

ORIGINAL RESEARCH

Family functioning and coping strategies in men with newly diagnosed cancer in Mexico: a cross-sectional study

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Abstract

Background: Coping with cancer is influenced by both individual and contextual factors, including family functioning, yet evidence focusing on male patients in Latin American settings remains limited. This study examined the association between family functioning and coping strategies in men recently diagnosed with cancer. **Methods:** A cross-sectional study was conducted in 98 adult male patients with a recent cancer diagnosis. Family functioning was assessed using the Perception of Family Functioning (FF-SIL) instrument, and coping strategies were evaluated with the Coping Strategies Inventory (CSI). Coping was categorized into active and passive strategies based on CSI subscales. Associations were explored using descriptive statistics and chi square tests or Fisher's exact tests. **Results:** The mean age was 53.89 ± 16.57 years. Active coping strategies were observed in 71.4% participants, and 67.3% belonged to functional families. Problem-solving (36.7%) and cognitive restructuring (19.4%) were the most frequent active strategy, while social withdrawal (17.3%) was the most common passive strategy. Significant associations were identified between coping strategies and marital status, treatment status, primary caregiver, and family functioning. Functional family status was associated with lower odds of passive coping (Odds Ratio ≈ 0.007), although this estimate should be interpreted with caution due to small cell counts. **Conclusions:** Family functioning is associated with coping strategies among male cancer patients in this sample. These findings should be interpreted cautiously given the cross-sectional design and absence of adjustment for potential confounders.

Keywords

Cancer; Family characteristics; Coping strategies; Mental health

1. Introduction

Cancer diagnosis represents a significant psychological stressor, frequently associated with emotional distress and uncertainty [1]. These responses may affect patients' ability to manage the demands of treatment and adaptation to illness [2].

Cancer represents an important public health problem, with variations in incidence and mortality across tumor types and age groups [3]. However, while epidemiological data describe the magnitude of the problem, they do not fully capture the psychosocial processes that shape patients' responses to diagnosis and treatment [4].

Coping is a process through which individuals manage the demands associated with stressful situations. In the context of cancer, coping strategies may vary depending on both individual characteristics and contextual factors, including social and family environments [5].

Family functioning refers to the ability of the family system

to adapt, communicate, and maintain cohesion when facing stressful events. In cancer, the family context plays a relevant role, as diagnosis and treatment often involve changes in roles, emotional dynamics, and daily functioning [6].

Although coping with cancer has been studied in different populations, evidence focusing specifically on men remains limited [7]. This is relevant because coping patterns may vary according to gender, potentially influencing how individuals respond to illness-related stress [8]. In Mexico, research addressing coping strategies in male cancer patients is scarce, particularly in relation to family context.

Coping with cancer can be understood within the framework of stress and coping theory, which conceptualizes coping as a dynamic process through which individuals manage demands perceived as stressful [9]. Within this framework, coping responses are influenced not only by individual characteristics, but also by interpersonal and family-related dynamics, which may shape how individuals adapt to stressful health-related

situations [10].

From a family systems perspective, the family operates as an interconnected unit in which changes affecting one member influence the functioning of the entire system [11]. In the context of cancer, diagnosis and treatment may disrupt established roles and interactions, requiring adaptive responses from the family. The way in which the family system responds—through communication, cohesion, and support—may shape how patients cope with illness-related stress [12].

Additionally, coping processes may be influenced by gender-related factors. In male populations, coping patterns may be shaped by social norms related to masculinity, which can influence emotional expression, help-seeking behaviors, and preferred coping strategies [13].

Based on these perspectives, this study assumes that family functioning may be associated with coping strategies, as a more cohesive and adaptive family environment may facilitate the use of active coping responses, whereas less functional family dynamics may be related to more avoidant or passive strategies [14].

Given this gap, the aim of this study was to examine the association between family functioning and coping strategies in male patients recently diagnosed with cancer in a clinical setting.

2. Materials and methods

2.1 Study design

This was a descriptive, observational, and cross-sectional study. The study population consisted of male patients who received a recent cancer diagnosis at Regional General Hospital No. 17 (HGR No. 17) of the Mexican Social Security Institute (IMSS) during the period from 01 July 2020, to 31 December 2020.

2.2 Eligibility

A non-probabilistic, consecutive convenience sampling method was employed. Male patients aged 18 to 90 years with a recent cancer diagnosis were included. Exclusion criteria were (a) patients presenting for follow-up appointments, (b) patients with benign neoplasms, and (c) patients undergoing pharmacological antidepressant treatment. Patients who chose to withdraw from the study were excluded from the final analysis.

2.3 Data collection methods

To measure family functionality, the Family Functioning Perception Inventory (FF-SIL) was applied. This instrument was developed by the Master's Program in Health Psychology to quantitatively and qualitatively assess family functionality based on cohesion, harmony, communication, permeability, affectivity, roles, and adaptability [15]. Previous studies have reported adequate internal consistency for this instrument, with Cronbach's alpha values generally above 0.80 in Latin American populations [16–18]. However, its psychometric performance has not been consistently examined in male oncology populations.

To assess coping, the Coping Strategies Inventory (CSI) was used. This scale is composed of eight primary scales, four of which correspond to active coping strategies and four to passive coping strategies [19]. The strategy in the first group focused on problem-solving (cognitive and behavioral strategies aimed at eliminating stress by modifying the situation that produces it), cognitive restructuring (changing the meaning of the stressful situation), social support (seeking emotional support), and emotional expression (releasing emotions that arise during the stress process). The passive coping strategies it measures are problem avoidance (negotiation and avoidance of thoughts or actions related to the stressful event), social withdrawal (withdrawal from friends, family, colleagues, and significant others, associated with the emotional reaction to the stressful process), and self-criticism (self-blame and self-criticism for the occurrence of the stressful situation or its inadequate handling). The CSI has demonstrated adequate psychometric properties in Spanish-speaking populations, including acceptable internal consistency and construct validity, with Cronbach's alpha coefficients ranging approximately from 0.63 to 0.89 across subscales [20].

Variable: Coping strategies were assessed using the CSI, which includes eight subscales representing different coping responses. For analytical purposes, these subscales were grouped into active coping (problem-solving, cognitive restructuring, social support, and emotional expression) and passive coping (problem avoidance, social withdrawal, wishful thinking, and self-criticism).

Participants were classified into active or passive coping categories based on the predominant coping domain derived from CSI subscale scores. For each participant, subscale scores corresponding to active coping (problem-solving, cognitive restructuring, social support, and emotional expression) and passive coping (self-criticism, wishful thinking, problem avoidance, and social withdrawal) were summed. Participants were assigned to the category with the higher cumulative score. In cases of equal scores, classification was based on the highest individual subscale score.

2.4 Statistical analysis

Data were entered and analyzed using SPSS version 22.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics were used to summarize the sample characteristics. Categorical variables were presented as frequencies and percentages, and continuous variables as means and standard deviations. Associations between coping strategies (active vs. passive) and independent variables were evaluated using Pearson's chi-square (χ^2) test. When expected cell counts were less than 5, Fisher's exact test was used.

Given the exploratory nature of the study and the sample size, no multivariable analysis was performed. Therefore, results are presented as unadjusted associations. For selected comparisons of clinical relevance, crude odds ratios (OR) with 95% confidence intervals (CI) were calculated using 2×2 contingency tables to estimate the magnitude of association. These estimates should be interpreted with caution due to small cell counts and potential instability.

All statistical tests were two-tailed, and a p -value < 0.05

was considered statistically significant.

3. Results

3.1 Sociodemographic characteristics

From the total number of patients interviewed, a sample of 98 male patients who met the inclusion criteria was selected. The age of the patients ranged from 20 to 88 years, with a mean of 53.89 ± 16.57 years. Most patients (94.9%) resided in urban areas.

Regarding marital status, 68.4% were married. All participants (100%) identified as heterosexual. The predominant occupation was employed (57.1%). The most common educational levels were middle school (34.7%) and high school (30.6%). The simple nuclear family was the predominant family type at (55.1%) (Table 1).

TABLE 1. Sociodemographic characteristics of the study population (n = 98).

Variable	n	%	95% CI
Residence			
Rural	5	5.1	0.74–9.46
Urban	93	94.9	90.54–99.26
Age group (yr)			
20–29	14	14.3	7.36–21.22
30–39	9	9.2	3.46–14.90
40–49	13	13.3	6.55–19.99
50–59	21	21.4	13.31–29.55
60–69	26	26.5	17.79–35.27
70–79	11	11.2	4.97–17.47
80–89	4	4.1	0.16–8.00
Marital status			
Single	3	3.1	—
Married	67	68.4	59.20–77.60
Divorced	4	4.1	0.17–8.03
Widowed	6	6.1	1.36–10.84
Common-law	18	18.4	10.73–26.07
Occupation			
Homemaker	21	21.4	13.28–29.52
Employed	56	57.1	47.30–66.90
Retired	21	21.4	13.28–29.52
Educational level			
None	3	3.1	—
Elementary school	22	22.4	14.15–30.65
Middle school	34	34.7	25.28–44.12
High school	30	30.6	21.48–39.72
University degree	9	9.2	3.48–14.92
Family typology			
Nuclear	54	55.1	45.25–64.95
Single nuclear	36	36.7	27.16–46.24
Multiple nuclear	2	2.0	—
Single parent	4	4.1	0.17–8.03
Reconstructed	2	2.0	—

CI: Confidence interval.

3.2 Clinical characteristics

Regarding clinical characteristics, arterial hypertension was present in 52.0% of patients, and type 2 diabetes mellitus in 13.3%. A history of smoking was reported by 56.1% of participants, while 7.1% had a family history of cancer. The primary caregiver was the spouse in 53.1% of cases. The most frequent cancer types were testicular (27.6%), rectal (20.4%), and prostate cancer (18.4%). The mean time since diagnosis was 10.2 ± 3.9 weeks.

3.3 Family functioning and coping strategies

Regarding family functioning, 67.3% of participants were classified as belonging to functional families. In terms of coping strategies, 71.4% of patients demonstrated active coping. The most frequently reported active strategies were problem-solving (36.7%) and cognitive restructuring (19.4%). Among passive strategies, social withdrawal (17.3%) and self-criticism (5.1%) were the most common. Detailed distributions are shown in Table 2.

TABLE 2. Family functionality variables and coping strategies.

	n	%	95% CI [min–max]
Family functionality			
Functional	66	67.3	58.01–76.59
Moderately functional	32	32.7	23.41–41.99
Coping strategies			
Problem-solving	36	36.7	27.16–46.24
Emotional expression	8	8.2	2.77–13.63
Social support	7	7.1	2.02–12.18
Cognitive restructuring	19	19.4	11.57–27.23
Self-criticism	5	5.1	0.74–9.46
Wishful thinking	3	3.1	0.33–6.53
Problem avoidance	3	3.1	0.33–6.53
Social withdrawal	17	17.3	9.81–24.79

n: Frequency; %: Percentage; CI: Confidence interval; min: minimum; max: maximum.

3.4 Marital status and coping strategies

Marital status was significantly associated with coping strategies ($p < 0.001$). A higher proportion of married participants (82.1%) and those in common-law relationships (77.8%) exhibited active coping strategies compared with other groups. In contrast, passive coping predominated among single, divorced, and widowed participants (Table 3).

In addition to the primary analysis, an exploratory analysis of individual coping dimensions was conducted. Differences in the distribution of specific coping strategies were observed across marital status categories. For example, problem-solving and cognitive restructuring were more frequently reported among married participants, whereas social withdrawal

TABLE 3. Marital status and coping strategies (n = 98).

Marital status	Active coping n (%)	Passive coping n (%)	Total n	p-value
Single	0 (0.0)	3 (100.0)	3	<0.001
Married	55 (82.1)	12 (17.9)	67	
Divorced	0 (0.0)	4 (100.0)	4	
Widowed	1 (16.7)	5 (83.3)	6	
Common-law	14 (77.8)	4 (22.2)	18	
Total	70 (71.4)	28 (28.6)	98	

Data are presented as frequency (percentage). Coping strategies were categorized into active and passive groups based on CSI subscales. Active coping included problem-solving, cognitive restructuring, social support, and emotional expression, while passive coping included self-criticism, wishful thinking, problem avoidance, and social withdrawal. p-values were calculated using Pearson's chi-square test or Fisher's exact test when appropriate.

was more frequent among widowed and single participants (Table 3).

Given the sample size, these findings should be interpreted as descriptive and exploratory (Supplementary Table 1).

3.5 Treatment type dimension and relationship with coping strategies

Treatment status was significantly associated with coping strategies ($p = 0.001$). A higher proportion of patients not receiving treatment exhibited active coping strategies compared with those undergoing chemotherapy. Passive coping strategies were more frequent among patients receiving chemotherapy (Table 4).

Additionally, an exploratory analysis of individual coping dimensions showed variation across treatment groups, particularly in cognitive restructuring and social withdrawal (Supplementary Table 2). These findings should be interpreted descriptively.

3.6 Primary caregiver dimension and relationship with coping strategies

Regarding the relationship between the problem-solving coping strategy and the primary caregiver, a significant association ($p = 0.026$) was found between active coping and having a wife as the primary caregiver. In contrast, the passive strategy of Social Withdrawal was most common when the caregivers were the patient's children (Table 5). Detailed exploratory results are provided in Supplementary Table 3.

A significant association was observed between family functioning and coping strategies ($p = 0.026$). Participants classified as belonging to functional families showed a higher proportion of active coping strategies compared with those from moderately functional families (Table 6).

4. Discussion

This study examined coping strategies in men with a recent cancer diagnosis, with particular attention to family-related factors. The findings suggest that coping strategies vary according to family functioning and caregiving context during the early stages of the disease.

Men with cancer in the initial phase of diagnosis remain relatively understudied from a family medicine perspective. In many healthcare systems, patients are referred from primary care to higher levels of care shortly after diagnosis, which may limit continuity and reduce the opportunity to assess family dynamics in early stages. Conducting this study in a second-level hospital allowed access to patients during this transition period.

In this sample, the spouse was the most frequent primary caregiver, which is consistent with culturally influenced caregiving patterns [21–23]. Patients whose primary caregiver was their spouse showed a higher proportion of active coping strategies, whereas passive coping, particularly social withdrawal, was more frequent when caregiving was provided by children. These findings suggest that differences in caregiving roles may be associated with distinct coping patterns, although this interpretation should be considered exploratory.

From a family systems perspective, these patterns may reflect variations in relational dynamics, such as emotional closeness, role expectations, and communication within the family [10]. However, these mechanisms were not directly measured and therefore cannot be confirmed in this study.

The association observed between treatment status and coping strategies reflects differences in the distribution of coping responses rather than a clear directional relationship. Although a higher proportion of active coping was observed among patients not receiving treatment, this finding should not be interpreted as a causal or specific association, given the cross-sectional design and absence of adjustment for potential confounders.

Similarly, family functioning was strongly associated with coping strategies, with patients from functional families more frequently exhibiting active coping. While this finding aligns with existing literature emphasizing the protective role of cohesive and supportive family environments [6, 14], the marked imbalance in the distribution of coping strategies across family functioning categories suggests limited variability in the data. This may have contributed to inflated estimates of association, and therefore, these results should be interpreted with caution.

This study has several strengths. First, it focuses on—men with a recent cancer diagnosis, a population that has been relatively understudied in psychosocial oncology, particularly

TABLE 4. Treatment type dimension and relationship with coping strategies (n = 98).

Treatment status	Active coping n (%)	Passive coping n (%)	Total n	p-value
None	32 (84.2)	6 (15.8)	38	0.001
Chemotherapy	38 (64.4)	21 (35.6)	59	
Palliative care	0 (0.0)	1 (100.0)	1	
Total	70 (71.4)	28 (28.6)	98	

TABLE 5. Primary caregiver dimension and relationship with coping strategies.

Primary caregiver	Active coping n (%)	Passive coping n (%)	Total n	p-value
Spouse	44 (84.6)	8 (15.4)	52	0.026
Children	26 (60.5)	17 (39.5)	43	
Parents	0 (0.0)	3 (100.0)	3	
Total	70 (71.4)	28 (28.6)	98	

Data are presented as frequency (percentage). Coping strategies were derived from CSI subscales and grouped into active and passive categories. p-values were calculated using Pearson's chi-square test.

TABLE 6. Family functionality dimension and relationship with coping strategies.

Family functioning	Active coping n (%)	Passive coping n (%)	Total n	p-value
Functional	64 (97.0)	2 (3.0)	66	0.026
Moderately functional	6 (18.8)	26 (81.2)	32	
Total	70 (71.4)	28 (28.6)	98	

A crude odds ratio was calculated for exploratory purposes; however, this estimate should be interpreted with caution due to small cell counts and potential instability ($OR \approx 0.007$).

from a family medicine perspective. Second, the inclusion of patients in the early phase following diagnosis provides insight into coping processes during a critical adjustment period. Third, the study integrates family functioning and caregiving roles, contributing to a more contextual understanding of coping strategies. Additionally, data were collected in a real-world clinical setting using structured instruments, which enhances the applicability and reproducibility of the findings.

Although the present findings highlight the relevance of family context in patients who are frequently referred to higher levels of care, as well as the potential influence of caregiver type on coping patterns, the limited number of studies addressing the role of family medicine in coping processes among oncology patients suggests an area for further research. Future studies should explore the potential contribution of primary care-based interventions, as well as longitudinal designs to better understand changes in coping strategies over time and their relationship with family functioning.

This study has several limitations. First, its cross-sectional design precludes causal inference. Second, the sample size was relatively small, particularly in some subgroups, which may have affected the stability of the estimates. Third, the absence of multivariable analysis limits the ability to control for potential confounding factors.

Fourth, the application of the CSI in oncology settings requires careful consideration, as coping responses may vary

according to disease context, gender-related experiences, and cultural factors [24, 25]. Moreover, the categorization of coping into active and passive strategies may not fully capture culturally specific patterns among male patients, particularly where gender norms influence emotional expression and help-seeking behaviors. This binary classification inevitably oversimplifies complex psychological processes.

Despite these limitations, this study contributes to the limited literature on coping strategies in men with cancer, particularly within a Latin American context and from a family medicine perspective. The findings underscore the importance of considering family dynamics and caregiving roles in the assessment and support of patients during the early stages of cancer.

Future research should incorporate longitudinal designs and more robust analytical approaches to further explore the relationship between family functioning, caregiving, and coping strategies.

An important methodological consideration relates to the potential instability of estimates derived from small or imbalanced samples. The distribution of variables, particularly the imbalance observed in some categories, may have influenced the magnitude of the observed associations.

However, an additional limitation must be acknowledged: the data were collected before 2022. Social, healthcare, and psychosocial contexts can change rapidly, and factors such as

modifications in cancer treatment protocols, shifts in public health policy, or the lingering psychosocial effects of the COVID-19 pandemic may have influenced coping patterns in more recent populations. Therefore, while the findings presented here provide a relevant reference point, they may not fully reflect current dynamics. Future research should incorporate more recent data to confirm whether these patterns persist and to examine potential changes associated with the evolving incidence of the disease and shifts in family and healthcare contexts.

The interplay between family functioning, coping strategies, and male experience in cancer care is complex and multifaceted. Effective communication within families can provide essential support, while understanding the demographic factors influencing coping is crucial for developing targeted interventions. As research continues to evolve, it is vital to integrate these insights into practice to improve the psychosocial support tailored for men facing cancer, ensuring their needs are comprehensively addressed throughout the treatment and recovery processes.

5. Conclusions

This study suggests that family environment may play a relevant role in coping strategies among men with a recent cancer diagnosis. Patients from functional families and those with a spouse as primary caregiver showed a higher proportion of active coping strategies.

These findings highlight the potential importance of considering family context in the early stages of cancer care and support the inclusion of family-related factors in patient assessment and follow-up.

Although cancer care is often centered in secondary and tertiary levels, the results of this study suggest that primary care, particularly family medicine, may contribute to a more comprehensive and continuous approach by addressing psychosocial and family-related dimensions. However, this interpretation should be taken with caution, as the present study did not evaluate clinical interventions or outcomes.

Further research is needed to explore the role of family-centered approaches and primary care involvement in coping processes among oncology patients.

AVAILABILITY OF DATA AND MATERIALS

The datasets generated and/or analyzed during this study are not publicly accessible because they contain sensitive and confidential patient information.

AUTHOR CONTRIBUTIONS

MVJB—conceptualization, methodology, investigation, writing, review, and editing, project administration, supervision. ERA—methodology, investigation, data analysis, writing—original draft, data validation. GARC—Writing—original draft, writing, review, and editing. MMCH—Writing—original draft, writing, review, and editing. MEGC—writing—original draft, writing, review, and editing. All

authors read and approved the final manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study has been approved by the Local Health Ethics Committee and the Local Health Research Committee of Regional General Hospital No. 17 (reference number R-2020-3301-087). Informed consent was obtained from all participants.

In conducting this study, international ethical standards for research were observed, as stipulated in the Nuremberg Code, the Belmont Report, and the Helsinki Code. These standards were also observed in the General Health Law of the United Mexican States and the standards and instructions for research of the Mexican Social Security Institute. Following the General Health Law on Health Research, in its Second Title, which establishes the ethical aspects of research involving human subjects, Chapter I, Article 17, this research is considered Minimum Risk Research. Under Article 23, in the case of research with minimum risk, the Ethics Committee, for justified reasons, may authorize informed consent to be obtained without written consent. Notwithstanding the above, in the present investigation, we considered the request for written informed consent.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

SUPPLEMENTARY MATERIAL

Supplementary material associated with this article can be found, in the online version, at <https://oss.jomh.org/files/article/2082730376331968512/attachment/Supplementary%20material.docx>.

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