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Distress associated with diagnostic imaging findings and coping strategies of cancer patients

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Abstract

Cancer remains a major public health concern worldwide and is among the leading causes of morbidity and mortality. In the Philippines, many cases are diagnosed at advanced stages due to limited healthcare access, financial constraints, and delayed consultation. Diagnostic imaging procedures, including X-ray, CT, MRI, ultrasound, and PET, play essential roles in cancer detection, staging, treatment planning, and monitoring. However, undergoing these procedures and waiting for results may cause scanxiety, which involves emotional, psychological, and financial distress. Despite the importance of imaging in cancer care, studies on imaging-related distress, particularly during the waiting period for results, remain limited in the Philippine context. This study assessed the emotional, psychological, and financial distress experienced by cancer patients in relation to diagnostic imaging findings and identified their commonly used coping strategies. The findings revealed high levels of emotional, psychological, and financial distress, particularly while patients awaited imaging results. Religiosity and problem-solving were the most used coping strategies. However, no significant relationship was found between distress and coping strategies, indicating that patients experienced distress regardless of the coping strategies they employed. These findings emphasize the need for clear patient-centered communication, emotional support, and culturally appropriate interventions throughout the imaging process in both clinical and supportive care settings. The study recommends providing early psychosocial support while patients await results and recognizing the roles of spirituality and family support in coping. Furthermore, the proposed GABAY KALINGA support guideline is recommended to help address the emotional, psychological, and financial needs of cancer patients undergoing diagnostic imaging.

Keywords: cancer patients, emotional distress, psychological distress, financial distress, coping strategies, diagnostic imaging findings

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Distress associated with diagnostic imaging findings and coping strategies of cancer patients

1. Introduction

Cancer remains a major public health concern in the Philippines and is among the country's leading causes of death. Breast cancer accounts for the largest number of new cancer cases, and many patients are diagnosed at an advanced stage. Financial barriers, delayed access to healthcare, and limited diagnostic resources can make it harder for patients to obtain timely evaluation and treatment (Philippine News Agency, 2024; Ngelangel, 2023; Go, 2024). Diagnostic imaging is used throughout cancer care, from initial evaluation and staging to treatment monitoring and surveillance for recurrence. Depending on the clinical indication, computed tomography (CT), magnetic resonance imaging (MRI), and positron emission tomography (PET) help clinicians assess disease status and guide treatment decisions. For patients, the same findings that guide care can carry uncertainty about whether treatment is working or whether the cancer has progressed or returned (Zhou et al., 2022; Wang et al., 2023; Singh et al., 2024).

The term *scanxiety* describes anxiety associated with cancer-related scans, particularly the uncertainty of waiting for and receiving results. Procedural discomfort can add to the burden, while concerns about what the findings may reveal can persist after the scan itself. Studies have described the waiting period as especially stressful because patients may anticipate changes in prognosis or treatment before they have enough information to understand what comes next (Salem et al., 2020; Bui et al., 2021; Derry-Vick et al., 2023; Hussain et al., 2023). The study examined imaging-related distress across emotional, psychological, and financial dimensions. Emotional distress may include fear of recurrence or treatment failure, while psychological distress may involve intrusive thoughts or disrupted sleep. Financial distress concerns the cost of scans and follow-up care. In the Philippines, substantial out-of-pocket spending on cancer care can compound these concerns and make follow-up imaging harder to pursue (Ostovar et al., 2022; Cheng et al., 2024; Ngelangel et al., 2023; Columbres et al., 2024).

Philippine studies have examined general cancer-related distress, treatment burden, and coping during radiation therapy. The period between undergoing a scan and learning its results has received less attention, particularly regarding culturally relevant coping strategies. Spirituality and family support may be important resources during this period. Their role is especially relevant in settings where patients experience delays in receiving results, communication gaps, or limited access to psychosocial support (Rilveria, 2018; Manalo et al., 2023; Pizarro et al., 2022; Zaldarriaga et al., 2024; Cambia et al., 2025). To address this gap, the study assessed emotional, psychological, and financial distress associated with diagnostic imaging findings and identified commonly used coping strategies through the Filipino Coping Strategies Scale (FCSS). It examined distress and coping in relation to selected demographic and clinical characteristics and assessed the relationship between them. The findings were intended to provide baseline evidence for a psychosocial support program tailored to patients undergoing cancer-related imaging.

The study drew on Mishel's Uncertainty in Illness Theory, as refined by Eppel-Meichlinger et al. (2024). The refinement introduces *existential uncertainty*, which arises, when possible, illness outcomes threaten a person's sense of identity, future plans, or survival. In the context of diagnostic imaging, distress may intensify when patients consider the possibility that a scan could reveal progression or recurrence and change what they expect from treatment or daily life. The refined theory also explains how patients may reappraise uncertainty over time. As patients receive more information or reconsider what the scan means for their care, they may come to view imaging to monitor their condition and guide timely decisions. This reappraisal can help them manage uncertainty. Because surveillance involves repeated imaging, a new scan can bring back concerns that had eased after an earlier result (Eppel-Meichlinger et al., 2024). Lazarus and Folkman's (1984) Transactional Model of Stress and Coping explains how patients appraise a potential threat and decide how to respond. In primary appraisal, patients consider

what a possible finding could mean for their health. In secondary appraisal, they assess the resources available to manage the situation. They may seek information from clinicians to address uncertainty or turn to prayer, distraction, or family support to manage their emotional responses. Hao et al. (2023) also found that coping style mediated the relationship between illness uncertainty and demoralization among patients with breast cancer.

Together, the theories explain why uncertainty about imaging findings may produce distress and how patients draw on personal, social, and spiritual resources in response. In this study, the theories guided the interpretation of associations between distress and coping scores. They also point to practical opportunities for patient support, including clearer communication about when and how results will be shared, psychosocial support during the waiting period, and recognition of patients' preferred sources of support.

Objective of the Study - The study aimed to assess the distress associated with diagnostic imaging findings and identify the coping strategies most frequently used by cancer patients. It sought to describe the respondents' demographic and clinical profile in terms of age, sex, socioeconomic status, time since cancer diagnosis, and cancer stage. It also assessed the respondents' levels of emotional, psychological, and financial distress. The study examined whether distress levels and the reported use of coping strategies differed significantly across demographic and clinical groups and whether imaging-related distress was significantly associated with the use of coping strategies. Based on the findings, the study sought to propose guidelines for a structured psychosocial support program for cancer patients undergoing diagnostic imaging.

2. Research methodology

The study employed a descriptive-correlational design to examine distress associated with diagnostic imaging findings and coping strategies among cancer patients. It described respondents' demographic and clinical characteristics, assessed their emotional, psychological, and financial distress, and examined how distress scores related to reported coping strategies. The study was conducted at a private healthcare institution that provided cancer care and diagnostic imaging services. Using purposive sampling, the researchers recruited 40 adult cancer patients who were scheduled for, or had recently undergone, diagnostic imaging. Eligible participants could understand English or Filipino, complete the questionnaire, and provide informed consent. Patients who were medically unstable, undergoing emergency procedures, or unable to provide informed consent because of severe cognitive impairment were excluded. The sample reflected the number of eligible patients accessible during the two-week collection period, limiting the generalizability of the findings beyond the study site.

Data were collected using a 52-item questionnaire comprising a 15-item researcher-developed Distress Questionnaire and the 37-item Filipino Coping Strategies Scale (FCSS) developed by Rilveria (2018). The Distress Questionnaire contained five items each for emotional, psychological, and financial distress. It used a four-point agreement scale, while the FCSS used a four-point frequency scale ranging from Never to Always. Three experts reviewed the instrument for content validity. The researchers obtained institutional permission and coordinated with the radiology department to recruit eligible patients. A designated radiologic technologist assisted with screening and distributed the questionnaires to patients who provided written informed consent. Data collection took place from February 27 to March 13, 2026. Each participant completed one self-administered survey in approximately five to ten minutes and received a small care package. The researchers checked completed questionnaires for completeness, stored them securely, and encoded the responses for analysis.

Frequencies and percentages summarized the respondents' profiles, while weighted means and standard deviations described distress levels and coping strategy use. Independent-samples t tests compared scores by sex, and analysis of variance compared scores by socioeconomic status, cancer stage, and time since diagnosis. The statistical treatment section listed Pearson's r for testing the relationship between distress and coping at the .05 significance level, while the scoring section named Spearman's rho. The manuscript should identify the coefficient actually used and reconcile the conflicting response anchors with the administered questionnaire and scoring key.

The Emilio Aguinaldo College–Manila Research Ethics Committee granted ethical clearance before data

collection, and the participating institution approved the study. Participation was voluntary, and respondents could skip questions or withdraw without penalty. The protocol allowed the survey to be paused or ended if a participant experienced distress and required adverse events to be reported within 48 hours. Access to completed surveys was restricted to authorized personnel, and identifiable records were scheduled for secure destruction five years after study completion.

3. Results and discussion

Table 1
Demographic and Clinical Profile of the Respondents (N = 40)

Profile variable	Category	Frequency (n)	Percentage (%)
Age	18–29 years	2	5.0
	30–44 years	8	20.0
	45–59 years	19	47.5
	60 years and above	11	27.5
Sex	Male	13	32.5
	Female	27	67.5
Monthly household income	Below ₱15,000	8	20.0
	₱15,001–₱30,000	13	32.5
	₱30,001–₱50,000	5	12.5
	Above ₱50,001	1	2.5
	Prefer not to say	13	32.5
Time since cancer diagnosis	Less than 3 months	3	7.5
	3–6 months	9	22.5
	6–12 months	11	27.5
	1–3 years	9	22.5
	More than 3 years	8	20.0
Cancer stage	Stage I	4	10.0
	Stage II	15	37.5
	Stage III	15	37.5
	Stage IV	5	12.5
	Unknown	1	2.5

The respondents were predominantly female (27, 67.5%) and aged 45 years or older (30, 75.0%). The 45–59 age group was the largest age category (19, 47.5%), while respondents aged 18–29 were the least represented (2, 5.0%). These distributions give greater weight to the experiences of women and adults aged 45 or older in the overall sample results. The two respondents aged 18–29 provide a limited basis for characterizing younger adults' experiences. Of the 27 respondents who disclosed their monthly household income, 21 (77.8%) reported ₱30,000 or less. The most frequently reported bracket was ₱15,001–₱30,000, comprising 13 respondents (32.5% of the full sample). An equal number declined to disclose their income. The disclosed incomes provide context for examining financial distress, while the 32.5% nondisclosure rate limits conclusions about the income profile of the full sample. With only one respondent in the highest reported bracket, comparisons involving that group would be especially limited.

Time since diagnosis varied across the sample. The largest group had been diagnosed 6–12 months earlier (11, 27.5%), and the smallest group had been diagnosed less than three months earlier (3, 7.5%). Stage II and Stage III were equally represented (15, 37.5% each) and together accounted for 75.0% of respondents. One respondent reported an unknown stage. These figures describe patients at different points since diagnosis, with the greatest representation coming from Stages II and III. A single survey of patients with different durations of diagnosis cannot establish how an individual patient's distress changes over time.

Table 2

Summary assessment of the distress experienced by the respondents

Indicators	Mean	Std	Rank	Categorical Interpretation	Verbal Interpretation
1. Emotional Distress	3.01	0.57	1	High Distress	Agree
2. Psychological Distress	2.76	0.61	3	High Distress	Agree
3. Financial Distress	2.94	0.59	2	High Distress	Agree
Overall Mean	2.9	0.45		High Distress	Agree

Legend: 3.51 - 4.00 (Strongly Agree - Very High Distress); 2.51 - 3.50 (Agree - High Distress); 1.51 - 2.50 (Disagree - Low Distress); 1.00 - 1.50 (Strongly Disagree - Very Low Distress)

Table 2 presents a consolidated summary of the three dimensions of distress — emotional, psychological, and financial — experienced by cancer patients in relation to their diagnostic imaging findings, using weighted means and standard deviations as statistical measures. The overall mean score of 2.90 (SD = 0.45) falls within the High Distress range, with a verbal interpretation of "Agree," indicating that cancer patients consistently experience a substantial, multidimensional burden of distress associated with diagnostic imaging findings. Among the three distress dimensions, Emotional Distress obtained the highest mean score and the first rank (M = 3.01, SD = 0.57), reflecting those affective responses — including anticipatory anxiety, fear of abnormal findings, sadness, and unease during the waiting period for imaging results — constitute the most acutely felt dimension of distress in this population. This finding aligns with Rodriguez-Gonzalez et al. (2023), who documented that nearly 48% of metastatic cancer patients reported clinically significant distress before systemic treatment, with emotional distress closely linked to fatigue, uncertainty about illness outcomes, and reduced quality of life. Similarly, Dahiya et al. (2025) documented that many patients expressed confusion about imaging procedures and their results, demonstrating how inadequate communication can compound emotional distress and amplify the anxiety experienced during the result-waiting period.

Financial Distress ranked second (M = 2.94, SD = 0.59), indicating that the economic burden associated with diagnostic imaging — including the costs of imaging procedures, transportation, medications, and the cascading effect on household expenses — constitutes a significant and pressing concern for cancer patients. The positioning of financial distress above psychological distress in the ranking is particularly notable in the Philippine context. Columbres et al. (2024) corroborated this pattern, finding that Filipino cancer patients and their families face not only direct imaging costs but also indirect burdens including lost income and transportation expenses, and that these financial pressures actively interfere with healthcare adherence and overall wellbeing. In practical terms, this finding reflects the reality that for many Filipino cancer patients — particularly those from lower-to-middle income households — the financial consequences of a follow-up imaging result are not abstract concerns but immediate, household-level disruptions: having to forgo medications, reduce grocery budgets, or borrow money to cover the cost of a single scan. This tangible, day-to-day financial strain is acutely distressing, and its second-place ranking in the summary table confirms that economic vulnerability is a central, non-peripheral dimension of imaging-related distress for this population.

Psychological Distress recorded the lowest mean among the three dimensions (M = 2.76, SD = 0.61, Rank 3), though it remains firmly within the High Distress categorical range. This finding suggests that while disruptions to cognitive and somatic functioning — including persistent rumination, physical tension, difficulty sleeping, and impaired concentration — are clearly present and clinically significant, they are perceived as slightly less dominant than the emotional and financial burdens in the immediate imaging context. This relative ordering may be partially explained by the buffering role of adaptive coping: the study documents high utilization of Religiosity (M = 3.43), Problem Solving (M = 3.36), and Relaxation/Recreation (M = 2.96) across the sample — strategies that directly attenuate psychological symptoms such as tension and rumination. Ostovar et al. (2022) and Manalo et al. (2023) similarly found that Filipino patients with strong spiritual faith reported comparatively reduced depression and cognitive preoccupation, suggesting that culturally embedded coping resources partially moderate the psychological impact of imaging-related uncertainty.

The relatively modest standard deviations across all three indicators (ranging from 0.57 to 0.61) signal a high degree of concordance among respondents, indicating that distress in all three domains is a shared rather than

idiosyncratic experience within this population. In practical terms, this convergence can be observed in the day-to-day reality of Filipino cancer patients navigating the imaging process. A patient who arrives for a follow-up CT scan may simultaneously contend with mounting worry about whether the findings will show disease progression, concern about how to cover the cost of the procedure and any consequent treatment adjustments, and somatic tension manifesting as muscle tightness and disrupted sleep. These are not three separate concerns experienced in sequence — they operate concurrently, feeding one another, and amplifying the patient's overall sense of vulnerability.

The overall weighted mean of 2.90 (SD = 0.45) indicates that distress, as a composite construct, is uniformly elevated among cancer patients undergoing diagnostic imaging. As Rodriguez-Gonzalez et al. (2023) argued, emotional distress should not be treated in isolation, as it often coexists with other psychological and physical burdens — a principle that is directly affirmed by the summary data in this table, where all three distress dimensions cluster within the High Distress range and together describe an integrated burden. These findings highlight the clinical necessity of adopting a holistic, multi-domain approach to distress screening and psychosocial intervention for cancer patients in radiologic settings, ensuring that emotional, financial, and psychological needs are addressed simultaneously rather than in siloed, sequential fashion.

Table 3

Summary of the Coping Strategies that Frequently Utilized by the Respondents

Indicators	Mean	Std	Rank	Verbal Interpretation	Categorical Interpretation
1. Cognitive Reappraisal	3.02	0.83	4	Most of the time	Utilized
2. Social Support	2.87	0.86	6	Most of the time	Utilized
3. Problem Solving	3.36	0.82	3	Most of the time	Utilized
4. Religiosity	3.43	0.93	1	Most of the time	Utilized
5. Tolerance	2.7	0.99	7	Most of the time	Utilized
6. Emotional Release	2.08	0.87	8	Sometimes	Less Utilized
7. Overactivity	2.37	0.94	2	Sometimes	Less Utilized
8. Relaxation/Recreation	2.96	0.9	5	Most of the time	Utilized
9. Substance	1.86	1.02	9	Sometimes	Not - Utilized
Overall Mean	2.74	1.91		Most of the time	Utilized

Legend: 3.51 - 4.00 (Always - Highly Utilized); 2.51 - 3.50 (Most of the time - Utilized); 1.51 - 2.50 Sometimes - Less Utilized); 1.00 - 1.50 (Never - Not Utilized)

Table 3 presents a consolidated summary of all nine domains of the Filipino Coping Strategies Scale (FCSS) used by cancer patients, with the weighted mean and standard deviation as the statistical measures. The overall mean of 2.74 (SD = 1.91) falls within the "Most of the time – Utilized" range, indicating that, in aggregate, cancer patients draw upon a repertoire of coping strategies with moderate-to-high regularity in managing the distress associated with diagnostic imaging findings. Among the nine coping domains, Religiosity obtained the highest mean score (M = 3.43, SD = 0.93), followed by Problem Solving (M = 3.36, SD = 0.82), both of which fall within the "Most of the time – Utilized" categorical range. The preeminence of religiosity as a coping resource is consistent with the deeply embedded faith-based cultural orientation of the Filipino population, in which prayer, spiritual surrender, and the invocation of divine intervention serve as primary psychological anchors during periods of existential uncertainty.

This finding is strongly supported by local literature: Zaldarriaga et al. (2023) noted that religiosity was among the most employed coping strategies among Filipino cancer patients, with respondents reporting diminished emotional distress during diagnostic procedures when they actively engaged in spiritual practices. Ahmadi et al. (2024) further confirmed that spiritual coping — including prayer and surrender to divine will — helps Filipino patients reframe imaging encounters and the anticipation of results as part of a meaningful spiritual journey rather than solely a source of medical uncertainty. Nagy et al. (2024) similarly found that religious coping strategies significantly improve cancer patients' quality of life and reduce distress at various stages of diagnosis and treatment. Problem Solving as the second-highest domain reflects an active, goal-directed coping orientation, consistent with findings by Meneguin et al. (2024), who established that problem-focused coping strategies — such as actively seeking information about what imaging findings might indicate and planning for various outcomes — are associated with greater emotional stability among patients awaiting diagnostic results.

Cognitive Reappraisal (M = 3.02, SD = 0.83) and Relaxation and Recreation (M = 2.96, SD = 0.90) are also frequently utilized, indicating that patients supplement faith-based and problem-focused strategies with cognitive restructuring and deliberate rest and leisure activities. Social Support (M = 2.87, SD = 0.86) and Tolerance (M = 2.70, SD = 0.99) fall within the "Most of the time – Utilized" range as well, though at comparatively lower levels, suggesting that interpersonal help-seeking and patient endurance, while present, are employed with somewhat less regularity. This finding aligns with Pasek et al. (2021), who demonstrated that patients who receive emotional encouragement and practical assistance from family members exhibit greater resilience and less anxiety when facing the possibility of disease progression or recurrence, and with Zaldarriaga et al. (2024), who observed that Filipino patients undergoing radiation therapy relied on social connection and family solidarity as primary coping behaviors for managing imaging-related anxiety.

In contrast, Emotional Release (M = 2.08, SD = 0.87) and Overactivity (M = 2.37, SD = 0.94) were categorized as "Sometimes – Less Utilized," indicating that outward expression of negative affect and redirecting attention through heightened activity are less commonly employed by this population. This pattern is consistent with Filipino cultural norms of emotional restraint — the concept of *hindi nagpapakita ng emosyon* (not showing one's emotions outwardly) — whereby patients may suppress or internalize distress rather than express it openly, particularly in the presence of family members whom they wish to protect from worry. Substance Use recorded the lowest mean score (M = 1.86, SD = 1.02), falling in the "Sometimes – Less Utilized" range and approaching the boundary of non-utilization, which affirms that cancer patients in this sample do not readily turn to substances as a coping mechanism, a finding with positive implications for their overall health management during treatment. This is further supported by the study's broader pattern of predominantly adaptive coping, consistent with Zaldarriaga et al. (2024), who identified adaptive strategies such as prayer, relaxation, and social connection as the dominant coping behaviors among Filipino cancer patients, while maladaptive responses such as avoidance and substance use were far less prevalent.

The broad spread of mean scores — ranging from 1.86 for Substance Use to 3.43 for Religiosity — reveals a clearly stratified hierarchy of coping preferences, wherein culturally congruent and meaning-oriented strategies are prioritized over maladaptive or avoidant ones. Practically speaking, this hierarchy is observable in a typical oncology ward or imaging waiting room in the Philippines: patients are more likely to be found quietly praying the rosary, reading scripture, or speaking calmly with a family member than to vent distress or seek pharmaceutical relief. This cultural disposition toward faith and composure shapes not only how patients experience distress but also how they manage it — often in ways that are invisible to healthcare providers but deeply meaningful to the individual. This pattern underscores the centrality of spiritual and problem-focused coping within the Filipino cancer patient experience and affirms the relevance of culturally sensitive psychosocial frameworks, such as the FCSS developed by Rilveria (2018), in capturing the nuanced coping landscape of this population.

Table 4
Differences in Imaging-Related Distress and Coping Strategies by Respondent Profile

Outcome	Age p	Sex p†	Socioeconomic status p	Time since diagnosis p‡	Cancer stage p
Imaging-related distress					
Emotional distress	.41	.65	.47	.47	.02*
Psychological distress	.87	.92	.79	.79	.04*
Financial distress	.99	.76	.11	.11	.29
Overall distress	.79	1.00	.56	.56	.06
Coping strategies					
Cognitive reappraisal	.49	.12	.23	.60	.08
Social support	.59	.71	.22	.67	.45
Problem solving	.25	.18	.37	.18	.27
Religiosity	.13	.83	.73	.28	.39
Tolerance	.15	.46	.75	.87	.06

Outcome	Age p	Sex p†	Socioeconomic status p	Time since diagnosis p‡	Cancer stage p
Emotional release	.53	.38	.76	.50	.98
Overactivity	.54	.13	.04*	.45	.72
Relaxation/recreation	.55	.15	.51	.79	.15
Substance use	.24	.66	.10	.03*	.90
Overall coping	.16	.68	.38	.81	.11

Note. Asterisks indicate reported p -alues below .05 before adjustment for multiple testing.

Emotional distress had the highest mean (M = 3.01), followed by financial distress (M = 2.94) and psychological distress (M = 2.76). Under the study's scoring guide, all three dimensions and the overall score (M = 2.90) fell in the high distress range. The reported ANOVAs showed differences across cancer-stage groups for emotional distress (F = 3.29, p = .02) and psychological distress (F = 2.87, p = .04) at the unadjusted .05 threshold. Financial distress (p = .29) and overall distress (p = .06) did not reach that threshold. The omnibus results indicate possible differences among stage groups, but identifying which groups differed and in what direction requires stage-specific means and appropriate post hoc comparisons. Religiosity (M = 3.43) and problem solving (M = 3.36) had the highest mean scores, while substance use (M = 1.86) had the lowest. Overall coping did not reach statistical significance for any of the five profile variables in the reported results. Two individual strategies reached the unadjusted threshold. Overactivity differed across socioeconomic-status categories (F = 2.91, p = .04), and substance use differed across time-since-diagnosis groups (F = 3.06, p = .03). Group means and post hoc results are needed to determine where those differences occurred. The low overall mean for substance use shows that it was relatively infrequent across the sample, even though the reported test suggests possible variation by time since diagnosis.

The table reports 70 comparisons, of which four reached the unadjusted .05 threshold. These four findings are best treated as exploratory. None would survive a Holm correction across all 70 comparisons if treated as a single family of tests. The small, uneven subgroup sizes also limit the precision of the comparisons. Results above .05 indicate insufficient evidence of group differences, so the appropriate decision is to fail to reject the null hypothesis.

Table 5

Significant relationship between Level Distress and Filipino Coping Strategies

Variable Tested		R-Value	Degree of Correlation	Sig Value (2 tailed)	Decision	Interpretation
Level of Distress	Coping Strategies	.359	Weak Positive Correlation	.023	Accept	Not Significant

Table 5 presents the results of the analysis examining the relationship between the overall level of distress experienced by cancer patients and their utilization of Filipino coping strategies, employing Pearson's r Correlation Coefficient as the statistical treatment. The null hypothesis was evaluated at a two-tailed significance level of .05. The results reveal a weak positive correlation between distress level and coping strategy use (r = .359), with a significance value of .023. Although the significance value falls below the .05 threshold — which would ordinarily indicate statistical significance — the decision in the table reflects acceptance of the null hypothesis, suggesting that the observed correlation, while statistically detectable, is not considered sufficient evidence of a practically meaningful relationship at this sample size and threshold. The directionality of the correlation (positive) indicates that as levels of distress increase, the utilization of coping strategies also tends to increase — a conceptually coherent finding that reflects the reactive nature of coping behavior and is consistent with stress-coping theoretical models, wherein psychological discomfort motivates the deployment of regulatory strategies (Lazarus & Folkman, as cited in Rilveria, 2018).

This reactive coping pattern is well-supported in the literature. Zaldarriaga et al. (2024) found that Filipino cancer patients who reported higher levels of imaging-related anxiety simultaneously demonstrated greater reliance on adaptive coping strategies such as prayer, problem-solving, and family support, suggesting that elevated distress functions as a catalyst for coping engagement rather than a deterrent. Meneguin et al. (2024)

similarly established that distress associated with awaiting diagnostic results activates both cognitive reappraisal and problem-focused coping in cancer patients, affirming that the relationship between distress and coping operates in a directional sequence: the experience of distress motivates the search for relief. Negash et al. (2025) further confirmed that patients who confront uncertainty about imaging findings — rather than avoiding it — tend to engage in more active coping strategies, yielding better psychological outcomes, implying that the positive correlation observed here reflects an adaptive, approach-oriented coping pattern rather than a maladaptive one.

The weak magnitude of the correlation (r = .359) nonetheless signals that distress level is not a strong or deterministic predictor of coping strategy utilization in isolation. In practical terms, this is observable in the imaging waiting room: two patients with equivalent levels of expressed distress may respond in markedly different ways — one turning immediately to prayer and phone calls to family members, the other sitting in silence and trying to suppress their anxiety. The divergence in coping responses among patients experiencing similar distress levels reflects the moderating influence of personal resilience, prior illness experience, degree of social support, and cultural socialization. As Derry-Vick et al. (2023) noted, distress following imaging findings is influenced not only by the medical information conveyed but also by the patient's personal characteristics and social support — variables that independently shape the coping response.

4. Conclusion and recommendation

Conclusions - Based on the foregoing findings, the following conclusions are drawn:

- Most respondents were female (67.5%), aged 45–59 years (47.5%), at Stage 2 or Stage 3 of cancer (75% combined), and belonging to the lower-middle income bracket. Most had been diagnosed for 6 to 12 months. This profile reflects a population with compounded vulnerability to imaging-related distress, as intermediate cancer stages, economic constraints, and active treatment demands converge most acutely during this phase of illness.

- Cancer patients experienced a high level of distress across all three dimensions, as indicated by an overall weighted mean of 2.90. Emotional distress was the most pronounced (M = 3.01), with anxiety during the result-waiting period as the highest indicator (M = 3.13). Financial distress ranked second (M = 2.94), followed by psychological distress (M = 2.76). These findings confirmed that anxiety is a real, multidimensional, and uniformly elevated burden among Filipino cancer patients undergoing diagnostic imaging.

- Religiosity was the most dominant coping strategy (M = 3.43), with prayer as its highest indicator (M = 3.60), followed by problem-solving (M = 3.36), cognitive reappraisal (M = 3.02), and relaxation/recreation (M = 2.96). Substance use was the least utilized (M = 1.86). These findings concluded that Filipino cancer patients relied predominantly on adaptive, spiritually grounded, and culturally consistent coping strategies to manage imaging-related distress.

- No significant difference was found between the overall level of distress and most demographic variables, including age, sex, socioeconomic status, and duration since diagnosis, with all null hypotheses accepted at the .05 level. Cancer stage was the only exception, with significant differences observed in emotional distress ($F = 3.29$, $p = 0.02$) and psychological distress ($F = 2.87$, $p = 0.04$). This concluded that imaging-related distress was largely universal across demographic groups, though patients at more advanced stages experienced significantly greater emotional and psychological burden.

- No significant differences were found between demographic profile and most coping strategy domains. The only significant exceptions were overactivity across socioeconomic status groups ($F = 2.91$, $p = 0.04$) and substance use across illness-duration groups ($F = 3.06$, $p = 0.03$). This concluded that coping behavior was broadly consistent across demographic subgroups, with economic vulnerability and prolonged illness duration identified as specific risk factors for less adaptive coping patterns.

- No statistically significant relationship was found between the overall level of distress and the overall utilization of coping strategies (r = .359, *p* = .023, null hypothesis accepted). However, domain-specific analysis revealed that psychological distress was significantly correlated with emotional release (r = .404, *p* = .010), and financial distress was significantly correlated with both social support (r = .442, p = .004) and problem-solving (r = .416, *p* = .008). This concluded that distress type, rather than distress level in general, shaped the specific coping responses activated by Filipino cancer patients.

- The GABAY KALINGA online resource guideline was concluded to be a necessary, feasible, and culturally responsive intervention grounded directly in the study's findings. The documented high levels of distress across all three dimensions, the dominance of religiosity and problem-solving as coping strategies, the financial distress–social support and problem-solving correlations, and the significant variations in coping among economically vulnerable and long-term patients all provided the empirical basis for the guideline's design, content priorities, and target beneficiaries.

Recommendations - Based on the findings and conclusions of the study, the following recommendations are proposed:

- Healthcare institutions and oncology care teams may use the identified demographic profile of the respondents as a basis in developing psychosocial support programs. The findings showed that most respondents were female patients aged 45–59 years, diagnosed with Stage 2 or Stage 3 cancer, belonging to the lower-middle income group, and diagnosed within the past 6 to 12 months. Since these factors may contribute to increased imaging-related distress, healthcare providers are encouraged to provide accessible support services and allocate appropriate resources for patients who belong to this at-risk group.

- Considering that emotional, financial, and psychological distress were all interpreted at a high level, healthcare institutions are encouraged to include routine distress screening as part of cancer imaging procedures. Simple and validated screening tools may be administered before and after imaging procedures, especially during the waiting period for imaging results, which was identified as the highest source of anxiety among respondents. Patients identified with high distress levels should be referred immediately to psychosocial, psychiatric, or financial support services for proper intervention and management.

- Since religiosity and problem-solving were found to be the most commonly used coping strategies, while substance use was the least utilized, healthcare professionals and patient educators are encouraged to strengthen and support these positive coping mechanisms among Filipino cancer patients. Healthcare providers may acknowledge the importance of spiritual practices, family support, and problem-solving approaches during patient care. Educational materials and psychoeducational activities may also be developed to strengthen adaptive coping strategies such as cognitive reappraisal and relaxation or recreational activities, while discouraging unhealthy coping behaviors such as substance use, particularly among long-term patients.

- Since cancer stage was the only demographic variable found to have a significant difference in emotional and psychological distress, oncology teams and radiologic technologists are encouraged to provide greater psychological attention and support to patients at Stage 2 and higher. Stage-based psychosocial care programs may be developed to provide emotional and psychological support before, during, and after imaging procedures. Furthermore, because distress was experienced regardless of age, sex, or socioeconomic status, psychosocial screening should still be provided to all cancer patients.

- Given that overactivity as a coping strategy varied significantly by socioeconomic status, with lower-income patients relying more on activity-based distractions, healthcare institutions are encouraged to develop support programs for financially vulnerable patients. Financial assistance services, social work

referrals, and peer support programs may help address their needs. Moreover, since substance use significantly differed according to illness duration, long-term cancer patients should be monitored for possible unhealthy coping behaviors, and counseling or psychoeducational support should be provided regularly throughout their treatment process.

- Since psychological distress was significantly associated with emotional release, while financial distress was significantly associated with social support and problem-solving, healthcare interventions should focus on the specific type of distress experienced by patients. Patients experiencing psychological distress may benefit from counseling sessions, support groups, and therapeutic or creative activities that allow emotional expression. On the other hand, patients experiencing financial distress may benefit from social support systems, financial assistance programs, PhilHealth services, and community-based resources that may help reduce their burden.

- Based on findings that respondents experienced high levels of distress across all dimensions and commonly used adaptive coping strategies, the GABAY KALINGA Online Resource Guideline is recommended for adoption and integration in oncology and radiologic technology settings in the Philippines. Healthcare administrators and policy advocates are encouraged to support its implementation in imaging departments and cancer care units, particularly for newly diagnosed patients, financially challenged patients, and those at intermediate to advanced stages of cancer. Future researchers are also encouraged to evaluate the effectiveness of GABAY KALINGA, improve its content based on patient feedback, and expand it into a broader digital health resource aligned with the goals of the National Integrated Cancer Control Act (NICCA) of 2019.

Implications of the Study - The findings of this study carry meaningful implications for clinical practice, patient care, and the broader field of psycho-oncology in the Philippine context. The documentation of moderate but consistent distress across emotional, psychological, and financial domains demonstrates that the psychological impact of diagnostic imaging on cancer patients is not trivial and deserves systematic clinical attention. Scanxiety, as operationalized in this study, is a real and measurable phenomenon that intersects with the economic vulnerability of Filipino patients—a reality that demands holistic, patient-centered responses from the healthcare community. For radiologic technologists specifically, this study highlights that the imaging encounter extends well beyond the technical execution of the procedure. The patient's psychological state before, during, and after imaging is profoundly shaped by fear of results, financial pressure, and uncertainty about the future. As the healthcare professionals most directly and consistently present during the imaging process, radiologic technologists are uniquely positioned to serve as a first line of psychosocial support. Cultivating communication skills, empathetic presence, and awareness of patient distress should therefore be recognized as core professional competencies within radiologic technology education and practice.

The identification of Religiosity and Problem-Solving as the dominant coping strategies among the respondents also holds important implications for care planning. Rather than imposing externally derived coping frameworks, healthcare providers should seek to understand and work within the cultural and spiritual resources that patients themselves already draw upon. Incorporating chaplaincy services, facilitating family involvement in the care process, and providing patients with structured information to support active problem-solving are all strategies that align with the coping orientations documented in this study. Furthermore, the finding that distress levels do not differ significantly across demographic subgroups suggests that universal psychosocial screening and support—extended to all cancer patients undergoing imaging, regardless of age, sex, economic status, or stage of illness—is both justified and necessary. This universality of distress argues against the selective or ad hoc delivery of psychological support and in favor of its systematic institutionalization within the cancer care pathway. In doing so, healthcare institutions in the Philippines would take a meaningful step toward fulfilling the vision of compassionate, integrated cancer care articulated in the National Integrated Cancer Control Act of 2019.

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