

## Coping Strategies Among Filipino Cancer Patients Undergoing Radiation Therapy in Two Tertiary Care Hospitals in the Philippines: An Analytical Cross-sectional Study

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### Abstract

**Introduction:** The process of coping is central in the lives and experiences of cancer patients. Foreign literature on coping strategies among cancer patients is largely qualitative in nature, in the form of thematic, grounded theory, and phenomenological analyses. Of the quantitative research that has been done, many have found varying degrees of association between certain coping strategies and improved quality of life and decreased emotional distress. However, knowledge on how coping varies and is associated with the patient's demographics, disease characteristics, among other factors remains in its infancy. This is especially true in the Philippines.

**Methods:** A total of 210 Filipino patients more than 18 years of age, with histologically confirmed diagnosis of cancer, receiving radiation therapy at St. Luke's Medical Center-Quezon City or St. Luke's Medical Center-Bonifacio Global City from April 2022 to December 2022, were made to answer the Filipino Coping Strategies Scale (FCSS). The FCSS is a self-administered, 37-item, 4-point scale that measures the degree to which the respondent uses particular coping strategies categorized into one of nine domains: cognitive reappraisal, social support, problem-solving, religiosity, tolerance, emotional release, overactivity, relaxation and recreation, and substance use.

**Results:** Religiosity is the primary coping strategy in this patient population, with a composite score of 3.9214 out of 4 (SD = 0.1688). The second most utilized coping strategy is problem-solving (composite score = 3.6310; SD = 0.3162). The third most common coping strategy is cognitive reappraisal (composite score = 3.5524; SD = 0.4062). This is closely followed by relaxation and recreation (composite score = 3.5343; SD = 0.3734). The fifth most utilized coping strategy is social support (composite score = 3.3140; SD = 0.5790). Calculation of independent samples t-test revealed no statistically significant difference between the coping strategies in terms of hospital (i.e. St. Luke's Quezon City or St. Luke's Bonifacio Global City), sex, metastatic status, and intent of radiotherapy. Calculation of analysis of variance (ANOVA) likewise revealed no statistically significant difference in terms of age, marital status, religion, educational attainment,

estimated monthly income, primary cancer diagnosis, days elapsed since primary cancer diagnosis, Wong-Baker Faces (WBF) pain rating, and Eastern Cooperative Oncology Group (ECOG) performance status.

**Conclusion:** The most commonly utilized coping strategies in our patient cohort are religiosity, problem-solving, cognitive reappraisal, relaxation and recreation, and social support, regardless of demographic and disease-related characteristics. To the proponents' knowledge, our research is the first to study the coping strategies of Filipino cancer patients in a quantitative manner. Doubtless, further research is needed to shed light on this crucial but barely yet untouched aspect of cancer care.

**Keywords:** *male breast cancer, Philippines, radiation oncology*

## 1. Introduction

The implications of a cancer diagnosis extend beyond the biomedical. Despite generally improving detection rates (1-3), treatment outcomes (1,4-5), and survival (1-2,5-8), many cases of cancer still entail protracted therapeutic regimens with potential side effects and generally life-long monitoring (9-11), thereby potentially imposing considerable physical (12-14), mental (15-17), social (18-20), and financial (21-23) strain on both the patient and his/her social support group. As such, compared to the general population, cancer patients have been reported to have increased rates of anxiety (24-27), depression (28-31), and impaired quality of life (32-35).

Therefore, the process of “coping”- defined by Weisman (1979) as “what one does about a perceived problem in order to bring about relief, reward, quiescence, or equilibrium” (36); and, similarly, by Lazarus and Folkman (1984) as “cognitive and behavioral efforts to manage demands appraised as taxing or exceeding resources” (37) – is central in the lives of cancer patients. Despite their complexity and variety,

coping strategies have been categorized into domains or types which include problem-solving/confrontative coping (38-41), distancing/mental disengagement (38-39), self-restraint/fatalism (38-39), seeking social support (38-40), escape-avoidance/denial/behavioral disengagement (38-40), positive reappraisal/optimism (38-40), venting of emotions (38,40-41), spirituality/religious coping (38-39), and substance use (38-40).

Specifically for the Filipino context, Rilveria (2018) (42) thematically analyzed these aforementioned domains of coping in the foreign literature and integrated them with qualitative data on Filipino coping strategies (43-45). Ultimately, nine (9) distinct domains of Filipino coping strategies emerged: (1) cognitive reappraisal (*pagsusuri*), (2) social support (*paghinging tulong*), (3) problem-solving (*pagtugon*), (4) religiosity (*pagkarelihiyoso*), (5) tolerance (*pagtitiis*), (6) emotional release (*paglabas ng saloobin*), (7) overactivity (*pagmamalabis*), (8) relaxation/recreation (*paglilibang*), and (9) substance use (*pagbibisyo*). The definitions of these 9 domains as well as concrete examples of each are as follows.

**Table 1.** Nine Domains of Filipino Coping Strategies (Rilveria, 2018) (42)

Domain	Definition	Example/s
<b>Cognitive reappraisal</b> <b>(Pagsusuri)</b>	Changing one’s perspective towards and assumptions about the stressor; includes optimistic and hopeful thinking, alterations of goals and values, and meaning-making	- Seeing the positive side in one’s problem - Believing that one can overcome one’s problem

<b>Social support</b> <i>(Paghingi ng tulong)</i>	Tapping into one's social network for emotional support, financial aid, and/or professional help	<ul style="list-style-type: none"> <li>- Soliciting advice and/or financial help from family and friends</li> <li>- Seeking professional help from a psychiatrist/psychologist</li> </ul>
<b>Problem-solving</b> <i>(Pagtugon)</i>	Directly confronting or addressing the stressor with the goal of alleviating or eliminating it entirely	- A patient follows his/her doctor's recommendations and follows-up religiously with the intention of recovering from his/her illness.
<b>Religiosity</b> <i>(Pagkarelihiyoso)</i>	Turning to one's faith and/or religion	<ul style="list-style-type: none"> <li>- Prayer</li> <li>- Attending worship/religious gatherings</li> </ul>
<b>Tolerance</b> <i>(Pagtitiis)</i>	Enduring a particular stressor without any deliberate effort to confront or address it	- Putting up with pain without any active effort to have it evaluated or addressed.
<b>Emotional release</b> <i>(Paglabas ng sa-loobin)</i>	Venting out of emotions	<ul style="list-style-type: none"> <li>- Crying</li> <li>- Displaying fits of anger</li> <li>- Humor</li> </ul>
<b>Overactivity</b> <i>(Pagmamalabis)</i>	Overexertion of activity as a means of distracting and distancing oneself from one's stressor	- Overworking oneself or engaging in multiple activities to distract oneself from one's problem
<b>Relaxation/recreation</b> <i>(Paglilibang)</i>	Engaging in activities that decrease the cognitive and emotional load of the stressor	<ul style="list-style-type: none"> <li>- Listening to music</li> <li>- Watching movies</li> <li>- Playing sports</li> </ul>
<b>Substance Use</b> <i>(Pagbibisyo)</i>	Turning to vices as a form of escape from one's stressor	<ul style="list-style-type: none"> <li>- Drinking alcohol</li> <li>- Smoking</li> <li>- Taking illicit drugs</li> </ul>

Subsequently, from these 9 domains, the Filipino Coping Strategies Scale (FCSS) was developed. The FCSS is a self-administered, 37-item, 4-point scale that measures the degree to which the respondent uses particular coping strategies that fall into one of these 9 domains. The scale is written in the Tagalog language with an English translation under each item and has undergone the requisite translation and back-translation process. The FCSS was originally pilot tested to 627 Filipinos who were statistically heterogeneous in terms of age, sex, socioeconomic status, educational status, and occupation. Reliability analysis revealed a Cronbach's alpha for each domain after item deletion of 0.60 to 0.95. The overall Cronbach's alpha for the FCSS is 0.716, indicating good inter-item consistency. Construct validity was initially established via confirmatory factor

analysis. Principal components analysis (PCA) was used as an extraction method to determine the underlying construct for specific groups of items and verify the existence of the proposed 9 domains. Varimax rotation was also used because of assumed independence of the domains from each other. Furthermore, convergent validity was established by correlating the items in each of the 9 domains of the FCSS with corresponding items of similar domains in the Ways of Coping Questionnaire and the Coping Orientation to Problems Experienced (COPE) Inventory. Pearson correlation revealed statistically significant associations among the domains of these measures of coping, thus supporting the validity of the domains of the FCSS.

There has been interest in studying the coping strategies of cancer patients since the 1950s (46-4), though majority of the studies

until now have been largely qualitative in nature, typically utilizing thematic, grounded theory, and phenomenological analyses (46-51). Of the quantitative research that has been conducted, many have found varying degrees of association between certain coping strategies-particularly cognitive reappraisal (52-55); religious coping (56-59); seeking social support such as in the form of individual counselling (60-63) and support groups (64-67); and relaxation/recreation techniques such as meditation (68-70), sports (71-73), and music (74-76) - and decreased emotional distress and improved quality of life. However, not all coping strategies may be appropriate for and produce the same effect for all cancer patients (46,51).

Likewise, how coping varies and is associated with the patient's demographics (e.g. sex, age, marital status, income) and disease characteristics (e.g. cancer type, stage, pain control) remain largely ill-defined in the present literature. For example, some studies have found a statistically significant association between specific coping strategies- in particular problem-solving, seeking social support, and positive reappraisal- with increasing age (49-51), educational level (51,53-54), and even income (50,52,55). Interestingly, a number of researchers found that patients with longer-lasting diagnoses, metastatic disease, poorer performance status, and poorer pain control were more likely to resort to fatalism (66,70,72) and spirituality (57-59,62). However, there are also proponents who found no statistically significant association between any particular coping strategy and any of the aforementioned demographic or disease characteristics (72,75-78). Importantly, all such studies have been conducted in foreign settings with populations that are, needless to say, very contextually and culturally different from the local setting. In the Philippines, there have been several studies on depression, anxiety, and emotional distress among Filipino cancer patients; to our knowledge, however, none has yet been done on how they cope.

## **2. Objectives**

### **2.1. General objective**

To quantitatively profile the coping strategies of Filipino cancer patients undergoing radiation therapy in St. Luke's Medical Center-Quezon City and St. Luke's Medical Center-Bonifacio Global City, Philippines.

### **2.2. Specific objectives**

2.2.1. To identify the coping strategies of Filipino cancer patients undergoing radiation therapy in St. Luke's Medical Center- Quezon City and St. Luke's Medical Center-Bonifacio Global City, Philippines using the Filipino Coping Strategies Scale (FCSS)

2.2.2. To determine if there is a significant difference between the coping strategies of Filipino cancer patients undergoing radiation therapy in SLMC-QC and SLMC-BG, Philippines in terms of patient demographics and disease characteristics

## **3. Methods**

### **3.1. Participants and Setting**

This is an analytical cross-sectional study which identified coping strategies of Filipino cancer patients undergoing radiation therapy in SLMC-QC and SLMC-BGC, Philippines; and determined if a significant difference exists between these coping strategies in terms of patient demographic and disease-specific factors. The following are the inclusion and exclusion criteria.

#### *Inclusion Criteria*

1. Histologically confirmed diagnosis of cancer
2. Receiving radiation therapy, either on an outpatient or inpatient basis, at SLMC-QC or SLMC-BGC, anytime from April 2022 to December 2022
3. More than 18 years of age
4. Fluent in the Tagalog and/or English language
5. Filipino citizen
6. Signed and submitted the Informed Consent Form (ICF) to participate in the study

### *Exclusion Criteria*

1. Receiving radiation therapy for a benign condition (e.g. arterio-venous malformation, juvenile nasopharyngeal angiofibroma, vestibular schwannoma)

2. With cognitive impairment (i.e. as diagnosed by a medical professional such as but not limited to neurologists, psychiatrists, and clinical psychologists) and/or incapable of independently answering the questionnaire

### **3.2. Data collection**

All patients meeting the aforementioned inclusion criteria were invited to participate in this study. The nature and purpose of the study together with the contents of the informed consent were explained in person by the principal investigator. After signing the informed consent, the patient's demographic data (i.e. age, sex, marital status, religion, educational attainment, and estimated monthly household income) and disease characteristics (i.e. primary cancer diagnosis, days elapsed since cancer diagnosis, nonmetastatic vs metastatic disease, curative or palliative intent of treatment, Wong-Baker Faces Pain Rating Scale, and Eastern Cooperative Oncology Group (ECOG) Performance Status) were obtained.

Thereafter, the participants were then made to answer the Filipino Coping Strategies Scale (FCSS). The FCSS is a 4-point Likert scale that measures how frequently the respondent performs each of the 37 listed coping strategies, from 1 corresponding to "Hindi" (Never) to 4 corresponding to "Palagi" (Always). Each of the 37 coping strategies falls under one of the nine aforementioned domains: questions 1, 8, 17, 23, and 30 fall under the Cognitive reappraisal (*Pagsusuri*) domain; questions 9, 24, and 31 fall under the Social support (*Pahingi ng tulong*) domain; questions 2, 10, 18, and 32 fall under the Problem-solving (*Pagtugon*) domain; questions 3, 11, 19, and 33 fall under the Religiosity (*Pagkarelihiyoso*) domain; questions 12 and 25 fall under the Tolerance (*Pagtitiis*) domain; questions 4, 13, 26, and 34 fall under the Emotional release (*Paglabas ng sama ng loob*) domain; questions 5, 14, 20, 27, and 35 fall under the Overactivity (*Pagmamalabis*) domain; questions 6, 15, 21, 28, and 36 fall under the Relaxation/recreation (*Paglilibang*) domain;

and questions 7, 16, 22, 29, and 37 fall under the Substance use (*Pagbibisyo*) domain. The individual scores for each of the coping strategies that fall under each domain were then added and averaged to arrive at the composite score for each domain.

### **3.3. Sample size calculation**

Given that the FCSS is a 4-point Likert scale that measures how frequently the respondent performs each of the listed coping strategies from 1 corresponding to "Hindi" (Never) to 4 corresponding to "Palagi" (Always), the minimum sample size was calculated for ordinal outcomes. In order to compute the minimum sample size for ordinal outcomes under a proportional odds ordinal logistic model, the Hmisc package in R was used.<sup>79</sup> Assuming an equal allocation for the marginal cell probabilities (i.e. 25%, 25%, 25%, 25%), an odds ratio of 0.5<sup>80</sup>, 0.05 level of significance, and 80% power, the required sample size is 210. This equal allocation for the marginal cell probabilities and the 0.5 odds ratio were based on a similar study by Priscilla et al. (2011) which studied how frequently cancer patients in a Malaysian tertiary hospital performed certain coping strategies likewise via a 4-point Likert scale ranging from 1 (Never) to 4 (Always).<sup>80</sup>

### **3.4. Data analysis**

To get a descriptive look of the collected data, frequency and percentage were calculated for categorical variables (e.g. sex, marital status, primary cancer diagnosis). For numerical variables (e.g. age, estimated monthly income, days elapsed since cancer diagnosis), mean and standard deviation were determined.

Subsequently, parametric tests were performed to determine if a significant difference exists between coping strategies in terms of patient demographics and disease characteristics. Specifically, t-test was calculated for variables with exactly two categories (e.g. sex). For variables with more than two categories (e.g. religion, primary cancer diagnosis), analysis of variance (ANOVA) was used.

#### 4. Results

##### **Patient demographics**

There was a total of 210 respondents- 105 from the Department of Radiation Oncology of St. Luke’s Medical Center-Quezon City and 105 from St. Luke’s Medical Center-Bonifacio Global City. Majority (57 patients, 27.1% of the study population) were aged 61-70 years. Ages

ranged from 19 to 89 years old. There were more females (119, 56.7%) than males (91, 43.3%). Most of the respondents were married (106, 50.5%). The most common religion was Roman Catholic (156, 74.3%). Majority of the patients were college graduates (139, 66.2%). Most of the patients had an estimated monthly household income of less than Php 50,000 (75, 35.7%) (Table 2).

**Table 2. Patient Demographics**

<b>Demographic</b>	<b>Frequency (N = 210)</b>	<b>Percentage</b>
<b>Age</b>		
18-30	13	6.2%
31-40	26	12.4%
41-50	25	11.9%
51-60	34	16.2%
61-70	57	27.1%
71-80	46	21.9%
> 80	9	4.3%
<b>Sex</b>		
Male	91	43.3%
Female	119	56.7%
<b>Marital status</b>		
Single	68	32.4%
Married	106	50.55%
Widowed	20	9.5%
Separated	16	7.6%
<b>Religion</b>		
Roman Catholic	156	74.3%
Iglesia ni Cristo	9	4.3%
Jehovah’s Witness	4	1.9%
Protestant	27	12.9%
Seventh-day Adventist	6	2.9%
Episcopal	2	1.0%
Islam	6	2.9%
<b>Educational attainment</b>		
Elementary undergraduate	2	1.0%
Elementary graduate	6	2.9%
High School undergraduate	5	2.4%
High School graduate	17	8.1%
College undergraduate	24	11.4%
College graduate	139	66.2%
Post-graduate	17	8.1%
<b>Estimated monthly household income</b>		
Php 0 to 50,000 (0 - 850 US \$)	75	35.7%
Php 50,001 to 100,000 (850-1700 US \$)	64	30.5%
Php 100,001 to 150,000 (1700 - 2550 US \$)	23	11.0%

Php 150,001 to 200,000 (2550-3400 US \$)	13	6.2%
Php 200,001 to 250,000 (3400 - 4250 US \$)	3	1.4%
Php 250,001 to 300,000 (4250 - 5100 US \$)	7	3.3%
Php 300,001 to 350,000 (5100 - 5950 US \$)	1	0.5%
Php 350,001 to 400,000 (5950 - 6800 US \$)	7	3.3%
Php 400,001 to 450,000 (6800 - 7650 US \$)	3	1.4%
Php 450,001 to 500,000 (7650 - 8500 US \$)	7	3.3%
> Php 500,000 (> 8500 US \$)	7	3.3%

### **Disease characteristics**

In terms of primary cancer diagnosis, majority of the patients had a breast cancer primary (53, 25.2%), followed by gynecologic (22, 10.5%) and lung (22, 10.5%) malignancies, followed by prostate cancer (21, 10.0%). At the point of interview, most of the patients had 361-540 days elapsed since primary cancer diagnosis (69, 32.9%). Most of the patients had

nonmetastatic disease (162, 77.1%) while the rest were metastatic (48, 22.9%). The intent of radiation therapy was curative in majority of cases (161, 76.7%) whereas it was palliative (49, 23.3%) for the minority. Most of the patients had a Wong-Baker Faces (WBF) pain rating scale of 0/10 (111, 52.9%). In terms of performance status, majority were ECOG 0 (110, 52.4%) (Table 3).

**Table 3. Disease Characteristics**

<b>Disease characteristic</b>	<b>Frequency (N = 210)</b>	<b>Percentage</b>
<b>Primary cancer diagnosis</b>		
Gynecologic	22	10.5%
Prostate	21	10.0%
Breast	53	25.2%
Lung	22	10.5%
Lymphoma	16	7.6%
Upper Gastrointestinal	12	5.7%
Colorectal	18	8.6%
Brain	13	6.2%
Head and Neck	20	9.5%
Sarcoma	6	2.9%
Others	7	3.3%
<b>Days elapsed since primary cancer diagnosis</b>		
0-180 days	32	15.2%
181-360 days	16	7.6%
361-540 days	69	32.9%
541-720 days	4	1.9%
721-900 days	40	19.0%
901-1080 days	1	0.5%
1081-1260 days	16	7.6%
1261-1440 days	1	0.5%
1441-1620 days	10	4.8%
1621-1800 days	6	2.9%
1801-1980 days	3	1.4%
1981-2160 days	0	0.0%
> 2160 days	12	5.7%
<b>Metastatic status</b>		
Nonmetastatic	162	77.1%

Metastatic	48	22.9%
<b>Intent of radiation therapy</b>		
Curative	161	76.7%
Palliative	49	23.3%
<b>Wong-Baker Faces (WBF) pain rating</b>		
0	111	52.9%
2	50	23.8%
4	24	11.4%
6	17	8.1%
8	6	2.9%
10	2	1.0%
<b>Eastern Cooperative Oncology Group (ECOG) performance status</b>		
0	110	52.4%
1	11	5.2%
2	46	21.9%
3	39	18.6%
4	4	1.9%

### **Coping strategies**

Religiosity is the primary coping strategy in this patient population, with a composite score of 3.9214 out of 4 (SD = 0.1688). The second most utilized coping strategy is problem-solving (composite score = 3.6310; SD = 0.3162). The third most common coping strategy is cognitive reappraisal (composite score = 3.5524; SD = 0.4062). This is closely followed by relaxation and recreation (composite score = 3.5343; SD = 0.3734). The fifth most utilized coping strategy is social support (composite score = 3.3140; SD = 0.5790).

The coping strategy of overactivity is the sixth most utilized (composite score = 2.1807; SD = 0.7476). This is closely followed by emotional release (composite score = 2.1143; SD = 0.6307). A distant eighth is the coping strategy of tolerance, with a composite score of only 1.8238 (SD = 0.7385). Remarkably, none of the 210 participants said that they utilized substance use as a coping strategy, with the lowest possible composite score of 1.0 (SD = 0.0000) (Table 4).

**Table 4. Coping Strategies Descriptive Statistics**

<b>Coping Strategy</b>	<b>Composite Score</b>	<b>Standard Deviation</b>
Cognitive reappraisal	3.5524	0.4062
Social support	3.3140	0.5790
Problem-solving	3.6310	0.3162
Religiosity	3.9214	0.1688
Tolerance	1.8238	0.7385
Emotional release	2.1143	0.6307
Overactivity	2.1807	0.7476
Relaxation and recreation	3.5343	0.3734
Substance use	1.0000	0.0000

Calculation of independent samples t-test revealed no statistically significant difference (i.e., statistical significance set at a p-value  $\leq$

0.05) between the coping strategies in terms of hospital (i.e. St. Luke's Quezon City or St. Luke's Bonifacio Global City) (Table 5), sex



(Table 6), metastatic status (Table 7), and intent of radiotherapy (Table 8). (Please see Appendix A)

Finally, calculation of analysis of variance (ANOVA) likewise revealed no statistically significant difference in terms of age (Table 9), marital status (Table 10), religion (Table 11), educational attainment (Table 12), estimated monthly income (Table 13), primary cancer diagnosis (Table 14), days elapsed since primary cancer diagnosis (Table 15), WBF pain rating (Table 16), and ECOG performance status (Table 17). (Please see Appendix B)

## 5. Discussion

Cancer impacts multiple aspects of the patient's life, necessitating one or more coping strategies as a response to the disequilibrium it imposes. In the foreign literature, there have been several studies on how cancer patients cope albeit in the form of qualitative research. In the Philippines, a number of studies have been done on depression, anxiety, and emotional distress among Filipino cancer patients. Despite its centrality, however, to the researchers' knowledge, none has yet been done on their coping strategies specifically of a quantitative nature. This was a gap this research sought to fill.

Our research revealed religiosity (*pagkarelihiyoso*)- defined by Rilveria (2018) (42) as "turning to one's faith and/or religion"- to be the most commonly utilized coping strategy in our cohort of respondents, regardless of their demographic profile and disease characteristics. Similarly, foreign studies have consistently revealed religion (56-61), prayer (81-83), spirituality (56-59), and participating in religious gatherings (82-84) as among the most common coping strategy among cancer patients. Though not specifically studied in the context of a cancer diagnosis- at least, to date- religion is central in the lives of majority of Filipinos (85-87). It is among the most referenced and primary coping strategy of Filipinos regardless of the nature and degree of stressor/s (86-89).

Problem-solving (*pagtugon*)- defined as "directly confronting or addressing the stressor with the goal of alleviating or eliminating it entirely" (42) is the second most utilized coping

strategy in our patient cohort. Also referred to as "confrontative coping" in some foreign studies, problem-solving is also among the most commonly utilized coping strategy among cancer patients (38-40). That majority of our respondents utilize problem-solving as a coping strategy may be evidenced by the fact that they are currently actively seeking treatment no less in a hospital setting, regardless of whether the intent of their treatment is curative or palliative. However, this also becomes a potential source of selection bias for cancer patients who are *not* actively seeking any form of treatment.

In our patient population, the third most commonly reported coping strategy is cognitive reappraisal (*pagsusuri*). Rilveria (2018) (42) defines it as "changing one's perspective towards and assumptions about the stressor; includes optimistic and hopeful thinking, alterations of goals and values, and meaning-making". Akin to religiosity and problem-solving, cognitive reappraisal is also one of the most commonly reported coping strategies in the foreign literature. It has been described in similar terminologies as "positive thinking" (38-39), "optimism" (90-91), and "reframing" (92-93).

Relaxation and recreation (*paglilibang*)- "engaging in activities that decrease the cognitive and emotional load of the stressor" (42) - is the fourth most commonly used coping strategy in our patient population. Relaxation and recreation is an umbrella term that encompasses a wide variety of activities fulfilling the aforementioned function, including listening to/playing music (74-76), engaging in sports/physical activity (71-73), meditation (68-70), and so on. The ubiquity of this domain of coping strategy among Filipino cancer patients is unsurprising, given that the concepts of rest (*pahinga*) (94-95) and play (*laro*) (96-97) are well-studied to be central in the Filipino people's response to stressors, regardless of age, sex, educational background, or other demographic characteristics.

Social support (*paghingi ng tulong*) closely follows relaxation and recreation, being the fifth most commonly reported coping strategy. Described as "tapping into one's social network for emotional support, financial aid, and/or professional help", (42) social support is likely rooted in the centrality of the family as the most

fundamental social unit in the lives of most Filipinos (98-99). Traditional Filipino upbringing emphasizes placing loyalty on one's family and turning to one's nuclear or even extended family for help whenever it is needed (99-101). The value and importance of the family extend beyond its confines. Filipino culture generally values camaraderie over individuality (100). Cooperating with and living in harmony with the commune (*pakikisama*) is socially rewarded whereas going against societal norms is generally frowned upon (100,102).

Fortuitously, these five domains of coping-religiosity, problem-solving, cognitive reappraisal, relaxation and recreation, and social support- have often been classified as "constructive" or "positive" coping strategies, as several foreign studies have found an association between them and decreased emotional distress, decreased levels of anxiety, and improved quality of life (52-76). This is in contrast to so-called "maladaptive" or "negative" coping strategies which include tolerance/escapism/fatalism, overactivity/overexhaustion, and substance use which, conversely, have been implicated in decreased quality of life and worse levels of distress and anxiety (66,70,72-76). In our study, overactivity, emotional release, tolerance, and substance use were the least commonly reported coping strategies. Remarkably, in fact, none of the 210 respondents reported- or at least admitted- to smoking, drinking alcohol, and/or using illicit substances as coping strategies. In the foreign literature, the prevalence of cancer patients who continue to smoke and/or drink is likewise expectedly low, ranging from just 3-5% (103-105).

In our patient cohort, none of the coping strategies significantly differed in terms of any of the demographic and disease-related variables. Though some foreign studies would report otherwise, our findings are consistent with literature also reporting no statistically significant

difference or association between any particular coping strategy and any demographic or disease characteristic (72,75-78).

Admittedly, a number of important limitations affect our study. First, the study respondents have all been selected via convenience sampling. Second, the study was conducted in the setting of two private tertiary care hospitals. It is possible that the demographic profile, clinical characteristics, and even coping strategies of Filipino cancer patients in other settings- such as in public/charity hospitals or in palliative home care- are significantly different than those of our respondents. Third, qualitative forms of analysis- such as phenomenological or thematic analyses- would no doubt provide depth and richness in understanding *why* Filipino cancer patients utilize some coping strategies in favor of others which quantitative, questionnaire-based forms of research- such as ours- cannot provide. Nonetheless, the proponents believe that our research is an important first step in the study of Filipino cancer patients, hopefully stimulating further research in this yet barely untouched field.

## 6. Conclusion

Irrespective of demographic and disease-related characteristics, the most commonly utilized coping strategies are religiosity, problem-solving, cognitive reappraisal, relaxation and recreation, and social support. Further research- both in the form of quantitative and qualitative analyses- is doubtless needed to elucidate how Filipino cancer patients cope in a multitude of other settings and the reasons as to why some coping strategies are favored more than others. Ultimately, the goal is to be cognizant of and be responsive to the individual needs of every Filipino cancer patient which, needless to say, transcend the biomedical.

## Abbreviations

COPE – Coping Orientation to Problems Experienced Inventory

ECOG – Eastern Cooperative Group performance status

FCSS – Filipino Coping Strategies Scale

ICF – Informed Consent Form

PCA – Principal components analysis

WBF – Wong-Baker Faces pain rating

Php – Philippine peso

SLMC-QC – Saint Luke's Medical Center-Quezon City

SLMC-BGC – Saint Luke's Medical Center-Bonifacio Global City

## Statements

**Authors' contributions:** JHZ conceived of the research idea, wrote the manuscript draft, and performed the data collection. CETA reviewed and edited the final manuscript. MMLL reviewed the results of the data analysis and edited the final manuscript. JMJM and APC edited the final manuscript and formatted it into its final form.

**Consent for publication:** As the corresponding author, I confirm that the manuscript has been read by and approved for submission by all authors.

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