VER
Vascular & Endovascular Review

Assessment of palliative care knowledge among undergraduate medical student

Abdullah Abdulaziz Alnaim

Assistant professor and consultant family medicine and palliative medicine, King Faisal University
Email: alnaim@kfu.edu.sa

ABSTRACT

Background Palliative care is essential for enhancing the quality of life of patients with terminal illnesses by alleviating their physical, psychological, social, and spiritual distress thoroughly. Despite its rapidly growing global concept, palliative care education remains inadequately integrated into the curricula of undergraduate students in several countries, including Saudi Arabia. This study sought to evaluate the extent of knowledge and awareness regarding palliative care among undergraduate medical students at King Faisal University, Al-Ahsa.

Methods: It was descriptive, cross-sectional research carried out from August to October 2025, including 394 undergraduate medical students. A basic random sampling procedure was used to choose the participants. A structured online questionnaire was used to collect data. The questions were based on and confirmed by prior research and included nine areas of expertise related to palliative care. We used Microsoft Excel to analyze the data, both descriptively and inferentially, to see how the participants answered.

Results: 53% of the people who answered were male, and 47% were women. Most respondents were aware of the meaning of palliative care, active care of the dying (73.4%). People still didn't comprehend what palliative care was very well. Moreover, over half (55%) thought it sped up death, and 61% of students thought morphine in end-of-life care was dangerous. While 85.3% of students concurred that those with metastatic disease require palliative care, hardly 44% recognized the necessity of providing such treatment to those afflicted with chronic noncancerous diseases. Understanding of the makeup of multidisciplinary teams was uneven, and many students wrongly thought that radiotherapists were important members.

Conclusion: Undergraduate medical students did not know enough about palliative care, especially how broad it is, how to utilize opioids, and how to function as a team. The results also show that Saudi Arabia needs to add organized palliative care learning to its undergraduate curriculum as soon as possible. Early exposure, simulation-based instruction, and interprofessional education may enhance competency and foster favorable attitudes towards end-of-life care.

KEYWORDS: Palliative care, medical students, awareness, knowledge, undergraduate education, Saudi Arabia.

How to Cite: Abdullah Abdulaziz Alnaim, (2025) Assessment of palliative care knowledge among undergraduate medical student, Vascular and Endovascular Review, Vol.8, No.12s, 162-169.

INTRODUCTION

Over time, there have been significant changes in medicine and health. These days, medicine has moved away from the notion that its main objective is to treat illness and toward seeing patients as complete individuals, particularly in cases of chronic and incurable illnesses. (2,9)

There are roughly 32.1 million people living in Saudi Arabia. The need for healthcare has grown quickly as a result of demographic shifts, including longer life expectancies and lower fertility rates. (8, 10, 5) The prevalence of patients diagnosed with cancer and other terminal illnesses is on the rise. Recent decades have witnessed a significant increase in concern for severely ill and dying patients. (1)

Palliative care is a methodology aimed at enhancing the quality of life for patients while addressing the challenges associated with life-threatening illnesses encountered by both patients and their families. The prevention and mitigation of suffering can be achieved by early diagnosis, evaluation, and intervention, addressing not just physical pain and associated concerns but also psychological and social aspects. (1)

Palliative care, as defined by the World Health Organization, is a strategy designed to assist patients, both adults and children, along with their families, in managing challenges associated with life-threatening illnesses. Early detection, accurate evaluation, and treatment of pain and related issues—psychological, spiritual, or physical—serve to prevent and mitigate suffering. (1, 3)

Palliative care is essential for numerous conditions. Cardiovascular disorders (38.5%), cancer (34%), chronic respiratory diseases (10.3%), AIDS (5.7%), and diabetes (4.6%) represent the primary conditions necessitating palliative care among adults. Various other conditions, including congenital abnormalities, multiple sclerosis, Parkinson's disease, rheumatoid arthritis, renal failure, chronic liver disease, neurological disorders, dementia, and drug-resistant tuberculosis, may require palliative care. (1)

Over the past few decades, the idea of hospice care and palliative medicine has grown in significance. The majority of health care training program curricula seldom provide any instruction on palliative care. In order to establish a formal system of education and registration for palliative care in Saudi Arabia, it is imperative that undergraduate medical students be introduced to palliative care. (4)

The Kingdom of Saudi Arabia has actively pursued the development of strategies and plans for palliative care via the Ministry of Health, aiming to reduce both physical and mental suffering of patients while improving their quality of life. This project is in collaboration with numerous multidisciplinary teams. (11) The National Palliative Care Strategy indicates a commitment by the governments to provide high-quality, evidence-based palliative care accessible to all people with an assessed need for such care. The National Palliative Care Strategy describes the vision for palliative care in the Kingdom of Saudi Arabia, wherein individuals living with a life-limiting illness will have access to appropriate support to live out their life with dignity and comfort. There are individuals who may require palliative care at varying disease stages; they may be of any age group and have different cultures, social contexts, and emotional, relational, and spiritual needs. The need for their palliative care may be temporary, intermittent, or continuing over months or years. Individuals with life-limiting illnesses, along with their caregivers and families, can benefit from the various palliative care services offered, irrespective of their circumstances. The primary aim of palliative care is to support individuals in achieving optimal quality of life for an extended duration. (2,9) The Kingdom of Saudi Arabia aimed to formulate a strategy for enhancing the inclusion of palliative care in all health benefits packages and managing palliative care coverage through national health systems or private health insurance. This strategy is geared towards enhancing the volume and density of these types of services, especially home care and outpatient services, by maximizing the geographical distribution for palliative care services. The strategy for PC was developed by the National Palliative Care Association, together with the Ministry of Health and international strategists. The strategy relies on the assumption that palliative care service delivery can be explained from a model defined by levels. According to this model, levels provide basic, specialized, and developmental services, which entail education and research. (2, 9, 11)

There is an imperative to inform governments, healthcare professionals, and communities on the necessity and effectiveness of palliative care. This has resulted in an increasing demand for the recognition of palliative care as a human right, along with the corresponding requirements to ensure access to palliative care services for all patients and their families who would benefit from such treatment. (7,10)

This study seeks to evaluate the adequacy of different facets of palliative care among medical undergraduate students. This study could potentially lead to the incorporation of palliative care into the curriculum for undergraduate health care students.

METHODOLOGY

The aim of this study was to assess their understanding of palliative care among undergraduate medical students. A descriptive-analytical cross-sectional study design was conducted to investigate the variables in a structured questionnaire. The study was carried out at the College of Medicine, King Faisal University, Al-Ahsa, Saudi Arabia, between August and October 2025.

We conducted an online questionnaire among medical students of the undergraduate level from September 10 to 30, 2025. None dropped out, and 394 out of the students who had participated in the survey filled out the survey. We had pre-calculated the sample size from the RAOSOFT online sample size calculator. It also had a correction factor of 0.05 with a confidence interval of 95%. The required minimum sample size was 292, out of the total target population of 1,200 students. In order to strengthen the study, more participants were added; thus, the final sample size comprised 394. We adopted a sampling method referred to as simple random sampling in order to give an equal probability for selection to each student.

An internet survey using the social media page of the college of medicine was used in gaining the information required for the research. The survey tool used is QuestionPro, which is anonymous internet survey software for research. It only took each participant less than five minutes to finish. Students were made aware of the study and its intention prior to participation and gave their consent through the internet.

The tool employed in this questionnaire was modified from an already tested instrument with the author's permission (1). It consisted of two main sections: Sociodemographic information, such as gender, and a test on knowledge consisting of 35 statements in nine categories:

- What is palliative care
- Philosophy behind it
- Communication issues
- Management of non-pain symptoms
- Communication of prognosis
- Palliative medicine team
- Elements of Good death
- Use of medication
- Common side effect with medication

You responded "Yes," "No," or "Don't know" to each of the statements.
The principal investigator then came in and went through all the data in Microsoft Excel to check for correctness and completeness.

The information gathered from the questionnaire was maintained in strict confidentiality. Participants were verbally informed that their participation was voluntary, and by completing the distributed questionnaires, they indicated their consent to be part of the study. Participants provided informed consent prior to their inclusion in the study. Participants had the option to decline involvement in the study.

RESULT

The first part of the questionnaire was meant to get basic demographic information from the people who filled it out. As seen in Figure 1 below, the first question asked concerning gender revealed that roughly 53% of participants were men and roughly 47% were women.

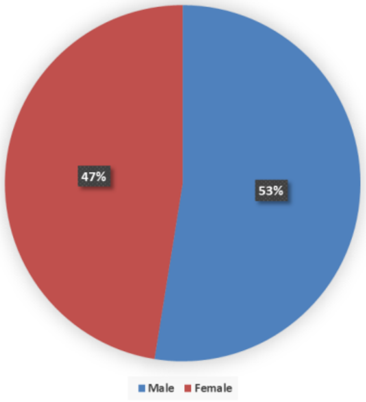

Figure: 1

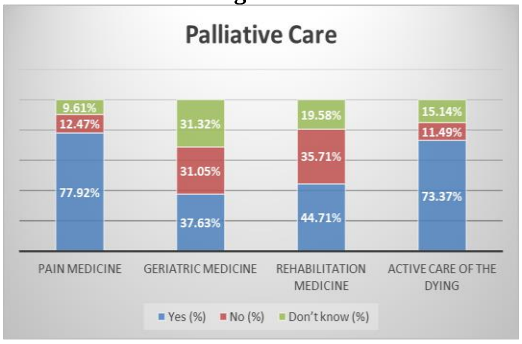

Figure :2

As shown in Figure 2, most of the participants (73.37%) correctly chose this choice. This might mean that they were well informed of the main goal of palliative care at the end of life.

Nonetheless, a significant number of pupils selected inaccurate definitions. 77.92% of respondents chose pain medicine wrong, showing that people still don't realize that palliative care is more than just pain treatment. Likewise, 37.63% of students mistakenly selected geriatric medicine and 44.71% selected rehabilitation medicine, reflecting a misunderstanding between palliative care and other chronic care or supporting specializations.

This is made worse by the fact that a significant number of pupils in the incorrect categories, between 9.61% and 31.32%, said they were unsure, which shows that they don't have a good grasp of the basics. In general, most students got the term right, but the large number of wrong answers shows that palliative care has to be taught in a more clear and structured way.

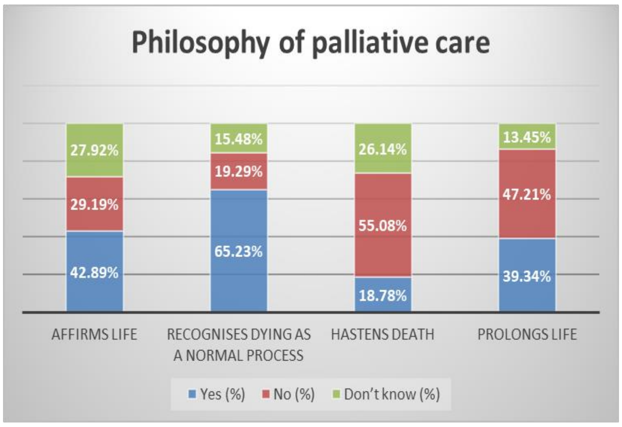

Figure :3

Figure 3 shows that 42.89% of respondents concurred that palliative care affirms life. 29.19% expressed disagreement, while 27.92% remained uncertain. The assertion that dying constitutes a normal process was the most comprehended by individuals. 65.23% of respondents answered "Yes," 19.29% answered "No," and 15.48% indicated "Don't know."

Conversely, there were evident misconceptions regarding the acceleration of death. Over 55% of respondents incorrectly concurred that palliative care accelerates death. Only 18.78% expressed correct disagreement with this statement, while 26.14% remained uncertain. In response to the question of whether palliative care extends life, 47.21% disagreed, 39.34% agreed, and 13.45% were uncertain.

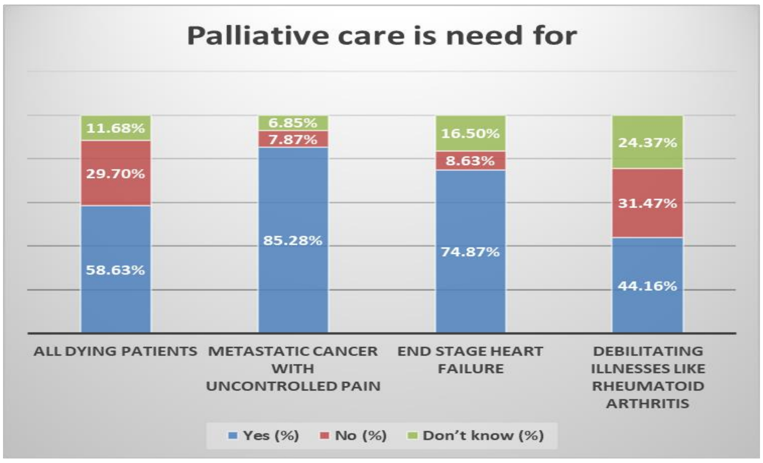

Figure: 4

As seen in Figure 4, A While just 7.87% of participants said "No" and 6.85% said they were unsure, a significant portion of participants (85.28%) agreed that palliative care is essential for patients with metastatic illness and unbearable pain. Similarly, a significant majority (74.87%) concurred that palliative care is necessary for patients with end-stage heart failure. Just 16.50% were unsure, and 8.63% disagreed. These findings demonstrate that people's knowledge of palliative care for advanced and terminal illnesses with numerous symptoms is fairly excellent.

On the other hand, opinions varied significantly among larger patient groups. Only 58.63% of respondents concurred that all terminally ill patients require palliative care. “No,” responded around one-third (29.70%), while 11.68% expressed uncertainty. The lowest level of consensus was noted with "debilitating illnesses such as rheumatoid arthritis," with 44.16% answering "Yes," 31.47% answering "No," and 24.37% answering "Don't know."

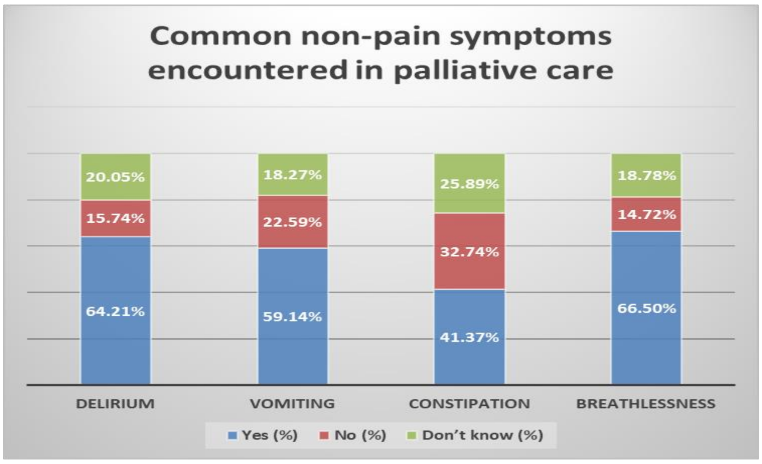

Figure 5

Figure 5 indicates that a majority of participants reported experiencing delirium (64.21%) and dyspnea (66.50%). A lesser proportion said "No" to these symptoms (15.74% for delirium and 14.72% for breathlessness), whereas 20.05% and 18.78%, respectively, expressed uncertainty ("Don't know"). 59.14% of respondents indicated that vomiting was a prevalent symptom, whereas 22.59% responded "No" and 18.27% answered "Don't know." Of all the symptoms examined, constipation exhibited the lowest percentage of affirmative replies (41.37%) and the largest percentages of negative (32.74%) and uncertain (25.89%) responses.

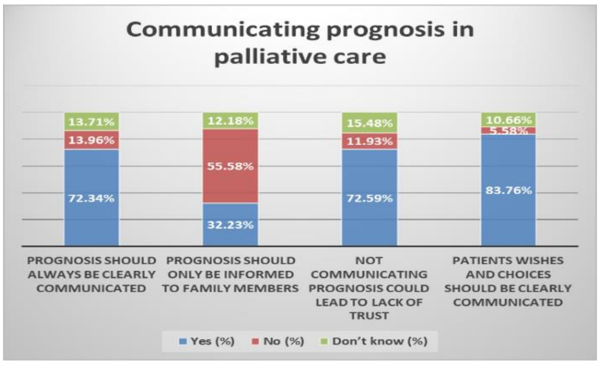

Figure 6

Figure 6 indicates that a majority of respondents (72.34%) concurred that prognosis must be clearly communicated at all times. Disagreement was observed in 13.96% of respondents, while 13.71% expressed uncertainty. A significant majority (83.76%) believed that patients' wishes and choices should be clearly articulated, whereas only 5.58% expressed disagreement and 10.66% remained uncertain.

Conversely, when asked whether the prognosis should be exclusively communicated to family members, over half of the respondents (55.58%) expressed disagreement. This indicates a clear intention for patient involvement in discussions regarding their prognosis. A mere 32.23% of respondents believed that communication should be restricted to family members, while 12.18% expressed uncertainty on the matter. Furthermore, 72.59% of participants concurred that withholding prognostic information may diminish trust among individuals. 11.93% expressed disagreement, while 15.48% remained uncertain.

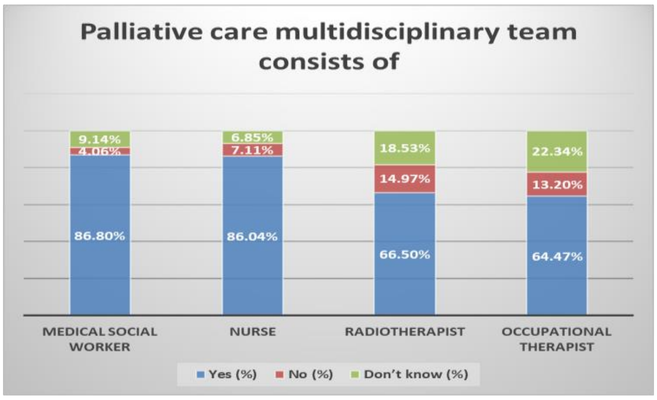

Figure 7

Figure 7 illustrates that a significant proportion of individuals (86.8%) and nurses (86.04%) accurately recognized medical social workers and nurses as essential team members. Merely 4.06% and 7.11% of the participants indicated 'no,' while 9.14% and 6.85% expressed uncertainty.

Conversely, the proportion of accurate responses was diminished for radiotherapists and occupational therapists. 66.5% of respondents indicated that radiotherapists were included in the team, whereas 14.97% responded "No" and 18.53% answered "Don't know." Likewise, 64.47% recognized occupational therapists as integral team members, but 13.2% expressed dissent and 22.34% indicated ambivalence.

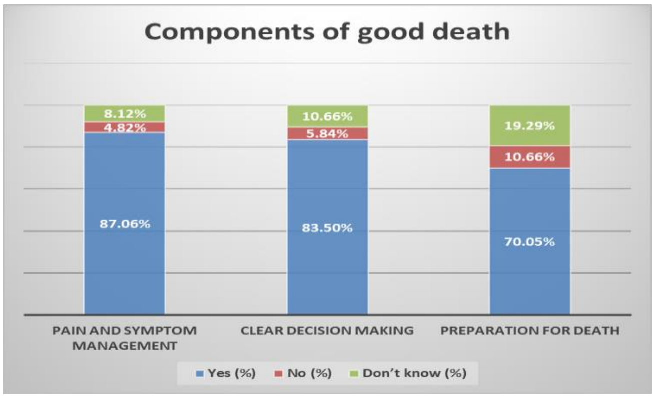

Figure 8

Figure 8 illustrated A significant proportion of respondents (87.06%) asserted that the management of pain and symptoms is an essential component of a dignified death. This shows that there is a strong agreement on how important it is to manage symptoms well in end-of-life care. Only 4.82% of people disagreed, and 8.12% were not sure about its importance. As shown by the fact that 83.50% of participants said that clear decision-making was important, many people think that open communication and shared decision-making are important near the end of life. 10.66% weren't sure, and only a small number (5.84%) didn't think it was important.

On the other hand, only 70.05% of the people who answered agreed with the idea of preparing for death. This domain had the highest rates of disagreement (10.66%) and uncertainty (19.29%), which means that there were a lot of different opinions about how important it is.

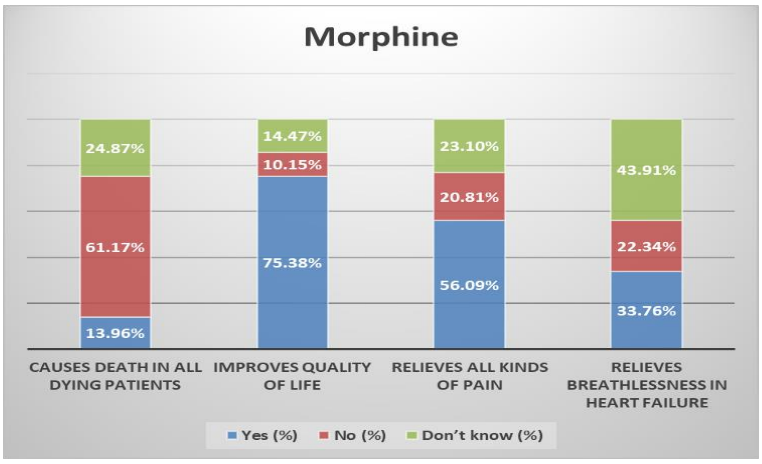

Figure 9

Figure 9 indicates that a significant proportion of respondents (61.17%) incorrectly concurred with the assertion that morphine is lethal for patients receiving end-of-life care. Only 13.96% expressed disagreement, while 24.87% indicated uncertainty. Seventy-five percent of participants accurately recognized the role of morphine in enhancing quality of life. A minority of respondents (10.15%) expressed disagreement with this statement, while 14.47% remained uncertain in their opinions. 56.09% of respondents indicated that morphine alleviates all types of pain, whereas 20.81% disagreed, and 23.10% were uncertain. The claim regarding the use of morphine to relieve dyspnea in heart failure produced the greatest level of uncertainty. Approximately 43.91% of respondents selected "Don't know," while 33.76% expressed agreement and 22.34% indicated disagreement.

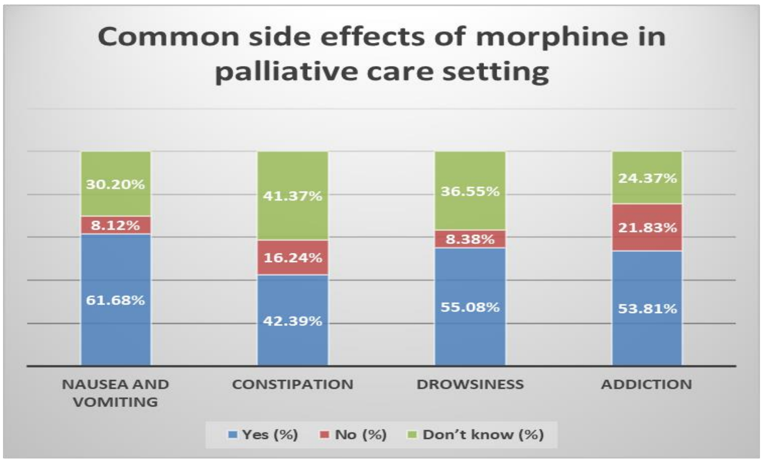

Figure 10

Figure 10 indicates that over half of the respondents (61.68%) accurately recognized nausea and vomiting as a prevalent side effect of morphine. However, 8.12% indicated uncertainty, while 30.20% also expressed a lack of knowledge. 42.39% of respondents indicated that constipation was a side effect, and 16.24% stated it was not related to morphine, while a significant proportion (41.37%) expressed uncertainty.

A majority of participants (55.08%) reported drowsiness as a prevalent side effect. Only 8.38% indicated that it was not a side effect, while 36.55% expressed uncertainty. 53.81% of respondents indicated that they believed addiction was a common side effect, while 21.83% disagreed, and 24.37% were uncertain.

DISCUSSION

This particular study is useful in giving insight into the level of understanding of medical students in the undergraduate field of medicine as far as palliative care is concerned. It has been found that the perception is not exactly what is expected.

The majority of participants identified the relevance of palliative care to pain medicine and active care of the dying, indicating a A common misconception is that palliative medicine is the same as pain medicine. There are notable gaps with solid understanding of its core functions. However, palliative care is a comprehensive field that is not limited to a single medical specialty. it interacts with many disciplines, such as internal medicine, oncology, psychiatry, and others. This finding aligns with earlier reports indicating that palliative care is often narrowly perceived as being restricted to end-of-life cancer care, with limited recognition of its broader multidisciplinary applications.

In spite of this high level of awareness of the importance of palliative care in terms of confirming life and a natural process of dying, there is a lack of understanding in this area. More than half of the respondents tended to agree that palliative care will accelerate the process of dying. This is in line with previous studies that found that palliative care is often mixed up with euthanasia, as palliative care is often believed to accelerate the process of dying.

Although a high level of understanding of the importance of palliative care in metastatic cancer and heart failure could be observed among the participants, the same did not hold true in cases of ailments like rheumatoid arthritis, as well as in general palliative care situations at the end of life. This is not only representative of a lack of understanding of palliative care in ailments that are not cancer but also representative of a lack of understanding of palliative care in general.

The awareness of common symptoms like delirium, dyspnea, vomiting, and constipation was moderately high, except in the case of constipation, where a gap in awareness is evident. Moreover, the attitude towards communicating the prognosis to the patient openly, as well as involving them in shared decision-making, is encouraging in terms of this trend towards patient-centered care. Nonetheless, a considerable portion of respondents advocated family-only communication, possibly due to the influence of culture in medical education.

In this particular investigation, as students correctly identified the important roles of nurses and medical social workers in a palliative care multidisciplinary team, a significant number incorrectly identified a radiotherapist as a key contributor too. This particular discovery indicates a misinterpretation in understanding palliative care as a multidisciplinary concept. Radiotherapists' contribution is mainly in the field of oncology, as they help in targeting cancer effectively, but not in a holistic way, as palliative care is administered in the management of non-cancer ailments. A misconception in this particular concept signifies a greater need to focus on interprofessional roles in palliative care education. A greater understanding of interprofessional roles will help in a more holistic approach to palliative care.

A troubling percentage of respondents perceived morphine as fatal at the end of life. This shows that there is still a stigma and a lack of understanding of opioids in palliative care settings. Many students knew that morphine could help people live better lives, but there was a lot of confusion about how to use it to treat dyspnea and a lot of false ideas about addiction and side effects. Evidence-based targeted opioid education should be integrated into medical curricula.

The findings indicate that there is a gap in palliative care education. If we are going to improve patient palliative care practices by graduates, then we have to work on the gaps that exist concerning symptom management for life-limiting illnesses, communication, working in a team, and drug knowledge. The integration of simulation education into palliative care, the early incorporation of palliative care concepts into curricula, and the facilitation of professional peer learning can enhance proficiency in this essential field.

This This finding aligns with other research indicating that undergraduate medical students have a limited comprehension of palliative care. Younis and Hamdan-Mansour (2024) conducted a study assessing palliative and end-of-life care knowledge and attitudes among 404 medical students enrolled in six Jordanian universities. They found that the students knew enough about how to deal with pain and symptoms, but they still didn't understand advanced palliative concepts well enough. Most of them, though, had good things to say about talking to people at the end of their lives, especially the female students and those who had worked in palliative care before. The authors stressed the need to include palliative care topics in undergraduate courses to help students understand this important field better. (13)

In a similar study, Mosalli et al. (2022) evaluated 254 medical students at Batterjee Medical College in Jeddah. The students recognized the value of the psychological and spiritual dimensions of palliative care; yet, many expressed uncertainties regarding the management of practical issues such as pain and dyspnea. The study emphasized the imperative of improving palliative care education at the undergraduate level in Saudi Arabia. (12)

In a distinct study, Sujatha and Jayagowri (2017) evaluated 200 final- and pre-final-year healthcare students in India, revealing that nursing students demonstrated a more profound comprehension of palliative care compared to pharmacy students, many of whom mistakenly regarded it as solely associated with pain relief or geriatric care. These studies collectively highlight persistent misconceptions among healthcare students and reaffirm the necessity for structured, curriculum-based education to cultivate a thorough comprehension of palliative care principles. (3)

LIMITATION

There are a few limitations in this research. The first is that this research has been mainly performed in one university, King Faisal University in Al-Ahsa. This could give room to the possibility of bias. The second is that it could be biased, as it was online research, meaning that it could leave out those less active on the internet. Third, as it was cross-sectional research, it only gives information on a specific time. The fourth is that this research was among medical students. Future research could include both medical and nursing students.

Conclusion and recommendation

This study reveals extensive inadequacies in the comprehension of palliative care and its principles, as well as in the assessment and management of pain and non-pain symptoms, communication, and interdisciplinary care for patients and their families. It is essential to incorporate palliative care into healthcare training and to provide palliative care teaching throughout fundamental healthcare curricula. Specialized training in palliative care, end-of-life pedagogical techniques, and institutional transformation tactics can promote reform and the attainment of objectives.

Funding

No funding was provided for this study.

Disclosure

The author reports no conflict of interest in this work

REFERENCE

1. 10. **World Health Organization (WHO).** (2020, August 5). *Palliative care: Key facts.* *World Health Organization.* https://www.who.int/news-room/fact-sheets/detail/palliative-care
2. Alshammary, S., Altamimi, I., Alhuqbani, M. N., Alhumimidi, A., Baaboud, A., & Altamimi, A. (2024). *Palliative care in Saudi Arabia: An updated assessment following the national Vision 2030 reforms*. *Journal of Palliative Medicine, 27*(1), 1–7.
3. Sujatha, R., & Jayagowri, K. (2017). *Assessment of palliative care awareness among undergraduate healthcare students*. *Journal of Clinical and Diagnostic Research, 11*(9), JC06–JC10.
4. Alshammary, S. A., Mahgoub, I. A., Alshammary, A. S., & others.** (2025). *Hospice care in MOH, Saudi Arabia: Current situation and challenges.Journal of Cancer Prevention & Current Research, 16*(2), 45–51. https://doi.org/10.15406/jcpcr.2025.16.00576
5. Al-Khraif, R., Asha, A. A., & others.** (2020). *Family demographic transition in Saudi Arabia: Emerging issues and concerns.* *SAGE Open, 10*(2), 1–25. https://doi.org/10.1177/2158244020921326
6. Bilal, Z., Malik, M. J. A., Virwani, V., Khan, A., & Waqar, M. A. (2024). *Knowledge and awareness of undergraduate medical students regarding palliative care in Pakistan: A cross-sectional study*. *BMC Palliative Care, 23*, 262.
7. Bogam, R. R., Kumbhar, S. M., Sahu, S. B., Mane, A. S., Sagare, S. M., & Chowdhury, Y. S. (2012). *Knowledge of palliative care amongst undergraduate medical students in rural medical college of Maharashtra*. *National Journal of Community Medicine, 3*(4), 666–669.*
8. https://www.health.gov.au/sites/default/files/the-national-palliative-care-strategy-2018-national-palliative-care-strategy-2018.pdf
9. Tatum PE, Mills SS. Hospice and Palliative Care: An Overview. Med Clin North Am. 2020 May;104(3):359-373. doi: 10.1016/j.mcna.2020.01.001. PMID: 32312403.
10. Gwyther, L., Brennan, F., & Harding, R. (2009). *Advancing palliative care as a human right. Journal of Pain and Symptom Management, 38*(5), 767–774. https://doi.org/10.1016/j.jpainsymman.2009.03.003
11. Alshammary, S. A., Abdullah, A., Duraisamy, B. P., & Anbar, M. (2014). *Palliative care in Saudi Arabia: Two decades of progress and going strong. Journal of Health Specialties, 2*(2), 59–60. https://doi.org/10.4103/1658-600X.131749
12. **Mosalli, R. M., Mousa, A. H., Alshanberi, A. M., & Almatrafi, M. A. (2022).** *Evaluation of medical students' knowledge on palliative care: A single institution cross-sectional study.* **Advances in Medical Education and Practice, 13**, 893–901. https://doi.org/10.2147/AMEP.S369006
13. **Younis, W. Y., & Hamdan-Mansour, A. M. (2024).** *Status and predictors of medical students' knowledge and attitude towards palliative care in Jordan: A cross-sectional study.* **BMC Palliative Care, 23**(9). https://doi.org/10.1186/s12904-023-01338-7