Psychological coping strategies and styles in patients treated at an oncology center in Barranquilla, Colombia.

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Moises de Jesus de la Hoz Mercado
ORCID: https://orcid.org/0000-0003-3067-1609
Email: Moises.delahoz@unimetro.edu.co
Magister en Educación con énfasis en Investigación Universidad Metropolitana
Barranquilla-Colombia

Gloria Elena Lastre Amell
ORCID: https://orcid.org/0000-0002-8855-3931
Email: glastre2@unimetro.edu.co
Magister en Salud Pública Universidad Metropolitana
Barranquilla-Colombia

Sandra Milena Prada Reyes
ORCID: https://orcid.org/0000-0002-8683-4836
Email: s.prada.reyes@unimetro.edu.co
Magister en Educación Universidad Metropolitana
Barranquilla-Colombia

Karelis Carolina Robles Barranco
ORCID: https://orcid.org/0009-0002-1864-6996
Email: kroblesb@unimetro.edu.co
Doctora en Ciencia Mención Gerencia Universidad Metropolitana
Barranquilla-Colombia

Ana Elvira Manuel Ferrer
ORCID: https://orcid.org/0000-0003-3358-6485
Email: a.manuel.ferrer@unimetro.edu.co
Magister en Educación Universidad Metropolitana
Barranquilla-Colombia

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Introduction: Cancer is a highly stressful experience that affects emotional adaptation, quality of life, and psychological well-being in those who suffer from it. In this context, identifying coping strategies and styles is essential to guide timely psycho-oncological interventions. Objective: To describe coping strategies and psychological styles measured using the Stress Coping Questionnaire for Oncology Patients (CAEPO) in patients treated at an oncology center in Barranquilla, Colombia. Methods: A cross-sectional observational study with a

depression	descriptivecorrelational scope and non-probability convenience sampling was conducted. A total of 151 adults with a confirmed cancer diagnosis, treated between May and September 2024, participated. The CAEPO, composed of 40 items grouped into seven scales, was applied. Descriptive statistics, decatypes, predominant coping style, and Spearman correlations were calculated, with a significance level of $p < .05$. Results: Of the participants, 66.9% were women, and the most represented age groups were 60–69 years (32.5%) and 50–59 years (23.8%). A negative coping style was identified in 53.6% of participants, while 40.4% showed a positive style and 6.0% a neutral style. Adaptive scales showed higher mean scores, particularly Fighting Spirit ($M = 22,22$; $SD = 3.74$). Positive correlations were observed between ELA–ACE ($\rho = .74$) and APA–HD ($\rho = .69$). Conclusions: Negative coping predominated, although adaptive and maladaptive strategies coexisted. The CAEPO allowed the identification of psychological profiles useful for strengthening emotional support and clinical interventions in oncology patients.

INTRODUCTION

Cancer continues to be one of the leading causes of the global burden of disease, representing a significant challenge for healthcare systems worldwide. According to recent estimates, in 2020, approximately 19.3 million new cases and nearly 10 million deaths attributable to this disease were recorded, evidencing its persistent impact on global public health (Sung et al., 2021). In Colombia, incidence and mortality figures for the most frequent types of cancer reflect a growing problem that demands a comprehensive response from the healthcare system, addressing not only the biomedical component but also the psychosocial dimensions of care (Pardo-Ramos & Cendales-Duarte, 2023). Beyond its clinical dimension, a cancer diagnosis constitutes a highly disruptive experience that involves a significant emotional burden for the patient, affecting their psychological well-being, therapeutic adherence, and quality of life. In this context, coping strategies acquire a central role in adaptation processes, as they influence the way individuals interpret and manage the demands derived from the disease (Folkman & Greer, 2000; Urcuyo et al., 2005). From a theoretical perspective, coping has been conceptualized as a set of cognitive and behavioral efforts aimed at managing situations perceived as overwhelming relative to the individual's resources (Lazarus & Folkman, 1984).

The transactional model of Lazarus and Folkman has been widely adopted in the field of psycho-oncology by distinguishing between problem-focused strategies and those oriented toward emotional regulation, allowing for a more comprehensive understanding of the patient's adaptive response to cancer (Lazarus & Folkman, 1984). Based on this conceptual framework, various studies have documented that strategies such as active coping, emotional self-control, and seeking social support are associated with better levels of psychological well-being, while styles characterized by anxiety, avoidance, or resignation are related to higher levels of emotional distress (Ghanem et al., 2019).

In the Latin American context, although research interest regarding coping in oncology patients has increased, gaps persist in the generation of contextualized evidence that

allows for an understanding of these dynamics from specific sociocultural realities. Studies conducted in the region have shown that patients may alternate between adaptive and maladaptive strategies, suggesting that coping is a dynamic process influenced by individual, clinical, and social factors (Rivera-Cruzatt et al., 2022).

In this scenario, the Coping with Stress Questionnaire for Oncology Patients (CAEPO) constitutes a relevant tool for the multidimensional assessment of coping, allowing for the identification of psychological profiles based on seven scales that integrate both adaptive and maladaptive strategies (González, 2004). Its psychometric validity has been supported in different clinical contexts, consolidating it as a useful instrument in research and clinical practice in psycho-oncology (Miaja-Ávila et al., 2016).

Despite the availability of such tools, there is limited scientific production in the Colombian context that systematically explores coping strategies in cancer patients, particularly in local clinical settings. This knowledge gap hinders the design of psychoeducational interventions adjusted to the actual needs of the population.

In this sense, the present study aims to describe the coping strategies and psychological styles measured by the CAEPO, as well as to explore the relationships between its different dimensions, in oncology patients treated at a specialized center in Barranquilla, Colombia. By doing so, it seeks to provide empirical evidence that contributes to the strengthening of the psychosocial approach in oncology from a contextualized perspective oriented toward clinical practice.

MATERIALS AND METHODS

A study was conducted with a quantitative approach, of an observational, cross-sectional type, and with a descriptive-correlational scope. This design allowed for the characterization of psychological coping strategies and styles in cancer patients at a specific point in time and the exploration of relationships between the dimensions evaluated by the Coping with Stress Questionnaire for Oncology Patients (CAEPO), without intervening in the study variables. The methodological structuring followed the general guidelines for observational studies described in the STROBE statement (von Elm et al., 2007).

Population and Sample

The population consisted of adult patients with a confirmed diagnosis of cancer treated at an oncology center in Barranquilla, Colombia, between May and September 2024. The sample was composed of 151 participants selected through non-probability convenience sampling, according to the accessibility of the patients during the collection period. This sample allowed for the inclusion of individuals of both sexes and from different age groups, favoring the description of a wide range of psychological responses to the disease.

Inclusion and Exclusion

Criteria Patients over 18 years of age, of both sexes, with a confirmed diagnosis of cancer and sufficient cognitive and communicative capacity to understand and respond to the instrument autonomously were included. Patients in critical condition or with evident cognitive alterations that prevented valid participation were excluded, as well as those who did not agree to participate voluntarily in the study.

Measurement Instrument

For data collection, the Coping with Stress Questionnaire for Oncology Patients (CAEPO) was used, an instrument specifically designed for the cancer population and originally developed in the Spanish language (González, 2004). The questionnaire consists of 40 items with a four-option Likert-type response format, with scores from 0 to 3, where 0 corresponds to "never" and 3 to "almost always."

The CAEPO evaluates seven coping scales: Fighting Spirit (ELA), Self-control and Emotional Control (ACE), Seeking Social Support (BAS), Anxiety and Anxious Preoccupation (APA), Passivity and Passive Resignation (PRP), Escape and Distancing (HD), and Denial (N). From these scales, two composite indicators were calculated: a positive coping subtotal, derived from the sum of ELA, ACE, and BAS, and a negative coping subtotal, obtained from the sum of APA, PRP, HD, and N. The psychometric validity of the instrument has been previously documented in the oncology population (Miaja-Ávila et al., 2016).

Scoring Procedure

The interpretation of the results was carried out according to the guidelines of the instrument's original manual (González, 2004). First, the total scores corresponding to each of the seven scales were calculated. Subsequently, the positive and negative coping subtotals were obtained.

Then, these subtotals were transformed into sten scores (decatypes), understood as standardized scores with a theoretical mean of 5, a standard deviation of 2, and a range from 1 to 10. The transformation was performed using the expression:

$$\text{Decatype} = [((X - \text{sample mean}) / \text{sample SD}) \times 2] + 5$$

where X corresponds to the individual score of the participant in the positive or negative subtotal.

Finally, the predominant coping style was determined by comparing the positive decatype and the negative decatype. It was classified as a positive style when the positive decatype was higher than the negative one, a negative style when the opposite occurred, and a neutral style when both decatypes were equal. Additionally, dichotomous variables were constructed to identify cases with high scores in each scale, considering as "high" any value equal to or greater than the 75th percentile.

Data Collection Procedure

The information was collected during the period between May and September 2024. Once eligible patients were identified at the institution, they were informed of the purpose of the study, compliance with inclusion criteria was verified, and subsequently, written informed consent was requested.

The instrument was applied individually under conditions that guaranteed privacy, understanding of the questionnaire, and respect for the clinical and emotional state of each participant. Upon completion of the application, the data were organized in a Microsoft Excel 365 database, where integrity control, record debugging, and variable coding were performed before statistical analysis.

Statistical Analysis

Data processing was carried out using IBM SPSS Statistics, version 27. For quantitative variables, measures of central tendency and dispersion were calculated, including mean,

standard deviation, minimum and maximum values, median, and 25th and 75th percentiles. For qualitative variables, absolute frequencies and percentages were estimated.

Given that the distribution of scores did not guarantee normality, which was verified using the Kolmogorov-Smirnov and Shapiro-Wilk tests (Razali & Wah, 2011; Shapiro & Wilk, 1965), Spearman correlations were employed to explore the relationship between the CAEPO scales, as this was considered the most appropriate procedure for this type of data.

To compare proportions between categorical variables, especially in identifying cases with high scores according to coping style, Pearson's χ^2 test was used, and when assumptions were not met, Fisher's exact test was applied (Kim, 2017). In all analyses, a statistical significance level of $p < .05$ was adopted.

Ethical Considerations

The study was developed in accordance with the ethical principles for research involving human subjects established in Resolution 8430 of 1993 of the Ministry of Health of Colombia and the Declaration of Helsinki (Ministerio de Salud de Colombia, 1993; World Medical Association, 2013). Due to the characteristics of the procedure, based on the application of a self-administered psychological questionnaire without clinical or invasive intervention, the research was classified as minimal risk.

Participation was completely voluntary. All patients signed an informed consent form after receiving clear information about the study objectives, data confidentiality, and their right to withdraw at any time without repercussions for their care. Information was pseudonymized using alphanumeric codes and stored on secure media with restricted access to the research team.

Furthermore, in cases where manifestations of significant emotional distress were identified during the application of the instrument, the institutional referral pathway to psychology or psycho-oncology services was activated. The processing of personal data complied with the provisions of Law 1581 of 2012 on personal data protection in Colombia. The protocol received institutional approval from the Research Ethics Committee of the Metropolitan University of Barranquilla, according to Scientific Committee Minutes No. 683 of October 2, 2023, and Bioethics Committee Minutes No. 011 of November 30, 2023.

RESULTS

The sample consisted of 151 oncology patients treated at a specialized center in Barranquilla, Colombia. Of the total, 66.9% were female (n = 101) and 33.1% were male (n = 50). Regarding the distribution by age groups, the most representative ranges were 60 to 69 years (32.5%) and 50 to 59 years (23.8%), followed by the 40 to 49 age group (18.5%) (see Table 1).

Table 1.
Distribution of participants by sex and age group.

Variable	Category	Frequency (n)	Percentage (%)
Sex	Woman	101	66.9
Sex	Man	50	33.1
Age Group	30 - 39	15	9.9
Age Group	40 – 49	28	18.5

Age Group	50 – 59	36	23.8
Age Group	60 – 69	49	32.5
Age Group	70 – 79	12	7.9
Age Group	80 - 89	11	7.3

Source: Own elaboration based on data from the CAEPO questionnaire.

The scales of the Coping with Stress Questionnaire for Oncology Patients (CAEPO) showed higher averages in adaptive dimensions. The Fighting Spirit (ELA) scale presented the highest mean (M = 22.22; SD = 3.74), followed by Self-control and Emotional Control (ACE) (M = 17.09; SD = 3.18) and Seeking Social Support (BAS) (M = 9.62; SD = 2.03). Among the non-adaptive scales, the highest was Anxiety and Anxious Preoccupation (APA) (M = 9.40; SD = 4.56), followed by Escape and Distancing (HD) (M = 11.03; SD = 3.66) and Passivity and Passive Resignation (PRP) (M = 10.01; SD = 3.77), which reflects the presence of high-risk emotional responses in a relevant proportion of participants (see Table 2).

Table 2.
Descriptive statistics of the CAEPO scales in oncology patients.

Scale	Mean	Std.Dev	Minimum	P25	Median	P75	Maximum
ELA	22.22	3.74	13	19.0	23	25.0	27
ACE	17.09	3.18	6	14.0	17	20.0	21
BAS	9.62	2.03	3	8.5	10	11.0	12
APA	9.4	4.56	0	5.5	10	13.5	18
PRP	10.01	3.77	0	8.0	11	13.0	15
HD	11.03	3.66	3	9.0	12	14.0	18
N	3.74	2.0	0	2.0	4	5.0	8

Source: Own elaboration based on data from the CAEPO questionnaire.
Notes: ELA: Fighting Spirit; ACE: Self-control and Emotional Control; BAS: Seeking Social Support; APA: Anxiety and Anxious Preoccupation; PRP: Passivity and Passive Resignation; HD: Escape and Distancing; N: Denial.

Regarding coping style, 53.6% of the participants were classified with a negative style, 40.4% with a positive style, and 6.0% as neutral. The decatypes showed a distribution close to the theoretical mean (M = 5; SD ≈ 2), with values of 5.07 (SD = 2.00) for positive coping and 4.99 (SD = 2.05) for negative coping, evidencing variability in coping profiles (see Table 3).

Table 3.
Distribution of coping style and decatypes in oncology patients.

Variable	Category	Frequency (n)	Percentage (%)	M	SD
Coping Style	Negative	81	53.6	—	—
Coping Style	Positive	61	40.4	—	—
Coping Style	Neutral	9	6.0	—	—
Positive Decatype	—	—	—	5.07	2.00
Negative Decatype	—	—	—	4.99	2.05

Source: Own elaboration based on data from the CAEPO questionnaire.
Note: Decatypes correspond to standardized scores with a theoretical mean of 5 and a standard deviation of 2.

Regarding high scores (≥ 75th percentile), significant frequencies were observed in both

adaptive and non-adaptive scales. The highest proportions were recorded in Denial (38.4%), Seeking Social Support (37.7%), and Fighting Spirit (33.1%). Likewise, scales such as Passivity (27.8%) and Anxiety (25.2%) showed relevant values, indicating the coexistence of functional and dysfunctional strategies within the same population (see Table 4).

Table 4.
Proportion of cases with high scores (≥ P75) by CAEPO scale.

Scale	Cases ≥ P75 (n)	Percentage (%)
ELA	50	33.1
ACE	43	28.5
BAS	57	37.7
APA	38	25.2
PRP	42	27.8
HD	39	25.8
N	58	38.4

Source: Own elaboration based on data from the CAEPO questionnaire.
Note: P75 = 75th percentile.

When analyzing the distribution of high scores according to coping style, it was observed that patients with a positive style presented higher proportions in the adaptive scales ELA (68.9%), ACE (62.3%), and BAS (59.0%). In contrast, the negative style was characterized by higher proportions in Denial (60.5%), Anxiety (46.9%), and Escape (40.7%), which confirms the internal consistency of the style classification (see Table 5).

Table 5.
Percentage of cases with high scores according to coping style.

Scale	Negative (%)	Neutral (%)	Positive (%)
ELA	8.6	11.1	68.9
ACE	6.2	0.0	62.3
BAS	19.8	55.6	59.0
APA	46.9	0.0	0.0
PRP	37.0	22.2	16.4
HD	40.7	11.1	8.2
N	60.5	11.1	13.1

Source: Own elaboration based on data from the CAEPO questionnaire.
ELA: Fighting Spirit; ACE: Self-control and Emotional Control; BAS: Seeking Social Support; APA: Anxiety and Anxious Preoccupation; PRP: Passivity and Passive Resignation; HD: Escape and Distancing; N: Denial.
Note: Values expressed as a percentage of participants with scores ≥ P75 according to coping style.

Finally, Spearman correlations between the CAEPO scales evidenced significant associations. Positive relationships stood out between ELA and ACE ($\rho = 0.74$) and between ELA and BAS ($\rho = 0.56$), indicating joint activation of adaptive strategies. In the dysfunctional dimensions, correlations were observed between Anxiety and Escape ($\rho = 0.69$) and between Escape and Denial ($\rho = 0.51$), suggesting emotionally vulnerable coping patterns (see Table 6).

Table 6.
Spearman correlations between CAEPO scales.

Scale	ELA	ACE	BAS	APA	PRP	HD	N
ELA	1.0	0.74	0.56	-0.31	0.16	-0.18	-0.33
ACE	0.74	1.0	0.48	-0.31	0.16	-0.18	-0.22
BAS	0.56	0.48	1.0	-0.11	0.23	-0.03	-0.12
APA	-0.31	-0.31	-0.11	1.0	0.49	0.69	0.48
PRP	0.16	0.16	0.23	0.49	1.0	0.38	0.19
HD	-0.18	-0.18	-0.03	0.69	0.38	1.0	0.51
N	-0.33	-0.22	-0.12	0.48	0.19	0.51	1.0

Source: Own elaboration based on data from the CAEPO questionnaire.
ELA: Fighting Spirit; ACE: Self-control and Emotional Control; BAS: Seeking Social Support; APA: Anxiety and Anxious Preoccupation; PRP: Passivity and Passive Resignation; HD: Escape and Distancing; N: Denial.
Note: Spearman correlation coefficients (ρ). Values close to ±1 indicate a stronger association.

DISCUSSION

The results of the present study evidence a predominance of the negative coping style in oncology patients (53.6%), which is consistent with the evidence reported in Latin American contexts. Previous research has pointed out that strategies such as anxiety, avoidance, and resignation tend to be associated with higher levels of psychological distress in this population (Cáceres-Méndez et al., 2020; González-Forteza et al., 2018), reinforcing the external validity of the findings obtained.

Nevertheless, a significant proportion of patients with adaptive strategies was also identified, particularly Fighting Spirit, Self-control, and Social Support, which presented the highest averages. This finding coincides with what was reported by León-Jiménez et al. (2019) and Gonçalves et al. (2021), who highlight that these strategies are associated with better quality of life, greater resilience, and adaptation to the oncological process.

A relevant aspect of this study is the coexistence of adaptive and maladaptive strategies in the same individuals, suggesting that coping is not a static process, but rather dynamic and modulable according to the clinical, emotional, and social conditions of the patient. This behavior has been previously described in Latin American studies, where it is proposed that patients may alternate between different coping styles throughout the course of the disease (Castañeda-Avellaneda et al., 2020).

The correlations found between the CAEPO scales reinforce this interpretation. The positive associations between adaptive strategies (ELA–ACE–BAS) suggest the existence of integrated functional profiles, while the correlations between anxiety, escape, and denial evidence clusters of maladaptive responses, as has also been reported in the Colombian population (Rojas-Torres & Vélez, 2022).

Compared to European studies, differences are observed in the predominance of coping styles. While research in Spain reports a greater presence of active strategies even in advanced stages (Areses et al., 2017), this study evidences a greater burden of negative coping. This divergence could be explained by contextual factors, such as access to psycho-oncology services, socioeconomic conditions, and the institutional support available in health systems.

From a clinical perspective, the findings highlight the utility of the CAEPO as a tool for the identification of psychological profiles in oncology patients. The early detection of

negative coping styles allows for the guidance of psychoeducational interventions and emotional support strategies, which have demonstrated positive effects in reducing anxiety and improving therapeutic adherence (Hernández-Guzmán et al., 2021).
Likewise, the role of social support emerges as a key component in cancer coping, with direct implications for clinical practice, especially in Latin American contexts where family and community networks play a fundamental role (Pérez-Rivera & Ortega, 2018).
In terms of scientific contribution, this study contributes to the understanding of coping in oncology patients from a local context, evidencing the need for culturally relevant interventions. The identification of mixed coping profiles opens the possibility of developing comprehensive strategies that not only reduce emotional distress but also enhance the adaptive resources of the patient.

CONCLUSIONS

In the population of oncology patients treated at a specialized center in Barranquilla, Colombia, a predominance of negative coping style was evidenced, characterized mainly by the presence of anxiety, denial, passivity, and avoidance behaviors. Nevertheless, a relevant proportion of patients who employ adaptive strategies, such as active coping, emotional self-control, and seeking social support, was also identified, reflecting the coexistence of functional and dysfunctional resources in the cancer coping process.
The findings confirm that coping in oncology patients is not a homogeneous or static phenomenon, but rather dynamic and multidimensional, influenced by individual, emotional, and contextual factors. The simultaneous presence of adaptive and maladaptive strategies suggests the need for comprehensive approaches that not only reduce psychological distress but also enhance positive coping resources.

From a clinical point of view, the use of the Coping with Stress Questionnaire for Oncology Patients (CAEPO) proved to be a useful tool for the identification of psychological profiles, allowing for the detection of patients with greater emotional vulnerability. This facilitates the implementation of timely psychoeducational interventions oriented toward improving adaptation to the disease, strengthening therapeutic adherence, and promoting psychological well-being.
In terms of scientific contribution, this study contributes to the generation of contextualized evidence in the Latin American field, where gaps still persist in the understanding of coping in patients with cancer. Likewise, it highlights the importance of incorporating the psychosocial component as a fundamental part of comprehensive oncology care.
Finally, the design and implementation of culturally relevant psychosocial intervention programs are recommended to strengthen adaptive strategies and decrease maladaptive responses, thus contributing to improving the quality of life of people with cancer in similar clinical contexts.

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Conflict of Interest

The authors declare that there is no conflict of interest of a financial, academic, institutional, or personal nature that could have influenced the development of the research, the interpretation of the results, or the drafting of this manuscript.

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