses such as breast cancer can be adaptive, maladaptive, or both, as evidence suggests that breast cancer patients rely on both coping strategies.¹⁴⁻¹⁶ In adaptive coping, patients accept and actively engage in ways to deal with their challenges, whereas in maladaptive coping, patients avoid dealing with problems through distancing themselves from the problems both cognitively and physically.¹⁷ However, these coping strategies have different effects on the quality of life of women with breast cancer. Adaptive coping strategies have been found to be associated with better mental health outcomes and improved quality of life, while maladaptive coping strategies are significantly associated with poor mental health outcomes and decreased quality of life.¹⁷⁻²¹

Notwithstanding the influence of coping strategies on mental health outcomes and quality of life of women diagnosed with breast cancer, specific coping strategies have been found to have varied influences on several aspects

of quality of life of the women. For example, although helplessness coping and anxious preoccupation predict decreased health-related quality of life, religious coping, optimistic coping, and problem focused coping positively predict increased health-related quality of life among women living with breast cancer.^{22–24} Similarly, having a fighting spirit which involves individual's determination to significantly deal with their illness has been found to be positively associated with health-related quality of life among the patients, while fatalism predicts decreased health-related quality of life among the patients.²⁵ These findings point to the fact that maladaptive coping is detrimental to the health and wellbeing of cancer patients.^{15,16,26}

It is evidenced from the studies reviewed above that while the majority of the studies found adaptive coping strategies to be associated with better health and wellbeing outcomes and maladaptive coping strategies to be associated with poor health and wellbeing outcomes, there are some inconsistencies in the influence of some of the cancer-specific coping strategies. For example, while some researchers found fatalism to be beneficial to the wellbeing of patients,^{27,28} others have reported its negative impact on the quality of life among cancer patients.^{29,30} In addition, some of the previous studies did not use cancer-specific coping measures and therefore did not provide much information that are unique to coping with cancer.

Although some studies^{11,12} have been conducted among women living with breast cancer within the Ghanaian setting, the majority of these few studies have focused on the emotional and psychosocial challenges for women living with breast cancer.³¹ Few studies have been conducted with regard to the quality of life of women living with breast cancer, and how specific cancer coping strategies influence their quality of life. This study, therefore, sought to determine whether cancer-specific coping strategies predict quality of life in Ghanaian women living with breast cancer. The findings of this study may inform policies that would address the psychosocial needs of breast cancer patients such as the inclusion of routine psychological assessment to examine the various coping strategies being utilized by the patients to shape the overall healthcare delivery.

The stress-and-coping theory^{32,33} guided the study. This theory posits that the coping strategies adopted by an individual in managing their chronic illness are likely to influence both the short-term and long-term outcomes such as anxiety, depression, and quality of life. This is because these coping strategies represent the ways by which people cognitively and emotionally adjust to their illnesses. The theory further postulates that the effects of the coping strategies on short-term outcomes such as depression and anxiety tend to influence the long-term disease outcomes including the health-related quality of life among persons living with chronic medical conditions.^{32,33} We therefore hypothesized that negative coping strategies such as the use of helplessness-hopelessness and anxious preoccupation are likely to predict decreased quality of life, whereas

positive coping strategies such as having a fighting spirit, the use of cognitive avoidance, and fatalism are likely to predict improved quality of life.

Methods

Design and participants

A cross-sectional survey design was employed in this study, as it was the most appropriate design for the objectives of the study. A non-probability purposive sampling technique was used to recruit the participants, as this sampling approach allows research to recruit participants who can provide information to achieve the objective of the study. A total of 205 women diagnosed with breast cancer were sampled from the outpatients department of the Oncology Unit of a public Teaching Hospital in Ghana. Participants recruited into the study met the following inclusion criteria or were otherwise excluded: (1) being diagnosed with breast cancer for the first time at any stage and living with breast cancer for more than six months, (2) be between 20 years and 80 years of age, and (3) receiving care for only breast cancer. This sample size was chosen based on the minimum sample size requirement for multiple regression with a medium effect and a statistical power of .80.³⁴ It has therefore been suggested that for a medium effect size and a statistical power of .80 (high power) with 10 predictors, a minimum of 150 participants was required.³⁴

Procedure

Ethical approval was obtained from the Humanities and Social Sciences Ethical Committee of the University of KwaZulu-Natal, South Africa (HSS/1428/016D) and clearance was also obtained from Scientific and Technical Committee as well as institutional review board of a public teaching hospital in Accra, Ghana. Written permission was also sought from the head of the Nuclear Medicine and Radiotherapy Department of the Teaching Hospital. The researchers collaborated with the physicians and other healthcare staff at the Unit of the hospital in recruiting the participants. The physicians and nurses helped in the identification and recruitment of women living with breast cancer, respectively. The first author obtained informed consent and administered the questionnaires. The aims and objectives of the study were explained to the prospective participants at the outpatient department waiting for consultation with their physicians. All ethical guidelines regarding the use of human were followed, and written informed consent was obtained from all participants. The questionnaires were all interviewer administered and lasted about 30 min. Data collection lasted for five months (March–July, 2017).

Measures

Demographic questionnaire. Demographic questionnaire was used to gather salient demographic characteristics of the participants.

Mini-Mental Adjustment to Cancer Scale. Mini-Mental Adjustment to Cancer Scale³⁵ was used to measure coping strategies. This questionnaire measures cancer patients' adjustment to their illness. The questionnaire has 29 items which measure five sub-domains: helplessness-hopelessness (eight items); anxious preoccupation (eight items); fighting spirit (four items); cognitive avoidance (four items); and fatalism (five items). The questionnaire has a four-point Likert response format ranging from 1 = "Definitely does not apply to me" to 4 = "Definitely applies to me." The Cronbach alphas of the scale range from 0.62 to 0.88.³⁵ In this study, the reliability values were: helplessness-hopelessness (.93), anxious preoccupation (.88), fighting spirit (.76), cognitive avoidance (.91), and fatalism (.66).

Functional Assessment of Cancer Therapy-Breast Cancer. Functional Assessment of Cancer Therapy-Breast Cancer³⁶ was used to measure the quality of life. This scale consists of 37 items with 27 measuring quality of life from four domains—emotional wellbeing, 6 items; social/family wellbeing, 7 items; physical wellbeing, 7 items; and functional wellbeing, 7 items—and 10 items measuring other breast cancer-related concerns. A five-point Likert response format was used with responses ranging from 0 = "Not at all" to 4 = "Very much." The scale has reliability value of .90.³⁶ Some studies conducted in Africa have found the scale to be reliable with domain-specific values ranging between .65 and .82.³⁷ In this study, the internal consistency values of the scale were: physical wellbeing (.83), social/family wellbeing (.76), emotional wellbeing (.82), functional wellbeing (.91), and additional concerns (.65).

Data analysis

The SPSS 24.00 was used to analyze the data. Pearson's correlation and standard multiple regression analyses were used to test the relationships among the study variables as well as the predictive effects of cancer-specific coping strategies on the five domains of quality of life, respectively. All analyses were two tailed, and a $p < 0.05$ or less was considered statistically significant.

Results

Demographic profile of participants

Results from the demographic Table 1 show that most of the participants were middle aged with a mean age of 52.49 years and a mean duration of illness since

Table 1. Summary of the demographic profile of the participants.

Characteristics	Frequency (N)	Percentage (%)
Age	Mean = 52.49 years	SD = 11.14
Duration in months since diagnosis	Mean = 29.64 months	SD = 38.75 months
Marital status		
Never married	16	7.8
Married	139	67.8
Separated/divorced	24	11.7
Widowed	26	12.7
Educational level		
No formal education	22	10.7
Primary/Junior Secondary School/ Middle School Leaving Certificate	73	35.6
Secondary	70	34.1
Tertiary	40	19.6
Religion		
Christianity	184	89.7
Islam	18	8.8
Others	3	1.5
Employment status		
Unemployed	56	27.5
Employed	125	61.2
Retired	23	11.3
Average monthly income (GHC)		
Less than GH500	99	53.2
From Gh500 to less than GH1000	37	19.9
From Gh1000 to less than Gh1500	28	15.1
From Gh1500 to less than Gh2000	12	6.4
Gh2000 and above	10	5.4
Type of treatment		
Surgery	11	5.5
Chemotherapy	42	20.9
Radiotherapy	19	9.5
Surgery + chemotherapy	21	10.4
Surgery + radiotherapy	11	5.5
Chemotherapy + radiotherapy	13	6.5
Surgery + chemotherapy + radiotherapy	84	41.8

first diagnosis being 32.28 months. Most of the participants were married (67.8%) with only 19.6% reported to have tertiary education. The majority of the women sampled (89.7%) were Christians, 61.2% were employed, 88.2% have an average monthly income of less than GHC1500 (\$338) with over half of the participants with an average income of GHC500 (\$113) and below, which suggests very low incomes in comparison with Ghana's per capital income of

Table 2. Correlation matrix of the relationships among the variables in the study.

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	1											
2. Duration	.37**	1										
3. HH	.03	-.07	1									
4. AP	-.21**	-.20**	.63**	1								
5. FS	-.04	.06	-.38**	-.15*	1							
6. CA	.04	.01	-.15*	-.16*	.41**	1						
7. FA	.12	.15*	-.20**	-.32**	.06	.14*	1					
8. PWB	.04	.09	-.44**	-.62**	.08	.07	.16*	1				
9. SFWB	-.06	.02	-.10	-.23**	-.01	.07	.12*	.22**	1			
10. EWB	.10	.13*	-.62**	-.69**	.21**	.05	.12*	.65**	.15*	1		
11. FWB	-.06	.14*	-.52**	-.52**	.21**	.25**	.14*	.72**	.28**	.58**	1	
12. BCAC	.01	.09	-.42**	-.62**	.05	.02	.14*	.77**	.27**	.68**	.62**	1

Note: HH: helplessness-hopelessness; AP: anxious preoccupation; FS: fighting spirit; CA: cognitive avoidance; FA: fatalism, PWB: physical wellbeing; SFWB: social/family wellbeing; EWB: emotional wellbeing; FWB: functional wellbeing; BCAC: breast cancer additional concerns.

* $p < .05$; ** $p < .01$; *** $p < .001$.

\$1,513.46 in 2016. Nearly half (41.8%) of the participants reported to have received surgery + chemotherapy + radiotherapy for their breast cancer.

Relationship among study variables

An examination of the correlation matrix (Table 2) showed that age did not have a statistically significant relationship with any of the quality of life domains. However, duration of illness was significantly and positively related with emotional wellbeing, $r(199) = .13, p < .05$, and functional wellbeing, $r(202) = .14, p < .05$. In terms of the coping strategies, helplessness-hopelessness was significantly and negatively related with physical wellbeing, $r(191) = -.44, p < .01$; emotional wellbeing, $r(191) = -.62, p < .01$; functional wellbeing, $r(194) = -.52, p < .01$; and breast cancer additional concerns, $r(187) = -.42, p < .05$. Anxious preoccupation was significantly and negatively related with all the quality of life domains: physical wellbeing, $r(192) = -.62, p < .01$; social and family wellbeing, $r(185) = -.23, p < .01$; emotional wellbeing, $r(192) = -.69, p < .01$; functional wellbeing, $r(195) = -.52, p < .01$; and breast cancer additional concerns, $r(189) = -.62, p < .01$.

The use of fighting spirit was significantly and positively related with emotional wellbeing, $r(197) = .21, p < .01$, and functional wellbeing, $r(200) = .21, p < .01$. The use of cognitive avoidance was significantly and positively related with only functional wellbeing, $r(200) = .25, p < .01$. Fatalism was significantly and positively related with all the domains of quality of life: physical wellbeing, $r(197) = .16, p < .05$; social/family wellbeing, $r(197) = .12, p < .05$; emotional

wellbeing, $r(200) = .12, p < .05$; functional wellbeing, $r(200) = .14, p < .05$; and breast cancer additional concerns, $r(193) = .14, p < .05$.

Predictors of health-related quality of life

To determine the unique predictive effects of each coping strategy on the five quality of life domains, multiple regression analyses were computed and the results are summarized in Table 3. The results revealed that only anxious pre-occupation of coping significantly and negatively predicted both physical wellbeing ($\beta = -.57, t = -7.05, p < .001$) and social and family wellbeing domains of quality of life ($\beta = -.30, t = -2.99, p < .01$). However, emotional wellbeing domain of quality of life was found to be negatively predicted by both the use

Table 3. Standard multiple regression of coping strategies as predictors of quality of life.

Criterion variables	Predictors	Collinearity statistics					
		B	SEB	β	t	R2	F
1. Physical wellbeing	Helplessness-Hopelessness	-.10	.14	-.06	-.72	.34	19.60***
	Anxious preoccupation	-.74	.11	-.57	-7.05***		
	Fighting spirit	.01	.25	.01	.04		
	Cognitive avoidance	-.05	.19	-.02	-.25		
	Fatalism	-.06	.17	-.02	-.38		
2. Social/Family wellbeing	Helplessness-Hopelessness	.12	.16	.08	.75	.07	3.43**
	Anxious preoccupation	-.35	.12	-.30	-2.99**		
	Fighting spirit	-.33	.28	-.11	-1.20		
	Cognitive avoidance	.28	.22	.11	1.28		
	Fatalism	.13	.19	.06	.71		
3. Emotional Wellbeing	Helplessness-Hopelessness	-.34	.09	-.26	-3.65***	.54	43.57***
	Anxious preoccupation	-.55	.07	-.57	-8.32***		
	Fighting spirit	.21	.16	.08	1.30		
	Cognitive avoidance	-.23	.12	-.11	-1.90		
	Fatalism	-.21	.11	-.10	-1.92		
4. Functional Wellbeing	Helplessness-Hopelessness	-.43	.15	-.24	-2.86**	.31	17.64***
	Anxious preoccupation	-.44	.11	-.34	-4.13***		
	Fighting spirit	-.01	.25	-.01	-.01		
	Cognitive avoidance	.51	.20	.18	2.58*		
	Fatalism	-.07	.17	-.03	-.40		
5. Breast cancer additional concerns	Helplessness-Hopelessness	-.06	.14	-.04	-.45	.36	20.60***
	Anxious preoccupation	-.76	.10	-.60	-7.51***		
	Fighting spirit	.15	.24	.05	.63		
	Cognitive avoidance	-.33	.19	-.12	-1.71		
	Fatalism	-.12	.16	-.05	-.71		

Note: B= unstandardized coefficient beta, SEB= standard error of B, β = standardized coefficients beta. * $p < .05$; ** $p < .01$; *** $p < .001$.

of helplessness-hopelessness coping ($\beta = -.26, t = -3.65, p < .001$) and anxious preoccupation ($\beta = -.57, t = -8.32, p < .001$). Functional wellbeing domain of quality of life was significantly and negatively predicted by the use hopelessness-helpless coping ($\beta = -.24, t = -2.86, p < .01$) and anxious preoccupation ($\beta = -.34, t = -4.13, p < .001$) but positively by the use of cognitive avoidance ($\beta = .18, t = 2.56, p < .05$). Finally, breast cancer additional concerns were significantly and negatively predicted by only the use of anxious preoccupation ($\beta = -.76, t = -7.51, p < .001$).

Discussion

The purpose of this study was to investigate the influence of cancer-specific coping strategies on the quality of life of women living with breast cancer. Correlation analysis revealed that although the age of participants did not relate significantly with any of the domains of quality of life, duration since first diagnosis was positively related to emotional and functional wellbeing domains of quality of life. This suggests that regardless of age of participants, duration of illness plays a major role in influencing the emotional and functional wellbeing of the women. This could possibly be due to acceptance of the disease by women who have lived with it for a long time which in turn, may lessens the anxiety associated with the disease compared to persons with a relatively shorter duration of first diagnosis. These findings contradict previous studies that have found significant effect of age on quality of life among breast cancer patients.³⁸⁻⁴⁰ The lack of a significant relationship between age of the participants and their quality of life might be due to the fact that majority of the participants were in their middle age (mean = 52.49 years) and may share some similar characteristics which are prevalent around middle age in these years. Thus, differences that may be due to the effects of advancing age or experiences in relatively younger ages were not apparent in this study.

Significant negative relationships were observed between helplessness-hopelessness and four domains of quality of life except for social and family wellbeing domain. Anxious preoccupation was significantly and negatively related with all the domains of quality of life, while fighting spirit was significantly and positively related with emotional wellbeing and functional wellbeing domains. Cognitive avoidance was positively related with functional wellbeing, whereas fatalism was significantly and positively related with all the domains of quality of life. These findings support previous studies, in that cancer-specific coping strategies significantly influence quality of life. For example, negative coping strategies such as helplessness-hopelessness and anxious preoccupation have been found to be associated with decreased quality of life in breast cancer patients.^{15,16,26,41} In addition, fighting spirit and cognitive avoidance have been shown to be associated with improved quality of life.^{27,41-43}

Unlike other studies which found fatalism to be detrimental to quality of life in breast cancer patients,^{41,43,44} a positive relationship between fatalism and all the domains of quality of life was found in this study. This could be due to the meaning ascribed to the items which measured fatalism as they could have implied positivity to the patients as observed among a sample of Chinese cancer patients.^{45,46} Similarly, fatalism was found to be negatively related to helplessness-hopelessness. It is plausible that the use of fatalism by the women living with breast cancer within the Ghanaian context may serve to protect them against the negative emotions and feelings associated with living with breast cancer. Almost all the participants in the study were Christians, and thus, likely to leave everything about their illness to fate and a supreme being. Fatalism in this context could be protective against negative emotional experiences and thus, improve quality of life.

The regression analysis showed that the use of anxious preoccupation as a cancer-specific coping mechanism may be detrimental to the health and well-being of women living with breast cancer in this study, as it predicted decreased quality of life in all the five domains measured. This could be due to effects of anxiety, as an emotion, on quality of life. Thus, the more anxious views and attitudes the women have toward dealing with their illness, the lesser they enjoy their lives and appreciate the positive aspect of existence. Their anxious preoccupation may predispose them to other negative emotions and thought patterns that result in poorer quality of life. The extant literature is replete with studies that highlight the detrimental impact of anxious preoccupation as a cancer-specific coping strategy across varied cancer populations.^{23,25,47} However, the use of denial or cognitive avoidance significantly predicted functional wellbeing suggesting that denial helped the women carryout their day-to-day activities with little attention to their predicament. The use of denial could help this women avoid thinking about all the negative consequences of living with breast cancer, thereby helping them to adjust to their illness. Some evidence in the literature suggests that the use of denial or cognitive avoidance could protect people against the negative emotions and feelings associated with living with a chronic illness like breast cancer.¹³

The findings of this study have some implications for clinical practice and research. The first implication of the findings is that women living with breast cancer adopt several cancer-specific coping strategies which influence their quality of life in diverse ways. Therefore, it is imperative for oncology providers to explore these coping strategies and provide guidance and counseling on which coping strategies to be discouraged and encouraged. There is also a need for mindfulness-based psychological interventions to help patients deal with their thought patterns and emotions to ensure focus on positive thoughts and emotions. In this study, the use of fatalism serve to reinforce the spiritual beliefs of the women and therefore, should not be discounted as a maladaptive cancer-specific coping mechanism. This would however, require in-service training of

oncology nurses and physicians in counseling techniques to enable them to examine patterns of coping and its impact on the health outcomes of women living with breast cancer. This implication is relevant in the face of the relatively longer duration of the disease (mean = 29.64 months, $SD = 38.75$ months) which indicates high chances of survival among the women. Secondly, the findings imply that there is a need for research to determine factors that influence the use of specific coping strategies by women living with breast cancer. This would also help to obtain a holistic overview of possible factors that may influence the use of specific coping mechanisms and its impact on the health outcomes of the women living with breast cancer.

The study has some limitations that should be considered when interpreting the results. Data were collected from participants at only one point in time which did not take into consideration temporal influences on their health and wellbeing. It is also possible that the women in this study might be using other coping strategies (e.g., use religious coping) that were not captured by the Mini-Mental Adjustment to Cancer Scale (mini-MAC), as fatalism which connotes to religiosity was found to be positively correlated with improved quality of life. There is thus, a need for qualitative studies to explore coping strategies used by the women living with breast cancer aside the cancer-specific coping strategies and how these impact their health and wellbeing. The inability to obtain information on the stages of the disease serves as a key limitation to the study. Despite the limitation of the study, this study highlighted the importance of cancer-specific coping strategies on the various domains of quality of life among women living with breast cancer within the Ghanaian context as few research exist in that regard. While some coping strategies in the Western world are detrimental to the health and wellbeing of persons living with cancer, the findings may not be applicable as some of these negative coping styles may serve to protect women against the negative consequences of living with breast cancer, especially, the use of fatalism with religious connotations.

Conclusion

This study was conducted to examine the effects of cancer-specific coping strategies on the health-related quality of life of women living with breast cancer. The findings suggest that cancer-specific coping strategies have significant influences on the quality of life of women living with breast cancer which underscore the need to address psychosocial issues among breast cancer patients. One key finding that needs attention is the positive impact of fatalism on health and wellbeing outcomes of patients. This suggests that the socio-cultural contexts of the women should be considered, as strong religious beliefs could have accounted for these positive outcomes.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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