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## UNDERSTANDING MEDICAL STUDENTS' PERSPECTIVE ON PALLIATIVE CARE

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## ARTICLE INFO

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## ABSTRACT

**Context:** Palliative care is specialized medical care focused on improving the quality of life of patients with serious illnesses through symptom management and holistic support. To care for patients with advanced and incurable illnesses, medical students must have the necessary knowledge, skills, and attitudes.

**Objective:** This study aims to assess undergraduate medical students' knowledge, attitudes, and influencing factors regarding palliative care. Understanding these factors is crucial for addressing gaps in education and ensuring that future healthcare needs are met effectively.

**Methods:** This descriptive cross-sectional study was conducted with medical students at Ayub Medical College, Abbottabad, from September 2023 to March 2024. The data were collected via a validated physical questionnaire via a nonprobability convenience sampling technique. A total of 242 samples were calculated via the WHO sample size calculation tool. Ethical approval was obtained from the Institutional Ethical Review Committee of Ayub Medical Institute. The data were analyzed via SPSS version 26.

**Results:** We conducted this study with 242 medical students (142 males, 100 females; mean age  $21.68 \pm 1.71$  years). The majority were unmarried hostelites, and pursuing MBBS degrees. The results revealed that 45% of the participants knew palliative care, whereas 55% did not.

**Conclusion:** This study highlights the need to integrate palliative care into medical curricula and provide hands-on experience to senior medical students to increase their confidence in its delivery, as more than half of the students lack knowledge about palliative care.

## INTRODUCTION

The World Health Organization (WHO) defines palliative care as "the approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial, and spiritual".<sup>1</sup> The multidimensional (physical, psychological, social, and spiritual) and multidisciplinary nature of palliative care (PC) can make it difficult to administer. Palliative care for chronically and terminally ill patients is a mandate for physicians in almost every specialty and context. They should therefore acquire the necessary attitudes, knowledge, and skills during their training.<sup>2</sup> By 2060, the need for palliative care is predicted to quadruple globally, raising concerns about the shortage of palliative care experts and services from a public health perspective. Numerous studies have demonstrated that for palliative care to develop and practice widely, palliative medicine must be taught in medical schools and health professional training programs.<sup>3</sup> The importance of palliative care education is emphasized by the World Health Organization and the European Association for Palliative Care (EAPC). One of the greatest obstacles to the integration of palliative care in healthcare systems is the absence of palliative care instruction in undergraduate medical curricula across Europe. Numerous studies have revealed that medical students receive insufficient instruction and training in palliative care, and many younger physicians in various nations—such as the U.S., Brazil, Germany, and Turkey—feel ill prepared. Most recent medical graduates said that they were nervous about providing palliative care.<sup>2,4</sup> They had no idea about palliative care, especially in regard to managing pain and symptoms. However, studies indicate that the importance of palliative care education is increased by an integrated curriculum for palliative care and that doctors with specialized training in palliative medicine make less drastic decisions about end-of-life care, such as stopping life-prolonging therapies.<sup>2,5-7</sup>

Medical professionals and students need to possess the requisite information, abilities, and attitudes to care for patients with severe and terminal illnesses. For example, in the United Kingdom, during their first year of practice, newly trained Foundation Year 1 (FY1) doctors are expected to care for approximately 40 patients who are dying and another 120 patients who are nearing the end of their lives.<sup>8</sup> A telephone survey of associate deans for curricular affairs or medical education at 62 registered U.S. medical schools was carried out in 2002. Eighty-two deans (82% response rate) answered. The vast majority (84%) agreed that more end-of-life care education needs to be included in undergraduate curricula and saw it as "very important". Sixty-one percent of the respondents said that their curricula do not provide enough education on palliative care. Although the majority (59%) disagreed with mandatory new end-of-life care courses or clerkships, they were all in favor of adding end-of-life care education to existing courses or clerkships.<sup>9</sup> In a 2012 study at a medical university in Thailand, questionnaires were completed by 110 (66%) and 103 (62%) students at six and twelve months, respectively. On the basis of the

criterion that at least 80% of them should be confident in managing situations independently or under supervision, they thought that they were good at holistic care and communication skills but poor in common symptom management and ethical issues.<sup>10</sup> Palliative care aims to increase the quality of life for patients with life-threatening illnesses and their loved ones. Incorrect knowledge and/or negative beliefs among the general population may inhibit early interest in, communication about, and integration

of palliative care following subsequent illness diagnosis as a potential barrier to palliative care uptake.<sup>11</sup>

To care for patients with advanced and incurable illnesses, medical students must have the necessary knowledge, skills, and attitudes. As a result, the purpose of this study was to investigate the level of knowledge and attitudes toward palliative care, as well as the factors that influence them, among undergraduate medical students.

### **Materials and Methodology:**

This descriptive cross-sectional study was conducted with medical students at Ayub Medical College, Abbottabad, from September 2023 to March 2024. Informed consent was obtained from all the participants. The data were collected via a validated physical questionnaire via a nonprobability convenience sampling technique. The consistency of the questionnaire was statistically measured via the Cronbach's alpha test (0.813). A total of 242 samples were calculated via the WHO sample size calculation (we used a population proportion (P) of 25% (Ibrahim et al. 2022), a margin of error of 5%, and a 95% confidence level ( $Z/2 = 1.96$ )). Ethical approval was obtained from the Institutional Ethical Review Committee of Ayub Medical Institute (Approval Code/Ref.No/RC-EA-2024/016). This study was conducted in accordance with the Declaration of Helsinki. The data were analyzed via SPSS version 26 (IBM Corp. Released 2019. IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp) and presented in the form of tables and figures. Continuous variables are presented as mean $\pm$ Standard Deviation. Categorical variables are presented as frequencies and percentages. P value below 0.05 was considered statistically significant.

### **Results:**

Our study sample included 242 medical students with a mean age of  $21.68 \pm 1.71$  S.D. (standard deviation) years, ranging from a minimum of 19 years to a maximum of 26 years.

Table No. 1 reveals that out of 242 participants, 142 (58.7%) were male and 100 (41.3%) were female. Ninety-one percent of the students were studying MBBS, 98.3% were Hostelites, and 96.7% of the students were unmarried. Each academic year's response was recorded at a nearly similar frequency.

Figure No. 1 shows that among all 242 participants, 109 (45%) understood the definition of palliative care, whereas 133 (55%) did not know about palliative care.

Table No. 2 shows the perceptions of medical students regarding various aspects of palliative care. Among 242 participants, 162 (66.9%) medical students thought that palliative care is necessary for chronically ill patients, and

83.9% of the students did not know whether to start palliative care at the time of diagnosis of life-threatening illness. Among these participants, 76.9% of medical students thought that PLACEBO was appropriate for some types of pain. Fifty-four percent of the participants were aware of the concept of bereavement, whereas 31% had no idea.

Table No. 3 shows the association of gender differences with the perception of palliative care. Among the participants, 61% of the female medical students understood the definition of palliative care, while 66% of the male medical students did not know, and the correlation was statistically significant. Most male and female medical students thought that the use of PLACEBO was appropriate for certain types of pain.

Table No. 4 shows the correlation of year-wise differences in the perception of palliative care. Among final-year medical students, 97.29% were aware of basic palliative care definitions, whereas first year medical students were least aware (10.16%). The majority of 1<sup>st</sup>-year medical students thought that placebo is appropriate for some types of pain and that morphine can be addictive in terminally ill patients. All these correlations in Table No. 4 are statistically significant.

### **Discussion:**

We conducted a study on 242 medical students (142 males, 100 females; mean age  $21.68 \pm 1.71$  years). The majority were unmarried, hostelites, and pursuing MBBS degrees. The results revealed that 45% of the participants had knowledge of palliative care, whereas 55% did not. Helen B et al. reported that 40% of U.S. university students lacked knowledge of end-of-life care.<sup>12</sup> In Nepal, Pandey S. et al. reported that 31% of medical students knew that palliative care could begin early in life-threatening illnesses.<sup>13</sup>

Further studies revealed varying levels of awareness: 71% of medical students in Bangladesh, 69.5% in Ethiopia, 64.9% in Vietnam, and 55.7% of medical students, physicians, and nurses in Thailand knew about palliative care.<sup>14-</sup>

<sup>16</sup> While some studies show similar awareness percentages to ours, others indicate higher or lower levels, possibly due to factors such as sample size, different levels of educational awareness and the inclusion of palliative care in curricula. In our study, 74% agreed that patients with chronic illnesses require palliative care. In contrast, Mason H. et al. reported that 93% of critically ill patients should receive palliative care.<sup>17</sup> Similarly, a different study carried out in Nigeria by Fadarjo JO et al. reported that 50 (100%) doctors thought patients with advanced cancer should receive palliative treatment<sup>18</sup>. 193 (79.8%) of the study participants believed that morphine can lead to addiction in patients with chronic illnesses.

According to a study by Hidalgo-Andrade P et al., morphine can be addictive in patients who are chronically ill.<sup>19</sup> In a different study, 6 (12% of medical students) felt that morphine caused addiction.<sup>20</sup>

Another study by Swed S et al. in Syria revealed that 32 (5.7%) medical professionals thought that long-term

morphine use led to addiction.<sup>21</sup> According to 164 participants in our study (67.8%), patients with HIV/AIDS should receive palliative care. A different study by Lofgren S. et al. demonstrated the need for palliative care for people with HIV/AIDS.<sup>22</sup> Similarly, another study conducted in Nigeria revealed that 319 (91.7%) medical professionals believe that PLWHA need palliative care.<sup>23</sup> A total of 186 participants, or 76.9%, in our study recommended the use of a placebo in palliative care. A study that demonstrated the significance of the placebo effect in successful palliative care supports this statement.<sup>24</sup>

In the yearwise comparison, a greater percentage (97%) of final-year medical students had knowledge of palliative care, followed by 4<sup>th</sup>-, 3<sup>rd</sup>-, 2<sup>nd</sup>- and 1<sup>st</sup>- year medical students. With respect to placebo use for some types of pain, 1<sup>st</sup>- year medical students had the most 'yes' answers, while among the remaining classes, 55% of final-year students thought that placebo should not be used. When asked about addiction to morphine use in terminally ill patients, 3<sup>rd</sup>- year medical students were the most common among those who answered positively. Fear of addiction may exist in terminally ill patients. It is easy to use morphine in terminally ill patients if it is not used in a proper manner.<sup>25</sup> The lack of knowledge of medical students in various years may be due to a lack of proper course inclusion in the curriculum.

In a study on the preference of palliative care for cancer patients, females responded more (87.7%) in favor than men did (68.6%).<sup>26</sup> These results are consistent with the results of our study on choosing palliative care for terminally ill patients, with 77% females and 61.2% males in favor. There are few studies available where a gender gap in the perception of palliative care has been shown; however, in the available literature, females have more knowledge and positive attitudes toward palliative care. Our study revealed more knowledge among female (61%) medical students than among male medical students (33.8%). A study among caregivers of Karachi revealed that a greater proportion of men (46%) than females (43%) knew about palliative care.<sup>27</sup> These differences can be attributed to differences in the education and exposure of participants to end-of-life care.

**Limitations:** The primary drawbacks of this study are its questionnaire-based methodology, which includes items that are skipped, inaccurate responses, and respondent bias. Our study's descriptive approach, single-center emphasis, and small sample size are further limitations. Clearer insights would come from a larger, multicenter investigation. Nevertheless, our goal is for this research to serve as a catalyst for the national adoption of palliative care in medical education, promoting the training of doctors who are committed to both curing and healing patients.

**Conclusion:**

This study sheds light on how medical students perceive treatment for the terminally ill. This demonstrates that more than half of the students did not understand the essentials of palliative care. To ensure that today's students and future doctors provide excellent end-of-life care, it is imperative that palliative care courses be added to medical curricula, that problem-based learning seminars and patient interviewing courses be expanded to include

scenarios with terminally ill patients and that clinical curricula be formalized and standardized to address basic competencies in end-of-life care.

**Author contributions:**

ZA: Conceptualization, Questionnaire Validation, Data Collection, Data Analysis. AI: Questionnaire validation, Data collection, Data entry,

WS: Introduction, Methodology, Interpretation of Data SA: Data collection, Data entry, Discussion

BZ: Data collection data entry. Interpretation of data

OUR: Supervision, questionnaire validation, data analysis, discussion and manuscript revision All authors approved the final version of the manuscript.

**Data availability:**

The datasets used and/or analyzed during this study are available from the corresponding author upon reasonable request.

**Informed Consent Statement:**

Informed consent was obtained from all the subjects involved in the study.

**Institutional Review Board Statement:**

This study was approved by the Institutional Ethical Review Committee of Ayub Medical Institute (Approval Code/Ref.No/RC-EA-2024/016). This study was conducted in accordance with the Declaration of Helsinki.

**Conflict of interest:** All authors declare that they have no conflicts of interest.

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**List of Tables**

**Table No: 1 Demographics: (n=242)**

<b>Gender:</b>	<b>Frequency (Percentage)</b>
Male	142(58.7%)
Female	100(41.3%)
<b>Marital Status:</b>	
Married	8(3.3%)
Unmarried	234(96.7%)
<b>Residence:</b>	
Day Scholar	4(1.7%)
Hostellite	238(98.3%)
<b>Degree:</b>	
MB	218(90.1%)
BS	
BDS	24(9.9%)
<b>Year of Study:</b>	
1 <sup>st</sup> Year	59(24.4%)
2 <sup>nd</sup> Year	55(22.7%)
3 <sup>rd</sup> Year	47(19.4%)
4 <sup>th</sup> Year	44(18.2%)
5 <sup>th</sup> Year	37(15.3%)

**Table No: 2 Palliative Care Questionnaire**

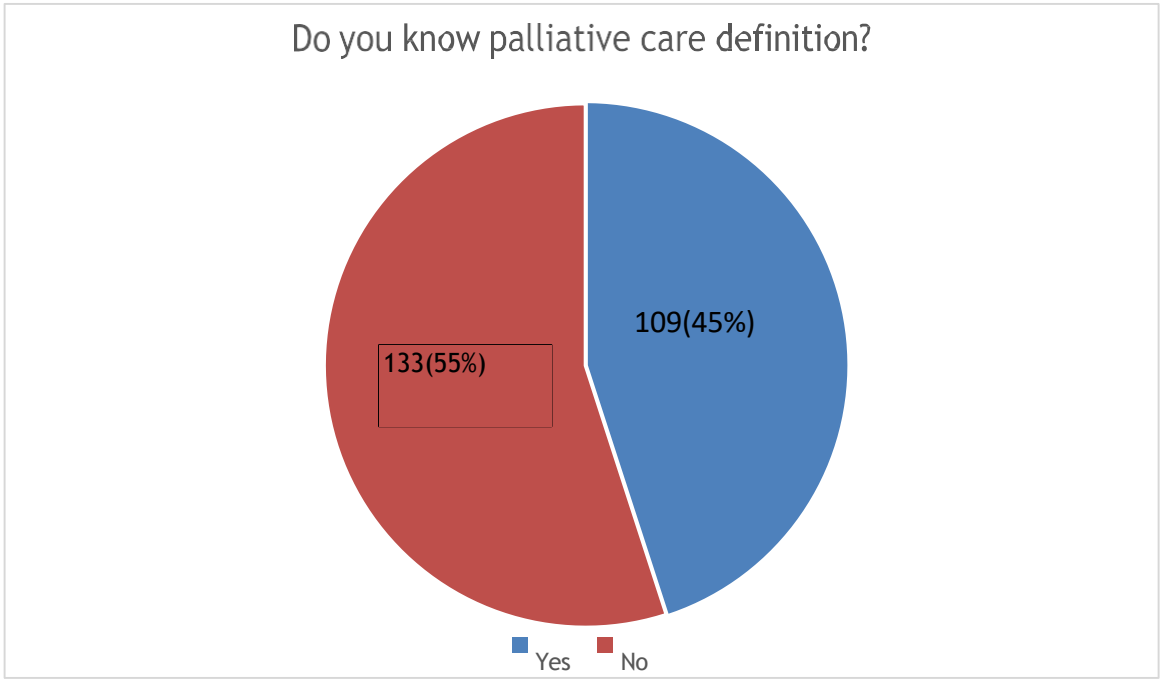
	<b>YES</b>	<b>NO</b>	<b>I DO NOT KNOW</b>
Do You Think Palliative Care is needed in chronically ill patient?	162(66.9%)	21(8.7%)	59(24.4%)
Do You Think Palliative Care is needed for HIV/AIDS patients?	164(67.8%)	19(7.9%)	59(24.4%)
Do you think use of placebo is appropriate in some types of pain?	186(76.9%)	17(7%)	39(16.1%)
Should Patient and relatives both be always involved in DNR (Do not Resuscitate) decision making?	132(54.5%)	51(21.1%)	59(24.4%)
Does oxygen supplementation help in last breaths of dying Patient?	159(65.7%)	18(7.4%)	65(26.9%)
Should prognosis always be clearly communicated?	196(81%)	12(5%)	34(14%)
Do Patients with lung metastasis having breathlessness must be intubated (in palliative care)?	179(74%)	17(7%)	46(19%)
Are you aware of the concept of Bereavement?	131(54.1%)	36(14.9%)	75(31%)

**Table No: 3 Gender Differences in Palliative Care Perception**

	<b>Gender</b>	<b>Yes</b>	<b>No</b>	<b>I Don't Know</b>	<b>Total</b>	<b>P value</b>
Do You Know Palliative Care Definition?	Male	48(33.8%)	94(66.2)	0	142	0.000
	Female	61(61%)	39(39%)	0	100	
Does Morphine causes addiction in terminally ill patient?	Male	122(85.9%)	9(6.3%)	11(7.8%)	142	0.000
	Female	71(71%)	33(3%)	26(26%)	100	
Do you think use of placebo is appropriate in some types of pain?	Male	116(81.7%)	12(8.5%)	14(9.8%)	142	0.006
	Female	70(70%)	5(5%)	25(25%)	100	

**Table No:4 Year-wise Differences in Palliative Care Perception**

	Year	Yes	No	I Don't Know	Total	P value
Do You Know Palliative Care Definition?	1 <sup>st</sup> year	6(10.16%)	53(89.83%)	0	59	0.000
	2 <sup>nd</sup> Year	11(20%)	44(80%)	0	55	
	3 <sup>rd</sup> Year	27(57.44%)	20(42.55%)	0	47	
	4 <sup>th</sup> Year	29(65.9%)	15(34.09%)	0	44	
	5 <sup>th</sup> Year	36(97.29%)	1(2.7%)	0	37	
Do you think use of placebo is appropriate in some types of pain?	1 <sup>st</sup> Year	55(93.22%)	2(3.38%)	2(3.38%)	59	0.000
	2 <sup>nd</sup> Year	44(80%)	5(9%)	6(11%)	55	
	3 <sup>rd</sup> Year	43(91.48%)	4(8.5%)	0	47	
	4 <sup>th</sup> Year	27(61.36%)	5(13.36%)	12(27.27%)	44	
	5 <sup>th</sup> Year	17(45.94%)	1(2.70%)	19(51.35%)	37	
Does Morphine causes addiction in terminally ill patient?	1 <sup>st</sup> Year	53(89.83%)	0	6(10.16%)	59	0.000
	2 <sup>nd</sup> Year	48(87.27%)	4(7.27%)	3(5.54%)	55	
	3 <sup>rd</sup> Year	44(93.6%)	0	3(6.4%)	47	
	4 <sup>th</sup> Year	30(68.2%)	7(15.9%)	7(15.9%)	44	
	5 <sup>th</sup> Year	18(48.64%)	1(2.70%)	18(48.64%)	37	



**Figure No: 1 Palliative Care Definition Statistics**