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Cancer-specific coping strategies, psychological distress, and health-related quality of life among women with breast cancer: A mediation analysis

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Abstract

Cancer-specific coping strategies influence psychological wellbeing and health-related quality of life (HRQoL) among women living with breast cancer, but the mechanisms underlying these relationships remain poorly understood, particularly in low-resource settings. This study examined whether anxiety and depression mediate the relationship between cancer-specific coping strategies and HRQoL among women receiving breast cancer treatment in Ghana. A cross-sectional survey was conducted among 205 women receiving care at a tertiary hospital. Participants completed the Mini-Mental Adjustment to Cancer Scale, Hospital Anxiety and Depression Scale, and Functional Assessment of Cancer Therapy-Breast questionnaire. Pearson correlation and mediation analyses using Hayes' PROCESS macro with 5,000 bootstrap samples were performed. Helplessness-hopelessness and anxious preoccupation were associated with poorer HRQoL and greater anxiety and depression, whereas fighting spirit, cognitive avoidance, and fatalism were associated with better HRQoL and lower psychological distress. Anxiety and depression significantly mediated the relationship between helplessness-hopelessness and HRQoL, while depression mediated the association between anxious preoccupation and HRQoL. Both anxiety and depression mediated the relationships between fighting spirit and cognitive avoidance and HRQoL, while depression mediated the relationship between fatalism and HRQoL. Integrating psychological assessment and psychosocial interventions into oncology care may promote adaptive coping, reduce distress, and improve quality of life.

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Keywords: Coping, depression, anxiety, quality of life, breast cancer

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Introduction

Studies have consistently demonstrated that cancer-specific coping strategies are important determinants of health outcomes among women living with breast cancer. Evidence indicates that maladaptive coping strategies, particularly helplessness-hopelessness and anxious preoccupation, are associated with poorer health-related quality of life (HRQoL), whereas adaptive strategies such as religious coping, optimistic coping, and problem-focused coping are linked to better HRQoL (Faroughi et al., 2023; Zamanian et al., 2022; Kugbey et al., 2019). Similarly, adopting a fighting spirit, characterised by an individual's determination to actively confront the illness, has been associated with improved HRQoL, whereas helplessness and fatalistic attitudes have generally been associated with poorer quality of life (Yeung & Lu, 2014). Collectively, these findings suggest that maladaptive coping strategies may adversely affect the psychological and physical wellbeing of women with breast cancer (Brunault et al., 2016; Nipp et al., 2016; Ulibarri-Ochoa et al., 2024).

Despite this growing body of evidence, findings regarding the role of fatalistic coping remain inconsistent. While several studies have reported that fatalism serves as an adaptive coping mechanism by promoting psychological acceptance and reducing emotional distress among cancer patients (Cheng et al., 2013; Shahid et al., 2020), others have shown that fatalistic coping is associated with poorer quality of life and unfavourable psychological outcomes (Thapa et al., 2024). These conflicting findings suggest that the effectiveness of specific coping strategies may vary across cultural contexts, disease stages, individual characteristics, and psychosocial circumstances, highlighting the need for further investigation into the mechanisms through which coping influences patient outcomes.

Beyond quality of life, cancer-specific coping strategies have important implications for psychological wellbeing. Anxiety and depression are among the most prevalent psychological disorders experienced by women with breast cancer and are known to negatively affect treatment adherence, recovery, and overall wellbeing. Previous studies have shown that maladaptive coping strategies, including helplessness-hopelessness and anxious preoccupation, are associated with elevated levels of anxiety, depression, and overall psychological distress (Cheng et al., 2019; Kulpa et al., 2014). Conversely, adaptive coping responses, particularly fighting spirit, cognitive avoidance, and, in some contexts, fatalism, have been associated with lower levels of psychological distress and better mental health outcomes (Kulpa et al., 2014; Saita et al., 2015). These findings suggest that coping strategies may influence long-term quality of life partly through their effects on psychological health.

The relationship between coping, psychological wellbeing, and health outcomes is well explained by the Transactional Model of Stress and Coping proposed by Lazarus

and Folkman (1984, 1987). According to this theory, individuals continuously appraise stressful events and adopt cognitive and behavioural coping responses to manage them. These coping responses directly influence short-term psychological outcomes, including anxiety and depression, which subsequently affect longer-term adaptation and overall quality of life among individuals living with chronic illnesses. Thus, the model provides a strong theoretical basis for examining anxiety and depression as potential mechanisms linking coping strategies to HRQoL among women with breast cancer.

Although substantial evidence exists regarding the direct associations between cancer-specific coping strategies, psychological distress, and HRQoL, little is known about the underlying pathways through which these relationships operate. In particular, empirical evidence examining whether anxiety and depression mediate the relationship between cancer-specific coping strategies and HRQoL among women living with breast cancer remains limited. Existing mediation studies conducted among individuals with other chronic conditions, including coronary heart disease and hypertension, have demonstrated that depression significantly mediates the relationship between coping strategies and outcomes such as quality of life, life satisfaction, psychological distress, and wellbeing (Pathak & Anjalee, 2026; Rueda & Pérez-García, 2013). However, the extent to which these mechanisms apply to women with breast cancer remains unclear. Addressing this gap is important because identifying the psychological pathways through which coping influences HRQoL may inform the development of psychosocial interventions that promote adaptive coping, reduce anxiety and depression, and ultimately improve quality of life among women living with breast cancer.

Methods

Study design and participants

This study employed a cross-sectional survey design to examine the relationships between cancer-specific coping strategies, anxiety, depression, and health-related quality of life (HRQoL) among women living with breast cancer. Participants were recruited from the outpatient Oncology Unit of Korle-Bu Teaching Hospital, the largest tertiary referral hospital in Ghana. A total of 205 women with a confirmed diagnosis of breast cancer participated in the study. Participants were recruited using purposive and convenience sampling because eligible women receiving breast cancer treatment were identified at the study site, while practical considerations, including time and resource constraints, limited the feasibility of probability-based sampling. Eligibility criteria included: (1) a first-time diagnosis of breast cancer at any disease stage; (2) having lived with the diagnosis for at least six months to allow sufficient time for psychological adjustment; (3) being between 20 and 80 years of age; and (4) currently receiving treatment exclusively for breast cancer at the Oncology Unit of Korle-Bu Teaching Hospital. Women who did not meet these criteria or who were unable to provide informed consent were excluded from the study.

Study procedure

Ethical approval was obtained from the Humanities and Social Sciences Research Ethics Committee of the University of KwaZulu-Natal, South Africa (Reference No. HSS/1428/016D). Additional institutional approval was granted by both the Scientific and Technical Committee and the Institutional Review Board of Korle-Bu Teaching Hospital, Ghana (KBTH-IRB/00035/2016). Eligible participants were approached while attending outpatient clinic appointments. The purpose, objectives, and procedures of the study were explained, and individuals willing to participate provided written informed consent prior to enrolment. Participation was voluntary, and participants were informed of their right to withdraw from the study at any stage without affecting their treatment or healthcare services. Data were collected through interviewer-administered questionnaires conducted by trained research assistants in a private setting to ensure confidentiality. Each interview lasted approximately 30 minutes.

Measures

Sociodemographic characteristics: A structured demographic questionnaire was used to obtain participants' demographic and clinical information, including age, marital status, educational attainment, employment status, duration since diagnosis, and other relevant clinical characteristics.

Cancer-specific coping strategies: Cancer-specific coping strategies were assessed using the Mini-Mental Adjustment to Cancer Scale (Mini-MAC) (Watson et al., 1994). The Mini-MAC is a 29-item instrument designed to assess cognitive and behavioural responses to a cancer diagnosis. It comprises five subscales: helplessness–hopelessness, anxious preoccupation, fighting spirit, cognitive avoidance, and fatalism. Items are rated on a four-point Likert scale, with higher scores indicating greater endorsement of each coping strategy. A detailed description of the instrument has been reported elsewhere (Kugbey et al., 2019). In the present study, Cronbach's alpha coefficients were .93 for helplessness-hopelessness, .88 for anxious preoccupation, .76 for fighting spirit, .91 for cognitive avoidance, and .66 for fatalism.

Anxiety and depression: Symptoms of anxiety and depression were measured using the Hospital Anxiety and Depression Scale (HADS) (Zigmond & Snaith, 1983). The HADS consists of 14 items equally divided into anxiety and depression subscales, each containing seven items. Responses are rated on a four-point Likert scale ranging from 0 to 3, yielding subscale scores between 0 and 21, with higher scores indicating greater symptom severity. The HADS has demonstrated good psychometric properties across clinical populations, with reported reliability coefficients of more than .70 for both anxiety and depression in sub-Saharan Africa (Abraham et al., 2022; Kugbey et al.,

2021). In this study, Cronbach's alpha coefficients were .90 for the anxiety subscale and .82 for the depression subscale.

Health-Related Quality of Life: Health-related quality of life was assessed using the Functional Assessment of Cancer Therapy-Breast (FACT-B) questionnaire (Brady et al., 1997). The FACT-B consists of 37 items, including the 27-item FACT-General that measures four domains of HRQoL -physical wellbeing (7 items), social/family wellbeing (7 items), emotional wellbeing (6 items), and functional wellbeing (7 items)-together with a 10-item breast cancer-specific concerns subscale. Responses are recorded on a five-point Likert scale ranging from 0 ("Not at all") to 4 ("Very much"), with higher scores reflecting better quality of life. The FACT-B has demonstrated excellent psychometric properties, with an overall reliability coefficient of .90 (Brady et al., 1997). In the present study, Cronbach's alpha coefficients were .83 for physical wellbeing, .76 for social/family wellbeing, .82 for emotional wellbeing, .91 for functional wellbeing, and .65 for the additional breast cancer concerns subscale.

Data analysis

Data were analysed using IBM SPSS Statistics version 24 (IBM Corp., Armonk, NY, USA). Descriptive statistics were computed to summarise participants' demographic and clinical characteristics. Pearson product–moment correlation analyses were performed to examine bivariate associations among coping strategies, anxiety, depression, and HRQoL. To examine the direct and indirect associations between cancer-specific coping strategies and HRQoL, mediation analyses were conducted using Hayes' PROCESS macro (Version 3) for SPSS (Hayes, 2017). Separate mediation models were estimated for each of the five coping strategies (helplessness-hopelessness, anxious preoccupation, fighting spirit, cognitive avoidance, and fatalism), with anxiety and depression examined as parallel mediators. Indirect effects were estimated using bias-corrected bootstrapping procedures with 5,000 resamples. Mediation was considered statistically significant when the 95% bias-corrected confidence interval did not include zero. All statistical tests were two-tailed, and statistical significance was set at $p < .05$.

Results

Demographic profile of participants

Results from the demographic Table 1 showed that most of the participants were relatively old with a mean age of 52.49years and a mean duration of illness since first diagnosis being 32.28months. 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 levels of income in comparison to Ghana's per capital income of $ 1,513.46 in 2016. Nearly half (41.8%) of the participants reported to have received Surgical, Chemotherapy and Radiotherapy treatments for their breast cancer. The details of the participant's socio-demographic characteristics are presented in Table 1.

Table 1: Summary of the Demographic profile of the participants

Characteristics	Frequency (N)	Percentage (%)
Age	Mean = 52.49years	*SD* = 11.14
Duration in months since diagnosis	Mean = 29.64months	*SD*=38.75months
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/JSS/MSLC	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

Relationships among the study variables

As can be seen from Table 2, the use of a helplessness-hopelessness coping strategy was significantly and positively correlated with anxiety ($r = .55$, $p < .001$) and depression ($r = .54$, $p < .001$) but negatively correlated with health-related quality of life ($r = -.53$, $p < .001$). An anxious preoccupation was significantly and positively correlated with anxiety ($r = .65$, $p < .001$) and depression ($r = .63$, $p < .001$) but negatively correlated with health-related quality of life ($r = -.68$, $p < .001$). However, the presence of a fighting spirit was significantly and negatively correlated with anxiety ($r = -.28$, $p < .001$) and depression ($r = -.27$, $p < .001$) but positively correlated with health-related quality of life ($r = .13$, $p < .05$). Cognitive avoidance was significantly and negatively correlated with only anxiety ($r = -.15$, $p < .05$) and depression ($r = -.27$, $p < .001$), whereas fatalism was significantly and negatively correlated with depression ($r = -.24$, $p < .001$) and positively correlated with health-related quality of life ($r = .18$, $p < .05$). It was further observed from Table 2 that anxiety ($r = -.67$, $p < .001$) and depression ($r = -.77$, $p < .001$) were significantly and negatively correlated with health-related quality of life.

Table 2: Correlation matrix of the relationship among the study variables

Variables	1	2	3	4	5	6	7
1. HH	1						
2. AP	.63***	1					
3. FS	-.38***	-.15*	1				
4. CA	-.15*	-.16*	.41***	1			
5. FA	-.20**	-.32***	.06	.14*	1		
6. Anxiety	.55***	.65***	-.28***	-.15*	-.03	1	
7. Depression	.54***	.63***	-.27***	-.27***	-.24***	.72***	1
8. HQOL	-.53***	-.68***	.13*	.11	.18*	-.67***	-.77***

HH = Helpless-Hopeless, AP = Anxious Preoccupation, FS = Fighting Spirit, CA= Cognitive Avoidance, FA = Fatalism and HQOL = Health-related quality of life.
*= $p < .05$, **= $p < .01$, ***= $p < .001$

Mediation of the association between coping strategies and health-related quality of life

A series of parallel mediation analyses was conducted to examine whether anxiety and depression mediated the associations between five coping strategies; helplessness-hopelessness, anxious preoccupation, fighting spirit, cognitive avoidance, and fatalism and health-related quality of life (HRQoL). In each model, anxiety and depression were specified as simultaneous mediators. Across the five models, the predictors and

mediators jointly explained between 62.51% and 65.91% of the variance in HRQoL, with all models reaching statistical significance (all $p < .001$)

Table 3: Indirect effects of coping strategies on health-related quality of life

Coping Strategy	Indirect effects (a × b paths)				Total indirect effect (β)
	Anxiety → HRQoL Indirect Effect		Depression → HRQoL Indirect Effect		
	(β)	95% CI	(β)	95% CI	Effect (β)
Helplessness–Hopelessness	−0.64	[−1.14, −0.21]***	−1.86	[−2.50, −1.30] ***	−2.50***
Anxious preoccupation	−0.35	[−0.72, 0.04]	−1.47	[−1.91, −1.06] ***	−1.82***
Fighting spirit	0.84	[0.28, 1.55]**	2.05	[1.02, 3.37] ***	2.88***
Cognitive avoidance	0.33	[0.01, 0.74]*	1.64	[0.68, 2.72] **	1.97***
Fatalism	0.07	[−0.21, 0.43]	1.32	[0.57, 2.28] **	1.40**

Model Fit (Across Five Models): R^2 (HRQoL) - [0.625–0.659], F- [F(3, 193–199) = 112.19–125.05, p < .001], CFI- [0.96–0.98], TLI – [0.95–0.97], RMSEA – [0.05–0.07, (90% CI 0.04–0.08)], SRMR- [0.04–0.06].

Note. * $p < .05$; ** $p < .01$; *** $p < .001$; ns = not significant.

Helplessness-hopelessness

The model examining helplessness–hopelessness explained 63.56% of the variance in HRQoL, $R^2 = .636$, $F(3, 193) = 112.19$, $p < .001$. Helplessness–hopelessness was positively associated with anxiety ($b = 0.7005$, $p < .001$), while anxiety was negatively associated with HRQoL ($b = -0.9197$, $p < .001$). The indirect effect of helplessness–hopelessness on HRQoL through anxiety was significant and negative ($b = -0.6443$, 95% CI [-1.1378, -0.2090]). Helplessness-hopelessness was also positively associated with depression ($b = 0.5688$, $p < .001$), and depression was negatively associated with HRQoL ($b = -3.2695$, $p < .001$). The indirect effect through depression was likewise significant and negative ($b = -1.8597$, 95% CI [-2.5007, -1.3041]). Thus, both anxiety and depression significantly mediated the association between helplessness–hopelessness and HRQoL. A significant negative direct effect remained after accounting for the mediators ($b = -0.7063$, $p < .05$), indicating that the association was not completely explained by anxiety and depression.

Anxious preoccupation

The anxious-preoccupation model explained 65.91% of the variance in HRQoL, R^2 = .659, $F(3, 194) = 125.05$, $p < .001$. Anxious preoccupation was positively associated with anxiety ($b = 0.6278$, $p < .001$); however, anxiety was not significantly associated with HRQoL ($b = -0.5509$, $p > .05$). Consistent with this finding, the indirect effect through anxiety was not statistically significant, as the 95% confidence interval included zero ($b = -0.3459$, 95% CI [-0.7197, 0.0406]). In contrast, anxious preoccupation was positively associated with depression ($b = 0.5113$, $p < .001$), and depression was significantly associated with poorer HRQoL ($b = -2.8720$, $p < .001$). The indirect effect through depression was significant and negative ($b = -1.4685$, 95% CI [-1.9149, -1.0565]). Therefore, depression, but not anxiety, significantly mediated the association between anxious preoccupation and HRQoL. A significant direct negative effect of anxious preoccupation on HRQoL remained after accounting for the mediators ($b = -1.3571$, $p < .001$).

Fighting spirit

The fighting-spirit model explained 63.53% of the variance in HRQoL, R^2 = .635, $F(3, 199) = 115.55$, $p < .001$. Fighting spirit was negatively associated with anxiety ($b = -0.7079$, $p < .001$), and anxiety was negatively associated with HRQoL ($b = -1.1818$, $p < .001$). The resulting indirect effect through anxiety was positive and statistically significant ($b = 0.8366$, 95% CI [0.2809, 1.5537]). Similarly, fighting spirit was negatively associated with depression ($b = -0.5755$, $p < .001$), whereas depression was negatively associated with HRQoL ($b = -3.5565$, $p < .001$). The indirect effect through depression was positive and significant ($b = 2.0467$, 95% CI [1.0234, 3.3701]). Thus, both anxiety and depression significantly mediated the association between fighting spirit and HRQoL. However, the direct effect of fighting spirit on HRQoL was negative and statistically significant ($b = -1.3160$, $p < .05$). The opposing signs of the direct and indirect effects indicate an inconsistent mediation pattern, whereby the indirect pathways through reduced anxiety and depression operated in a direction opposite to the residual direct association.

Cognitive avoidance

The cognitive-avoidance model explained 63.22% of the variance in HRQoL, R^2 = .632, $F(3, 199) = 114.03$, $p < .001$. Cognitive avoidance was negatively associated with anxiety ($b = -0.2971$, $p < .05$), and anxiety was negatively associated with HRQoL ($b = -1.1006$, $p < .001$). The indirect effect through anxiety was therefore positive and statistically significant ($b = 0.3270$, 95% CI [0.0073, 0.7442]). Cognitive avoidance was also negatively associated with depression ($b = -0.4529$, $p < .001$), while depression was

negatively associated with HRQoL (b = -3.6121, p < .001). The indirect effect through depression was positive and significant (b = 1.6360, 95% CI [0.6770, 2.7178]). These findings indicate that both anxiety and depression significantly mediated the association between cognitive avoidance and HRQoL. A significant direct effect was also observed (b = -0.8730, p < .05). As with fighting spirit, the direct effect was opposite in direction to the positive indirect effects, suggesting an inconsistent mediation pattern.

Fatalism

The fatalism model explained 62.51% of the variance in HRQoL, R^2 = .625, $F(3, 199)$ = 110.60, p < .001. Fatalism was not significantly associated with anxiety (b = -0.0619, p > .05), and the indirect effect of fatalism on HRQoL through anxiety was not significant (b = 0.0723, 95% CI [-0.2134, 0.4334]). In con-trast, fatalism was significantly associated with lower depression (b = -0.3906, p < .001), while depres-sion was significantly associated with poorer HRQoL (b = -3.3878, p < .001). The indirect effect through depression was positive and statistically significant (b = 1.3232, 95% CI [0.5723, 2.2842]). Thus, de-pression, but not anxiety, significantly mediated the association between fatalism and HRQoL. The di-rect effect of fatalism on HRQoL was not statistically significant (b = 0.2186, p > .05), indicating that the observed association operated primarily through depression in the mediation model

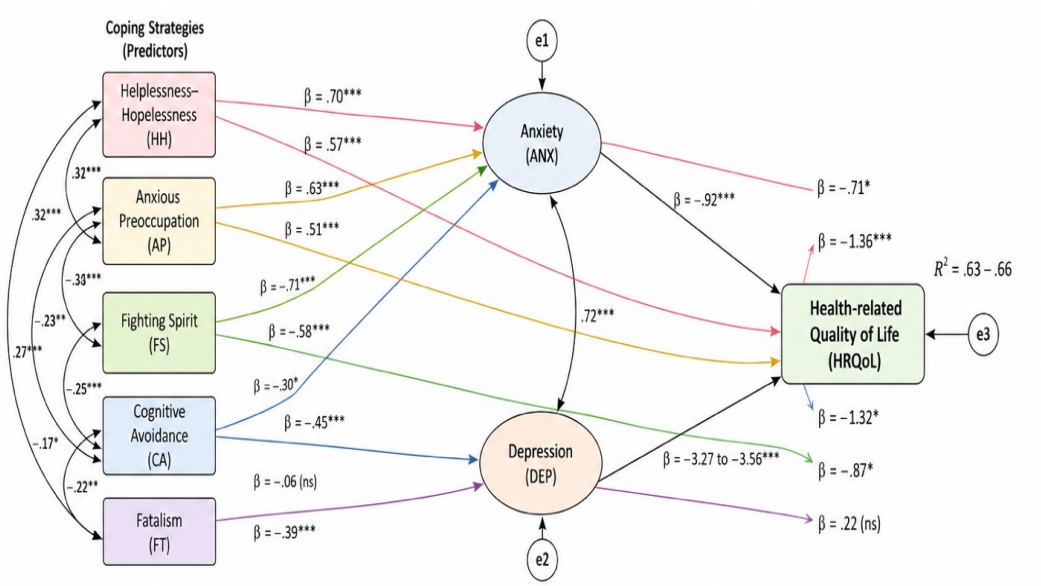


Figure 1: A path model showing the direct and indirect effects of cancer-specific coping strategies on HRQoL

Discussion

This study examined the relationships between cancer-specific coping strategies, anxiety, depression, and health-related quality of life (HRQoL) among women living with breast cancer, while also investigating the mediating roles of anxiety and depression. Overall, the findings support the transactional model of stress and coping (Lazarus & Folkman, 1984, 1987), demonstrating that coping strategies influence long-term health outcomes partly through their effects on psychological wellbeing. Specifically, maladaptive coping strategies were associated with poorer HRQoL and greater psychological distress, whereas adaptive coping strategies were associated with better HRQoL and lower levels of anxiety and depression.

Consistent with previous research, helplessness-hopelessness and anxious preoccupation were negatively associated with HRQoL (Brunault et al., 2016; Nipp et al., 2016; Paek et al., 2016). Women who perceived their illness as overwhelming or remained excessively preoccupied with fears about their disease reported poorer quality of life across multiple domains. These findings suggest that persistent negative cognitive appraisals may reduce patients' ability to adjust effectively to the challenges of breast cancer, resulting in diminished physical, emotional, functional, and social wellbeing. Within the transactional model of stress and coping, these maladaptive coping responses reflect negative cognitive appraisals of illness that intensify emotional distress and ultimately compromise long-term adaptation.

The negative association between anxious preoccupation and HRQoL is particularly noteworthy. Women who remain persistently worried about disease progression, recurrence, or treatment outcomes may experience chronic psychological arousal that interferes with emotional adjustment and everyday functioning. Such persistent anxiety may amplify catastrophic thinking, undermine self-efficacy, and reduce engagement in adaptive coping behaviours, thereby contributing to poorer overall quality of life. These findings are consistent with previous studies demonstrating that anxious preoccupation is one of the strongest psychological predictors of poor adjustment among women with breast cancer (Cheng et al., 2019; Kulpa et al., 2014; Yeung & Lu, 2014).

Conversely, fighting spirit, cognitive avoidance, and fatalism were positively associated with HRQoL. The beneficial effects of fighting spirit corroborate extensive evidence indicating that perceiving cancer as a challenge rather than an insurmountable threat promotes psychological resilience and better psychosocial adjustment (Cheng et al., 2013; Shahid et al., 2020). Likewise, cognitive avoidance may enable patients to temporarily disengage from intrusive illness-related thoughts, thereby preserving emotional functioning and facilitating continued participation in everyday activities. Although avoidance is often considered maladaptive when used chronically, moderate cognitive disengagement during highly stressful periods may represent an adaptive short-term coping strategy for individuals facing life-threatening illnesses (Khalili et al., 2013).

The positive association between fatalism and HRQoL warrants particular attention. Previous studies have produced inconsistent findings regarding fatalistic coping, with some reporting detrimental effects and others demonstrating protective effects (Bustillo et al., 2017; Gonzales et al., 2017; Shahid et al., 2020). The present findings support the latter perspective and suggest that fatalism may function differently within the Ghanaian sociocultural context. In many African settings, including Ghana, religious beliefs and spiritual practices are deeply embedded within illness experiences. Consequently, surrendering illness outcomes to God or a higher power may represent spiritual acceptance rather than resignation, thereby fostering hope, reducing emotional burden, and enhancing psychological adaptation. This cultural interpretation may explain why fatalism was associated with better psychological outcomes in this study despite contradictory findings reported elsewhere.

The present study also demonstrated that anxiety and depression were strongly associated with poorer HRQoL, consistent with extensive evidence indicating that psychological distress adversely affects multiple dimensions of functioning among women living with breast cancer. Anxiety and depression may impair treatment adherence, reduce motivation for self-care, diminish social participation, and negatively influence symptom perception, all of which contribute to poorer overall quality of life (Hisan et al., 2025; Trinca et al., 2019). These findings reinforce the importance of addressing psychological wellbeing as an integral component of comprehensive breast cancer care.

As hypothesised, maladaptive coping strategies were associated with higher levels of anxiety and depression. Specifically, helplessness-hopelessness and anxious preoccupation were positively associated with both psychological outcomes. These findings are theoretically consistent with the cognitive characteristics underlying these coping styles, which involve perceptions of uncontrollability, excessive worry, uncertainty, and fear regarding the illness (Rodríguez-González et al., 2023; Saita et al., 2015). Such cognitive appraisals are likely to increase vulnerability to psychological distress, thereby compromising emotional adjustment following a breast cancer diagnosis. The present findings are consistent with previous studies reporting similar associations between maladaptive coping strategies and elevated anxiety and depression among cancer populations (Dev et al., 2024; Kulpa et al., 2014).

In contrast, fighting spirit and cognitive avoidance were associated with lower levels of anxiety and depression, while fatalism demonstrated a significant inverse association with depression only. These findings suggest that adaptive coping strategies may buffer the emotional consequences of living with breast cancer by promoting acceptance, hope, and perceived psychological control. The selective association between fatalism and depression, but not anxiety, may indicate that spiritual acceptance primarily reduces persistent negative affect rather than immediate fear or uncertainty surrounding the

illness. This observation further highlights the importance of considering cultural interpretations of coping strategies rather than assuming that their psychological effects are universally consistent across populations.

Implications for clinical practice/research

The findings have important implications for both clinical practice and future research. In clinical settings, breast cancer care should extend beyond the management of physical symptoms to include routine assessment of psychological distress and coping responses. Screening for anxiety and depression may help identify women at increased risk of poor health-related quality of life, particularly those characterised by helplessness-hopelessness and anxious preoccupation. Oncology services should therefore integrate evidence-based psychosocial interventions that promote adaptive coping, strengthen psychological resilience, and address emotional distress as part of comprehensive cancer care. Multidisciplinary collaboration involving oncologists, nurses, psychologists, and other health professionals is essential to achieving patient-centred outcomes.

For research, longitudinal studies are needed to establish the temporal and potentially causal relationships among coping strategies, psychological distress, and HRQoL. Future studies should also evaluate culturally appropriate psychosocial interventions targeting maladaptive coping and psychological distress among women with breast cancer. Research across multiple treatment centres and diverse settings would further strengthen the generalisability of the findings and inform the development of contextually appropriate psychosocial oncology services in Ghana and other low-resource settings.

Strengths and limitations of the study

A major strength of this study is its examination of the psychological pathways that may underlie the associations between cancer-specific coping strategies and health-related quality of life (HRQoL) among women with breast cancer. Using mediation analysis, the study extends previous research by showing that anxiety and depression may represent important statistical pathways linking both maladaptive and adaptive coping strategies with HRQoL. Specifically, anxiety and depression statistically mediated the association between helplessness-hopelessness and HRQoL, whereas depression mediated the association between anxious preoccupation and HRQoL. Similarly, the associations of fighting spirit, cognitive avoidance, and fatalism with HRQoL were statistically accounted for, in part, by lower levels of psychological distress. These findings are broadly consistent with the Transactional Model of Stress and Coping and contribute to the psycho-oncology literature by clarifying potential mechanisms underlying the observed relationships between coping and quality of life.

Several limitations should be considered. First, the cross-sectional design precludes conclusions regarding causality or the temporal ordering of coping strategies, psychological distress, and HRQoL. Second, recruitment from a single tertiary referral hospital may limit the generalisability of the findings to other healthcare settings and populations. Third, reliance on self-reported measures may have introduced recall and social desirability biases. Despite these limitations, the findings highlight the potential value of integrating psychosocial assessment and interventions addressing coping, anxiety, and depression into comprehensive breast cancer care.

Conclusion

This study demonstrates that cancer-specific coping strategies are closely associated with health-related quality of life among women living with breast cancer in Ghana, with anxiety and depression serving as important psychological pathways underlying these relationships. Maladaptive coping strategies, particularly helplessness-hopelessness and anxious preoccupation, were associated with poorer HRQoL through elevated psychological distress, whereas adaptive coping strategies, including fighting spirit, cognitive avoidance, and fatalism, were associated with better HRQoL through lower levels of anxiety and/or depression. These findings highlight the importance of addressing both coping responses and psychological distress as part of comprehensive breast cancer care. Routine screening for anxiety and depression, alongside interventions that promote adaptive coping, may help improve the wellbeing and quality of life of women receiving breast cancer treatment. Integrating evidence-based psychosocial services into oncology care is therefore essential, particularly in resource-constrained settings where psychological needs may remain under-recognised and inadequately addressed.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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