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Palliative care knowledge among final year medicine and health sciences students: a cross-sectional study

Abstract

Background: According to the World Health Organization (WHO), approximately 40 million people need palliative care each year. In the year 2020, an estimated 56.8 million adults and children experienced unnecessary suffering that can be managed and treated by palliative care. In the Malaysian context, the number of people requiring palliative care is estimated to be 56,000 yearly, including all diseases. This increasing need for care requires study and increasing education of all healthcare professionals. There is a lack of studies on the medical students' knowledge of palliative care conducted in Malaysia and this study aimed to evaluate the knowledge of palliative care among final-year undergraduate medicine and health science students.

Patients and methods: This cross-sectional study targeted the final year students who are currently studying at universities in Klang Valley. The respondents were recruited using convenience sampling methods.

Results: A total of 102 responses were collected from the medical, physiotherapy, and nursing students, and the results showed that the participants had attained at least an average knowledge of palliative care.

Limitation: Small sample size, therefore, unable to represent the study population as a whole.

Conclusion: All healthcare professionals should receive training in the basic knowledge and skill that they need as the healthcare institution should provide workshops or e-learning modules for students in their clinical postings and expose them to the principles of palliative care, to increase their knowledge and behaviour to dying patients.

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Key words: palliative care, knowledge, healthcare students, education

Introduction

The World Health Organization (WHO) defines palliative care as an approach to improve the quality of life of patients and their families who are dealing with challenges related to life-threatening diseases, by preventing and relieving the suffering through early diagnosis, accurate evaluation, and prompt management of pain and other physical, psychological and spiritual issues [1]. The palliative care approach

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encourages people to live while acknowledging death as a natural part of life. It is not meant to prevent or delay death, but it can be given in conjunction with curative medicine, such as antibiotics and chemotherapy to prolong life as much as possible [2]. Palliative care looks at the patient holistically, assisting in the relief of disease symptoms and medication side effects, including not only medical treatment but non-pharmacological approaches, such as yoga, relaxation exercises, or providing counselling for anxiety or depression that comes with the uncertainty of having a serious illness.

Many people often mistake palliative care for end-of-life care. However, palliative care is comprehensive and multidisciplinary care for patients and their families who are facing serious illnesses where the goal is to prevent and reduce suffering. A multidisciplinary team approach is required to address the needs of patients and their families, including bereavement counselling if needed. The support system is also offered to help patients live as actively as possible until death and help the family to cope [1]. A public survey by Hospice Malaysia found that 17.2% were unfamiliar with the idea of palliative care, however, 98.5% of those respondents did support the concept when provided with further information [3]. Malaysia has access to the necessary medications to treat pain and other common illnesses, however, these would be better as illnesses, but there are significant differences in pharmaceutical accessibility and availability across urban and rural areas, as well as between healthcare facilities [4]. Hospice is a medical benefit that refers to a part of palliative care where patients are expected to have a short lifespan or a poor prognosis.

According to a study by Yang et al. [5], Malaysia's population aged 65 and more would account for 10% of the country's population by 2030. The number of deaths will be two times higher in those 65 and older, and three times higher in those 85 and older. Improvements in chronic illness treatment allow more older people with multiple comorbidities to live longer in a society where the elderly population is expanding, justifying the necessity for palliative care not just at the end of life but also in the years leading up to it.

According to the WHO, approximately 40 million people need palliative care each year. In the year 2020, an estimated 56.8 million adults and children experienced unnecessary suffering that can be managed and treated by palliative care [6]. In Malaysia, it is estimated that 56,000 people require palliative care every year, including all disease groups [7]. This number of Malaysians needing palliative care has increased by 40% from the year 2004 to 2014 and is predicted to rise by another 240% by 2030 [5]. According to the Palliative Care Services Operational Policy — Ministry of Health [8], people suffering from chronic illnesses such as cancer, organ failure, and neurological diseases usually have a shorter life expectancy and thus comprehensive healthcare development should include not only medical treatment but also the palliation of the suffering caused by illnesses.

A study has found that doctors and healthcare professionals often lack the skills and knowledge to care for dying patients, patient's concerns about psychosocial issues in end-of-life care are not acknowledged, and healthcare professionals are often hesitant to give proper dosages of analgesics or sedatives to dying patients or to withhold or withdraw life support [7]. As a result, health professionals may deliver ineffective palliative care which leads to poor quality of treatment and care and results in patient dissatisfaction. Palliative care education is important and is supported by the WHO and the European Association for Palliative Care and is increasingly recognized in the western world. The lack of palliative care education in the undergraduate medical syllabus is considered one of the most important barriers to incorporating palliative care into the healthcare system [1, 9].

The integration of palliative care in the undergraduate syllabus of health professionals is almost non-existent in most healthcare education in Malaysia [10]. To ensure palliative care training is aligned with the perspectives and needs of undergraduate medicine and health sciences students, it is important to investigate and understand their understanding and knowledge of the area. This has been recommended by the WHO, which suggested that the perspectives of students on palliative care are currently unknown and may need further research [1]. An earlier study conducted on 326 final-year medical faculty students in India reported that the students' knowledge about palliative care was insufficient and they felt unprepared to provide care to palliative patients [11]. Students need to understand the role of palliative care, take responsibility for their role and duty, and their role in working in a team with other professionals to make sure they can provide effective care to terminally ill patients. To the authors' best knowledge, there is a lack of studies on the student's knowledge of palliative care conducted in Malaysia and this study aimed to evaluate the knowledge of palliative care among final-year undergraduate medicine and health science students.

Patients and methods

Respondents

This cross-sectional study targeted the final year students who are currently studying at universities in Klang Valley. The respondents were recruited using the convenience sampling methods from the Universiti Tunku Abdul Rahman (UTAR), Malaysian Allied Health Sciences Academy (MAHSA), and Universiti Kebangsaan Malaysia (UKM), who are studying in either of these programs: Bachelor of Medicine and Surgery (MBBS), Bachelor of Nursing or Bachelor of Physiotherapy during the period of data collection. Informed consent was obtained from respondents before the questionnaire commencement. This study has been ethically approved by the Scientific Ethical Review Committee (SERC) of UTAR.

Questionnaire

A questionnaire from a recent study conducted in India by Sujatha & Jayagowri [12], was adapted to assess the student's awareness and knowledge of palliative care. The questionnaire consists of 35 statements, categorized under 9 groups with 3 or 4 statements under each group. The respondents were required to answer either yes, no, or do not know for every question. The groups of statements were on the palliative care definition, its philosophy, communication issues, non-pain symptoms, medication use, and context of the application of palliative care.

23 positive statements required a "Yes" answer, while the remaining 12 negative statements required a "No" answer. The scoring of the questions allowed the respondents to be divided into 3 categories: "Below average" for respondents who answered 0–11 questions correctly, "Average" for respondents who answered 12–23 questions correctly, and "Above average" for those who answered 24–35 questions correctly. To assess the respondents' awareness of palliative care, the author used questions 5–8 (the philosophy of palliative care) considered separately to understand more about the students who appeared to be less aware of palliative care. A pilot study was conducted for questionnaire validation, and this showed good internal consistency with a Cronbach's alpha value of 0.867.

Mode of delivery and duration

The Google Forms link was spread to the targeted participants via an online social media platform. The total duration for the data collection is 3 months.

Statistical analysis

All the collected data were analyzed using the IBM Statistical Package for Social Sciences (SPSS) software version 26.0.

Results

A total of 102 responses were collected with most of the respondents are from UTAR 64.7% (n = 66), followed by UKM and MAHSA 17.6% (n = 18) with an equal number of respondents, studying Physiotherapy 58.8% (n = 60) followed by MBBS 24.5% (n = 25), and Nursing 16.7% (n = 17). The majority, 60.8% (n=62) had acquired knowledge from the syllabus they had studied, 26.5% (n = 27) had acquired knowledge from elsewhere and 12.7% (n = 13) had no previous teaching (Table 1).

Table 1. Demographic data

Demographic data	Number of respondents [n (%)]
Universities	
UTAR	66 (64.7)
UKM	18 (17.6)
MAHSA	18 (17.6)
Programme of Study	
Bachelor of Medicine and Bachelor of Surgery (MBBS)	25 (24.5)
Bachelor of Physiotherapy (Honours)	60 (58.8)
Bachelor of Nursing (Honours)	17 (16.7)
Platform	
Part of the syllabus/ /course you studied	62 (60.8)
Others	27 (26.5)
Never learn before	13 (12.7)
Total	**102 (100)**

MAHSA — Malaysian Allied Health Sciences Academy; UKM — Universiti Kebangsaan Malaysia; UTAR — Universiti Tunku Abdul Rahman

As regards the category "knowledge on palliative care", the majority 56.9% (n = 58) were assessed as having average knowledge level, 43.1% (n = 44) above average knowledge level, and no respondent was categorized below average level.

Table 2 shows the responses to palliative care. The majority were able to relate palliative care as active care of the dying 89.2% (n = 91), but generally, only a small percentage can differentiate between pain medicine (18.6%), geriatric medicine (34.3%), and rehabilitation medicine (25.5%). In the area of "philosophy of palliative care", the majority showed adequate knowledge except for the question on whether palliative care prolongs life (question 8) where 48% answered incorrectly and felt that palliative care prolonged life. When answering about "the need for palliative care" (questions 9–12), the majority were aware that palliative care is needed for metastatic cancer with uncontrolled pain (96.1%) and

Table 2. Responses on the level of knowledge of palliative care

Subgroups	Statements	Correctly answered [n (%)]			Total, [n (%)]
		MBBS	PS	NS	
Palliative care is	1. Palliative care is (pain medicine) (N)	2 (8.0)	13 (21.7)	4 (23.5)	19 (18.6)
	2. Palliative care is (geriatric medicine) (N)	9 (36.0)	22 (36.7)	4 (23.5)	35 (34.3)
	3. Palliative care is (rehabilitation medicine) (N)	5 (20.0)	17 (28.3)	4 (23.5)	26 (25.5)
	4. Palliative care is (active care of the dying) (Y)	24 (96.0)	51 (85.0)	16 (94.1)	91 (89.2)
Philosophy of palliative care	5. Philosophy of palliative care (affirms life) (Y)	21 (84.0)	43 (71.7)	13 (76.5)	77 (75.5)
	6. Philosophy of palliative care (recognizes dying as a normal process) (Y)	24 (96.0)	51 (85.0)	17 (100.0)	92 (90.2)
	7. Philosophy of palliative care (hastens death) (N)	19 (76.0)	48 (80.0)	10 (58.8)	77 (75.5)
	8. Philosophy of palliative care (prolongs life) (N)	15 (60.0)	26 (43.3)	8 (47.1)	49 (48.0)
Palliative care is needed for	9. Palliative care is needed for (all dying patients) (N)	7 (28.0)	20 (33.3)	2 (11.8)	29 (28.4)
	10. Palliative care is needed for (metastatic cancer with uncontrolled pain) (Y)	24 (96.0)	58 (96.7)	16 (94.1)	98 (96.1)
	11. Palliative care is needed for (end-stage heart failure) (Y)	16 (64.0)	57 (95.0)	15 (88.2)	88 (86.3)
	12. Palliative care is needed for (debilitating illnesses like rheumatoid arthritis) (N)	7 (28.0)	29 (48.3)	6 (35.3)	42 (41.2)
Common non-pain symptoms encountered in palliative care	13. Common non-pain symptoms encountered in palliative care (delirium) (Y)	19 (76.0)	48 (80.0)	12 (70.6)	79 (77.5)
	14. Common non-pain symptoms encountered in palliative care (vomiting) (Y)	20 (80.0)	35 (58.3)	13 (76.5)	68 (66.7)
	15. Common non-pain symptoms encountered in palliative care (constipation) (Y)	18 (72.0)	27 (45.0)	9 (52.9)	54 (52.9)
	16. Common non-pain symptoms encountered in palliative care (breathlessness) (Y)	20 (80.0)	51 (85.0)	16 (94.1)	87 (85.3)
Communicating prognosis in palliative care	17. Communicating prognosis in palliative care (prognosis should always be clearly announced) (Y)	22 (88.0)	50 (83.3)	14 (82.4)	86 (84.3)
	18. Communicating prognosis in palliative care (prognosis should only be informed to family members) (N)	8 (32.0)	26 (43.3)	11 (64.7)	45 (53.9)
	19. Communicating prognosis in palliative care (not communicating prognosis could lead to lack of trust) (Y)	23 (92.0)	56 (93.3)	13 (76.5)	92 (90.2)
	20. Communicating prognosis in palliative care (patient's wishes and choices should be clearly communicated) (Y)	24 (96.0)	58 (96.7)	16 (94.1)	98 (96.2)
Palliative care multidisciplinary team consists of	21. Palliative care multidisciplinary team consist of (medical social worker) (Y)	23 (92.0)	56 (93.3)	14 (82.4)	93 (91.2)
	22. Palliative care multidisciplinary team consist of (nurse) (Y)	25 (100.0)	60 (100.0)	17 (100.0)	102 (100.0)
	23. Palliative care multidisciplinary team consist of (radiotherapist) (N)	8 (32.0)	15 (25.0)	4 (23.5)	27 (26.5)
	24. Palliative care multidisciplinary team consist of (occupational therapist) (Y)	19 (76.0)	36 (60.0)	13 (76.5)	68 (66.7)
Components of a good death	25. Components of good death (pain and symptom management) (Y)	25 (100.0)	56 (93.3)	17 (100.0)	98 (96.1)
	26. Components of good death (clear decision making) (Y)	25 (100.0)	55 (91.7)	16 (94.1)	96 (94.1)
	27. Components of good death (preparation of death) (Y)	25 (100.0)	52 (86.7)	16 (94.1)	93 (91.2)

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Table 2. (cont.). Responses on the level of knowledge of palliative care

Subgroups	Statements	Correctly answered [n (%)]			Total, [n (%)]
		MBBS	PS	NS	
Morphine	28. Morphine (causes death in dying patients) (N)	21 (84.0)	44 (73.3)	10 (58.8)	75 (73.5)
	29. Morphine (improves the quality of life) (Y)	20 (80.0)	36 (60.0)	14 (82.4)	70 (68.6)
	30. Morphine (relieves all kinds of pain) (N)	4 (16.0)	6 (10.0)	2 (11.8)	12 (11.8)
	31. Morphine (relieves breathlessness in heart failure) (Y)	10 (40.0)	15 (25.0)	6 (35.3)	31 (30.4)
Common side effects of morphine in a palliative care setting	32. Common side effects of morphine in a palliative care setting (nausea and vomiting) (Y)	24 (96.0)	45 (75.0)	16 (94.1)	85 (83.3)
	33. Common side effects of morphine in a palliative care setting (constipation) (Y)	21 (84.0)	32 (53.3)	12 (70.6)	65 (63.7)
	34. Common side effects of morphine in a palliative care setting (drowsiness) (Y)	22 (88.0)	52 (86.7)	14 (82.4)	88 (86.3)
	35. Common side effects of morphine in a palliative care setting (addiction) (N)	8 (32.0)	9 (15.0)	4 (23.5)	21 (23.5)

Y — Yes; N — No; MBBS — bachelor of medicine & surgery student; PS — physiotherapy student; NS — nursing student
**Y and N denote the correct answer to the statements in the given questionnaire

end-stage heart failure (86.3%). The knowledge on common non-pain symptoms encountered in palliative care including delirium, vomiting, constipation, and breathlessness, showed reasonable knowledge — with correct answers varying from 52 to 85%. In terms of communication of the prognosis in palliative care, more than 50% are aware that the prognosis should be clearly announced to the patients, and their wishes and choices should be clearly communicated. Understanding of the role of the multidisciplinary team (was shown by most respondents, who recognized that medical social workers, nurses, and occupational therapists would be part of the team, but only 26.5% recognized the role of radiotherapists in palliative care. Respondents showed good knowledge about components of good death, which includes pain and symptom management, clear decision making, and preparation of death with the range findings falling between 91–96%. The knowledge of MBBS students consistently outperformed physiotherapy and nursing students when asked about morphine and its side effects in the palliative care setting.

Discussion

This study aimed to evaluate the knowledge of palliative care among final-year undergraduate medicine (MBBS) and health sciences (physiotherapy and nursing) students. Most of the students were shown to have an average and above knowledge level on palliative care. The finding is similar to the level of knowledge among physiotherapy students in Nigeria [13] and nursing students in Turkey [14]. This could be attributed to the usage of the same outcome measures and similar experience and the level of study of the participants (Year 4 students), where the more "senior" students are a strong predictor of higher knowledge about palliative care [15]. However, other studies have revealed a lack of knowledge among medical, nursing, and allied health education students in India [11], and among medical students in the Netherlands [9]. This may be attributed to the different measurement tools used (Palliative Care Quiz for Nursing in China, Saudi Arabia, and Greece) [16].

This evidence of prior knowledge about palliative care may reflect progress in the development of palliative care services in Malaysia, as education is one of the important key elements to building a better public health model for the palliative care system [11, 17]. Every healthcare professional must have a basic understanding so that they know how to care for patients with palliative care needs. However, there is no standardization of palliative care curricula for medical and allied health sciences students across the level of study, as only certain programs have palliative care embedded in their curricula [18]. A significant difference was observed between the level of study (diploma *vs*. bachelor's degree) and bachelor's degree students showed evidence of greater knowledge and attitude compared to diploma students.

Most students learned about palliative care as part of the course syllabus during their programs. The participants who responded that they had "never learn before" could have been respondents from more junior groups, those who missed the appropriate classes, or those who had not recognised the teaching of palliative care within the syllabus. However, other factors may be involved, including issues with the alignment of learning outcomes, teaching methods, and assessment measures [19] which may contribute to this.

Most students seem to gain knowledge through formal education (theory and clinical practice), while a smaller group learned through other means, including seminars, workshops, and social media platforms. Studies have shown an improvement in medical students' palliative care knowledge from an average of 58% to 74% after going through a 1-week of palliative care clinical practice [20]. Although few respondents reported learning palliative care through seminars or workshops, this may be a good method of exposing students to the issues of palliative care. A study in Germany by [21] has shown improvement in scores following a 90-minute peer-taught workshop on palliative care and end-of-life care, particularly in the intensive care unit setting. eLearning also appeared to improve knowledge scores demonstrating the potential beneficial value of integrated eLearning with existing clinical experiences and a small, online module provided to students before a hospice experience demonstrated improved knowledge among these students [19, 22].

Most participants were able to relate palliative care as active care of the dying, but were unable to differentiate between pain medicine, geriatric medicine, and rehabilitative medicine and were unsure if these specialities did provide palliative care. These findings have been found in other studies which shave shown gaps in palliative care knowledge and understanding among undergraduate healthcare students [12, 13]. Most of the participating students (of nursing, physiotherapy, pharmacy, and medicine) in the present study believe that all dying patients need palliative care and were aware of its role in managing non-pain symptoms but realized that this was not often possible. Palliative care was often synonymously compared and considered as pain medicine, geriatric medicine, and rehabilitative medicine.

The majority of students appeared to show good knowledge of the philosophy of palliative care but did feel that palliative care prolongs life. This is similar to other studies by Sujatha & Jayagowri [12] and Odetunde [13], which showed a moderate understanding of palliative care. In terms of the knowledge of the need for palliative care, the majority were aware that palliative care is appropriate for metastatic cancer with uncontrolled pain and end-stage heart failure. This is similar to a study conducted with nursing students, which found that most of them were aware that palliative care is needed for advanced-stage chronic diseases, terminally ill patients, patients with advanced-stage chronic diseases, and cancer patients with chronic diseases [14]. However, a recent study reported students wrongly assumed that palliative care is needed in acute postoperative pain as the students were unable to differentiate between pain medicine and palliative medicine [13].

Most of the respondents showed some knowledge in non-pain symptom management, including identifying delirium, vomiting, constipation, and breathlessness. The respondents did understand that morphine does not cause death if the right doses were administered effectively and at once may improve the patient's quality of life. The findings of the studies of Sandhu [11] and Odentunde [13], showed a considerable deficiency in knowledge of the use of opioids and analgesic drugs, such as morphine, although this could be due to poor background knowledge of pharmacology and insufficient professional practice among physiotherapy students at undergraduate level [13, 23]. The side effects of morphine such as vomiting, constipation, and drowsiness were clearly understood by most of the respondents, but although some respondents considered that addiction is not a common side effect of morphine in the palliative care setting, many respondents did answer this incorrectly, as was found by Sadhu [11].

More than half of the students believe that in communicating prognosis with palliative care patients, it should always be clear and understood by the patient for them to be able to make decisions on treatment options that are available, and prognosis should be informed to family members only and not the patients themselves, similar to the findings of Sujatha & Jayagowri [12]. However, cultural disparities might lead to professional dilemmas. There is evidence of the tendency to hide serious diagnoses in Muslim and/or African settings [24–26].

A recent Mauritian study showed how faith is mixed with some culturally specific characteristics to create a response to some of the palliative care principles [27]. In the Malaysian-Chinese context, it is taboo to discuss death when a person is still alive [28]. Malaysian medical students who are pursuing a western education are aware of the stark differences between the UK and their home country. Comparatively, only 2% of students in the UK who received the identical curriculum stated that families were informed of the patient's illness before they were [29].

Future studies should consider including other health science students such as dietetics, pharmacy, and radiotherapy who play a significant role in palliative care, as their knowledge of palliative care may be a significant contributing research value.

Limitations and strengths of the study

This study has only gathered data from 102 respondents whereby the number is relatively smaller due to the COVID-19 pandemic. Plus, this study's findings were not able to generalize to represent the knowledge of the MBBS, Physiotherapy, and Nursing students. However, all the responses obtained showed significant findings, to a certain extent, on their average knowledge level on palliative care, whereby this study result gives a general idea on this whereby the relevant authority may consider adding palliative care to the syllabus and events.

Conclusion

This study found that the medical, physiotherapy, and nursing students have attained at least average knowledge of palliative care, and this would be important for their future careers. Healthcare organizations should also come up with more workshops or e-learning modules for students, particularly during their clinical postings, to expose them to palliative care education and practice. This exposure to palliative care and ongoing education may provide both theoretical knowledge but also help to develop appropriate behaviour and attitudes in the provision of care.

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Conflicts of interest

The authors report there are no competing interests to declare.

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