

RESEARCH

Open Access



Patient-centeredness and determinant factors of palliative care service for adult cancer patients in public hospitals of addis Ababa, Ethiopia, 2024: cross-sectional mixed method study

Muday Beneberu¹, Getachew Teshale^{1,2*}, Kaleb Assegid Demissie¹, Endalkachew Dellie¹, Melak Jejaw¹ and Asmamaw Atnafu¹

Abstract

Introduction Providing patient centered palliative care is essential to enhance the wellbeing of patients with life-limiting illnesses and their families. As the demand for palliative care services increases and the cancer burden grows in Ethiopia, it is crucial to know how much these services are patient centered and what factors may determine it. Therefore, this study assess the level and determinant factors of patient-centeredness for adult cancer patients' palliative care services in public hospitals found in Addis Ababa.

Method and materials A cross-sectional mixed method was employed from May 16 to August 19, 2024. A total of 407 adult cancer patients, 7 key informant interviews and five in-depth interviews were included. The quantitative data was collected using Kobo collect tool version 2.023.21 and exported to STATA version 14 for analysis. Binary and multi-variable logistic regression with 95% Confidence Interval (CI) and Adjusted Odds Ratio (AOR) were fitted to identify factors associated with the patient-centeredness of care. Qualitative data was recorded, transcribed and thematically analyzed by using Open Code software version 4.0.1.

Results Patient-centeredness care for adult cancer patients was 77.9%. age group 30–39 (AOR: 3.52, 95% CI: 1.21, 10.21), being divorced (AOR: 0.14 95% CI: 0.06, 0.37), monthly income > 12,000 Birr (AOR: 0.36, 95 CI: 0.156, 0.836), health literacy (AOR: 0.08, 95% CI: 0.02, 0.25), intimacy with the provider (AOR: 0.14 95% CI: 0.02, 0.75), service easiness (AOR: 0.34, 95% CI: 0.17, 0.67), and appointment waiting time (AOR: 0.4 95% CI: 0.19, 0.83) were found to be significant factors for patient-centeredness of palliative care service.

Conclusion and recommendations The magnitude of patient-centered care for adult cancer patients in palliative care was 77.9%. Most patients felt respected and involved in decision-making, and their physical and emotional comfort was maintained. However, only one-third of them reported ease of access to services. Age, marital status,

*Correspondence:
Getachew Teshale
getateshale1221@gmail.com

Full list of author information is available at the end of the article



© The Author(s) 2025. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

income, participation in decision-making, intimacy with providers, ease of access, and appointment length was the significant factors. Recommendations include improving service coordination, reducing waiting time, fostering emotional connections between patients and providers, and offering tailored support to single or widowed patients to enhance patient-centered care.

Keywords Palliative care, Cancer, Patient-centeredness, Addis Ababa, Ethiopia

Introduction

Palliative care is the prevention and relief of the suffering of patients and their families. It is an approach that addresses the difficulties of having a life-threatening illness like cancer and easing pain and suffering [1]. The service includes diagnosing, treating, and meeting with the physical, spiritual, cultural, and religious needs of patients. It's not an alternative to disease prevention and treatment, yet it is a service that should be integrated with them [2, 3].

Cancer is an abnormal cell division, uncontrollably and destruction of normal body tissues [4]. It is a huge public health burden and is the leading cause for morbidity and mortality worldwide. About 19.3 million new cases and 10.3 million deaths related to cancer worldwide by 2019/20 [5]. The burden on low and middle income countries (LMICs) is becoming disproportionate [6]. According to The Lancet Oncology report, in 2022, Ethiopia encountered 80,034 new cases and 54,698 deaths related to cancer [7].

The global increase in cancer incidence is making palliative care necessary for patients [8]. A study conducted in 2023 reported that people with cancer compromise about 34% of the population that needs palliative care worldwide [9]. According to a study conducted in all tertiary hospitals in Thailand, 7.8% of cancer patients required palliative care [10]. Almost all cancer patients in LMICs need palliative care. This makes their chance of experiencing severe pain and distress high [11].

Ethiopia is also one of the low- and middle-income countries with high burden of non-communicable diseases including cancer. Although most cancer patients need the palliative care services, only few of them received it due to limited access to opioid analgesia, and a concurrent lack of knowledge regarding the palliative care need [12]. A study done in a public hospital in Addis Ababa reported that 10.6% cancer patients required palliative care [13]. Another study conducted in a tertiary hospital in Addis Ababa, Ethiopia, also reported that among admitted cancer patients, 65% of them required palliative care service but didn't receive any form of pain management [14].

Palliative care is an approach to care that is given to address the patient as whole, not just the disease [4]. Access to quality palliative care is considered as a basic human right. It needs to be delivered via person-centered, integrated health services that give careful

consideration to each person's unique requirements and preference.

Providing quality palliative care service is essential for improving the overall wellbeing of patients with life-limiting illness and their families [15]. There are multi-faceted challenges to the provision of quality palliative care. Some of these are: lack of awareness of healthcare providers, communities, and policy makers about the benefits of palliative care service. This will hinder the integration of the service into healthcare services [15]; inadequate resources, such as funding, drugs, trained professionals, etc [16]; financial and human resource constraints, weak collaboration among stakeholders; poor compliance of healthcare providers to the national guideline; poor holistic approach. Cancer patients get poor psychological, emotional, and physical care [16].

Patient-centered palliative care intends to make the whole person visible, be supported to live a life with dignity, and ultimately improve the QoL of patients and their families [17]. However, patients or their families were not engaged to make decisions about their care to enhance their quality of life, physical function, patient satisfaction, and quality of care (QOC) [18].

A national survey done in the US reported that only 21% of the institutions provided palliative a patient-centered care [19]. Another study done in Canada also revealed that only 71.6% of cancer patients perceived that they are adequately involved in decisions about their care [20]. A descriptive, cross-sectional study done in Kenya also found that 57.3% of cancer patients thought that the service they received was patient-centered [21]. A facility-based cross-sectional study done in Addis Ababa also showed that 37.2% cancer patients were not satisfied with the palliative care service [22].

Studies showed that palliative care services provided for cancer patients were not patient centered due to different challenges like lack of trained professionals, lack of opioids in health facilities, unwillingness of patients and their families to be referred to dedicated palliative care facilities [23]. Poor patient-centered care and lack of integrated and comprehensive palliative care can result in poor quality of life (QoL) [24]. This study aims to determine the level of patient centeredness of palliative care service for cancer patients and updating its determinant factors.

Conceptual framework

The conceptual framework identifies patient-centeredness as influenced by three key factors: socio-demographic, patient-related, and health facility-related. Socio-demographic factors (age, sex, marital status, education, income, etc.) shape patient experiences, while patient-related factors (health literacy, provider intimacy, radiotherapy experience, and provider competency) impact engagement and satisfaction. Health facility-related factors, such as hospital appearance, access, privacy, discharge planning, cleanliness, and waiting times, affect how patients perceive and interact with the health-care facility. Together, these elements influence the overall patient-centeredness of care (Fig. 1).

Method and design

Study area and period

This study was conducted in public hospitals of Addis Ababa city administration from May 16 to August 19, 2024. Addis Ababa is the capital city of Ethiopia and have 11 sub-cities and 120 woredas (the lowest administrative units in the city). In the city administration, there are 14 public hospitals of which, Saint Paulos Millennium Medical Collage (SPMMC), Tikur Anbessa.

specialized hospital, Yekatit 12 and Zewuditu referral hospitals provided oncology services. Despite these four hospitals all provided palliative care services for all cancer and other life-threatening cases, Tikur Anbessa specialized hospital is the only center for radiotherapy treatment.

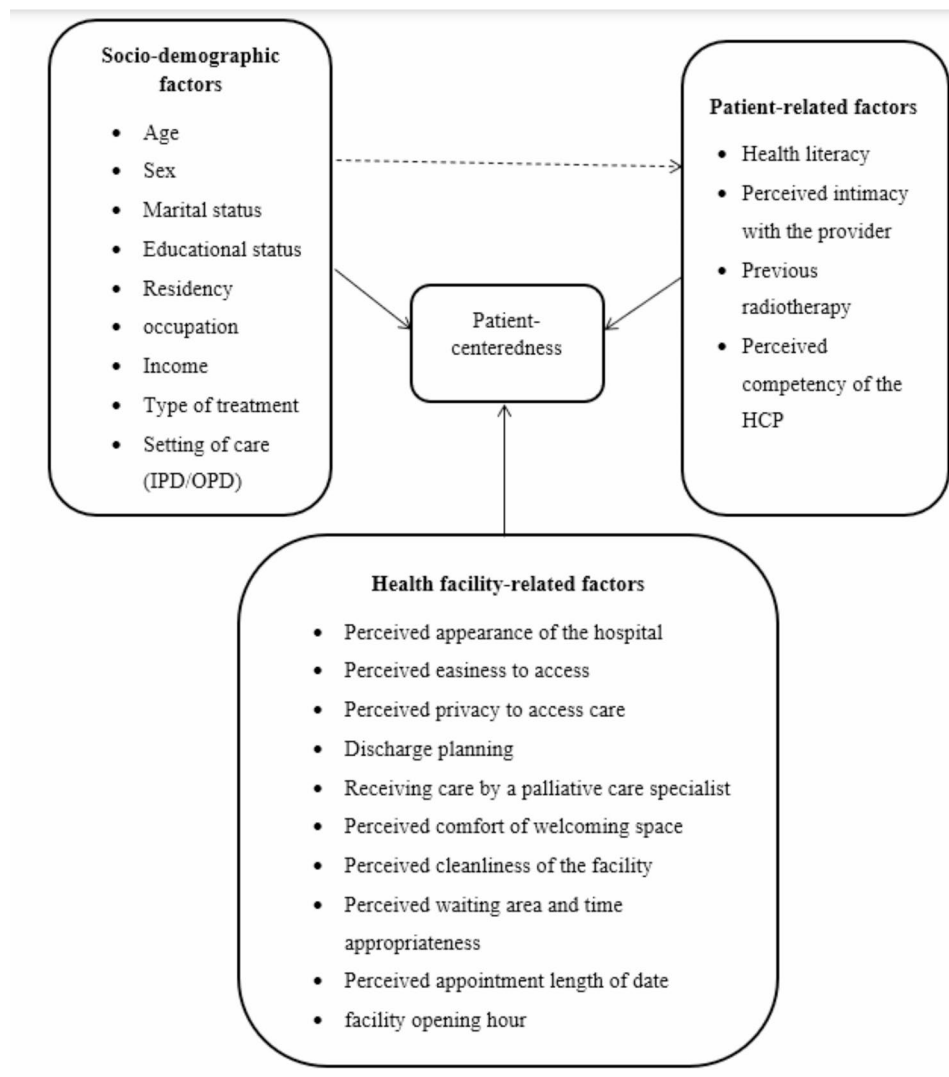


Fig. 1 Conceptual framework for the evaluation of the quality of adult cancer patients' palliative care services in public hospitals in Addis Ababa, Ethiopia, 2024 [25–29]

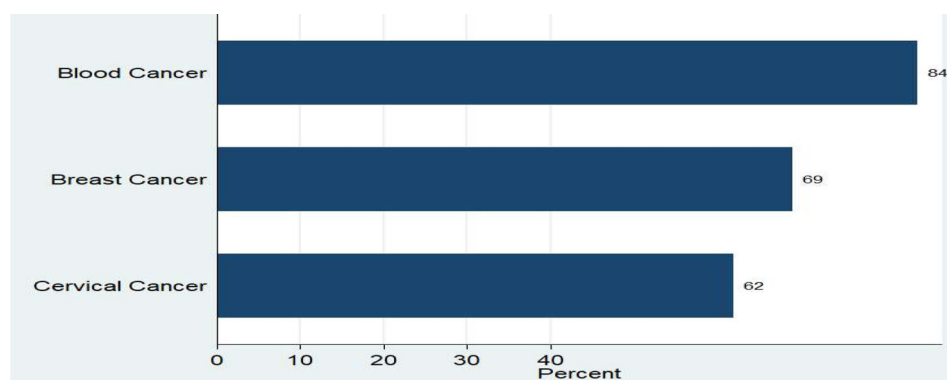


Fig. 2 Graphical representation of the frequent cancer types among adult cancer patients on palliative care service in Addis Ababa public hospitals, Addis Ababa, Ethiopia, 2024 ($n=407$)

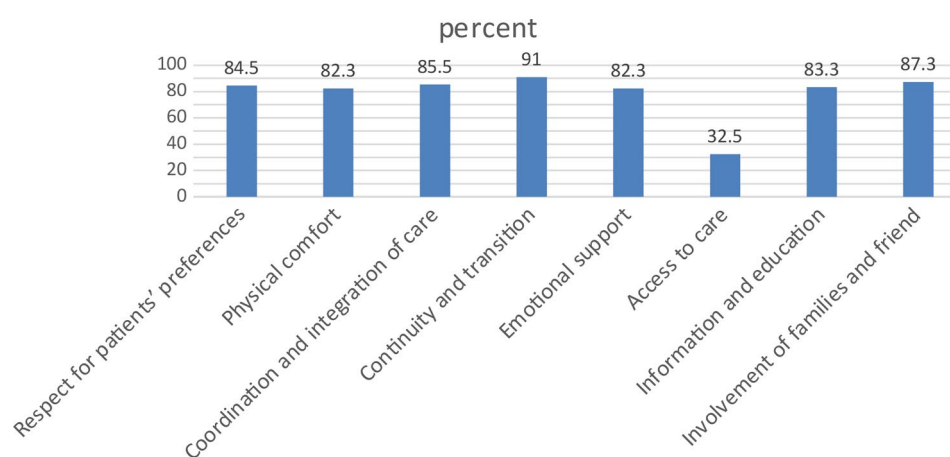


Fig. 3 Indicators and patient perception on patient-centeredness palliative care services

Study design and method

This study employed a facility-based cross-sectional design utilizing explanatory concurrent mixed approach. Both quantitative and qualitative data were collected simultaneously (concurrently). The quantitative findings were explained and clarified with the qualitative results. The research was conducted in public hospitals in Addis Ababa, targeting adult cancer patients. The quantitative component aimed to assess the patient centeredness of through structured surveys, while the qualitative component explored challenges and limitations to provide patient centered care service for adult cancer patients using key informant interview.

Populations and sampling

The source population for this study were all adult cancer patients receiving palliative care in public hospitals of Addis Ababa city administration. Case managers and palliative care unit coordinators were also included. All adult cancer patients who have been receiving palliative care for at least a month during the data collection period were included while patients who were critically ill excluded in our sampling.

Sample size determination and sampling procedure

Since to the extent of our searching there was no studies done in the study area, we considered 50% population proportion, 10% non-response, 95% CI and 5% margin of error to calculate the sample size. Accordingly, 423 cancer patients who received palliative care service were included in the survey. The qualitative sample size was determined by the information saturation principle. Seven key informant interviews and five in-depth interviews were included.

The calculated sample size was proportionally allocated Tikur Ambesa specialized hospital, Siant Paulos Millennium Medical Collage (SPMMC), Yekatit 12, and Zewuditu referral hospitals based on the number of adult cancer patients under palliative care service unit month prior to the data collection period. A consecutive sampling technique was employed to recruit participants in each hospital until the required sample size is reached. The index (first) participant on the first day of the data collection period was selected randomly. Key informants (palliative care coordinators and case managers) were selected through purposive sampling. This allowed obtaining rich information from those who

had a better understanding, experience, and knowledge regarding cancer palliative care services. The in-depth interview participants also selected purposively based on their length of admission. Accordingly, five adult cancer patients who were on palliative care for three months were included.

Variables, indicators and their measurement

Dependent variable

The dependent variable is the patient-centeredness of palliative care services for adult cancer patients. It was measured using a 21-item, five-point Likert scale structured questionnaire and 8 indicators. The outcome variable was dichotomized as either “good patient-centered care” or “poor patient-centered care,” based on the demarcation threshold formula with a cut-off point of 83 [30]. The cut-off point was calculated as:

$$\text{Cut-off point} = \frac{(\text{total highest score} - \text{total lowest score}) + \text{total lowest score}}{2}$$

Accordingly, responses with a score of 83 and above were categorized as “good patient-centered care,” while those below were categorized as “poor patient-centered care.”

Independent variables

The independent variables include socio-demographic factors and clinical characteristics such as age, sex, marital status, educational status, health literacy, residency, occupation, income, type of treatment, and care setting (inpatient/outpatient). Patient-related factors include involvement in decision-making and treatment planning, perceived intimacy with the provider, prior radiotherapy, and perceived competency of the healthcare provider. Organizational-related factors include perceived hospital appearance, ease of access, privacy in accessing care, communication of the care plan, receiving care from a palliative care specialist, perceived welcoming environment, cleanliness of the facility, waiting area and time, appointment scheduling, and opening hours.

Health literacy it is defined as is the understanding of patients about their health condition and treatment options. It was measured by asking patients five yes or no item questions and a patient said to have health literacy if she/he answer three or more questions correctly [31].

Indicators

The following indicators were developed from various literature sources and the Ethiopian National Palliative Care Guideline [32–36] to measure the patient-centeredness of palliative care services provided to adult cancer patients. These indicators include:

- Proportion of cancer patients who perceived that healthcare providers respected their preferences.
- Proportion of cancer patients who perceived that the palliative care provided ensured physical comfort.
- Proportion of cancer patients who perceived that the palliative care services were well-coordinated.
- Proportion of cancer patients who perceived good continuity and transitions in care.
- Proportion of cancer patients who perceived that they received emotional support.
- Proportion of cancer patients who perceived that the care they received was easily accessible.
- Proportion of cancer patients who perceived that they were well-informed and educated about their care.
- Proportion of cancer patients who perceived that their families and friends were encouraged to be involved in their treatment plan.

Data collection tools and field work

An interviewer-administered structured questionnaire, which was adapted from a study done on patient-centeredness of health services in Addis Ababa [37], was used for patient interview to assess the patient-centeredness of palliative care service provided at the selected public hospitals in Addis Ababa. The questions were categorized into the four domains: socio-demographic and clinical characteristics of patients, 5- point likert scale labeled as “strongly agree”, “agree”, “neutral”, “disagree”, and “strongly disagree” with 21 items, health facility related factors with 11 “yes” or “no” questions, and patient-related factors with 4 “yes” or “no” questions.

The data collectors obtained verbal informed consent from the study participants before collecting the data. Six trained BSc nurse data collectors and two MPH-level supervisors were recruited trained for two days about the data collection process, data quality and ethical issues.

A semi-structured key informant interview and in-depth interview guide was adapted from the national guideline guide line [36]. The interviewer also used probing questions during the interviews. The principal investigator conducted the key informant and in-depth interviews.

Data quality assurance

To ensure the consistency and completeness of the questionnaire prepared for assessing patient-centeredness, a pre-test among 5% of the sample size was carried out on cancer patients at the University of Gondar Comprehensive Specialized Hospital (UOGCSH). The reliability of the survey tool was checked by calculating Cronbach's alpha and the result was 0.9021 with an average inter-item covariance of 0.287. The qualitative study experts had checked the validity (content validity) of qualitative

tools. Before the data collection commenced, data collectors and supervisors were trained for two consecutive days. The supervisors and principal investigator checked the completeness and consistency of data daily. The electronic data was locked with a secure device and protected from non-privileged manipulation.

The key informant and in-depth interviews were conducted in Amharic, and translated to English for analysis. The transcribed data was cross-checked against the field note and the translated data was taken back to some of the key informants and in-depth interview participants (member checking) to make sure if the transcribed data represented their views. Moreover, the transcripts were cross-checked with the audio files to ensure accuracy and consistency of the qualitative data before coding and analyzing.

Table 1 Socio-demographic characteristics of adult cancer palliative patients at addis Ababa public hospitals, addis Ababa, Ethiopia, 2024 ($n=407$)

| Variables | Category | Frequency | Percentage |
|----------------|-------------------|-----------|------------|
| Sex | Male | 193 | 47.42% |
| | Female | 214 | 52.58% |
| Age | <= 20 years | 1 | 0.24% |
| | 21–35 years | 49 | 12.04% |
| | 36–50 years | 128 | 31.45% |
| | 51–65 years | 168 | 41.28% |
| | 66–80 years | 51 | 12.53% |
| | > 81 years | 10 | 2.46% |
| Marital status | Single | 72 | 17.7% |
| | Married | 226 | 55.53% |
| | Divorced | 60 | 14.74% |
| | Widowed | 49 | 12.04% |
| Education | No education | 80 | 19.7% |
| | Primary school | 88 | 21.62% |
| | Secondary school | 122 | 29.9% |
| | Higher education | 117 | 28.8% |
| Residence | Urban | 266 | 65.4% |
| | Rural | 141 | 34.64% |
| Occupation | Government worker | 102 | 25.1% |
| | Private worker | 115 | 28.3% |
| | Merchant | 70 | 17.2% |
| | Retiree | 46 | 11.3% |
| | Other | 74 | 18.2% |
| Monthly income | <= 2000 Birr | 87 | 21.4% |
| | 2001–7000 Birr | 182 | 44.72% |
| | 7001–12,000 Birr | 73 | 17.9% |
| | > 17,000 Birr | 65 | 15.9% |

Most of the study participants 270 (66.34%) were on chemotherapy while 51 (12.53%) and 34 (8.3%) took radiotherapy and combined therapy (both chemotherapy and radiotherapy) respectively. Most of the study participants 281 (69.04%) were receiving palliative treatment in outpatient care and half of them 205 (50.4%) were on palliative care for three months (Table 2)

Data management and analysis

Data was collected using Kobo collect tool version 2.023.21, checked for completeness and consistency cleaned before analysis conducted. STATA version 14 was used for analysis of quantitative data. for further analysis. Descriptive statistics, including means, standard deviations, frequencies and percentages were calculated and presented in the form of narrations, tables and graphs. Binary logistic regression model was fitted to identify factors associated with patient-centeredness of care. Variables with a p -value of <0.25 were candidates for multivariable analysis. In multivariable logistic regression analysis, the adjusted odds ratio (AOR) with a 95% confidence interval (CI) and $p < 0.05$ were used to declare statistical significance. A multi-collinearity test was employed for the model and the mean VIF was 2.09 with values ranging from 1.36 to 4.09. A multivariable logistic regression model was fitted with Hosmer and Lemeshow's goodness of model fitness test ($p = 0.2681$) for patient centeredness of care.

Audiotaped data was transcribed verbatim to Amharic, and then it was translated into English. The translated data was coded and thematized by Open code version 4.01 software. Finally, the report was written meaningfully in ways participants say with a quotation.

Results

A total of 407 study participants with a response rate of 96.2% responded for our survey. Besides 7 key informant and 15 in-depth interviews were conducted.

Socio-demographic and clinical characteristics respondents

From the total respondents, 214 (52.6%) were females and 193 (47.4%) were males. The respondents' mean age was 52.23 ($SD \pm 13.5$) and most of them 266 (65.4%) lived in the urban residents. Over half of them were married 226 (55.5%), and 122 (29.9%) had completed secondary school. Over one-fourth of 115 (28.26%) of the respondents worked in the private company and 182 (44.72%) had 2001–7000 ETB monthly income (Table 1).

Respect for patients' preferences

Majority (84.4%) of the study participants perceived that in the provision of palliative care they were treated with respect and dignity, they and their families were involved in management plan, actively participated in the development of a treatment plan with the providers, and the service provided was guided by the medical-ethical principles. The key informant interview also revealed this finding.

Since cancer patients should not treat as others, the patients and their families participated in their

Table 2 Clinical characteristics of adult cancer patients on palliative care service in addis Ababa public hospitals, addis Ababa, Ethiopia, 2024 (n = 407)

| Variables | Category | Frequency | Percentage |
|------------------------|-------------------------------|-----------|------------|
| Time in care | 1–3 months | 205 | 50.4% |
| | 4–6 months | 129 | 31.7% |
| | 7–12 months | 70 | 17.2% |
| | > 12 months | 3 | 0.74% |
| Setting of care | Outpatient | 281 | 69.04% |
| | Inpatient | 126 | 30.9% |
| Type of pain treatment | Chemotherapy | 270 | 66.34% |
| | Radiotherapy | 51 | 12.53% |
| | Chemotherapy and radiotherapy | 34 | 8.4% |
| | Other | 52 | 12.8% |

Adult cancer patients received the palliative care service includes blood cancer 84 (20.64%), breast cancer 69 (16.9%), and cervical cancer 62 (15.23%) (Fig. 2)

treatment plan, schedule and overall management. Palliative care is not just about giving medicine, but starting from home; you have to take the history of what they have and solve it well, read them, their psycho and everything. [36 years old, female cancer unit case manager]

Although this might be good, due to the high flow of patients in these hospitals, addressing the needs of these patients and providing a care that is tailored to their needs can be difficult. A case manager working in one of the public hospitals explained this problem as

I have worked here for 4 years and I have witnessed that high patient flow in the cancer treatment unit and respecting the needs of all these patients is very difficult. It would be better if we had more manpower than we have at the moment. This may help to improve the quality of the service and provide patient-centered care for these patients. [32 years old, female cancer unit case manager]

Physical comfort

Majority of the participants (82.3%) agreed that attention was given to physical comfort such as, the management of pain, and shortness of breath. The key informant interview also revealed that:

All our patients are assessed for the severity of pain and pain score is recorded. Accordingly, sedatives and pain management provided. In principle, pain is considered as the fifth vital sign for all patients and we did it for all patients and when needed. [29 years old, female palliative care coordinator]
The main activity done in palliative care is symptom alleviation. For example, when a patient is being in respiratory distress, the fluid will be forced out of the

lungs, and then the patient will be prescribed with tramadol or morphine. [38 years old, male cancer unit case manager]

Coordination and integration of care

Most of the study participants (85.4%) perceived that the palliative care provided in the facilities was coordinated and integrated. One of the patient interviews also revealed this:
“The doctors here are very good and they do their duty assignment. All the doctors and nurses provided necessary information about my health condition. They provide the service equally whatever the patient socio-economic status and for all wards. [37 years old, female, liver cancer patient]

Continuity and transition

Majority of (90.9%) the respondents agreed that the advice they received from different providers was well attuned to each other. The key informant interview with the service user also witnessed this.
Since the providers have expert knowledge, the advice they give us about our condition is not distorted and the way they provide the service is harmonious. [A 70 years old, female cervical cancer patient]

Emotional support

The majority of the study participants (82.4%) perceived that the palliative care provider addressed their emotional and spiritual needs and felt that their hopes, fears, and expectations were addressed in the context of social and cultural norms.
“A patient knows they are going to die and speaks to their creator. We have a counselor who provides daily counseling services. In addition, the doctors are trained to offer counseling, so they help support the patients’ emotional well-being every day. After one or two days of counseling, the patients feel better mentally and psychologically, even though their clinical condition may worsen.” [29 years old, female palliative coordinator]

They [providers] help us to the best of their knowledge; they try to know about and understand our feelings, and take care of everything that is necessary. [58 years old, male, lung cancer patient]

Access to care

Access to care was measured in terms of having an ease of access to laboratory results and medications, length of appointment time, and accessing diagnostic works on the same day. Over two-third 67.5% of the respondents

reported that accessing palliative care service was not easy them and their families.

The key informant interview response revealed that accessing medications like morphine was a big challenge for inpatient service.

As you know the drug morphine is key to cancer patients. However, the drug was not available in the facility for long period of time. It wasn't in stock for a very long time and now it is easy to say no morphine at all. [38 years old, male cancer unit case manager]

The in-depth interview with patients also showed that they faced difficulties to laboratory tests.

The problem is that it takes a lot of time to get laboratory results, and there is a lot of hassle. That is the biggest problem. [78 years old, female, ovarian cancer patient]

Besides, accessibility of cancer drugs in the public facilities and affordability of these drugs was a predicament for patients receiving chemotherapy.

"The chemotherapy medicine has to be bought from outside, and it's quite expensive. I spend 20,000 Birr for just 15 days. I'm okay because my children are supporting me, but there are people who have absolutely nothing. What should they do? Should they stop their treatment? If the medicine were available here or if the government had planned and made it accessible in this hospital, like with HIV treatment, it would make a difference. For example, no one misses out on HIV or diabetes medication because they're essential. Now, cancer is becoming as dangerous as HIV and diabetes. Everyone should work to stop the spread of cancer. If the medicine were free and available in every hospital, and if more attention were given to cancer as it is with HIV, it would make treatment much easier." [64 years old, female, gastric cancer patient]

"Medicines here are affordable only for those with health insurance. If you don't have insurance, you can't buy them here. We buy our medicine from outside because we don't have health insurance. If the hospital sold the medicine to us at their prices, it would make a huge difference compared to buying it outside. Medicine is very expensive outside the hospital, but it's much cheaper here. It's great for those with insurance because they get a discounted price. For the rest of us, we buy the medicine elsewhere and bring it in, but nothing else is done for us regarding the cost of medicine. If the hospital sold it at this price or if the government provided it, the medicine could be used for two or three rounds of treatment." [23 years old, female, breast cancer patient]

Due to the large volume of patients and lack of sufficient treatment rooms, they may have to reschedule their

appointment date. In our in-depth interview on patient explained this problem as:

"It would be preferable to have more treatment rooms. Sometimes, when you come for an appointment, there's a long queue, and you may have to wait until the third week, depending on how many people are there. The number of patients and the available rooms are not proportional. For example, there are patients who are being treated in beds, and waiting in line can lead to complications. It would be helpful if they could address this issue." [23 years old, female, breast cancer patient]

Information and education

Most of the respondents (83.6%) agreed that they were informed about common neuropsychiatric issues, communicated about their treatment, and discussed on their diagnosis. They also perceived that they were served by a palliative care professional and educated and advised about nutrition and their health condition.

"The doctors here in Black Lion Specialized Hospital are very good. They visited us and discuss the importance of diet, treatment, and exercise. The physicians here, along with those specialists, always explain what is happening and keep us informed." [55 years old, female, ovarian cancer]

Involvement of family and friends

Involvement of family and friends assessed if attention was given to care and support provided by family members and possible questions from them. Majority of the respondents (87.4%) agreed that their families and friends were given an appropriate attention (Table 3).

They [the providers] give the necessary advice to family members; they respond in an appropriate manner whenever there is a question, and they also ask us what we feel and tell us how the service should be provided. [58 years old, male, lung cancer patient]

Factors of patient-centeredness of adult cancer patients in palliative care

Majority (89.43%) of respondents believed that they understood their conditions. Additionally, most participants (93.6%) reported that they and the physician treating them were familiar with each other and nearly all participants (97.8%) perceived that the physician treating them was knowledgeable about their condition. A smaller portion (21.62%) had previously undergone radiotherapy.

The majority of respondents, 375 (92.1%) felt that the hospitals had a welcoming environment and approach for patients and families. Of the total respondents, 255 (62.7%) found accessing services to be easy. Additionally, 308 (75.7%) perceived the external appearance of

Table 3 patient-centeredness of adult cancer patients in the palliative care services in public hospitals, addis Ababa, Ethiopia, 2024 (n = 407)

| Variables | Indicator | Frequency | Per-cent (%) |
|--------------------------------------|--|-----------|--------------|
| Respect for patients' preferences | Proportion of cancer patients who perceived that the HCPs respect their preferences | 344 | 84.5 |
| Physical comfort | Proportion of cancer patients who perceived that the palliative care provided ensures physical comfort | 335 | 82.3 |
| Coordination and integration of care | Proportion of cancer patients who perceived that the palliative care service is coordinated | 348 | 85.5 |
| Continuity and transition | Proportion of cancer patients who perceived the care has good continuity and transition | 370 | 91 |
| Emotional support | Proportion of cancer patients who perceived that they received emotional support | 335 | 82.3 |
| Access to care | Proportion of cancer patients who perceived that the care they receive is not easily accessible | 275 | 67.5 |
| Information and education | Proportion of cancer patients who perceived that they well informed and educated | 340 | 83.3 |
| Involvement of families and friend | Proportion of cancer patients who perceived that their families and friends were encouraged to involve in their treatment plan | 356 | 87.3 |

As shown in the figure below the around 78% of the cancer patients received patient centered palliative care majority (91%) of the patients perceived the care has good continuity and transition while very few of them (32.5%) perceived that the care they receive is easily accessible (Fig. 3)

the hospitals as attractive. However, only 210 (51.6%) believed there was adequate privacy when receiving care. A large portion (90.42%) agreed that they received clear instructions on how to manage their care after leaving the hospital, and 95.6% confirmed they were treated by a palliative care specialist. Among the respondents, 304 (74.7%) thought the facility was clean, 298 (73.2%) found the waiting area comfortable, 211 (51.8%) did not experience long waits for services, and 249 (61.2%) felt their appointment time is not too long. Finally, 309 (75.9%) were satisfied with the hospital's operating hours (Table 4).

A binary logistic regression was performed on the independent variables, and those with a p -value < 0.25 were selected as candidates for multivariable logistic regression. These variables included: age, sex, marital status, education, income, care setting, participation, intimacy with the provider, ease of access, privacy, hospitality, communication of the treatment plan, cleanliness, waiting area comfort, attractiveness, waiting time, length of appointment time, and operating hours.

In the multivariable logistic regression, independent variables with a p -value < 0.05 were considered significantly associated with patient-centered care. These variables included age, marital status, monthly income, health literacy, intimacy with the provider, ease of access, and length of appointment time.

Accordingly, Patients with 30–39 age group were 3.52 times more likely (AOR: 3.52, 95% CI: 1.26, 10.21) to perceive the care as patient-centered compared to 50–59 age group. The odds of perceiving care as patient-centered decreased by 86% for divorced patients (AOR: 0.14, 95% CI: 0.06, 0.38) as compared to married patients. For those with a monthly income greater than 12,000 Birr, the odds of patient-centered care decreased by 64% (AOR: 0.36, 95% CI: 0.156, 0.84) as compared to those with an income between 2,001 and 7,000 Birr.

Patients who hadn't health literacy were 99.2% less likely (AOR: 0.08, 95% CI: 0.02, 0.25; $p < 0.001$) to experience patient-centered care as compared to those who had health literacy. Patients who did not perceive intimacy with their provider were 86% less likely (AOR: 0.14, 95% CI: 0.02, 0.75) to get patient-centered care as compared to those who felt they had a close relationship with their provider.

The odds of getting patient-centered care was decreased by 66% for patients who faced difficulties to access the services (AOR: 0.34, 95% CI: 0.18, 0.67) as compared to their counters. Finally, patients who experienced long appointment waiting time were 60% less likely (AOR: 0.40, 95% CI: 0.19, 0.83) to perceive the service as patient-centered compared to those who did not wait long (Table 5).

Discussion

This study determined the level of patient centeredness of palliative care services for cancer patients and identified its determinant factors. The magnitude of patient-centeredness care for adult cancer patients in palliative care was found to be 77.9% (95% CI: 0.66–0.94). the finding was higher as compared to the previous study done in Bahr Dar city. The variation may be due to the previous study included both public and private facilities and stated that it was higher among public hospitals [49]. Although the majority (84.9%) of the respondents perceived that the palliative care service providers respected them and their families, the finding was lower than a recommendation stated as in that all palliative care service should be provided with respect to patients' needs and individual preferences [40]. The reason for this deviation was stated in our qualitative part as:

Due to the high flow of patients in the hospitals, addressing the needs of these patients and providing a care that is tailored to their needs can be difficult.

Table 4 Patient and health facility-related factors of adult cancer patients palliative care service in public hospitals of addis Ababa, Ethiopia, 2024 (n = 407)

| Variable | Category | Frequency (n = 407) | Percentage (%) |
|-------------------------------|----------|---------------------|----------------|
| Health literacy | Yes | 364 | 89.43 |
| | No | 43 | 10.60 |
| Intimacy with the provider | Yes | 381 | 93.60 |
| | No | 26 | 6.40 |
| Previously taken radiotherapy | Yes | 88 | 21.62 |
| | No | 319 | 78.40 |
| Physician knowledge | Yes | 398 | 97.80 |
| | No | 9 | 2.20 |
| Hospitality | Yes | 375 | 92.10 |
| | No | 32 | 7.90 |
| Privacy | Yes | 210 | 51.60 |
| | No | 197 | 48.40 |
| Cleanliness | Yes | 304 | 74.70 |
| | No | 103 | 25.30 |
| Ease of access | Yes | 255 | 62.70 |
| | No | 152 | 37.40 |
| Discharge plan | Yes | 368 | 90.42 |
| | No | 39 | 9.60 |
| Waiting area comfort | Yes | 298 | 73.20 |
| | No | 109 | 26.80 |
| Attractiveness | Yes | 308 | 75.70 |
| | No | 99 | 24.32 |
| Specialist care | Yes | 389 | 95.60 |
| | No | 18 | 4.40 |
| Waiting time | Yes | 196 | 48.20 |
| | No | 211 | 51.80 |
| Appointment waiting time | Yes | 158 | 38.80 |
| | No | 249 | 61.20 |
| Opening hour | Yes | 309 | 75.90 |
| | No | 98 | 24.10 |

It was also lower than an international survey conducted in 7 countries which was found 94% of end-stage cancer patients under palliative treatment responded that their needs and preferences were preserved and that the physicians treated them and their families with respect and dignity [38]. The possible explanation for this difference could be variation in sample size, the measurement tools used, and the difference in the study settings.

Even though our quantitative analysis showed that 82.3% of the respondents perceived that they had physical comfort during palliative care. This finding was found to be higher than the study done in Japan, in which 58% palliative cancer patients reported they had physical distress [39]. The possible reason for this difference might be the study period, as a patient-centered approach to address the needs and relief the pain for palliative patients has gained attention recently. The IOM recommended healthcare providers to swiftly address patients' physical needs and symptoms, as well as provide them with adequate pain management [40]. However, the qualitative result revealed that:

Despite morphine is key to cancer patients, the drug was not available in the facility for long period of time.

Our study also showed that over 85% of the participants perceived that the palliative care was integrated and coordinated. This finding was higher than the study done in the US, which reported that 60.2% patients perceived that they had received a coordinated care [41]. This difference might be due to the difference in the study periods as currently there is a huge advancement in the provision of a coordinated and integrated palliative care service to cancer patients.

Most of our study participants perceived that they received emotional needs were effectively addressed in addition to their physical needs. Our qualitative finding also supported this result and one of the providers responded as:

We have a counselor who provides daily counseling services. In addition, the doctors are trained to offer

Table 5 Bi-variable and multivariable analysis of factors associated with the patient-centeredness of adult cancer patients' palliative care in public hospitals of addis Ababa, Ethiopia, 2024 (n = 407)

| Variable | Category | Patient-centeredness | | COR (95% CI) | p-value | AOR (95% CI) | p-value |
|--------------------------------------|-------------------|----------------------|-----|--------------------|---------|---------------------|---------------|
| | | Yes | No | | | | |
| Sex | Female | 108 | 106 | 1.02 (0.779–1.332) | 0.891 | 1 | |
| | Male | 82 | 111 | 0.73 (0.49–1.072) | 0.107 | 0.69 (0.396–1.217) | 0.202 |
| Age of respondents | 20–29 | 11 | 12 | 1.13 (0.464–2.765) | 0.783 | 1.30 (0.330–5.169) | 0.702 |
| | 30–39 | 38 | 13 | 3.61 (1.754–7.448) | 0.000 | 3.52 (1.215–10.209) | 0.020* |
| | 40–49 | 39 | 59 | 0.82 (0.477–1.400) | 0.463 | 0.83 (0.417–1.649) | 0.593 |
| | 50–59 | 55 | 68 | 0.81 (0.513–2.353) | 0.242 | 1 | |
| | 60–69 | 31 | 47 | 0.82 (0.458–1.450) | 0.488 | 0.72 (0.322–1.599) | 0.417 |
| | ≥ 70 | 16 | 18 | 1.09 (0.513–2.353) | 0.808 | 0.84 (0.288–2.459) | 0.752 |
| Marital status | Married | 109 | 117 | 0.93 (0.718–1.209) | 0.595 | 1 | |
| | Single | 47 | 25 | 2.02 (1.163–3.500) | 0.012 | 1.68 (0.709–3.995) | 0.237 |
| | Divorced | 7 | 53 | 0.14 (0.062–0.325) | 0.000 | 0.14 (0.055–0.375) | 0.000* |
| | Widowed | 27 | 22 | 1.32 (0.708–2.449) | 0.384 | 1.35 (0.565–3.232) | 0.498 |
| Occupation | Private worker | 44 | 71 | 0.62 (0.425–0.903) | 0.013 | 1 | |
| | Government worker | 50 | 52 | 1.55 (0.904–2.664) | 0.111 | 2.04 (0.924–4.519) | 0.078 |
| | Merchant | 28 | 42 | 1.08 (0.585–1.977) | 0.814 | 1.68 (0.745–3.809) | 0.211 |
| | Retiree | 22 | 24 | 1.48 (0.742–2.949) | 0.266 | 1.47 (0.481–4.467) | 0.501 |
| | Other | 46 | 28 | 2.65 (1.452–4.839) | 0.001 | 1.59 (0.687–3.701) | 0.277 |
| Monthly income of respondents (Birr) | ≤ 2000 | 54 | 33 | 1.79 (1.061–3.011) | 0.029 | 1.16 (0.559–2.416) | 0.688 |
| | 2001–7000* | 87 | 95 | 0.92 (0.685–1.225) | 0.553 | 1 | |
| | 7001–12,000 | 29 | 44 | 0.72 (0.415–1.249) | 0.243 | 0.74 (0.340–1.593) | 0.437 |
| | > 12,000 | 20 | 45 | 0.49 (0.266–0.886) | 0.019 | 0.36 (0.156–0.836) | 0.017* |
| Setting of care | Outpatient | 115 | 166 | 2.12 (1.384–3.256) | 0.002 | 1 | |
| | Inpatient | 75 | 51 | 0.69 (0.546–0.879) | 0.001 | 1.42 (0.810–2.476) | 0.222 |
| Health literacy | Yes | 185 | 179 | 1.03 (0.842–1.269) | 0.753 | 1 | |
| | No | 5 | 38 | 0.13 (0.049–0.331) | 0.000 | 0.08 (0.024–0.248) | 0.000 |
| Education | No education | 41 | 39 | 0.95 (0.542–1.675) | 0.866 | 0.97 (0.437–2.159) | 0.943 |
| | Primary school | 36 | 52 | 0.63 (0.361–1.092) | 0.099 | 0.58 (0.279–1.219) | 0.152 |
| | Secondary school | 64 | 58 | 1.10 (0.773–1.574) | 0.587 | 1 | |
| | Higher education | 49 | 68 | 0.65 (0.392–1.089) | 0.102 | 0.49 (0.225–1.091) | 0.081 |
| Intimacy with the provider | Yes | 188 | 193 | 0.97 (0.797–1.190) | 0.001 | 1 | |
| | No | 2 | 24 | 0.09 (0.019–0.367) | 0.798 | 0.14 (0.024–0.751) | 0.022* |
| Hospitality | Yes | 183 | 192 | 0.95 (0.778–1.167) | 0.642 | 1 | |
| | No | 7 | 25 | 0.29 (0.124–0.696) | 0.005 | 0.90 (0.271–3.009) | 0.869 |
| Ease of access to services | Yes | 154 | 101 | 1.52 (1.186–1.959) | 0.001 | 1 | |
| | No | 36 | 116 | 0.20 (0.129–0.319) | 0.000 | 0.34 (0.177–0.671) | 0.002* |
| Cleanliness | Yes | 161 | 143 | 1.13 (0.899–1.410) | 0.302 | 1 | |
| | No | 29 | 74 | 0.35 (0.214–0.565) | 0.000 | 0.42 (0.158–1.103) | 0.078 |
| Waiting area comfort | Yes | 156 | 142 | 1.09 (0.875–1.379) | 0.418 | 1 | |
| | No | 34 | 75 | 0.41 (0.259–0.657) | 0.000 | 1.58 (0.644–3.860) | 0.318 |
| Long appointment waiting time | Yes | 42 | 116 | 0.25 (0.160–0.381) | 0.000 | 0.40 (0.196–0.830) | 0.014* |
| | No | 148 | 101 | 1.47 (1.138–1.887) | 0.003 | 1 | |
| Long waiting time to get the service | Yes | 70 | 126 | 0.42 (0.283–0.628) | 0.000 | 1.18 (0.565–2.449) | 0.663 |
| | No | 120 | 91 | 1.32 (1.004–1.732) | 0.047 | 1 | |
| Discharge plan | Yes | 181 | 187 | 0.97 (0.789–1.187) | 0.754 | 1 | |
| | No | 9 | 30 | 0.31 (0.143–0.671) | 0.003 | 0.90 (0.285–2.862) | 0.863 |
| Opening hour | Yes | 158 | 151 | 1.05 (0.837–1.308) | 0.690 | 1 | |
| | No | 32 | 66 | 0.46 (0.287–0.747) | 0.002 | 1.29 (0.610–2.726) | 0.505 |
| Attractiveness | Yes | 159 | 149 | 1.07 (0.853–1.334) | 0.569 | 1 | |
| | No | 31 | 68 | 0.43 (0.264–0.690) | 0.001 | 0.93 (0.419–2.081) | 0.866 |

*: refers significant variables in multi-variable logistic regression model with $p < 0.05$ and 95% CI

counseling, so they help support the patients' emotional well-being every day.

The finding was higher than the study done in Bangladesh, in which the perceived emotional support was 74.7% [42]. This difference might be due to the difference in sample size and study method employed.

In contrast with the IOM suggestion of facilities that provide palliative care services have to make sure that patients have timely access to the service they need [40], only one-third of our study respondents reported that accessing services like lab results and medicines was easy. The qualitative findings revealed that the accessing medications like morphine was a big challenge for inpatient service. One of the key informant interviews revealed that:

The drug morphine is key to cancer patients. However, the drug was not available in the facility for long period of time. It wasn't in stock for a very long time and now it is easy to say no morphine at all.

Another key informant also responded that affordability issue of required medications is also the major challenge for patients.

"Medicines are affordable only for those with health insurance. If you don't have insurance, you can't buy them here. We buy our medicine from outside because we don't have health insurance. If the hospital sold the medicine to us at their prices, it would make a huge difference compared to buying it outside. Medicine is very expensive outside the hospital, but it's much cheaper here. It's great for those with insurance because they get a discounted price."

These findings were supported by previous studies done in Ethiopia [28, 43].

Most of the respondents (83.6%) agreed that they were informed about common neuropsychiatric issues, got communicated about their treatment, and discussed on their diagnosis and prognosis with palliative care professional. The IOM also recommended that patients be provided with clear, accurate, and understandable information regarding all facets of their care, including the diagnosis, prognosis, and course of treatment [40]. In the same way, majority of the respondents (87.4%) perceived that their friends and families were involved in decision-making and the palliative care provided in the hospitals was family-centered and coordinated. This finding was lower than the study done in Singapore, in which 92.5% perceived that their care givers were involved [44]. The possible explanation for this gap could be due to difference in sample size and study setting.

Our study found that patients aged 30–39 years more perceived that the palliative care they received was

patient centered. This may be due to patients in this age group had better health literacy compared to the older age group. The finding is supported by the study done in South Wollo, which specifies a difference in patient-provider interaction between adults and younger patients [45]. Patients who were divorced were less likely to perceive the palliative care service as patient-centered compared to those who were married. The possible reason for this may be due to patients who are divorced may not have someone to take care of them during treatment, which may affect their perception negatively [46]. The study also showed that patients whose monthly income greater than 12,000 ETB were less likely perceived that the palliative care provided for them was patient centered. This could be because patients with higher income have higher expectations and demands compared to those with a lower income. This could affect their judgment of the service's quality as it could be biased by their expectations. Cancer patients who understand their health condition more perceived that the palliative care service was patients centered as compared to their counterparts. The reason may be due to patients with low health literacy may not have an easy communication, which can affect their perception of a patient-centered care [47]. The finding is supported by the study conducted in Bahir Dar city that patients who didn't have information about their condition were 2.88 more likely to perceive the service was patient-centered [28]. Patients who had no intimate relation with the care providers were perceived that the palliative care they received was patient centered as compared to their counterparts. This could be explained as patients who are not intimate with their provider may not have trust on them. Perceived easiness of the service also negatively affected the experience of patient centered care. The reason may be due to patients accessing the services easily might enable to get timely care and address patients' and their family needs. Timely access to health-care is one core component of a patient-centered care, according to the Picker's Institute [48]. Long appointment time was also negatively affected the perception of patients on patient centered palliative care. This may be due to that as the appointment time become long, patients may face complications and suffering more. Our qualitative finding revealed this as due to the large number of patients, there are long queues to get an appointment and this may increase the chance of having serious complications among cancer patients.

Limitation and strength of the study

The study employed mixed method approach and use multiple data sources to triangulate and support findings. However, the study may have social desirability bias which overestimate the result. To minimize this bias the data collectors assured about the objective of the study

and their negative feedbacks wouldn't affect them and the treatment they received.

Policy implications

This study generated empirical evidence on the gaps, challenges and factors of existing palliative care services. The study can help policymakers design more effective, patient-centered health policies that improve cancer patients' quality of life and overall healthcare outcomes. The study revealed key patient preferences and needs, guiding the development of national palliative care guidelines that prioritize holistic, compassionate care.

Conclusion and recommendations

The magnitude of patient-centeredness care for adult cancer patients in palliative care was found to be 77.9%. Majority of the respondents perceived that the palliative care service providers respected them and their families, the palliative care service was integrated, their physical and emotional comfort was maintained and their families and themselves were involved in decision making of their health condition. However, only one-third of them responded that accessing the services like laboratory results and medications were easy. Age of the patients, marital status, monthly income, participation in decision making, intimacy with the provider, ease of access of the services, and length of appointment time were significantly associated factors with the patient-centeredness of the adult cancer patients' palliative care service.

The authors recommend that hospitals should streamline service delivery, particularly by enhancing coordination between departments. Introducing dedicated staff or systems to track and expedite lab results and prescriptions could improve access. It is also better to implement strategies to minimize appointment waiting times. This could include optimizing scheduling systems and increasing the availability of healthcare providers. Healthcare providers should actively involve patients and their families in treatment discussions, improving communication and encouraging shared decision-making. To enhance patient-centered care, providers should develop stronger emotional connections with patients, fostering trust and comfort. Regular communication, empathy, and psychological support could contribute to this intimacy.

Recognizing the influence of marital status, tailored emotional and social support should be offered, especially to single or widowed patients, ensuring they receive the care and attention necessary to compensate for reduced family involvement.

Acknowledgements

We are very grateful to University of Gondar for its technical support. We would also like to thank all health facilities included in our study and all participants for their information and commitment. We would like to give our deepest gratitude to Professor Amsalu Feleke for their comments, suggestions

and help to improve our research quality and finally our appreciation extended to the data collectors for their unreserved contribution.

Author contributions

"All authors contributed to the preparation of the manuscript. MB designed the study, wrote proposal, collected and analyzed the data. GT, KAD, ED, MJ and AA revised the analysis. GT prepared the manuscript, and all authors read and approved the final manuscript."

Funding

There is no specific fund for this research work.

Data availability

Data will be provided from the correspondent author based on reasonable request.

Declarations

Ethical approval

An ethical approval was obtained from the ethical review board of the University of Gondar, College of Medicine and Health Sciences, Institute of Public Health (Ref. No: IPH/2882/2024). An ethical approval was also obtained from city government of AAHB (A/A/H/202/8/227), the Institution Research Ethics Review Committee (IRERC) of SPHMMC. Then, a copy of the ethical clearance letter was submitted to the selected public hospitals in Addis Ababa. All eligible study participants were asked for their written informed consent to participate in the study. After obtaining their consent, the objective and purpose of the study was explained to them. Confidentiality was assured by ensuring anonymity of names or any personal identity. Also, the participants were assured that there would be no exposition of data at the individual level. Furthermore, participants were informed that participation in this study is voluntary and that they can withdraw at any time without any preconditions.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Author details

¹Department of Health Systems and Policy, Institute of Public Health, College of Medicine and Health Sciences, University of Gondar, Gondar, Ethiopia

²University of Gondar, Gondar, Ethiopia

Received: 24 October 2024 / Accepted: 17 February 2025

Published online: 07 March 2025

References

1. Organization WH. Why palliative care is an essential function of primary health care. World Health Organization; 2018.
2. Goodridge D, Marciniuk D, Brooks D, van Dam A, Hutchinson S, Bailey P, et al. End-of-life care for persons with advanced chronic obstructive pulmonary disease: report of a National interdisciplinary consensus meeting. *Can Respir J*. 2009;16:e51–3.
3. Tamura MK, Meier DE. Five policies to promote palliative care for patients with ESRD. *Clin J Am Soc Nephrol: CJASN*. 2013;8(10):1783.
4. institute Nc. Palliative care in cancer United States: National cancer institute. 2021 [cited 2024 04/16/2024]. Available from: <https://www.cancer.gov/about-cancer/advanced-cancer/care-choices/palliative-care-fact-sheet>
5. Sung H, Ferlay J, Siegel RL, Global Cancer S. 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. 2021;71(3):209–49.
6. Mutebi M, Adewole I. Toward optimization of Cancer care in Sub-Saharan Africa: development of National comprehensive Cancer network harmonized guidelines for Sub-Saharan Africa. 2020;6:1412–8.
7. Das M. Expansion of radiotherapy access in Ethiopia. *Lancet Oncol*. 2024;25(5):542.

8. Sleeman KE, de Brito M, Etkind S, Nkhoma K, Guo P, Higginson IJ, et al. The escalating global burden of serious health-related suffering: projections to 2060 by world regions, age groups, and health conditions. *Lancet Global Health*. 2019;7(7):e883–92.
9. Castelo-Loureiro A, Perez-de-Acha A, Torres-Perez AC, Cunha V, García-Valdés P, Cárdenas-Reyes P, et al. Delivering palliative and supportive care for older adults with cancer: interactions between palliative medicine and geriatrics. *Cancers*. 2023;15(15):3858.
10. Fumaneeshoat O, Ingviya T, Sripaew S. Prevalence of cancer patients requiring palliative care in outpatient clinics in a tertiary hospital in Southern Thailand. *J Health Sci Med Res*. 2021;39(5):411–21.
11. Abu Hamad B, Skaik N, Abu-Odah H. Evaluation of palliative care services provided to cancer patients in the Gaza strip. *J US-China Med Sci*. 2016;13(2016):95–107.
12. Reid EA, Gudina EK, Ayers N, Tigineh W, Azmera YM. Caring for life-limiting illness in Ethiopia: a mixed-methods assessment of outpatient palliative care needs. *J Palliat Med*. 2018;21(5):622–30.
13. Amare N, Gintamo B, Tukeni K, Gebremichael E, Girma E. The prevalence of Cancer patients requiring palliative care and its associated factors at St. Paul hospital, addis Ababa, Ethiopia: A Cross-Sectional study. *Risk Manage Healthc Policy*. 2023;16:1203–14.
14. Kassa H, Murugan R, Zewdu F, Hailu M, Woldeyohannes D. Assessment of knowledge, attitude and practice and associated factors towards palliative care among nurses working in selected hospitals, addis Ababa, Ethiopia. *BMC Palliat Care*. 2014;13:1–11.
15. Organization WH. Palliative care WHO. 2020 [cited 2024 April 12, 2024]. Available from: <https://www.who.int/news-room/fact-sheets/detail/palliative-care>
16. notes Ph. Palliative Care: Necessity, Challenges and Actions to be Taken: Public health notes; 2018 [cited 2024 04/17/2024]. Available from: <https://www.wpublichealthnotes.com/palliative-care-necessity-challenges-and-actions-to-be-taken/>
17. Böckberg C, Behm L, Wallerstedt B, Ahlström G. Evaluation of person-centeredness in nursing homes after a palliative care intervention: pre- and post-test experimental design. *BMC Palliat Care*. 2019;18(1):44.
18. Elkefi S, Asan O. The Impact of Patient-Centered Care on Cancer Patients' QOC, Self-Efficacy, and Trust Towards Doctors: Analysis of a National Survey. 2023;10:23743735231151533.
19. Carlson MDA, Barry C, Schlesinger M, McCorkle R, Morrison RS, Cherlin E, et al. Quality of palliative care at US hospices: results of a National survey. *Med Care*. 2011;49(9):803–9.
20. Powis M, Sutradhar R, Hack S, Alibhai SM, Berlin A, Singh S, et al. Patient perceptions of the impact of the COVID pandemic on the quality of their Gastro-intestinal Cancer care. *J Patient Experience*. 2023;10:23743735231223849.
21. Cheboi SK, Nyawira DN, Ngolo PM, Ng'ang'a WS. Determinants of patient satisfaction in Indigenous Cancer palliative care services. *Inquiry: J Med Care Organ Provis Financing*. 2023;60:469580231167733.
22. Amare N, Gintamo B, Tukeni KN, Gebremichael EH, Abera EG. The prevalence of cancer patients requiring palliative care and its associated factors at St. Paul hospital, addis Ababa, Ethiopia: a Cross-Sectional study. *Risk Manage Healthc Policy*. 2023;1:1203–14.
23. Abu-Odah H, Molassiotis A, Liu J. Challenges on the provision of palliative care for patients with cancer in low- and middle-income countries: a systematic review of reviews. *BMC Palliat Care*. 2020;19(1):55.
24. Negasa EH, Human SP, Roro AG. Challenges in palliative care provision in Ethiopia: an exploratory qualitative study. 2023;16:3405–15.
25. Sandsdalen T, Wilde-Larsson B, Grøndahl VA. Patients' perceptions of the quality of palliative care and Satisfaction - A cluster analysis. *J Multidisciplinary Healthc*. 2019;12:903–15.
26. Volakakis N, Pylli M, Raftopoulos V, Kyrkou I, Xanthos T, Deltsidou A. Exploration of the factors that influence perceived quality of patient centered care among cancer survivors: A systematic review. *Eur J Oncol Nurs*. 2024;102503.
27. Volungholen Sollid MI, Slaaen M, Danielsen S, Eilertsen G, Kirkevold Ø. Patient-Reported experiences and associated factors in a Norwegian radiotherapy setting: an explorative Cross-Sectional study. *SAGE Open Nurs*. 2024;10:23779608241233868.
28. Ewunetu M, Temesgen W, Zewdu D, Andargie A, Kebede M, Lidetu T. Patients' perception of patient-centered care and associated factors among patients admitted in private and public hospitals: a comparative cross-sectional study. *Patient Prefer Adherence*. 2023;1035–47.
29. Donabedian A. The quality of care. How Can It Be Assessed?? *Jama*. 1988;260(12):1743–8.
30. Kenya, MoHo, Kenya palliative care. POLICY 2021–2030. Nairobi, Kenya: Available at <http://guidelines.health.go.ke>, Accessed on Feb 24, 2024.
31. Zhu Y, Enguidanos S. When patients say they know about palliative care, how much do they really understand? *J Pain Symptom Manag*. 2019;58(3):460–4.
32. Health FMO. National palliative care guideline 2016.
33. Santana MJ, Ahmed S, Lorenzetti D. Measuring patient-centred system performance: a scoping review of patient-centred care quality indicators. 2019;9(1):e023596.
34. Webster R, Lacey J, Quine S. Palliative care: a public health priority in developing countries. *J Public Health Policy*. 2007;28:28–39.
35. Reville B, Foxwell AM. The global state of palliative care—progress and challenges in cancer care. *Annals Palliat Med*. 2014;3(3):12938–138.
36. FMOH. National palliative care guideline 2016.
37. Birhanu F, Yitbarek K, Addis A, Alemayehu D, Shifera N. Patient-Centered care and associated factors at public and private hospitals of addis Ababa: patients' perspective. *Patient Relat Outcome Measures*. 2021;107–16.
38. Haugen DF, Hufthammer KO. Good Quality Care for Cancer Patients Dying in Hospitals, but Information Needs Unmet: Bereaved Relatives' Survey within Seven Countries. 2021;26(7):e1273–e84.
39. Yamagishi A, Morita T, Miyashita M, Igarashi A, Akiyama M, Akizuki N, et al. Pain intensity, quality of life, quality of palliative care, and satisfaction in outpatients with metastatic or recurrent cancer: a Japanese, nationwide, region-based, multicenter survey. *J Pain Symptom Manag*. 2012;43(3):503–14.
40. Institute of Medicine Committee on Quality of Health Care in A. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington (DC): National Academies Press (US) Copyright 2001 by the National Academy of Sciences. All rights reserved.; 2001.
41. McDowell BD, Klemp J, Blaes A, Cohee AA, Trentham-Dietz A, Kamaraju S, et al. The association between cancer care coordination and quality of life is stronger for breast cancer patients with lower health literacy: A greater plains collaborative study. *Supportive Care Cancer: Official J Multinational Association Supportive Care Cancer*. 2020;28(2):887–95.
42. Biswas J, Bhuiyan A, Alam A, Chowdhury MK. Relationship between perceived social support and mental health status of the advanced cancer patients receiving palliative care in Bangladesh. *Palliat Care Social Pract*. 2024;18:26323524241256379.
43. Negasa EH, Human SP, Roro AG. Challenges in palliative care provision in Ethiopia: an exploratory qualitative study. *J Pain Res*. 2023;3405–15.
44. Chua GP, Pang GSY, Yee ACP, Neo PSH, Zhou S, Lim C, et al. Supporting the patients with advanced cancer and their family caregivers: what are their palliative care needs? *BMC Cancer*. 2020;20(1):768.
45. Gegziabher R, Biks GA, Worku N, Endalew B, Dellie E. Patient-centered care and associated factors among Adult Admitted patients in south wollo public hospitals, Northeast Ethiopia. *Patient preference and adherence*. 2022:333–42.
46. Krajc K, Mirošević Š. Marital status and survival in cancer patients: A systematic review and meta-analysis. 2023;12(2):1685–708.
47. Rademakers J, Delnoij D, Nijman J, De Boer D. Educational inequalities in patient-centred care: patients' preferences and experiences. *BMC Health Serv Res*. 2012;12:1–8.
48. Shaller D. Patient-centered care: what does it take? Commonwealth Fund New York; 2007.
49. Afessa N, Birhanu D, Negesse B, Tefera M. Palliative care service utilization and associated factors among cancer patients at oncology units of public hospitals in addis Ababa, Ethiopia. *PLoS ONE*. 2024;19(3):e0294230.

Publisher's note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.