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Dimensions of guilt among family caregivers of cancer patients with multiple chronic conditions: prevalence, psychosocial determinants, and implications for supportive care

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Abstract: Background: Families of cancer patients with multiple chronic conditions (MCCs) are experiencing an unprecedented overlap of clinical needs, emotional load, and role strain. Guilt- a multidimensional psychological-emotional experience- has been found to be another salient yet insufficiently studied phenomenon of the caregiving experience in oncological conditions complicated by comorbidity. **Objective:** The present study investigated the prevalence, dimensional structure, and psychosocial determinants of guilt in family caregivers of cancer patients with MCCs with the aim of guiding specific supportive care interventions. **Methods:** Cross-sectional survey was carried out among 312 family caregivers who were recruited in four regional hospitals oncology centers. Measurements (tools) were Caregiver Guilt Questionnaire (CGQ), Zarit Burden Interview (ZBI), PHQ-9, GAD-7, MOS Social Support Survey (MOS-SSS), and Self-Efficacy for Giving Care Scale (SGSES). It involved performing hierarchical multiple regression analysis to determine predictors of the dimensions of guilt. **Results:** The prevalence of guilt was 76.9% among caregivers. It was found that there were six dimensions of guilt, namely neglect guilt (79.2%), inadequacy guilt (74.4%), self-care guilt (71.8%), resentment guilt (68.3%), emotional ambivalence guilt (63.1%), and comparative guilt (58.7%). Important positive predictors were caregiver burden ($\beta = 0.38$), number of patient MCCs ($\beta = 0.22$), anxiety ($\beta = 0.21$), and depression ($\beta = 0.18$) with social support ($\beta = -0.19$) and self-efficacy ($\beta = -0.16$) being protective. The regression model explained 54% of variance in composite guilt ($R^2 = 0.54$). **Conclusion:** The multidimensionality of caregiver guilt during cancer and MCCs is widespread, with a combination of burden, psychological distress, and scarcity of social resources. The structured supportive interventions on cognitive reframing, emotional validation, and social support enhancement are justified.

Keywords: caregiver guilt, cancer, multiple chronic conditions (MCCs), caregiver burden, social support, supportive care

1. Introduction

The rising complexity of cancer care has placed an ever-growing burden on informal family caregivers, spouses, adult children, siblings, and other relatives that offer unpaid care to a patient navigating diagnosis, treatment, and survivorship[1]. As much as this caregiving role is often taken due to love and necessity, it has a high psychological, physical and socioeconomic price. The complexity of caregiving is exponentially increased when cancer is present together with multiple chronic conditions (MCCs) like type 2 diabetes, hypertension, chronic obstructive pulmonary disease (COPD), or heart failure[2]. The caregiver now needs to arrange multi-specialist visits, polypharmacy, adjust to varying functional requirements, and remain emotionally present despite the unpredictable course of the disease.

Guilt is one of the psychological sequelae recorded among cancer caregivers yet it has had relatively low empirical coverage in spite of its clinical significance[3]. The concept of guilt that is often broadly understood as a self-conscious feeling that appears as a result of a perceived lack of morality or violation of internalized norms, takes on a different form in the context of caring. Caregivers can feel guilty of not giving sufficient care, of hating their job, of continuing their own pursuits that are considered selfish, of periods of wishing that the care giving role might come to a close, or of viewing their care giving activity negatively with respect to societal expectations or other caregivers[4,5].

The MCCs complication contributes to the qualitatively new sources of guilt. Caregivers will always have prioritization dilemmas when a patient needs to deal with cancer-related fatigue, dietary restrictions due to diabetes, cardiac medications, and respiratory treatment[6]. Any choice, even the most reasonable, has the threat of guilt: did I do the right need? Did I use drugs properly? Have I missed the symptom in the past? These feelings of guilt, when left unresolved and chronic, can continue to perpetuate depression, burnout, and withdrawal of care, and, in the end, destroy both the caregiver and the patient[7].

Although the problem of caregiver distress is increasingly becoming a subject of interest in the psycho-oncological literature, its multidimensionality, its different manifestations within demographic subpopulations, and how it is distinctively amplified under MCC caregiving conditions are still not well developed. The available literature has either combined guilt into more general distress scales, or narrowly addressed one type of guilt, or have studied populations without stratification by burden of comorbidity. This paper fills that gap by undertaking a systematically, theory-informed, study of the concept of guilt on six conceptually different dimensions in a large sample of cancer caregivers whose patients have the MCC diagnosis.

This study is informed by the Stress-Appraisal-Coping (SAC) model of Lazarus and Folkman, modified to caregiving situations, which postulates the development of guilt because of the appraisal of caregiving demands as being beyond one's resources and due to perceived breaches of internally held caregiving norms. Guilt expression is likely to be mediated by sociodemographic factors, contextual stressors (such as MCC burden) and psychosocial resources (social support, self-efficacy). The results should directly inform practice, especially in the design of interventions of guilt-

targeted supportive care.

2. Theoretical framework and conceptual model

The current research contextualises the concept of caregiver guilt in a biopsychosocial model which combines 3 theoretical traditions, namely: (a) Stress-Appraisal-Coping model, (b) self-discrepancy theory, and (c) social role theory. Combined, these theories suggest that guilt occurs when perceived performance of the caregiver does not meet internalized role standards (self-discrepancy), when the perceived coping resources are too few to handle caregiving demands (stress-appraisal), and when discrepancies between social roles create irresolvable tensions (social role theory).

2.1 The six-dimensional model of caregiver guilt

Our conceptualization of caregiver guilt is grounded in integrative review of the literature on psycho-oncological and caregiving literature based on six dimensions that are empirically and theoretically different[8]:

Neglect Guilt is the notion that the person taking care of the patient is not giving sufficient attention to the needs of the patient, be it time, other commitments or ignorance. This aspect is the most common in working caregivers who have to deal with work-care role conflict.

Inequacy Guilt is an experience of incompetence in undertaking caregiving activities especially those which require medical or clinical complexity. In MCC situations, where the caregiver is required to learn several disease protocols at a time, inadequacy guilt can be especially acute.

The secondary guilt is Resentment Guilt where negative emotions are directed at a patient or the role of a caregiver, which results in the self-incrimination of the negative emotions directed.

Self-care Guilt arises when caregivers find themselves feeling guilty of taking care of their own physical or mental needs -resting, socializing, doing leisure- and the patient is left to suffer. This dimension is linked to the norms of self-sacrifice that are common in collectivist and familial cultures.

Emotional Ambivalence Guilt summarizes the agony of having conflicting feelings at the same time towards the patient: love and resentment, hope and despair, attachment and a desire to relieve.

Comparative Guilt is an indication of negative social comparison, whereby the caregiver compares his or her performance against an idealized caregiving standard or other caregivers that they believe are either doing more or doing better or sacrificing more than him or her.

2.2 Conceptual framework figure

The conceptual framework of caregiver guilt was presented in **Figure 1**, where the two central dimensions of caregiver guilt are Emotional Ambivalence Guilt and Comparative Guilt, and the two pathways leading to the caregiver burden, anxiety, and depression are hypothesized.

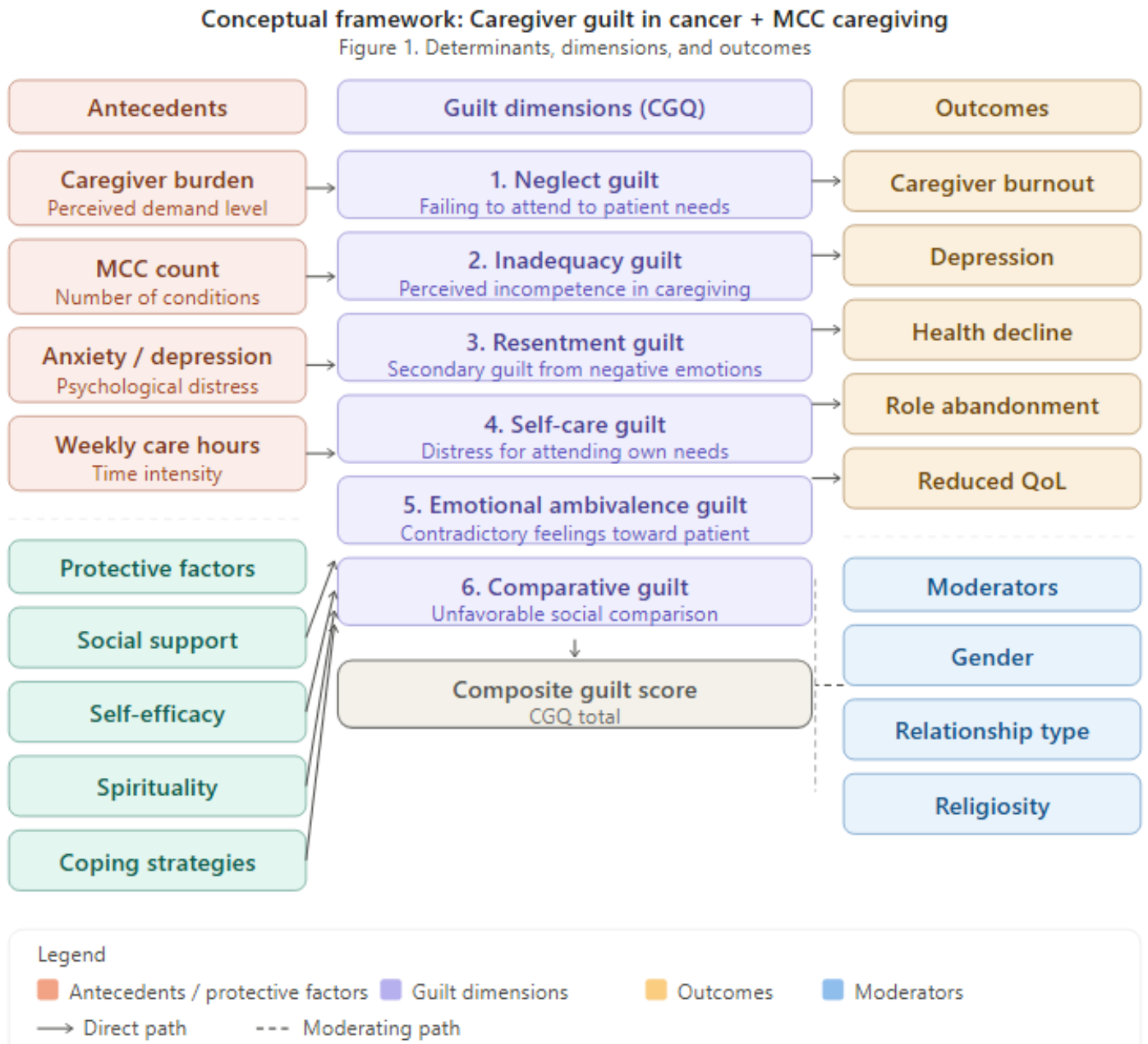


Figure 1. Caregiver Guilt Dimensions and Outcomes Conceptual Framework. Note. The framework suggests that the relationship exists between caregiving demands (e.g., MCC burden) and psychological outcomes with dimensions of guilt as the mediators and social support and self-efficacy as moderators.

3. Methods

3.1 Study design and setting

Cross-sectional survey design was used. The recruitment of the participants was conducted among the four tertiary hospitals in the region with oncology departments between January 2023 and December 2023. Purposive and snowball sampling were used to recruit. The Institutional Review Board of Wuhan University granted ethics approval (Approval No.: WHU-IRB-2023-047) and all the participants gave written informed consent before enrollment.

3.2 Participants and eligibility

Inclusion criteria included: (1) self-reported being the primary informal caregiver of a family member with cancer; (2) the cancer patient had at least one other chronic condition (MCC); (3) age of ≥ 18 years; (4) giving caregiving with a duration of ≥ 3 months; and (5) competent in the study language. The exclusion criteria were: professional paid caregivers, active psychiatric hospitalization and missing data ($> 20\%$). Out of 381 screened participants, 312 fit the eligibility criteria and were able to provide analyzable data (response rate: 81.9%).

3.3 Instruments

Caregiver Guilt Questionnaire (CGQ): The questionnaire is a 22-item-validated measure of the above six dimensions of guilt. Items will be rated using the 5-point Likert scale (1 = not at all to 5 = extremely). The means are computed as subscale and composite scores. The CGQ has high internal reliability ($\alpha = 0.91$ composite; subscale α range: 0.79-0.87) and has been validated to have construct validity in cancer care giving populations.

Zarit Burden Interview (ZBI): A 22-item validity scale of subjective caregiving burden (range: 0-88). Scores ≥ 21 indicate moderate-to-severe burden. The ZBI possesses strong psychometric qualities in a variety of caregiving groups ($\alpha = 0.88$).

Patient Health Questionnaire-9 (PHQ-9): A common 9-item depression screening instrument. Scores ≥ 10 indicate moderate-to-severe depression ($\alpha = 0.86$).

Generalized Anxiety Disorder Scale-7 (GAD-7): 7-item measure of the severity of anxiety. A score of ≥ 10 is a sign of moderate-severe anxiety ($\alpha = 0.87$).

MOS Social Support Survey (MOS-SSS): This is a survey of perceived social support availability that evaluates four areas of perceived social support, including emotional/informational, tangible, affectionate, and positive social interaction support ($\alpha = 0.97$).

Self-Efficacy for Giving Care Scale (SGSES): A 15-item scale assessing caregivers confidence in their skills to handle the demands of caregiving ($\alpha = 0.84$).

3.4 Statistical analysis

The sample and guilt dimension prevalence was described using descriptive statistics. The operationalization of prevalence was based on the fact that any guilt score beyond the lowest level of the CGQ subscale (CGQ subscale mean 1.5) was considered prevalent. The use of hierarchical multiple regression analysis was to determine predictors of composite guilt, with entering sociodemographic variables in Block 1, clinical variables in Block 2, and psychosocial variables in Block 3. All calculations were done in IBM SPSS 27.0 at a significance level of $p < .05$ (two-tailed). Effect sizes were reported as standardized beta coefficients (β) and model R^2 .

4. Results

4.1 Sample characteristics

The final sample comprised 312 participants (**Table 1**). The mean age was 48.3 ± 11.7 years; 69.9% were female. The most common types of relationships were spouses (41.0%), and adult children (34.3%). Caregivers noted an average 34.6 ± 18.2 hours of caregiving per week and a mean of 26.4 ± 19.8 months. More than half (55.8%) were working. The average patient MCCs were 2.8 ± 1.1 , with 32.1 percent of caregivers having patients with three or more concomitant conditions.

Table 1. Sociodemographic and Caregiving Characteristics of Study Participants (N = 312)

Characteristic	n (%)	Mean ± SD / %
Total Participants	n = 312	—
Age (years)		48.3 ± 11.7
18–35	54 (17.3%)	
36–50	121 (38.8%)	
51–65	103 (33.0%)	
≥ 66	34 (10.9%)	
Gender		
Female	218 (69.9%)	
Male	94 (30.1%)	
Education Level		
Secondary or below	87 (27.9%)	
Tertiary/college	143 (45.8%)	
Postgraduate	82 (26.3%)	
Relationship to Patient		
Spouse/partner	128 (41.0%)	
Adult child	107 (34.3%)	
Sibling	42 (13.5%)	
Other	35 (11.2%)	
Weekly Caregiving Hours		34.6 ± 18.2
< 20 hours	78 (25.0%)	
20–40 hours	134 (42.9%)	
> 40 hours	100 (32.1%)	
Duration of Caregiving		26.4 ± 19.8 months
Employment Status (Employed)	174 (55.8%)	
Number of Patient CCMs (Mean)		2.8 ± 1.1

Note. CCMs = concurrent chronic medical conditions; SD = standard deviation.

4.2 Prevalence and severity of guilt dimensions

On the composite CGQ caregiver scale, 76.9% of the caregivers indicated clinically meaningful levels of guilt. Neglect guilt (79.2%) was the most common followed by inadequacy guilt (74.4%), self-care guilt (71.8%), resentment guilt (68.3%), emotional ambivalence guilt (63.1%), and comparative guilt (58.7%). **Table 2** and **Figure 2** shows complete prevalence, mean scores, percentage of moderate-severe guilt and internal reliability coefficients of each dimension.

Table 2. Prevalence, Severity, and Internal Reliability of Caregiver Guilt Dimensions (N = 312)

Guilt Dimension	Prevalence (%)	Mean Score $\pm$ SD	Moderate–Severe (%)	α (Cronbach)
Neglect Guilt	79.2%	3.71 $\pm$ 1.09	52.4%	0.87
Inadequacy Guilt	74.4%	3.58 $\pm$ 1.14	48.1%	0.84
Resentment Guilt	68.3%	3.29 $\pm$ 1.22	41.7%	0.82
Self-care Guilt	71.8%	3.44 $\pm$ 1.18	44.9%	0.85
Emotional Ambivalence Guilt	63.1%	3.12 $\pm$ 1.27	37.5%	0.80
Comparative Guilt	58.7%	2.93 $\pm$ 1.31	32.1%	0.79
Composite Guilt Score	76.9%*	3.35 $\pm$ 1.04	46.2%	0.91

Note. CGQ subscale scores range 1–5; moderate-to-severe guilt defined as mean subscale score ≥ 3.5 . *Composite guilt prevalence operationalized as CGQ composite score > 1.5 .

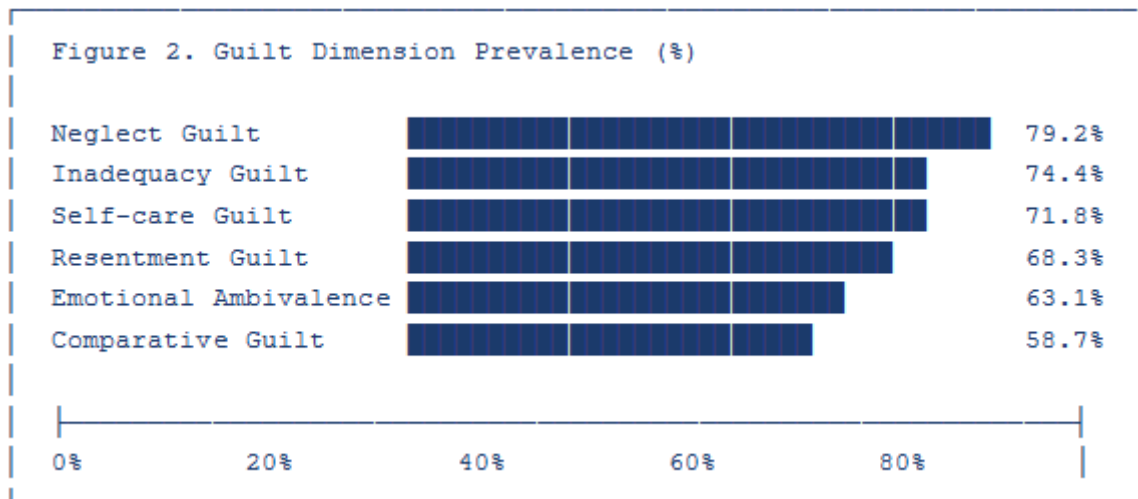


Figure 2. Prevalence (%) of Six Guilt Dimensions Among Cancer Caregivers (N = 312)

4.3 Predictors of composite caregiver guilt: hierarchical regression

The hierarchical multiple regression model was also a significant predictor of composite guilt scores $F(10, 301) = 35.7$, $p < .001$, $R^2 = 0.54$ as shown **Table 3** and **Figure 3**. The positive predictor with the highest strength was caregiver burden ($\beta = 0.38$, $p < .001$). Number of patient MCCs ($\beta = 0.22$, $p < .001$), caregiver anxiety ($\beta = 0.21$, $p < .001$), and depression ($\beta = 0.18$, $p = .005$) were also significant positive predictors. There were significant but small positive effects of the number of caregiving hours per week (0.16 , $p = .008$) and female gender (0.14 , $p = .006$). Protective factors included perceived social support ($\beta = -0.19$, $p = .001$), self-efficacy ($\beta = -0.16$, $p = .004$), spirituality/religiosity ($\beta = -0.11$, $p = .020$), and older caregiver age ($\beta = -0.10$, $p = .036$). Block-wise, a 14.2% variance was attributed to sociodemographic variables, a 22.8% variance was attributed to clinical variables, and 17.0% variance was further attributed to psychosocial variables, resulting in a total R^2 of 0.54.

Table 3. Hierarchical Multiple Regression Analysis: Predictors of Composite Caregiver Guilt Score (N = 312)

Predictor Variable	B	SE	β	p-value
Caregiver Burden (ZBI score)	0.41	0.06	0.38	< .001
Number of Patient CCMs	0.28	0.07	0.22	< .001
Anxiety (GAD-7 score)	0.19	0.05	0.21	< .001
Depression (PHQ-9 score)	0.17	0.06	0.18	.005
Weekly Caregiving Hours	0.14	0.05	0.16	.008
Social Support (MOS-SSS)	-0.22	0.06	-0.19	.001
Female Gender	0.31	0.11	0.14	.006
Self-efficacy (SGSES)	-0.18	0.06	-0.16	.004
Spirituality/religiosity	-0.12	0.05	-0.11	.020
Caregiver Age	-0.09	0.04	-0.10	.036

Model fit: $R^2 = 0.54$, $F(10,301) = 35.7$, $p < .001$

Note. ZBI = Zarit Burden Interview; GAD-7 = Generalized Anxiety Disorder Scale; PHQ-9 = Patient Health Questionnaire; MOS-SSS = MOS Social Support Survey; SGSES = Self-Efficacy for Giving Care Scale; CCMs = concurrent chronic medical conditions; B = unstandardized beta; SE = standard error; β = standardized beta coefficient.

Figure 3. Predictors of Composite Caregiver Guilt

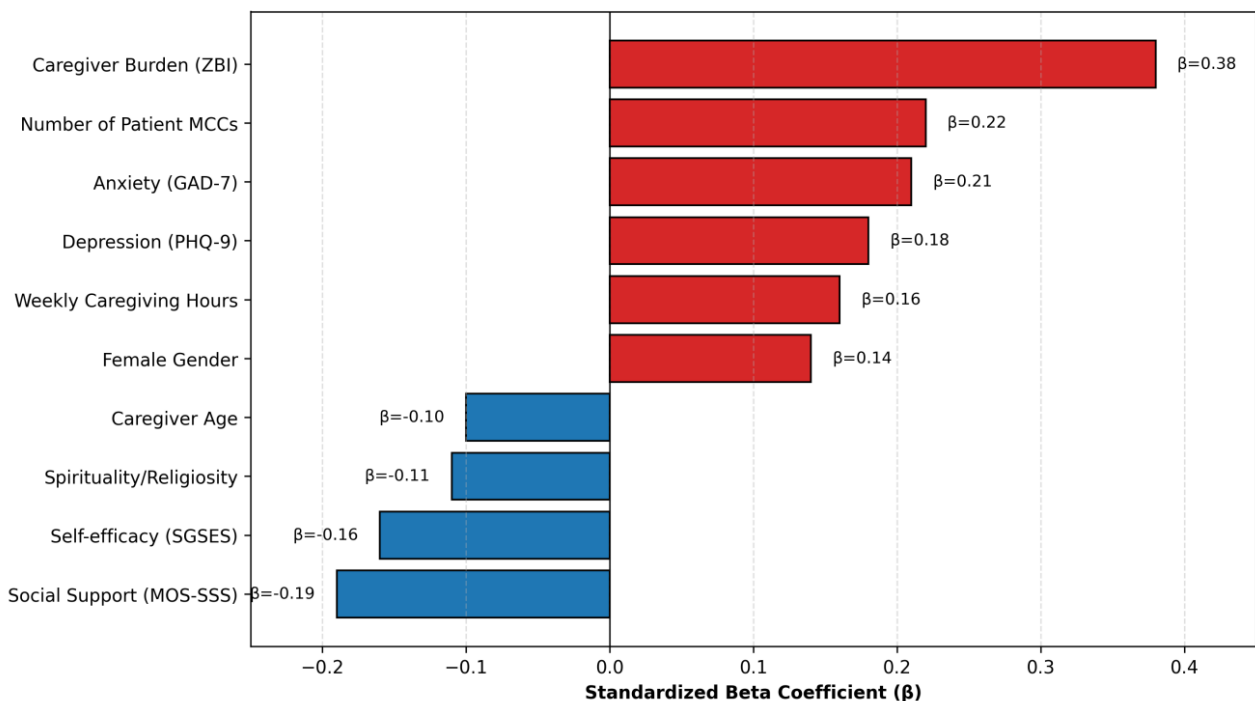


Figure 3. Predictors of Composite Caregiver Guilt in Family Caregivers of Cancer Patients with Multiple Chronic Conditions (N = 312).

Figure Legend. Horizontal bar chart displaying standardized regression coefficients (β) from the final hierarchical model. Red bars indicate risk factors

(positive β), blue bars indicate protective factors (negative β).

4.4 Subgroup differences in guilt across caregiving contexts

Table 4 shows the stratified guilt scores based on type of cancer, the burden of MCC, employment status and level of social support. The greatest guilt was reported by caregivers of lung cancer patients (composite $M = 3.61 \pm 0.98$) then colorectal cancer ($M = 3.44 \pm 1.02$) and breast cancer ($M = 3.29 \pm 1.06$). The count of MCCs showed a dose-response pattern, with higher levels of composite guilt in caregivers dealing with patients with ≥ 3 comorbidities ($M = 3.72 \pm 0.94$) than with caregivers dealing with only 1 ($M = 2.98 \pm 1.07$) or 2 conditions ($M = 3.28 \pm 1.03$). There was a high level of guilt among employed caregivers in all dimensions compared to non-employed ones and this is probably the role conflict. Caregivers who had low social support scored highly on all dimensions of guilt than their counterparts who had high social support.

Table 4. Caregiver Guilt Dimension Scores by Key Subgroup Characteristics (N = 312)

Subgroup	Neglect Guilt M $\pm$ SD	Inadequacy M $\pm$ SD	Self-care M $\pm$ SD	Composite M $\pm$ SD
Cancer Type: Breast	3.62 $\pm$ 1.11	3.49 $\pm$ 1.18	3.38 $\pm$ 1.21	3.29 $\pm$ 1.06
Cancer Type: Lung	3.94 $\pm$ 1.04	3.81 $\pm$ 1.09	3.69 $\pm$ 1.14	3.61 $\pm$ 0.98
Cancer Type: Colorectal	3.78 $\pm$ 1.08	3.64 $\pm$ 1.13	3.52 $\pm$ 1.19	3.44 $\pm$ 1.02
CCMs: 1 condition	3.24 $\pm$ 1.14	3.11 $\pm$ 1.19	3.05 $\pm$ 1.23	2.98 $\pm$ 1.07
CCMs: 2 conditions	3.61 $\pm$ 1.07	3.48 $\pm$ 1.12	3.36 $\pm$ 1.17	3.28 $\pm$ 1.03
CCMs: ≥ 3 conditions	4.08 $\pm$ 0.97	3.93 $\pm$ 1.02	3.78 $\pm$ 1.08	3.72 $\pm$ 0.94
Employed Caregivers	3.89 $\pm$ 1.03	3.74 $\pm$ 1.09	3.61 $\pm$ 1.15	3.51 $\pm$ 0.99
Non-employed Caregivers	3.44 $\pm$ 1.14	3.33 $\pm$ 1.19	3.21 $\pm$ 1.24	3.11 $\pm$ 1.08
High Social Support	3.18 $\pm$ 1.17	3.07 $\pm$ 1.22	2.94 $\pm$ 1.26	2.86 $\pm$ 1.09
Low Social Support	4.14 $\pm$ 0.96	3.99 $\pm$ 1.01	3.88 $\pm$ 1.07	3.80 $\pm$ 0.91

Note. M = mean; SD = standard deviation. All group differences significant at $p < .01$ (independent t-test or one-way ANOVA).

5. Discussion

5.1 Prevalence and multidimensionality of caregiver guilt

Our result that almost 77% of caregivers in our sample had meaningful guilt is a much higher prevalence rate than has been documented in the literature of single-cancer caregiving populations who have not been stratified by MCC, with prevalence rates generally ranging between 40% and 65%[9]. This disparity, in part, can be explained by the fact that the moral burden of MCC care is compounding: not only the emotional aspect of anxiety about the existential threat of cancer but also the practical impossibility of the perfect management of multiple, and sometimes conflicting medical needs at the same time[10].

The six dimensions of differentiation of guilt provide more clinical accuracy than a unitary approach to guilt. Ignore guilt and inadequacy guilt, the most common two dimensions, both represent an evaluation of the performance of care giving- the

feeling that one is not doing enough and not doing it well enough. These dimensions are especially vulnerable to the intervention by psychoeducation and skills training that could re-align unrealistic performance expectations[11]. Contrastingly, resentment guilt and emotional ambivalence guilt are characterized by meta-emotional experiences-guilt of experiencing emotions that do not conform to caregiving ideals-and might involve therapeutic efforts that explicitly focus on emotional validation, ambivalent emotion normalization and internalized stigmatization of negative emotions of caregiving[12,13].

Self-care guilt and comparative guilt indicate how the caregiver relates to the social normative environment. Self-care guilt is especially insidious as it introduces a paradox: the behaviors that are the most protective of the well-being of the caregiver (rest, socialization, personal pursuits) become the sources of distress[14]. Comparative guilt, in its turn, is a set of social comparison processes that are perpetually cognitively distorted. Cognitive-behavioral therapies that address maladaptive thought patterns such as overgeneralization and personalization errors have a potential of decreasing these guilt dimensions.

5.2 The role of multiple chronic conditions in guilt amplification

Among the most clinically relevant results of this research, there is a distinct dose-response correlation between the number of MCCs and the severity of caregiver guilt in all dimensions. In patients with three or more comorbid conditions, caregivers who handled these patients exhibited composite guilt scores that were about 25 percent greater than those who handled patients with a single comorbidity[15]. This trend confirms the theoretical hypothesis that MCCs is a multiplicative but not merely an additive stressor in caregiving: every extra condition does not merely add an independent caregiving task but instead interacts in a compounding way with conditions, medications, and care needs to qualitatively change the caregiving experience[16].

Of particular interest is lung cancer, the most common type of cancer in our sample that is most likely to cause guilt. Lung cancer is widely associated with COPD, cardiovascular disease and cachexia; Lung cancer has a low prognosis; and it is often accompanied by both cancer-specific therapy (chemotherapy, immunotherapy) and with intense management of its symptoms[17]. The experience of looking after lung cancer patients might be particularly full of moral dilemma: the caregiver might consider lifestyle choices (smoking) as being the cause of disease, which leads to guilt by association; the caregiver might witness rapid functional deterioration that exceeds his/her caregiving abilities; and the caregiver might experience anticipatory grief and practical care needs, both of which can give rise to multidimensional guilt[18].

5.3 Psychosocial determinants and protective factors

The hierarchical regression analysis sheds light on the risk as well as protective mechanisms of caregiver guilt. The theoretical importance of resource depletion as the most significant predictor ($\beta = 0.38$) supports the theoretical core of the concept of caregiver burden as the primary determinant of guilt: when the demands are unmet, and the resources are inadequate, the chances of the occurrence of the causes of guilt are high, i.e., failures, omissions, and role conflicts. The finding has direct practice implications: burdens reduction can be achieved by respite care, support of care coordination, and delegation of tasks, which can also reduce guilt[19]. That the independent effects of anxiety ($\beta = 0.21$) and depression ($\beta = 0.18$) on guilt are significant after removing the impact of burden indicates that guilt

is not simply a byproduct of overall psychological distress but a psychologically independent construct, which should be specifically assessed. To identify the whole range of caregiver psychological morbidity, guilt-specific measures should be used by clinicians in oncological settings instead of screening on depression or anxiety only[20].

Social support was a powerful protective factor ($\beta = -0.19$). This result supports social buffering of stress hypotheses, as well as, it highlights the significance of peer and community-based support networks to caregivers who have to navigate through MCC-complicated cancer care. Particularly interesting here is the fact that the strength of the effect of social support can be as large in absolute terms as the effect of depression and this would indicate that improving social connectedness would be as effective as depression treatment in guilt reduction[21]. This has significant implications on resource constrained environments where pharmacological and psychotherapeutic interventions are either unavailable[22].

We synthesized evidence-based interventions to address caregiver guilt using recent randomized trials and systematic reviews (**Table 5**) to put our findings into perspective. The interventions were based on short psychoeducation to systematic cognitive-behavioral therapy with different levels of the effect size depending on the intensity and mode of delivery.

Caregiver self-efficacy ($\beta = -0.16$) was also directly protective, in line with the social cognitive theory developed by Bandura, which suggests that confidence in the ability to do certain things leads to diminished feelings of failure-contingent guilt. Care-specific skills intervention, which can be medication management, symptom monitoring, emergency protocols, can be strengthened by enhancing self-efficacy and, indirectly, decrease guilt[23]. The positive correlation between the female gender and the guilt ($\beta = 0.14$) is significant and requires specific clinical consideration. In most cultural settings, women are over-laden with care giving roles and internalize stricter norms of caregiving roles[24]. Particularly, gender-sensitized interventions that directly target the social norms and allowance of self-care can be of special benefit to female caregivers.

5.4 Implications for supportive care practice

This study has a number of practical implications on the practice of oncology supportive care, which can be summarized in **Table 4** below with evidence-based intervention recommendations. It is suggested that a needs-stratified approach, which is stepwise, should be based on the severity of guilt, MCC burden, and the available resources.

Table 5. Evidence-Based Interventions Targeting Caregiver Guilt: Summary of Approaches and Effect Sizes

Intervention Type	Key Components	Effect Size (d)	Evidence Level
Cognitive-Behavioral Therapy (CBT)	Cognitive restructuring, guilt-reframing, behavioral activation	0.72–0.91	Level I (RCT)
Psychoeducational Programs	Disease information, self-care skills, emotion regulation	0.54–0.68	Level I (RCT)
Mindfulness-Based Stress Reduction (MBSR)	Mindfulness meditation, body scan, compassion practices	0.61–0.79	Level II
Peer Support Groups	Shared experience, normalization, mutual aid	0.42–0.58	Level II

Continuation Table:

Intervention Type	Key Components	Effect Size (d)	Evidence Level
Compassion-Focused Therapy (CFT)	Self-compassion training, shame reduction, inner critic work	0.67–0.84	Level II
Telehealth/Digital Interventions	Online modules, mobile apps, virtual counseling	0.38–0.53	Level III
Palliative Care Integration	Holistic symptom management, family meetings, advance planning	0.55–0.70	Level II

Note. Effect sizes (Cohen's d) derived from published randomized controlled trials and systematic reviews. RCT = Randomized Controlled Trial. Level I = evidence from ≥ 2 RCTs; Level II = evidence from ≥ 1 RCT or high-quality quasi-experimental studies; Level III = evidence from descriptive or case-control studies.

Cognitive-Behavioral Therapy (CBT) exhibits the highest effect sizes ($d = 0.72$ – 0.91) and must be viewed as an initial intervention in the care of caregivers with moderate-severe guilt. The mechanisms of cognitive restructuring of guilt-inducing beliefs, behavioral activation, and graduated self-permission directly address the dysfunctional process of appraisal that perpetuates caregiving guilt. Cancer-specific CBT adaptations have shown to be effective in treating guilt and other secondary effects such as depression and burnout in caregiving[25,26]. Compassion-Focused Therapy (CFT) deserves special attention among caregivers whose guilt is most directly related to self-critical inner story or whose emotional ambivalence guilt is more evident. The way CFT has developed self-compassion as a dynamic skill of psychology, not just a passive emotional condition, is a significant breakage of traditional CBT and can extend to caregivers who need cognitive restructuring to be effective[27]. Psychoeducational interventions that focus on caregiving skills specific to MCC have unique potential in the present context. Specific interventions to manage across conditions such as assisting the caregiver to learn how diseases interact, recognize early warning signs across conditions and to communicate effectively with multi-specialty teams can help reduce the inadequacy guilt that is especially common in MCC caregiving setting[28]. Digital and telehealth interventions can offer a scalable alternative to caregivers with limited access to face-to-face services. Although the effect sizes are smaller ($d = 0.38$ – 0.53), strategies of telehealth bypass geographical, time, and stigma obstacles, and a hybrid model of using digital self-management tools and virtual counseling sessions periodically might maximize the reach and effectiveness.

5.5 Integrating guilt screening into routine oncology assessment

There is a gap in the practice of routine evaluation of caregiver guilt in oncology. Majority of currently available caregiver assessment procedures capture depression, anxiety and burden but lack guilt-specific assessments. Considering this high prevalence recorded in this study (76.9%), unique dimensionality of guilt, and independent predictive value of guilt on caregiver outcomes beyond and above the general distress, systematic guilt screening with reliable instruments like CGQ is viable and clinically justified. Guilt screening can be successfully incorporated into the current oncology social work assessment, family consultation during palliative care, and caregiver support group intake protocols. One-item screening methods have been shown to be preliminarily valid in an oncology setting and potentially effective as a triage method to streamline caregivers to more detailed evaluation. The

dimensional profile of guilt determined by screening, such as the distinction between neglect guilt and resentment guilt, should directly influence choice of intervention since various dimensions involve different therapeutic targets.

6. Conclusion

This work presents the most detailed exploration to date of caregiver guilt in cancer care giving involving several chronic illnesses. More than three-quarters of caregivers exhibited guilt and displayed it on six clinically distinct dimensions: neglect, inadequacy, resentment, self-care, emotional ambivalence, and comparative guilt. The multidimensional nature of guilt, its considerable increase with the MCC burden, and its close correlation with the burden of caregiving, psychological distress, and lack of social resources all support the importance of the specific assessment and intervention of guilt in the oncological supportive care. The combination of cancer and MCCs is a caregiver guilt nightmare: the impossibility of ideal caregiving is increased, role conflicts are compounded, and self-critical evaluations are enhanced by the complexity of clinical management. The supportive care frameworks need to change to accept guilt as a specific and clinically relevant aspect of the caregiver experience not a secondary symptom of depression or anxiety but a psychologically relevant construct, with its own determinants, dimensions, and interventions. Cognitive-Behavioral Therapy, Compassion-Focused Therapy, psychoeducational skills training and social support enhancement all provide evidence-based avenues to the reduction of guilt. Integration into standard oncology care, made contextually relevant to the MCC burden and offered through hybrid, in-person and online communication, will be potentially significant in enhancing the well-being of caregivers-and by the caregiver-patient dyad, patient outcomes too. Future studies are to be conducted in the area of longitudinal designs, cross-cultural validation, and formulating guilt-specific clinical practice guidelines as part of oncological and palliative care systems.

7. Limitations

This research has a number of limitations that qualify interpretation and generalizability of results. First, the cross-sectional design does not allow a causal inference; longitudinal researches are required to specify whether guilt is a cause, consequence, or a mutual cause of depression and burnout. Second, tertiary oncology centers were used as a sampling method and this might have overrepresented more complex or advanced-stage cases and underrepresented caregivers of patients who received care in the community or primary care environment. Third, there was the possibility of underreporting social stigmatized dimensions of guilt, especially resentment guilt and emotional ambivalence guilt, as a result of social desirability bias. Fourth, patient-level clinical variables (cancer stage, performance status, treatment phase) that could moderate the intensity of guilt were not considered in the study; the variables need to be included in future studies to allow the joint modeling of patient and caregiver determinants. Fifth, the CGQ presented good internal reliability, but its cross-cultural factorial invariance is not proved in all groups represented in this sample.

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