

## The Psychosocial and Financial Challenges faced by Caregivers of Cancer Patients

Ummarah Zafar Farid, Muhammad Umair, Laeba Binte Saleem\*, Tahira Zubair, Sooma Hafeez Shaikh, Naveed Ahmed\*\*

Department of Medical Oncology, PNS Shifa Karachi Pakistan, \*Department of Medicine, PNS Shifa Karachi Pakistan,

\*\*Department of Paediatric Surgery, PNS Shifa Karachi Pakistan

### ABSTRACT

**Objective:** To determine the psychosocial and economic burden of the caregivers of cancer patients.

**Study Design:** Cross-sectional study.

**Place and Duration of Study:** Department of Medical Oncology, PNS Shifa Hospital, Karachi Pakistan, from Jun to Dec 2025.

**Methodology:** A total of 150 caregivers of cancer patients were enrolled using the consecutive non-probability sampling method. For data collection the 22-items Zarit Burden Interview (ZBI-22), a validated tool for measurement of multidimensional caregiver burden was used. For demographic variables and ZBI scores, descriptive statistics were calculated. Chi-square test, with level of significance  $p$ -value  $<0.05$  was used to determine the association between severity of burden and caregivers' characteristics. Cronbach's alpha was used to assess the internal consistency of the instrument.

**Results:** Average ZBI score was  $37.89 \pm 12.80$  signifies mild to moderate burden. Majority of caregivers reported variable amount of burden, no/mild 10.7%, mild/moderate 50.0%, moderate/severe burden 34.7% and severe burden was noted in 4.7% cases. Female caregivers reported higher burden scores than males. Around 40% participants reported financial and emotional stress.

**Conclusion:** The caregivers of cancer patients experienced substantial psychosocial and financial burden. It is paramount to formulate, implement and integrate caregivers' focused screening and interventions into oncology settings to safeguard the wellbeing and outcomes for both caregivers and patients.

**Keywords:** Cancer Caregivers, Caregiver Burden, Pakistan, Psychosocial Burden, Zarit Burden Interview.

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### INTRODUCTION

One of the recent health care areas of concern is cancer, a tragic disease, where the number of reported cases is growing exponentially across the world. An estimated 19.3 million new cancer cases with 10.0 million deaths were reported globally in 2020.<sup>1</sup> A mere diagnosis of cancer is very distressing for the patient and family. Moreover, the chronic nature and associated high mortality and morbidity further intensify stress and strain among patients and his/her caregivers in terms of psychosocial, financial and emotional burden.<sup>2,3</sup> The shift of cancer management from inpatient to outpatient due to advancement in oncology has not only allowed them to recuperate at home but also placed more responsibility on the caregivers.<sup>4</sup> They are supposed to ensure medication adherence, regular lab tests and hospital appointments besides emotional and financial support. It affects their social, physical, mental and financial wellbeing thereby compromising their own quality of life and ultimately having an adverse effect on patient and caregiver health outcomes.<sup>5</sup>

The available evidence has shown that care giving has a multidimensional effect, such as emotional stress, economic distress, social deprivation, and health decline.<sup>5</sup> The studies from South Asian region have reported that six to eight out of ten caretakers have experienced mild to moderate or even more intense burden, depression, anxiety, and compromised quality of life.<sup>6</sup> However, the bulk of available evidence preferentially belonging to western world lacks contextual relevance to healthcare constraints of countries like Pakistan. The available local studies have reported significant caregivers' burden but quantitative analysis regarding psychosocial and financial burden remains limited.<sup>4,6</sup>

The caregivers playing the pivotal role in patient care are often ignored and overlooked by healthcare systems. The challenges and issues that the caregivers encounter and address every day in terms of disease prognosis, treatment side effects and cost lead them to be labeled as a 'second patient', who also requires systemic support, assistance and care.<sup>7</sup> The caregivers focused screening and interventions into oncology settings require the measurement of magnitude of caregivers' burden.<sup>8,9</sup> The rationale behind this present study is to investigate the psychosocial and economic

**Correspondence:** Dr Muhammad Umair, Department of Medical Oncology, PNS Shifa, Karachi Pakistan

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burden of caregivers of cancer patients in local settings. The generated evidence will help policy makers to implement the caregiver-inclusive cancer care strategies addressing their psychosocial, emotional and financial burden in resource-constrained settings.

## METHODOLOGY

This was a cross-sectional study conducted in the In-Patient and Outpatient Department of Oncology, at PNS Shifa Hospital Karachi, Pakistan. The duration of study was six months from 15th June 2025 to 15th December 2025. We used consecutive, non-probability sampling techniques and collected data from 150 caregivers.

Sample size was calculated using WHO sample size calculator taking confidence level 95%, margin of error 8%, reported severity of stress among caregivers of cancer patients 49%.<sup>9</sup> The estimated sample size came out to be 150 patients.

**Inclusion Criteria:** Those caregivers, having age range of 18 to 65 years of both genders, of any biopsy proven cancer patient who were involved in patients care for at least three months, willing to participate and capable of understanding English, Urdu or Sindhi language were included in the study.

**Exclusion Criteria:** Caregivers who were previously known psychiatric patients, taking any antidepressant, anti-anxiety or mood stabilizing medications and involved in taking care of multiple patients were excluded from the study.

Data was collected after approval from CPSP and hospital ethical committee (vide letter no. ERC/2024/ONCO/68 dated 01/12/24). Rigorous matching was done to minimize bias. After obtaining informed consent, they were offered a validated questionnaire to collect their data. This questionnaire had been adapted from the Zarit Burden Interview for assessing caregiver burden. It is a 22 items questionnaire rated on a 5-point Likert scale that ranges from 0 (never) to 4 (nearly always) with the sum of scores ranging between 0-88. The higher the score the greater was the burden. It includes demographic details, along with educational and employment status of the caregivers, and incorporated questions to assess the severity of psychological, social and financial burden faced by them. Cronbach's Alpha was 0.813 (95% CI: 0.775-0.851), signifying good reliability and internal consistency, confirming that the 22ZBI items reliably measures caregiver burden as a unified multidimensional construct. The alpha

coefficient was comparable to previously published psychometric studies of the ZBI and validates use of the total ZBI score in the current sample.

Data was entered and analyzed using latest version of Statistical Package for Social Sciences (SPSS) (version 31:00) for continuous variables like age and score of Zarit Burden Mean $\pm$ SD was presented. By applying Shapiro Wilks test the data distribution was assessed and Categorical variables like, gender, relation to patient and severity of burden (no burden, mild to moderate burden, moderate to severe burden and very severe burden) was expressed as frequency and percentage. The data was stratified according to gender of caregiver and relation to patient. Post stratification association between stratified variables and severity of burden was analyzed using chi square test,  $p$ -value  $<0.05$  was considered as significant.

## RESULTS

A total of 150 caregivers were included in the study who were looking after the cancer patients. Amongst them, 118(78.7%) were males and 32(21.3%) were females. A total of 130(86.7%) caregivers were first-degree relatives of the patients and 20(13.33%) were 2<sup>nd</sup> degree relatives.

Figure demonstrates the relationship between patients and caregivers. Most of the caregivers were blood relatives. Among them majority were sons (30.7%), husbands (20.7%), and brothers (11.3%). The rest of the caregivers were daughters (7.3%), wives (6.7%), daughters-in-law (6.0%), friends (4.7%), and fathers (4.0%). A small number were 2nd-degree relatives i.e. nephews, sons-in-law, and brothers-in-law.

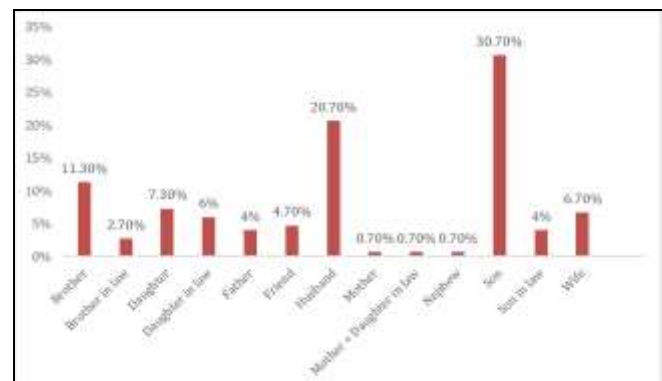


Figure: Relationship between Caregivers and Patients (n=150)

The descriptive statistics of caretakers' burden scores obtained through responses of Zarit burden Interview. From a total population of 150, the ZBI

mean score was  $37.89 \pm 12.79$  with the lowest score 8 and highest score being 69. These results show overall mild to moderate level of caregiver strain in the complete study population. By applying Shapiro Wilks test the data distribution showed normal distribution. i.e.  $p$ -value=0.328.

Table-I demonstrates the severity of the caregiver burden along with gender classification. The percentage of the caregivers who agreed that the burden was none to mild and mild to moderate were 60.7% ( $n=91$ ), and the ones that thought it was moderate to severe and severe were 39.3% ( $n=59$ ). It shows that psychosocial and financial stress was experienced by almost two out of five caregivers with  $p$ -value (0.072) statistically not significant.

**Table-I: Severity of Burden with Gender Classification (n=150)**

|            |              | Severity of Burden           |                             | Total       | Chi Value | p-value  |
|------------|--------------|------------------------------|-----------------------------|-------------|-----------|----------|
|            |              | No to Mild+ Mild to Moderate | Moderate to Severe + Severe |             |           |          |
| Gender     | Female, n(%) | 15(46.9%)                    | 17(53.1%)                   | 32(100.0%)  | 3.24      | 0.072 NS |
|            | Male, n(%)   | 76(64.4%)                    | 42(35.6%)                   | 118(100.0%) |           |          |
| Total n(%) |              | 91(60.7%)                    | 59(39.3%)                   | 150(100.0%) |           |          |

(\*Significant, NS=Not Significant)

Table-II compares the severity of burden between first and second-degree caregivers. Amongst 1st degree relatives, almost 57% reported low burden and about 43% reported moderate-to-severe burden. Among 2nd degree relatives, a higher share that is 77% reported low burden, and fewer, about 23% reported moderate-to-severe burden. Since  $p$ -value was 0.062 this difference in burden severity between 1st and 2nd degree relatives was not statistically significant and so it cannot be concluded that the degree of relationship to the care recipient meaningfully affects how severe the perceived caregiver burden was.

**Table-II: Severity of Burden with Relationship Classification (n=150)**

|              |                 | Severity of Burden           |                             | Total       | Chi Value | p-value  |
|--------------|-----------------|------------------------------|-----------------------------|-------------|-----------|----------|
|              |                 | No to Mild+ Mild to Moderate | Moderate to Severe + Severe |             |           |          |
| Relationship | 1st degree n(%) | 71(57.3%)                    | 53(42.7%)                   | 124(100.0%) | 3.483     | 0.062 NS |
|              | 2nd Degree n(%) | 20(76.9%)                    | 6(23.1%)                    | 26(100.0%)  |           |          |
| Total n(%)   |                 | 91(60.7%)                    | 59(39.3%)                   | 150(100.0%) |           |          |

(\*Significant, NS=Not Significant)

## DISCUSSION

In our study, we used Zarit Burden Interview (ZBI) Questionnaire across 150 caretakers of cancer patients. Our study revealed ZBI score mean as  $37.89 \pm 12.80$ , thereby showing that overall sample was

placed in the mild to moderate burden classification. Conversely, more detailed scrutiny showed that about 40% of caregivers were in the range of moderate to severe burden, thereby implying that a considerable amount of the study population is under substantial stress. The strain was multi dimensional and included factors like social isolation, personal life disruption, emotional exhaustion and most notably, financial hardship due to out-of-pocket treatment costs, loss of income, and inadequate insurance coverage. The gender analysis revealed that male caregivers were 78.7% of the sample, an outcome that differs from international literature and is reflective of the cultural norms of Pakistan. Burden severity between first and second degree relatives showed no statistically significant difference therefore implying that cancer caregiving distress is not dependent on relation or degree of closeness to the patient. These findings give a clear and thorough depiction of the psychosocial and financial troubles faced by caregivers of cancer patients in the Pakistani healthcare setting.

The current research explored psychosocial and economic burden among caregivers of cancer patients using the Zarit Burden Interview (ZBI). It is a validated and extensively used instrument for measuring stress in caregivers<sup>8</sup>. It was observed in present study almost 90 percent of the caregivers had experienced substantial burden and the mean ZBI score was  $37.89 \pm 12.80$ . In a Nigerian study by Onyeneho *et al.*, only 4.4% of caregivers have found to be in a severe category, while most of the caregivers showed mild burden (44.5%). According to them the possible cause for such findings could be the embarrassment of caregivers to express their real burden due to their relationship with the patients.<sup>9</sup> Earlier work, like that reported by Karimi *et al.*, from Iran, revealed that care of cancer patients negatively affects the mental health, quality of life, occupational functioning, social, and financial stability of caregivers, making them susceptible to anxiety, depression, burnout, and physical fatigue.<sup>10</sup> Caregivers of cancer patients face multidimensional challenges. The chronic nature of illness with varying degrees of patient physical debilitation and uncertain prognosis impose significant burden on them. The adverse effects of chemotherapy, radiotherapy and surgeries further increase the burden.<sup>11</sup> The care giving also demands frequent hospital visits, outpatients follow ups, and long inpatient stays. Patients also need round-the-clock support at home to ensure the timely intake of medication, management

of side effects and emotional comfort.<sup>12</sup> These tasks subject caregivers to chronic physical, emotional, psychosocial, and financial pressure, which affects their physical health and psychosocial wellbeing.<sup>13</sup>

The average ZBI score in our study was high (37.89±) as compared to the average scores reported in similar regional and international studies. Mishra *et al.*, reported average ZBI of 30.70 in the group of caregivers to cancer patients in India in 2023.<sup>18</sup> Researchers from high-income countries found relatively reduced burdens of caregiving due to structured healthcare systems, access to formal caregiving programs, comprehensive insurance, and institutional psychosocial care networks.<sup>14</sup> The high burden witnessed in the current cohort is largely due to the systemic and contextual problems peculiar in low and middle-income nations (LMICs) like Pakistan as reported by Mahmood *et al.*, where resource constrained healthcare system is poorly equipped to provide caregiver-oriented services and is highly dependent on family members.<sup>15</sup>

In the present study financial stress emerged as a substantial caregiver burden where the caregivers suffered frequent or almost constant financial hardship. The cost of investigations, medications, transportation, accommodation, and loss of income due to reduced work capacity are found to be the major source of anxiety and stress amongst the caregivers.<sup>16,17</sup> Caregivers in Pakistan like other LMIC, encounters out-of-pocket-driven healthcare financing, low insurance coverage, and the social protection arrangements. This financial toxicity further contributes to emotional stress.<sup>18</sup>

Gupta *et al.*, in their study from India, reported that the typical caregiver demographic consisted of women from rural backgrounds.<sup>19</sup> In disagreement to it most caregivers in present study were male, 78.7% vs only 21.3% females. This trend can be explained by sociocultural dynamics in Pakistan, where male relatives can navigate complex hospital infrastructure better than females. They accompany patients on hospital visits and in patient-stays besides managing the finances. Despite their smaller representation, female caregivers demonstrated a trend toward higher burden scores; however, the difference did not reach statistical significance. This finding was supported by other studies as well indicating greater vulnerability of women to caregiver stress.<sup>20</sup> Culturally, the caregiving is a responsibility that female caregivers are expected to share along with managing the household, domestic

chores, and childcare, amplifying anxiety and stress. Women are more emotionally engaged in care giving and therefore prone to psychological distress, anxiety and depressive signs.<sup>20,21</sup> Caregivers lack personal time and suffer social isolation. They are also inclined to prefer patient needs at cost of their own physical and psychosocial health and wellbeing.<sup>22</sup>

The present study did not recognize statistically significant association between severity of burden and caregiver-patient relationship (first-degree versus second-degree). The stress experienced by every caregiver irrespective of their relationship with the patient whether spouse, child, sibling or an extended family member, demonstrates the universality of the caregiver distress in cancer care. This indicates that disease severity; duration, prognosis, caregiving intensity, and level of patient dependency may be more dominant factors than kinship alone. Prolonged and demanding caregiving role subjects them to similar levels of distress regardless of relationship ties. This observation emphasizes the need for individualized caregiver assessment rather than assumptions based solely on familial relationships. It also necessitates healthcare systems to recognize caregivers as secondary patients who themselves need systematic evaluation, support and attention.<sup>23</sup>

Our research can have valuable implications for caregivers' health and wellbeing. The study findings also provide direction for future research and policy making. We strongly endorse Zarit *et al.*, that early detection of high-risk caregivers should be carried out regularly by measuring their burden using validated tools such as the ZBI. The reported evidence favors the role of psychosocial counseling, stress management interventions, and caregiver education program in reducing the burden and enhancing coping skills of caregivers.<sup>23,24</sup>

Our study has certain limitations. The single center data collection limits the generalizability. The causal inferences between caregiving factors and severity of burden were limited due to cross-sectional study design. The self-reported responses may be subject to social desirability and recall bias. The factors that may influence the caregivers' burden like patients' functional status, stage of disease, prognosis, duration of treatment and financial resources were not analyzed in detail and needed more research for better understanding.

### CONCLUSION

The caregivers of cancer patients in Pakistan experience significant psychosocial and financial burden

with nearly two fifths reported undergoing moderate to severe stress. The high mean ZBI score indicates unique challenges faced by caregivers of study population due to limited healthcare resources, high treatment costs, and insufficient systemic support. In order to combat this it is recommended that there is proper recognition of caregiver's pivotal role in cancer care and integration of routine screening of burden using validated tools such as the ZBI in oncology settings along with provision of psychosocial and financial counseling services for caregivers of cancer patients. We also recommend developing caregivers' centered education programs to enhance their coping skills.

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## Authors' Contribution

Following authors have made substantial contributions to the manuscript as under:

UZF & MU: Data acquisition, data analysis, critical review, approval of the final version to be published.

LBS & TZ: Study design, data interpretation, drafting the manuscript, critical review, approval of the final version to be published.

SHS & NA: Conception, data acquisition, drafting the manuscript, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

## REFERENCES

- Sung H, Ferlay J, Siegel RL, et al. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA Cancer J Clin* 2021; 71(3): 209-249. <https://doi.org/10.3322/caac.21660>
- Bray F, Laversanne M, Weiderpass E, Soerjomataram I. The ever-increasing importance of cancer as a leading cause of premature death worldwide. *Cancer* 2021; 127(16): 3029-3054. <https://doi.org/10.1002/cncr.33587>
- Ali A, Manzoor MF, Ahmad N, Aadil RM, Qin H, Siddique R, et al. The Burden of Cancer, Government Strategic Policies, and Challenges in Pakistan: A Comprehensive Review. *Front Nutr* 2022; 9: 940514. <https://doi.org/10.3389/fnut.2022.940514>
- Arbani S, Bibi A, Hyder S, Javed S, Muhammad T, Abid S, et al. Assess the Burden of Caregivers of Cancer Patients at a Tertiary Care Hospital in Karachi, Pakistan: Burden of Caregivers of Cancer Patients. *Pak Bio Med J* 2023; 37-41. <https://doi.org/10.54393/pbmj.v6i12.986>
- Shahid N, Malik TA, Hussain A, Ahmed S. Unmet psycho-social needs, coping strategies and psychological distress among people with cancer: Evidence from Pakistan. *J Pak Med Assoc* 2021; 71(5): 1373-1378. <https://doi.org/10.47391/jpma.1117>
- Victor CR, Zubair M, Martin W. Families and caring in South Asian communities. In *The New Dynamics of Ageing: Volume 2*. Bristol: Policy Press, 2018: 87-104. <https://doi.org/10.51952/9781447314813.ch006>
- Laryionava K, Pfeil TA, Dietrich M, Reiter-Theil S, Hiddemann W, Winkler EC. The second patient? Family members of cancer patients and their role in end-of-life decision making. *BMC palliat Care* 2018; 17(1): 29. <https://doi.org/10.1186/s12904-018-0288-2>
- Mishra S, Srivastava AK, Sharma R, Bhatnagar S. Caregiver burden and quality of life among family caregivers of cancer patients on chemotherapy: A cross-sectional study. *Indian J Palliat Care* 2021; 27(3): 397-404. [https://doi.org/10.4103/IJPC.IJPC\\_180\\_20](https://doi.org/10.4103/IJPC.IJPC_180_20)
- Onyeneho CA, Ilesanmi RE. Burden of care and perceived psycho-social outcomes among family caregivers of patients living with cancer. *Asia Pac J Oncol Nurs* 2021; 8(3): 330-336. <https://doi.org/10.4103/2347-5625.308678>
- Karimi Moghaddam Z, Rostami M, Zeraatchi A, Mohammadi Bytamar J, Saed O, Zenoian S. Caregiving burden, depression, and anxiety among family caregivers of patients with cancer: An investigation of patient and caregiver factors. *Front Psychol* 2023; 14: 1059605. <https://doi.org/10.3389/fpsyg.2023.1059605>
- Ugalde A, Gaskin CJ, Rankin NM, Schofield P, Boltong A, Aranda S, et al. A systematic review of cancer caregiver interventions: appraising the potential for implementation of evidence into practice. *Psychooncology* 2019; 28(4): 687-701. <https://doi.org/10.1002/pon.5018>
- Psihogios AM, Strachan L, Melch M, Ahmed AM, McKelvey ER, Sproch A, et al. Activating Adolescent and Young Adult Involvement with Cancer Care Responsibilities: A Dyadic Qualitative Study with Caregivers. *J Adolesc Young Adult Oncol* 2024; 13(4): 683-692. <https://doi.org/10.1089/jayao.2023.0139>
- Siegel RL, Miller KD, Jemal A. Cancer statistics, 2018. *CA Cancer J Clin* 2018; 68(1): 7-30. <https://doi.org/10.3322/caac.21442>
- Akter J, Konlan KD, Nesa M, Ispriantari A. Factors influencing cancer patients' caregivers' burden and quality of life: An integrative review. *Heliyon* 2023; 9(11). <https://doi.org/10.1016/j.heliyon.2023.e21243>
- Mahmood S, Khawaja SN, Yusuf MA. Cancer care in times of conflict: Treatment of patients from Afghanistan, in Pakistan. *Front Oncol* 2023; 13: 1110709. <https://doi.org/10.3389/fonc.2023.1110709>
- Nguyen OT, Donato U, McCormick R, Reblin M, Kim L, Hume E, Otto AK, Alishahi Tabriz A, Islam JY, Hong YR, Turner K. Financial toxicity among head and neck cancer patients and their caregivers: A cross-sectional pilot study. *Laryngoscope Invest Otolaryngol* 2023; 8(2): 450-457. <https://doi.org/10.1002/lio2.1038>
- Mathew M, Rao AP, Pai A, Sumit K, Lewis S. Assessment of financial toxicity and coping strategies associated with cancer treatment among caregivers of patients with cancer from a lower-middle-income country. *JCO Glob Oncol* 2024; 10: e2300397. <https://doi.org/10.1200/GO.23.00397>
- Kitaw TA, Tilahun BD, Zemariam AB, Getie A, Bizuayehu MA, Haile RN. The financial toxicity of cancer: unveiling global burden and risk factors-a systematic review and meta-analysis. *BMJ Glob Health* 2025; 10(2): e017133. <https://doi.org/10.1136/bmjgh-2024-017133>
- Gupta S, Rohilla KK, Bachheti Y, Kalyani VC, Gupta A, Sundriyal D, et al. Challenges faced by caregivers of patients with cancer in the sub-Himalayan region: An exploratory survey. *Cancer Res Stat Treat* 2022; 5(2): 220-225. [https://doi.org/10.4103/crst.crst\\_319\\_21](https://doi.org/10.4103/crst.crst_319_21)

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20. Rexhaj S, Nguyen A, Favrod J, Coloni-Terrapon C, Buisson L, Drainville AL, et al. Women involvement in the informal caregiving field: A perspective review. *Front Psychiatry* 2023; 14: 1113587. <https://doi.org/10.3389/fpsy.2023.1113587>
21. Ng JHY, Luk BHK, Lee NPM. Gender differences in cancer spousal caregiving: A systematic review. *Palliat Support Care* 2023; 21(5): 880–889. <http://doi.org/10.1017/S147895152300073>
22. Yuen EY, Wilson CJ. The relationship between cancer caregiver burden and psychological outcomes: the moderating role of social connectedness. *Curr Oncol* 2021; 29(1): 14-26. <https://doi.org/10.3390/curroncol29010002>
23. Kalyani CV, Rohilla KK, Gupta P, Gupta A, Gupta S. Effect of Psychosocial Interventions on Cancer's Caregiver Quality of Life: Meta-analysis. *Clin Pract Epidemiol Ment Health* 2023; 19: e174501792308240. <http://dx.doi.org/10.2174/17450179-v19-e230927-2022-HT14-4336-1>
24. Geng HM, Chuang DM, Yang F, Yang Y, Liu WM, Liu LH, et al. Prevalence and determinants of depression in caregivers of cancer patients: A systematic review and meta-analysis. *Medicine* 2018; 97(39): e11863. <https://doi.org/10.1097/MD.00000000000011863>

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