Journal of Health and Aging

Original Research

FACTORS ASSOCIATED WITH PALLIATIVE CARE NEEDS AMONG CANCER INPATIENTS AT TAY NGUYEN REGIONAL GENERAL HOSPITAL

Vu Thi Lan Anh[1,*], **Vu Thi Thu Huong**[1]

1. Faculty of Medicine and Pharmacy, Tay Nguyen University, Dak Lak, Viet Nam

* *Corresponding author: MSc, Specialist II Vu Thi Lan Anh ✉ vtlanh@ttn.edu.vn*

ABSTRACT: Cancer is an increasing health burden, particularly among older adults. Palliative care (PC) improves quality of life and should be integrated into comprehensive cancer care. This study assessed palliative care needs and associated factors among cancer inpatients at the Tay Nguyen Regional General Hospital in 2024. A cross-sectional study was conducted among 434 inpatients aged ≥18 years with a confirmed cancer diagnosis (01–09/2024). Data were collected through face-to-face interviews using a structured questionnaire. Multivariable logistic regression (SPSS 20.0) was used to identify factors associated with overall PC needs. Overall, 88.2% of patients had PC needs. The most frequently reported needs were communication and community relationships (83.9%), physical support (81.8%), and psychological/spiritual support (73.5%). Factors associated with higher PC needs included female sex (OR=3.21; p=0.001), rural/remote residence (OR=2.61; p=0.004), being unemployed/retired (OR=3.07; p=0.001), metastasis (OR=2.87; p=0.004), and complications (OR=2.45; p=0.012). Most cancer inpatients, especially older adults have diverse palliative care needs. Integrating comprehensive geriatric assessment into palliative care and implementing multidisciplinary programs that prioritize high-risk groups may improve quality of life.

Keywords: palliative care; cancer; needs; associated factors; geriatrics.

Received: 20/09/2025 Accepted: 22/01/2026 Published: 27/02/2026

1. INTRODUCTION

Cancer is a leading cause of morbidity and mortality worldwide, and the burden continues to rise in the context of population ageing. According to Global Cancer Facts & Figures (5th edition) based on GLOBOCAN 2022, approximately 20 million new cancer cases and 9.7 million deaths were recorded globally in 2022 [1-3]. This burden is projected to increase further over the coming decades, driven largely by population growth and ageing. In Viet Nam, GLOBOCAN 2022 estimated about 182,480 new cancer cases and 120,184 cancer deaths in 2022, highlighting a substantial burden on the national health system [4]. These figures underscore cancer as a major public health challenge, especially as the proportion of older adults continues to increase. Cancer patients, particularly older adults, often face multiple coexisting problems including multimorbidity, reduced physiological reserve, functional decline, and psychosocial difficulties. Such vulnerabilities mean that care needs extend beyond tumor-directed treatment. Sleeman et al. reported that a large share of global serious health-related suffering concentrates in older age groups, with cancer among the leading causes [5]. In this context, palliative care is an essential component of comprehensive cancer care. The World Health Organization defines palliative care as an approach that improves quality of life of patients and families through prevention and relief of suffering by early identification, assessment, and treatment of physical, psychosocial, and spiritual problems [2]. Studies on palliative care needs in cancer show that, beyond symptom control, patients frequently need psychological, communication, and social support, particularly in advanced disease and among older adults [6,7]. From a geriatric oncology perspective, recent guidance emphasizes that care for older cancer patients should be guided by vulnerability and overall function, not only by cancer diagnosis or stage. The ASCO guideline recommends incorporating comprehensive geriatric assessment (CGA) to identify problems in function, cognition, psychological status, nutrition, and social support, thereby tailoring cancer treatment and palliative care for older adults [8]. In Viet Nam, palliative care has been implemented since 2005 under Ministry of Health guidance; however, integrating geriatric approaches into palliative care remains limited, particularly at provincial hospitals and in socioeconomically disadvantaged regions. The Central Highlands—where many residents live in rural/remote areas and access to specialized services is constrained—provides an appropriate setting to assess palliative care needs among cancer inpatients from a geriatric lens. Therefore, this study aimed to determine palliative care needs and associated factors among cancer inpatients at the Tay Nguyen Regional General Hospital in 2024, to inform integration of geriatric approaches into palliative care and improve quality of life in the context of population ageing.

2. MATERIALS AND METHODS

2.1. Study participants

Participants were patients aged ≥18 years with a confirmed cancer diagnosis who were admitted to the Tay Nguyen Regional General Hospital from January to September 2024.

Inclusion criteria: (1) age ≥18 years; (2) confirmed cancer diagnosis and inpatient treatment; (3) able to communicate and respond to the questionnaire; (4) provided written informed consent. Exclusion criteria: critically ill patients unable to participate in interviews

2.2. Study design

Cross-sectional descriptive study.

2.3. Sample size and sampling

The minimum sample size was n=434, calculated using the single-proportion formula with $Z=1.96$, $\alpha=0.05$, $p=0.763$ (from a Vietnamese inpatient cancer study) [9], and allowable error $d=0.04$. Convenience sampling was used by enrolling all eligible patients until the target sample size was reached. This sampling method ensured feasibility but may introduce selection bias and limit generalizability.

2.4. Variables and data collection instrument

Study variables included: (1) socio-demographic characteristics and clinical characteristics; and (2) palliative care needs.

Palliative care needs were assessed across seven domains: physical, psychological/spiritual, communication, financial, medical information, activities of daily living, and personal autonomy. The questionnaire was developed based on the Viet Nam Ministry of Health palliative care guideline and adapted from Vietnamese studies with a similar domain structure [9,10]. Before formal data collection, the questionnaire was pilot-tested in 30 cancer patients to assess clarity and feasibility. Minor wording adjustments were then made to improve comprehensibility and contextual appropriateness before use in the main survey.

Palliative care needs were assessed across seven domains using a 3-point scale (1=no need, 2=low need, 3=high need) [11]. A patient was considered to have a need for an item if they selected level 2 or 3.

Domain-specific cut-offs for clinically relevant needs were applied as follows: physical and psychological/spiritual ≥8/10 items; communication, financial, activities of daily living, and autonomy ≥2/3 items; medical information ≥5/7 items. Overall palliative care need was defined as having needs in ≥3 domains, aiming to screen and identify unmet needs early [11].

2.5. Data collection and analysis

Data were collected through face-to-face interviews using the structured questionnaire. Analyses were performed using SPSS 20.0, including descriptive statistics, bivariable tests, and multivariable logistic regression. Statistical significance was set at $p<0.05$.

2.6. Ethics

Participants were informed about study objectives, voluntary participation, confidentiality, and the right to withdraw at any time. The study was approved by the Scientific Council of Tay Nguyen University (approval in 2023).

3. RESULTS AND DISCUSSION

3.1. Characteristics of study participants

The study included 434 cancer inpatients, predominantly middle-aged and older adults. The 40–59 age group accounted for 52.1%, and patients aged ≥60 years accounted for 35.3%. Male and female patients represented 53.0% and 47.0%, respectively. Most participants were Kinh ethnicity (83.2%), lived in rural/remote areas (71.0%), and had health insurance (99.1%). Regarding education, upper secondary school was most common (32.7%), followed by lower secondary (24.4%) and post-secondary (20.8%). Before admission, self-employment/housework was the most frequent occupation; at the time of the survey, over 40% had stopped working, indicating notable impacts of cancer on employment and social roles. Clinically, digestive cancers (27.9%) and respiratory cancers (23.0%) were most common. Metastatic disease was present in 59.2%, and 54.4% were stage III–IV. Chemotherapy was the most common treatment modality (50.2%), followed by radiotherapy (21.4%) and surgery (19.1%).

3.2. Palliative care needs

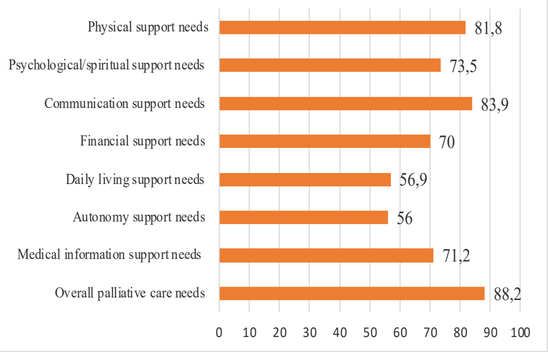

Figure 1. Palliative care needs of patients across seven domains (n=434).

Among 434 cancer inpatients, 88.2% were identified as having overall palliative care needs across seven domains. The most prominent needs were related to symptom burden and communication/social support, including communication and community relationships (83.9%), physical support (81.8%), psychological/spiritual support (73.5%), and medical information needs (71.2%). Financial support (70.0%), activities of daily living (56.9%), and personal autonomy (56.0%) were reported less frequently. Given the substantial proportion of middle-aged and older patients, this pattern supports a geriatric-oriented palliative care approach emphasizing early screening for pain, fatigue, anxiety, communication difficulties, and information needs for shared decision-making, consistent with reported needs among cancer patients receiving palliative care [6]. The findings are consistent with Vietnamese studies reporting high and multidimensional palliative care needs among cancer inpatients [9,11-14]. Importantly, "palliative care need" reflects areas requiring support (often unmet needs) and is not equivalent to the level of palliative care services currently available at the hospital. Therefore, at a regional hospital, priority should be given to multidisciplinary palliative care models and incorporation of geriatric screening/CGA to identify vulnerable groups (older adults, unemployed/retired, metastatic disease, complications), while improving access for rural patients.

3.3. Socio-demographic factors associated with palliative care needs

Table 1. Socio-demographic factors associated with palliative care needs (multivariable logistic regression, n=434).

Characteristics	With PC needs n (%)	Without PC needs n (%)	OR (95% CI)	p-value
Gender				
Male	192 (83.5)	38 (16.5)	1.00 (reference)	
Female	191 (93.6)	13 (6.4)	3.21 (1.60 – 6.44)	0.001
Residence				
Urban	101 (80.2)	25 (19.8)	1.00 (reference)	
Rural/remote areas	282 (91.6)	26 (8.4)	2.61 (1.36 – 4.98)	0.004
Religion				
With religion	174 (84.1)	33 (15.9)	1.00 (reference)	
Without religion	209 (92.1)	18 (7.9)	1.39 (0.72 – 2.68)	0.326
Current working status				
Employed	144 (82.3)	30 (17.2)	1.00 (reference)	
Unemployed/retired	239 (91.9)	21 (8.1)	3.07 (1.60 – 5.89)	0.001

Note: OR: Odds Ratio; CI: Confidence Interval; PC: Palliative Care

Multivariable logistic regression showed that sex, residence, and current working status were independently associated with overall palliative care needs ($p<0.05$) (Table 1). Female patients had higher odds of PC needs than males (OR=3.21; 95% CI: 1.60–6.44). Patients living in rural/remote areas had higher odds than urban residents (OR=2.61; 95% CI: 1.36–4.98). Patients who were unemployed/retired had higher odds than those employed (OR=3.07; 95% CI: 1.60–5.89).

These patterns may reflect differences in symptom reporting and psychosocial burden by gender, as well as barriers to accessing supportive services among rural residents. At a regional hospital, community-based palliative care and telehealth may help reduce geographic and financial barriers, consistent with Vietnamese experience in home-based care and information technology applications [13].

Unemployment/retirement may indicate socioeconomic vulnerability and is often accompanied by functional decline and greater dependence, particularly among older adults. Thus, integrating vulnerability screening and CGA into routine cancer care can identify functional, nutritional, cognitive, and social support needs and guide individualized palliative care interventions [8].

No statistically significant associations were observed for other variables (age, ethnicity, education, marital status, pre-treatment occupation, income, caregiver, health insurance). This may be partly due to limited variability in some measures (e.g., very high insurance coverage and high rural proportion). Importantly, high prevalence of PC needs does not imply that current services are adequate. Rather, it signals the need to reorganize regional palliative care services and strengthen coordination among palliative care, geriatric care, and primary care to ensure continuity after discharge [2,13].

3.4. Clinical factors associated with palliative care needs

Table 2. Clinical characteristics associated with palliative care needs (multivariable logistic regression, n=434).

Characteristics	With PC needs n (%)	Without PC needs n (%)	OR (95% CI)	p-value
Cancer site				
Digestive/respiratory	184 (83.3)	37 (16.7)	1.00 (reference)	
Others	199 (93.4)	14 (6.6)	4.00 (1.82 – 8.78)	0.001
Metastasis				
No metastasis	141 (79.7)	36 (20.3)	1.00 (reference)	
With metastasis	242 (94.2)	15 (5.8)	2.87 (1.39 – 5.92)	0.004
Disease stage				
Stage I–II	164 (82.8)	34 (17.2)	1.00 (reference)	
Stage III–IV	219 (92.8)	17 (7.2)	1.86 (0.94 – 3.69)	0.074
Treatment method				
Chemotherapy	184 (84.4)	34 (15.6)	1.00 (reference)	
Others	199 (92.1)	17 (7.9)	1.59 (0.78 – 3.24)	0.195
Complications				
No complications	126 (81.3)	29 (18.7)	1.00 (reference)	
With complications	257 (92.1)	22 (7.9)	2.45 (1.21 – 4.94)	0.012

Note: OR: Odds Ratio; CI: Confidence Interval; PC: Palliative Care

Clinical factors independently associated with PC needs included cancer site (other sites vs digestive/respiratory), metastasis, and complications (Table 2). Patients with cancers outside the digestive/respiratory systems had higher odds of PC needs (OR=4.00), as did those with metastasis (OR=2.87) and complications (OR=2.45). After adjustment, stage and treatment modality were not statistically significant.

These findings support the view that PC needs are driven more by symptom burden and clinical complexity (metastasis, complications) than by labels such as stage or treatment type. Metastatic disease is often accompanied by higher pain, fatigue, functional impairment, and psychological distress; therefore, palliative care should be integrated early rather than delayed to end-of-life care [2,15]. Similarly, complications (e.g., infection, bleeding, treatment toxicity) may precipitate rapid declines in quality of life and increase supportive needs [16].

The higher odds observed in the "other cancer sites" group may reflect differences in symptom patterns and treatment sequelae across cancer types (e.g., head-and-neck cancers affecting eating and communication; breast/gynecologic cancers impacting body image and social roles; genitourinary cancers affecting continence and autonomy). Because this category aggregates heterogeneous sites, the result should be interpreted with caution and suggests that specific subgroups within this category may warrant further investigation.

From a geriatric oncology perspective, older adults have lower physiological reserve and more comorbidities, and thus may decompensate rapidly in the presence of metastasis or complications. Prioritizing vulnerability screening and CGA can help tailor symptom control, nutrition, functional support, and social care [8].

At a regional hospital, establishing clear criteria to trigger early palliative care consultation (e.g., metastasis, complications, or high-risk cancer sites) may facilitate timely multidisciplinary intervention. Strengthening training and linking hospital-based care with primary care/community services (including telehealth when feasible) can improve continuity after discharge, especially for rural patients. Finally, it is important to distinguish "palliative care needs" (identified through assessment) from the "available palliative care services"; gaps between needs and service capacity should be prioritized for improvement [2].

4. CONCLUSION

In this study, 88.2% of cancer inpatients had overall palliative care needs across seven domains. Higher PC needs were associated with female sex, rural/remote residence, unemployment/retirement, and clinical complexity including non-digestive/non-respiratory cancer sites, metastasis, and complications. These findings indicate that palliative care needs are common and multidimensional at a regional hospital and support early, needs-based integration of palliative care with a geriatric-oriented approach.

Recommendations: Implement routine screening and early palliative care consultation for high-risk groups; organize multidisciplinary palliative care services; strengthen workforce training; monitor patient needs and satisfaction; and collaborate with primary care/community services (including telehealth) to ensure continuity of care after discharge, particularly for rural patients.

REFERENCES

[1] American Cancer Society. Global Cancer Facts & Figures. 5th ed. Atlanta (GA): American Cancer Society; 2024 [cited 2026 Jan 11]. Available from: https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/global-cancer-facts-and-figures/global-cancer-facts-and-figures-2024.pdf

[2] World Health Organization. National cancer control programmes: policies and managerial guidelines [Internet]. Geneva: WHO; 2002 [cited 2026 Jan 11]. Available from: https://www.who.int/publications/i/item/national-cancer-control-programmes

[3] International Agency for Research on Cancer. Cancer Today (GLOBOCAN 2022) [Internet]. Lyon (FR): IARC; 2022 [cited 2026 Jan 11]. Available from: https://gco.iarc.who.int/today

[4] International Agency for Research on Cancer. GLOBOCAN 2022: Viet Nam fact sheet [Internet]. Lyon (FR): IARC; 2022 [cited 2026 Jan 11]. Available from: https://gco.iarc.who.int/media/globocan/factsheets/populations/704-viet-nam-fact-sheet.pdf

[5] Sleeman KE, de Brito M, Etkind S, et al. The escalating global burden of serious health-related suffering: projections to 2060 by world regions, age groups, and health conditions. Lancet Glob Health. 2019;7(7):e883-e892. doi:10.1016/S2214-109X(19)30172-X.

[6] Gotze H, Brahler E, Gansera L, et al. Psychological distress and quality of life of palliative cancer patients and their caring relatives during home care. Support Care Cancer. 2014;22(10):2775-2782. doi:10.1007/s00520-014-2257-5.

[7] Wang T, Molassiotis A, Chung BPM, Tan JY. Psychometric assessment of the Problems and Needs in Palliative Care questionnaire-short version in advanced cancer patients. BMC Palliat Care. 2019;18:68. doi:10.1186/s12904-019-0450-5.

[8] Mohile SG, Dale W, Somerfield MR, et al. Practical assessment and management of vulnerabilities in older patients receiving chemotherapy: ASCO guideline for geriatric oncology. J Clin Oncol. 2018;36(22):2326-2347. doi:10.1200/JCO.2018.78.8687.

[9] Tran TL, Le TT. Palliative care needs among cancer inpatients at Thai Binh Provincial General Hospital in 2019. Tap chi Khoa hoc Dieu duong. 2019;2(3):13-21. [in Vietnamese]. [cited 2026 Jan 11]. Available from: https://jns.vn/index.php/journal/article/view/180/176

[10] Ministry of Health (Viet Nam). Guidelines for palliative care for cancer and AIDS patients. Hanoi: Medical Publishing House; 2006. [in Vietnamese].

[11] Vu DS, Pham NA, Dang TVA, Le TP. Palliative care needs and associated factors among cancer inpatients at the Oncology Center, Thai Nguyen Central Hospital in 2020. Journal of Nursing Science. 2022;5(2):31-40. doi:10.54436/jns.2022.02.423. [in Vietnamese].

[12] Pham NA, Dang TVA, Le TP, Vu BH, Pham TH, Nguyen TH, et al. Palliative care needs of cancer patients at the Oncology Center–Thai Nguyen Central Hospital in 2021. Journal of Health

and Development Studies. 2022;6(5):114-121. doi:10.38148/JHDS.0605SKPT21-082. [in Vietnamese].

[13] Phan CD, Nguyen MH, Nguyen DQ, Huynh TMC, Le HXT, Mai XH. Home-based palliative care needs and information technology application in the care process for cancer patients at the Oncology–Palliative Care Department, Hue Central Hospital (Campus 2). Tap chi Y hoc lam sang Benh vien Trung uong Hue. 2020;(65):89-95. doi:10.38103/jcmhch.2020.65.13. [in Vietnamese].

[14] Pham TD. Palliative care needs and the response to these needs among cancer inpatients at the Oncology Center, Thai Nguyen Central Hospital in 2019 [master's thesis]. Nam Dinh: Nam Dinh University of Nursing; 2020. [in Vietnamese].

[15] Temel JS, Greer JA, Muzikansky A, et al. Early palliative care for patients with metastatic non-small-cell lung cancer. N Engl J Med. 2010;363(8):733-742. doi:10.1056/NEJMoa1000678.

[16] Kavalieratos D, Corbelli J, Zhang D, et al. Association between palliative care and patient and caregiver outcomes: a systematic review and meta-analysis. JAMA. 2016;316(20):2104-2114. doi:10.1001/jama.2016.16840.