

Psychological Distress Among Oncology Patients at a Tertiary Care Hospital in Coastal Karnataka, India: A Cross-Sectional Study

Malestar psicológico en pacientes oncológicos en un hospital de atención terciaria en la costa de Karnataka, India: un estudio transversal

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Abstract

Context. Distress is a prevalent yet often underrecognized psychosocial issue among patients with oncological conditions, impacting their well-being and quality of life. Understanding patients' psychosocial challenges is critical for providing targeted support and improving their overall well-being. **Aims.** This study aims to assess the level of distress among patients with oncological conditions, utilizing the NCCN Distress Thermometer as a measure. **Setting and Design.** As a cross-sectional analysis, this study surveyed patients admitted with oncological conditions at a designated hospital in Mangalore. **Materials & Methods.** A total sample of 100 patients were recruited as participants using purposive sampling technique and NCCN Distress Thermometer was used. Data were analyzed using descriptive statistics. **Results.** The study included 100 patients, of whom 77% were male. Most participants (32%) were aged 36–40 years, and 65% were hospitalized for one week. The majority (75%) had a duration of illness of less than one year, and 34% had undergone surgery. Additionally, 78% were non-earning members of their families. Breast cancer (33%) and ovarian cancer (14%) were the most common diagnoses. Radiotherapy was received by 14% of patients, while 58% underwent one cycle of chemotherapy. Practical concerns were reported by 57% of patients, family concerns by 42%, emotional concerns by 53%, physical concerns by 23%, and spiritual or religious concerns by 10%. Financial issues (81%) and transportation (82%) were the most common practical concerns, while sadness was the most frequently reported emotional issue (66%). **Conclusions.** The findings highlight a significant distress burden among patients, with 65% scoring five or higher on the distress thermometer. These results underscore the need for comprehensive evaluation and support to address the psychosocial well-being of individuals facing oncological challenges.

Keywords: Cross-sectional studies, quality of life, adaptation, psychological, activities of daily living, neoplasms

Resumen

Contexto. El malestar psicológico es un problema psicosocial frecuente, aunque a menudo subestimado entre las y los pacientes oncológicos, que afecta su bienestar y calidad de vida. Comprender las dificultades psicosociales de estos pacientes es fundamental para brindarles apoyo específico y mejorar su bienestar general. **Objetivos.** Este estudio tiene como objetivo evaluar el nivel de angustia entre pacientes con afecciones oncológicas, utilizando el Termómetro de Angustia de la NCCN como medida. **Entorno y diseño.** Es de carácter transversal, encuestó a pacientes ingresados con afecciones oncológicas en un hospital específico de Mangalore. **Materiales y métodos.** Se reclutó una muestra total de 100 pacientes como participantes mediante una técnica de muestreo intencional y se utilizó el Termómetro de Angustia de la NCCN. Los datos se analizaron mediante estadística descriptiva. **Resultados.** El estudio incluyó a 100 pacientes, de los cuales 77% eran hombres. La mayoría (32%) tenía entre 36 y 40 años, y 65% estuvieron hospitalizados durante una semana. La mayoría (75%) tenía una duración de la enfermedad inferior a un año y 34% se había sometido a cirugía. Además, 78% eran miembros de familia que no aportaban ingresos. El cáncer de mama (33%) y el de ovario (14%) fueron los diagnósticos más comunes; 14% recibió radioterapia, mientras 58% se sometió a un ciclo de quimioterapia; 57% reportaron preocupaciones prácticas, 42% familiares, 53% emocionales, 23% físicas y 10% espirituales o religiosas. Los problemas financieros (81%) y de transporte (82%) fueron las preocupaciones prácticas más comunes, mientras que la tristeza fue el problema emocional más frecuentemente reportado (66%). **Conclusiones.** Los hallazgos ponen de manifiesto la importante carga de angustia que experimentan, con 65% que obtuvo una puntuación de cinco o superior en la escala de angustia. Estos resultados subrayan la necesidad de una evaluación integral y apoyo que aborde el bienestar psicosocial de las personas que afrontan desafíos oncológicos.

Palabras clave: estudios transversales, calidad de vida, adaptación, psicológico, actividades de la vida diaria, neoplasias



Introduction

Cancer is a complicated and disabling illness that not only presents enormous physical difficulties but also has a substantial negative impact on a person's psychological and emotional health.¹

Patients with cancer frequently face psychological distress and increased discomfort due to the challenges of their illness, treatment side effects, and uncertainty about their prognosis.²

Distress manifests as an unpleasant sensation that detrimentally impacts various facets of well-being, including mental, physical, social, and spiritual dimensions.³

Psychological distress significantly hinders coping abilities and functional capacity in young cancer patients undergoing chemotherapy or radiotherapy, leading to a lower quality of life.⁴ Comprehending and managing distress is critical for comprehensive patient management and overall quality of life in oncology care.⁵

The prevalence of distress among oncology patients is a significant concern globally. Research findings indicate that cancer patients experience substantial psychosocial distress, with studies showing that about 32% of newly admitted inpatients are screened for this distress, and of those, 47% present distress levels of 5 or higher.⁶ Uncontrolled symptoms account for the majority of hospital hospitalizations for cancer patients, with the majority of these cases ending in home discharge (60.6%) or death (26.5%).⁷ Over half of cancer patients experienced significant psychosocial distress, with 23% attending the psycho-oncology service after four months, influenced by their perception of oncologist recommendations, age, education level, and distress scores.⁸ In India, similar trends are observed, where studies reveal that approximately 26.6% of cancer patients experience significant anxiety and 28.6% face depressive symptoms, and there was a significant correlation ($p=0.011$) between oncological illnesses and greater degrees of anxiety and/or depression, as well as higher distress scores.^{9,10}

Furthermore, distress levels are influenced by various factors, including age, education, and specific medical conditions, with higher levels of anxiety and depression linked to urogenital, rheumatologic, oncological, neurological, and respiratory illnesses.¹¹ This data underscores the urgent need for early psychological screening and tailored support interventions to address the emotional and mental health needs of cancer patients in both global and Indian contexts.

Healthcare professionals can better meet the psychological requirements of cancer patients by having a better understanding of the extent and effects of distress. This will enable them to deliver more individualized interventions and support services. The unique coastal environment adds complexity to cancer care, potentially affecting

patients' discomfort levels. Factors such as access to resources, cultural norms, and geographic location may influence the coping strategies and distress levels of oncology patients in this area.¹²

Understanding regional variations is essential for tailored interventions. Studies indicate that despite moderate to extreme distress levels, referrals to psycho-oncology services are low. Barriers such as time constraints, patient attitudes, and reliance on clinical judgment have been identified in other regions. By examining these variables in the context of coastal Karnataka, we can better understand distress and its impact on the provision of cancer care. There is limited data on the prevalence and severity of psychological distress among oncology patients in this region. Investigating these factors in coastal Karnataka is necessary to improve service utilization.¹³ The impact of cultural beliefs and socioeconomic status on distress levels and coping mechanisms among cancer patients in coastal Karnataka is under-researched. Exploring these factors can inform culturally sensitive care approaches.¹⁴ By integrating distress screening into routine oncology care, healthcare providers can ensure timely interventions, ultimately improving treatment adherence, patient outcomes, and quality of life. The primary objective of this study is to assess the distress levels experienced by patients diagnosed with oncological conditions, utilizing the NCCN Distress Thermometer as a standardized measure.

This study aims to assess the level of distress among patients with oncological conditions, utilizing the NCCN Distress Thermometer as a measure.

Materials and Methods

This study used a cross-sectional and descriptive design to examine the distress levels in oncology patients admitted to a tertiary care hospital in Coastal Karnataka. The study was conducted among oncology patients receiving treatment at a tertiary care hospital in Mangalore. The study population consisted of patients diagnosed with various types and stages of cancer. A purposive sampling technique was employed to select eligible patients who met the inclusion criteria, ensuring the sample appropriately represented the target population. Participants were included in the study if they were 18 years or older, were diagnosed with any type or stage of cancer, were receiving active treatment or palliative care, and could provide informed consent and actively participate in the study. Patients were excluded from the study if they had severe cognitive impairment or psychiatric illnesses that prevented participation or if they were critically ill and unable to respond to the survey or interview.

Data collection was conducted through prearranged interviews with participants. Researchers used the NCCN Distress Thermometer to measure distress levels, ensuring a validated and standardized assessment.

Table 1. Personal characteristics of the patients(n=100)

	Groups	No. (%)	
Age average(year)	41.7±5.75		
Gender	Female	23	(23.0)
	Male	77	(77.0)
Number of weeks of hospitalization	1.42±0.65		
Education	Graduate	12	(12.0)
	Higher Secondary	38	(38.0)
	High school	21	(21.0)
	Primary	29	(29.0)
Number of years/months of illness	0.84±0.65		
Surgery	Yes	34	(34.0)
	No	66	(66.0)
Earning member	Yes	22	(22.0)
	No	78	(78.0)

Demographic and Clinical Data Form: Collected patient demographics and clinical characteristics, including age, gender, socioeconomic status, cancer type, stage, and treatment details. NCCN Distress Thermometer: A validated screening tool designed to measure psychological distress developed by Roth et al. to evaluate psychological distress in cancer patients. This tool includes a single-item visual analogue scale ranging from 0 ("no distress") to 10 ("extreme distress"), assessing overall distress experienced in the past week. A clinically significant level of discomfort and a referral mechanism to suitable professional services are suggested for general cancer populations, with a score of ≥ 5 on the visual analogue scale serving as the cut-off. ¹⁵A checklist was used to identify the domains contributing to distress, including physical issues (e.g., pain, fatigue), emotional concerns (e.g., fear, anxiety), practical challenges (e.g., financial difficulties), and family or social issues.

Ethical approval for this study was obtained from the Institutional Ethics Committee. Participants provided informed consent before their involvement. Confidentiality and anonymity were maintained to protect participant privacy. Participants were informed about their right to withdraw from the study at any point. Emotional support was offered to those experiencing high levels of distress, with referrals to psychological or palliative care teams provided as necessary.

Descriptive statistics, including frequencies and percentages, were used to summarize participants' demographic and clinical characteristics. NCCN Distress Thermometer scores were analyzed to determine the prevalence and severity of distress among oncology patients. Statistical analysis was performed using SPSS software, with results evaluated to identify the factors influencing distress levels among patients with oncological conditions.

Results

Personal characteristics of patients with oncological conditions

The data presented in Table 1 reveals that most patients were 36 to 40 years old at an average age of 41.7 ± 5.75 , accounting for 32 %, with a significantly higher proportion being male at 77 %.

Most patients, 65 %, were hospitalized for one week at an average of 1.42 ± 0.65 , while 38 % had attained higher secondary education. Additionally, 75 % reported having their illness for less than one year at an average of 0.84 ± 0.65 . Regarding surgical history, 66 % had not undergone surgery, whereas 34 % had. Notably, only 22 % of the patients were earning members.

Clinical data of patients with oncological conditions

The most common types of cancer among the studied population are breast cancer (33%), followed by ovarian cancer (14%), and cancers of the buccal mucosa, lung, esophagus, and stomach, each comprising 9% of cases. Other less prevalent cancers include those of the cervix, tongue, colon, uterus, oropharynx, thyroid, scalp (squamous cell carcinoma), pancreas, and renal cell (1-6% of cases). This distribution emphasizes the range of cancer kinds that oncology patients at the hospital under study have to deal with, underscoring the necessity of a multidisciplinary approach to diagnosis and care. A smaller proportion received one (14%), two (9%), three (6%), or four (1%) radiation therapies. This distribution suggests variations in treatment modalities among patients, with a significant proportion not requiring or not receiving radiotherapy as part of their cancer management.

An extensive portion of patients (39%) did not receive chemotherapy, while most underwent one cycle (58%). A smaller proportion received two (2%) or three (1%) cycles of chemotherapy. This distribution indicates differences in chemotherapy utilization among patients, with a significant number receiving only a single cycle, potentially reflecting treatment protocols or patient-specific factors influencing chemotherapy administration.

Problems faced by patients suffering from oncological conditions

The data presented in Table 2 reveals the multifaceted challenges faced by oncology patients, emphasizing the pervasive impact of cancer on various aspects of life. The findings highlight the prevalence and severity of distress across practical, emotional, family, spiritual, and physical domains,

underscoring the need for a comprehensive, patient-centered care approach.

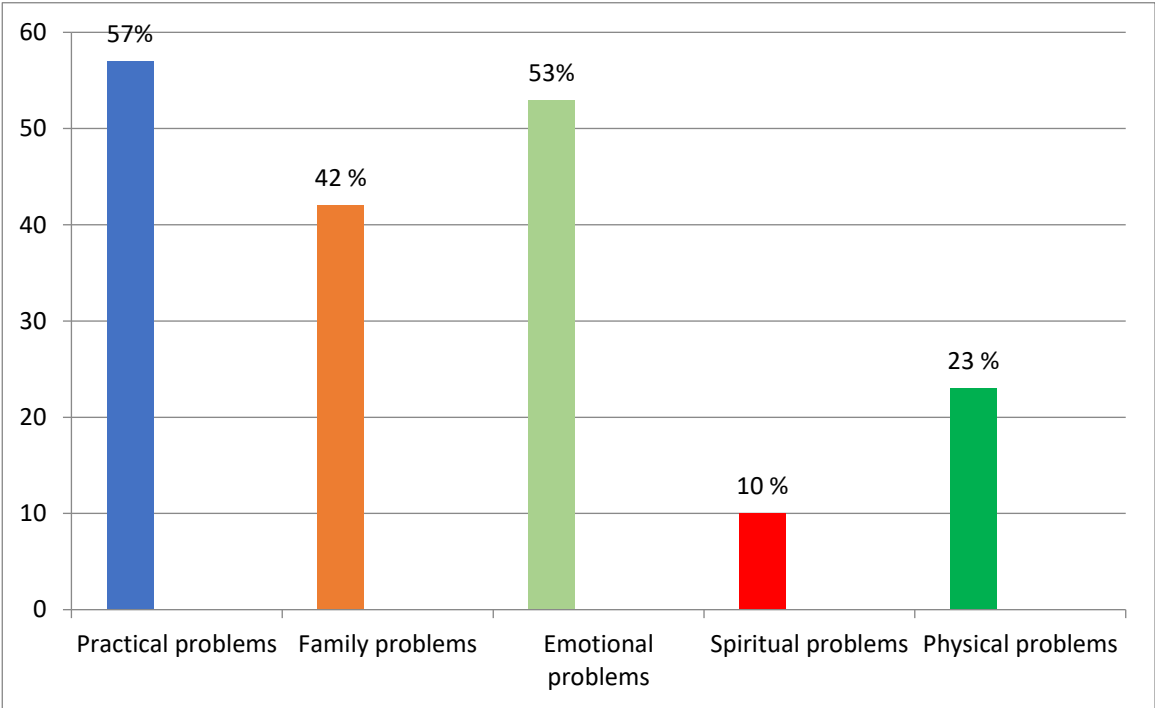
- **Practical Problems**
The high prevalence of transportation issues (82%) and financial concerns (81%) indicates that logistical and economic burdens are significant contributors to patient distress
- **Family Problems**
Concerns related to family health issues (50%) and the ability to have children (43%) reflect the broader familial impact of cancer.

- **Emotional Problems**
Emotional distress is particularly pronounced, with sadness (66%), worry (54%), and loss of interest in usual activities (50%) being commonly reported.
- **Spiritual/Religious Concerns**
Although only 10% of patients reported spiritual or religious concerns, this category highlights an important dimension of care for those grappling with existential questions and seeking meaning in their illness.

Table 2 Problems faced by patients with oncological conditions (n=100)

S.No.Problems facedNo. (%)			
I.	Practical problems		
1	Housing		53(53)
2	Insurance / Financial		81(81)
3	Transportation		82 (82)
4	Treatment decisions		61(61)
II.	Family problems		
1	Ability to have children		43(43)
2	Family health issues		50(50)
III.	Emotional problems		
1	Depression		52(52)
2	Fear		52(52)
3	Nervousness		43(43)
4	Sadness		66(66)
5	Worry		54(54)
6	Loss of interest in normal activities		50(50)
IV.	Spiritual/ religious concerns		
			10(10)
V.	Physical problems		
1	Appearance		54(54)
2	Eating		42(42)
3	Fatigue		60(60)
4	Pain		60(60)
5	Sleep		68(68)

Figure 1. Mean score of Problems faced by patients with oncological conditions measured by NCCN Distress Thermometer



Discussion

The present study meticulously examines the levels of psychological distress experienced by patients with oncological conditions, employing the NCCN Distress Thermometer as an assessment tool. It uncovers how this distress varies among patients based on several influential factors, including age, treatment modalities, tumor characteristics, and tumor site.¹⁶ Notably, the gender distribution in the sample reveals a significant inclination towards male patients, comprising 77% of the cohort. This study highlights distress among female patients, with 76% reporting psychological anguish and 71.3% expressing a strong desire for comprehensive information regarding their illness.¹⁷

Most patients (75%) have encountered their illness for less than a year, suggesting that many are either newly diagnosed or are still navigating the early stages of their treatment journey. Surgical interventions are part of the treatment landscape, with about one-third (34%) of patients undergoing surgery; intriguingly, those treated for urological cancers exhibited lower levels of anxiety compared to their female counterparts and patients with kidney tumors who underwent radical nephrectomy.¹⁸ Educational backgrounds reveal that 38% of patients have attained higher secondary education, while 29% have only completed primary education. This disparity suggests that a significant portion of the population may lack access to advanced educational opportunities, likely impacting their health literacy and consequent health outcomes. Research shows that lower levels of education are frequently linked to poorer health outcomes due to challenges in understanding health information and adhering to treatment protocols.¹⁹

The financial landscape shows that 78% of patients are non-earners, highlighting their reliance on external financial support for medical care. Among gynaecological and breast cancer patients, higher distress levels are linked to increased use of acute health services, such as emergency visits and hospital admissions.²⁰ Breast cancer remains the most common malignancy in women, partly due to improved awareness and screening.²¹ Alarmingly, nearly 48% of cancer patients experience severe distress related to pain, exhaustion, sleep issues, and worry.²² Psychological distress correlates more strongly with clinical variables like patient autonomy and psychiatric comorbidities than with cancer type.²³ Notably, 39% of breast cancer patients experience severe emotional distress, affecting their functioning.²⁴ Additionally, patients preparing for radiation therapy often show increased distress, which can hinder treatment compliance and raise hospital admission risks.²⁵

The study highlights variations in cancer treatment utilization, particularly in chemotherapy and radiotherapy. While 58% of patients received at least one cycle of chemotherapy, a significant number did not, potentially due to disease stage, comorbidities, or patient preferences. Notably, only 3% completed two or more cycles, raising concerns

about adequate treatment for aggressive cancers. Patients undergoing radiation experienced high physical and emotional distress, affecting treatment adherence and overall health. The clinical data provides valuable insights for treatment decisions, resource allocation, and patient support.²⁶

The primary source of distress stemmed from practical problems (57%), particularly housing issues (53%) related to temporary relocations for treatment. This is especially prevalent among urban patients from rural areas, with studies indicating that 81% report financial distress, exacerbated by high treatment costs and limited insurance coverage, particularly in low- and middle-income countries like India. Accessibility (82%) to treatment centres remains a significant barrier, with 80% of patients in South India experiencing transportation challenges, further increasing stress.¹⁶ Addressing these issues through patient support programs and financial counseling could enhance treatment adherence and quality of life.

Additionally, one-third of cancer patients reported worries about pain, transportation, and finances, highlighting the logistical burdens associated with cancer care.^{27,28} Various factors, such as poverty and financial strain, are prevalent among Iranian cancer patients, with 50% expressing concern about their family's health, amplifying their emotional burden.²⁹ Emotional distress, such as depression and fear (52% each), affects cancer patients significantly, with 55% experiencing depressive symptoms due to treatment uncertainties. Anxiety-related issues are also common, with 66% reporting sadness linked to fatigue and loss of independence. These findings underscore the need for comprehensive psychosocial support throughout the cancer journey.

Patients often express significant concerns about the health and well-being of their family members (50%), compounding their emotional burden. A similar study reported that 48% of patients identified family health as a major concern, underscoring the emotional strain experienced in the context of illness.³⁰ The prevalence of depression and fear among cancer patients is notable, with both affecting 52% of patients. A study found that 55% report depressive symptoms attributed to uncertainties regarding prognosis and treatment side effects.¹³ Additionally, anxiety manifests in the forms of nervousness (43%) and excessive worry (54%), while sadness (66%) is frequently reported as a response to diagnosis and treatment. These emotions correlate with fatigue, loss of independence, and perceived lack of support.¹⁶ The loss of interest in normal activities affects 50% of patients and is closely linked to depression and fatigue, highlighting the necessity for comprehensive psychosocial support throughout the cancer journey.

Higher emotional distress levels are associated with poorer treatment adherence and health outcomes, emphasizing the importance of integrating psychological support through counseling, support

groups, and mental health services.³¹ Approximately two-thirds of adult cancer patients experience psychosocial distress, particularly among those who are female, reside in rural areas, or utilize community-based health insurance.³² Mental health services, including counseling and mindfulness interventions, can effectively address emotional distress and enhance coping mechanisms. Family dynamics are also impacted, with 42% of patients reporting family problems, including caregiver stress and family conflict. Of older cancer patients, 43.8% showed signs of psychological discomfort.³³ The emotional toll and financial strain on caregivers can adversely affect their ability to support the patient, leading to caregiver burnout and strained relationships.³⁴ While only 10% of patients report spiritual concerns, addressing this aspect is crucial for holistic care. Spiritual distress, although less prevalent, can significantly affect coping and resilience.³⁵

Healthcare providers should recognize and support patients' spiritual needs, as these existential issues can impact their overall experience with their illness.³⁶ Changes in appearance (54%), such as hair loss or surgical scars, significantly affect self-esteem, especially among younger patients. Approximately 50–60% of cancer patients experience distress related to appearance changes.³⁰ Eating issues (42%) like nausea and loss of appetite also affect eating habits. Moreover, fatigue and pain are reported by 60% of oncology patients, often leading to a reduced quality of life.¹⁶ Pain management remains a critical challenge, with many patients experiencing inadequate relief.

Sleep disturbances are prevalent among cancer patients, with nearly 70% experiencing insomnia or fragmented sleep due to pain, anxiety, or treatment side effects.³⁰ Addressing these sleep issues is critical for overall recovery and well-being. Physical challenges are significant for these patients, including fatigue (60%), appearance-related issues (54%), and difficulties with bathing and dressing (22%). Pain and changes in urination are also common, affecting 60% and 11% of patients, respectively. These multifaceted symptoms severely impact the quality of life, often leading to sadness and helplessness.³⁷ Furthermore, 23% of patients report a range of physical problems such as pain, fatigue, nausea, and weakness associated with cancer and its treatments.

A holistic approach is crucial for addressing the challenges of oncology patients. The Make It Training program, which combines acceptance and commitment therapy with mindfulness-based stress reduction, aims to reduce distress in cancer patients.³⁸ Additionally, a sequential screening program for psychological distress in hospitalized cancer patients shows promise, although low participation in psychiatric consultations remains an issue.³⁹

While this study provides valuable insights into the demographic and treatment characteristics of oncology patients in Mangalore, it is important to

acknowledge its limitations. The study was conducted at a single tertiary care hospital, limiting the generalizability of the findings to other settings. Future research should replicate these findings in larger, multicenter studies to obtain a more representative sample of regional oncology patients. Additionally, longitudinal studies are needed to explore oncology patients' long-term outcomes and treatment trajectories, including survival rates, treatment toxicities, and quality of life outcomes.

Conclusion

This study provides valuable insights into the demographic characteristics, clinical profiles, and challenges faced by oncology patients at a tertiary care hospital in Mangalore, coastal Karnataka. The findings highlight a predominantly male patient population, with breast cancer being the most common. Patients reported challenges across practical, emotional, familial, spiritual, and physical domains, with transportation, financial issues, emotional distress, and physical symptoms being prevalent. The study emphasizes the importance of a holistic approach to oncology care, addressing the complex needs of patients through tailored interventions to improve well-being and optimize cancer care delivery in the region.

References

- 1) Shaw ML. Navigating the mental health challenges of cancer diagnosis, treatment, and survivorship. *Am J Manag Care*. 2024 Mar 12. Available from: <https://www.ajmc.com/view/navigating-the-mental-health-challenges-of-cancer-diagnosis-treatment-and-survivorship>
- 2) Center for Substance Abuse Treatment (US). Trauma-Informed Care in Behavioral Health Services. Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 2014. (Treatment Improvement Protocol (TIP) Series, No. 57.) Chapter 3, Understanding the Impact of Trauma. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK207191/>
- 3) Belay AS, Guangul MM, Asmare WN, Mesafint G. Prevalence and Associated Factors of Psychological Distress among Nurses in Public Hospitals, Southwest, Ethiopia: A cross-sectional Study. *Ethiop J Health Sci*. 2021 Nov;31(6):1247-1256. doi: 10.4314/ejhs.v31i6.21. PMID: 35392329; PMCID: PMC8968359.
- 4) Ramathuba DU, Ramutumbu NJ. Psychosocial Distress and the Quality of Life of Cancer Patients in Rural Hospitals in Limpopo Province: A Qualitative Study. *Curr Oncol*. 2025 Jan 16;32(1):43. doi: 10.3390/curroncol32010043. PMID: 39851959; PMCID: PMC11764448.
- 5) Dekker J, Graves KD, Badger TA, Diefenbach MA. Management of Distress in Patients with Cancer-Are We Doing the Right Thing? *Ann Behav Med*. 2020 Dec 1;54(12):978-984. doi: 10.1093/abm/kaaa091. PMID: 33416842; PMCID: PMC7791612.
- 6) Götz A, Kröner A, Jenewein J, Spirig R. Evaluation of distress management in inpatients with cancer by means of the distress thermometer: A mixed methods approach. *Palliat Support Care*. 2024 Aug;22(4):734-741. doi: 10.1017/S1478951522001493. PMID: 36367151.
- 7) Numico G, Cristofano A, Mozzicafreddo A, Cursio OE, Franco P, Courthod G, Trogu A, Malossi A,

- Cucchi M, Sirotoà Z, Alvaro MR, Stella A, Grasso F, Spinazzè S, Silvestris N. Hospital admission of cancer patients: avoidable practice or necessary care? *PLoS One*. 2015 Mar 26;10(3):e0120827. doi: 10.1371/journal.pone.0120827. PMID: 25812117; PMCID: PMC4374858.
- 8) Tondorf T. Comprehensive cancer care: cancer patients' and oncologists' perspectives on psycho-oncological support [dissertation]. Basel, Switzerland: University of Basel; [2018].
- 9) Rosselli M, Salimbeni MV, Bessi C, Nesi E, Caruso S, Arboretti D, Migliorini E, Caterino E, Parentini E, Generini S, Zipoli M, Romanelli RG, Rosselli M, Marra F, Laffi G, Stasi C. Screening of distress among hospitalized patients in a department of internal medicine. *Asian J Psychiatr*. 2015 Dec;18:91-6. doi: 10.1016/j.ajp.2015.08.003. Epub 2015 Sep 25. PMID: 26470594.
- 10) Muzzatti B, Agostinelli G, Bomben F, Busato S, Flaiban C, Gipponi KM, Mariutti G, Mella S, Piccinin M, Annunziata MA. Intensity and Prevalence of Psychological Distress in Cancer Inpatients: Cross-Sectional Study Using New Case-Finding Criteria for the Hospital Anxiety and Depression Scale. *Front Psychol*. 2022 Apr 26;13:875410. doi: 10.3389/fpsyg.2022.875410. PMID: 35558694; PMCID: PMC9087277.
- 11) McMullen M, Lau PKH, Taylor S, McTigue J, Cook A, Bamblett M, Hasani A, Johnson CE. Factors associated with psychological distress amongst outpatient chemotherapy patients: An analysis of depression, anxiety and stress using the DASS-21. *Appl Nurs Res*. 2018 Apr;40:45-50. doi: 10.1016/j.apnr.2017.12.002. Epub 2017 Dec 15. PMID: 29579498.
- 12) Ginex P, Dickman E, Elia MR, Burbage D, Wilson R, Koos JA, Sivakumaran K, Morgan RL. Climate disasters and oncology care: a systematic review of effects on patients, healthcare professionals, and health systems. *Support Care Cancer*. 2023 Jun 20;31(7):403. doi: 10.1007/s00520-023-07842-z. PMID: 37338628.
- 13) Normen M, Sahaya FE, Kulkarni K, Vidhubala E, Shewade HD, Kathiresan J. 'Patients with Cancer are Distressed!' Indian Healthcare Provider Perspectives on Distress Screening and Referrals to Psycho-oncology Services - A Mixed Methods Study. *Indian J Palliat Care*. 2021 Oct-Dec;27(4):561-570. doi: 10.25259/IJPC_142_21. Epub 2021 Oct 21. PMID: 34898952; PMCID: PMC8655644.
- 14) Veeraiah S, Kayser K, Sudhakar R. Psychosocial factors influencing distress among cancer patients in South India. *J Psychosoc Oncol Res Pract*. 2022 Jan 1;4(1):e067.
- 15) Distress Thermometer Tool Translations. NCCN. <https://www.nccn.org/global/what-we-do/distress-thermometer-tool-translations>
- 16) Rossi A, Marconi M, Mannarini S, Minelli I, Fusi C, Anderboni M, Rossini C, Di Lucca G, Verusio C. Profiling cancer-related distress and problems: A latent class analysis approach. *J Clin Oncol*. 2019;37(15_suppl):e23191. doi: 10.1200/JCO.2019.37.15_suppl.e23191.
- 17) Ojewole FO, Madu AM, Nwozichi CU. Association between psychological distress and unmet information needs among female cancer patients in two selected teaching hospitals in South-West Nigeria. *Chrimed J Health Res*. 2018 Jan 1;5(1):11-7.
- 18) Pastore AL, Mir A, Maruccia S, Palleschi G, Carbone A, Lopez C, Camps N, Palou J. Psychological distress in patients undergoing surgery for urological cancer: A single centre cross-sectional study. *Urol Oncol*. 2017 Dec;35(12):673.e1-673.e7. doi: 10.1016/j.urolonc.2017.08.006. Epub 2017 Sep 5. PMID: 28887095.
- 19) Cutler DM, Lleras-Muney A. Education and health: evaluating theories and evidence. NBER Working Paper No. 12352. National Bureau of Economic Research; 2006.
- 20) Lim SY, Ke Y, Mok NK, Tan YY, Neo PSH, Chan A, Yang GM. Factors associated with distress and the impact of distress on acute health-care service utilization among patients diagnosed with breast and gynecological cancers. *Palliat Support Care*. 2024 Aug;22(4):726-733. doi: 10.1017/S1478951522001444. PMID: 36622079.
- 21) Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, Bray F. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA Cancer J Clin*. 2021 May;71(3):209-249. doi: 10.3322/caac.21660. Epub 2021 Feb 4. PMID: 33538338.
- 22) Funk-Lawler R, Munday KR. Understanding Distress Among Patients With Cancer Receiving Specialized, Supportive Care Services. *Am J Hosp Palliat Care*. 2020 Oct;37(10):830-836. doi: 10.1177/1049909120905780. Epub 2020 Feb 18. PMID: 32066250.
- 23) Valdes-Stauber J, Bachthaler S. Differences in distress severity among oncology patients treated by a consultation-liaison service: A five-year survey in Germany. *Eur J Psychiatry*. 2017 Jul 1;31(3):105-12.
- 24) Saeedi-Saeedi H, Shahidsales S, Koochak-Pour M, Sabahi E, Moridi I. Evaluation of emotional distress in breast cancer patients. *Iran J Cancer Prev*. 2015 Jan-Feb;8(1):36-41. PMID: 25821569; PMCID: PMC4360349.
- 25) Anderson J, Slade AN, McDonagh PR, Burton W, Fields EC. The long-lasting relationship of distress on radiation oncology-specific clinical outcomes. *Adv Radiat Oncol*. 2018 Nov 14;4(2):354-361. doi: 10.1016/j.adro.2018.11.001. PMID: 31011681; PMCID: PMC6460100.
- 26) Almigbal TH, Almutairi KM, Fu JB, Vinluan JM, Alhelih E, Alonazi WB, Batais MA, Alodhayani AA, Mubarak MA. Assessment of psychological distress among cancer patients undergoing radiotherapy in Saudi Arabia. *Psychol Res Behav Manag*. 2019 Aug 20;12:691-700. doi: 10.2147/PRBM.S209896. PMID: 31693712; PMCID: PMC6708396.
- 27) Wallis CJD, Joyce DD, Klaassen Z, Luckenbaugh AN, Laviana AA, Penson D, Dusetzina SB, Barocas DA. Out-of-pocket costs for commercially insured patients with localized prostate cancer. *Urol Oncol*. 2021 Dec;39(12):797-805. doi: 10.1016/j.urolonc.2021.08.026. Epub 2021 Sep 30. PMID: 34600803.
- 28) Ong'ondi M, Njuguna I, Obulumire R, Munyoro E, Okech V, Ann N, Bultz B. Psychological distress in patients with cancer at the Kenyatta National Hospital in Nairobi, Kenya, during the COVID-19 pandemic. *J Psychosoc Oncol Res Pract*. 2023 Apr 1;5(2):00.
- 29) Fathollahzade A, Rahmani A, Dadashzadeh A, Gahramanian A, Esfahani A, Javanganji L, Nabiolahe L. Financial distress and its predicting factors among Iranian cancer patients. *Asian Pac J Cancer Prev*. 2015;16(4):1621-5. doi: 10.7314/apjcp.2015.16.4.1621. PMID: 25743842.
- 30) Pooja S, Savatagi S, Sengupta A, Jayanna K. Assessment of psychological distress and its association with socio-demographic variables among cancer patients in a tertiary care hospital in Bengaluru, Karnataka: a cross-sectional study. *Int J Community Med Public Health*. 2023 Sep;10(9):3358.

- 31) Ramirez-Sola M. Distress management in cancer patients in Puerto Rico. *J Community Support Oncol*. 2017 Mar 1;15(2):68-73.
- 32) Baye AA, Bogale SK, Delie AT, Melak Fekadie M, Wondyifraw HG, Tigabu ME, Kebede M. Psychosocial distress and associated factors among adult cancer patients at oncology: a case of Ethiopia. *Front Oncol*. 2023 Dec 21;13:1238002. doi: 10.3389/fonc.2023.1238002. PMID: 38192622; PMCID: PMC10772143.
- 33) Hong JF, Zhang W, Song YX, Xie LF, Wang WL. Psychological distress in elderly cancer patients. *Int J Nurs Sci*. 2015 Mar 1;2(1):23-7.
- 34) Northouse LL, Katapodi MC, Song L, Zhang L, Mood DW. Interventions with family caregivers of cancer patients: meta-analysis of randomized trials. *CA Cancer J Clin*. 2010 Sep-Oct;60(5):317-39. doi: 10.3322/caac.20081. Epub 2010 Aug 13. PMID: 20709946; PMCID: PMC2946584.
- 35) Schultz M, Meged-Book T, Mashlach T, Bar-Sela G. Distinguishing Between Spiritual Distress, General Distress, Spiritual Well-Being, and Spiritual Pain Among Cancer Patients During Oncology Treatment. *J Pain Symptom Manage*. 2017 Jul;54(1):66-73. doi: 10.1016/j.jpainsymman.2017.03.018. Epub 2017 May 19. PMID: 28533159.
- 36) Wattis J, Curran S. *Practical psychiatry of old age*. Boca Raton, FL: CRC Press; 2024 Nov 1.
- 37) Cha KM, Chung YK, Lim KY, Noh JS, Chun M, Hyun SY, Kang DR, Oh MJ, Kim NH. Depression and insomnia as mediators of the relationship between distress and quality of life in cancer patients. *J Affect Disord*. 2017 Aug 1;217:260-265. doi: 10.1016/j.jad.2017.04.020. Epub 2017 Apr 17. PMID: 28437763.
- 38) Bäuerle A, Martus P, Erim Y, Schug C, Heinen J, Krakowczyk JB, Steinbach J, Damerau M, Bethge W, Dinkel A, Dries S, Mehnert-Theuerkauf A, Neumann A, Schadendorf D, Tewes M, Wiltink J, Wunsch A, Zipfel S, Graf J, Teufel M. Web-based mindfulness and skills-based distress reduction for patients with cancer: study protocol of the multicentre, randomised, controlled confirmatory intervention trial Reduct. *BMJ Open*. 2022 Jun 1;12(6):e056973. doi: 10.1136/bmjopen-2021-056973. PMID: 35649607; PMCID: PMC9161102.
- 39) Hahn C, Joo SH, Chae JH, Lee CU, Kim TS. Feasibility of Psychosocial Distress Screening and Management Program for Hospitalized Cancer Patients. *Psychiatry Investig*. 2017 Nov;14(6):734-745. doi: 10.4306/pi.2017.14.6.734. Epub 2017 Nov 7. PMID: 29209376; PMCID: PMC5714714.



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