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Research Article

### EVALUATION OF THE UNDERGRADUATE MEDICAL STUDENTS ON THE AWARENESS OF PALLIATIVE CARE IN END-STAGE CANCER PATIENTS.

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#### Abstract:

**Background:** Many countries have recognized palliative care as an imperative element of the medical system, the importance of which has been emphasized by the World Health Organization (WHO) and the World Health Assembly (WHA). An increase in the aging population, along with a rise in the number of individuals with critical illnesses such as cancer, dementia, diabetes, COPD, have increased the demand for palliative care. The inclusion of an effective palliative care teaching in medical and other allied medical science undergraduate curricula has become a requisite, which will enable tomorrow's health care practitioners to deliver the best possible end-of-life care to patients. This research aims to assess medical students' knowledge about palliative care in end-stage cancer patients. **Objectives:** Evaluation of the undergraduate medical students on the awareness of palliative care in end-stage cancer patients in Rawalpindi/Islamabad. **Material and Methods:** A descriptive, cross-sectional study was conducted in which 452 medical students (MBBS, BDS, BSN, and DPT), selected by convenience sampling, filled out the questionnaire which was made on the work of Çıtil R, Okan İ, Önder Y, Çeltek NY, Süren M, Bulut YE, et al. (permission granted) comprising 21 questions, that were distributed via link to Google form. Certain student demographics were also collected. First and second-year medical students were excluded due to lack of exposure in the clinical setting. Chi-square test was performed to see if there is any significance between students studying in different medical courses and the relevant questions regarding end-stage cancer patients and palliative care.  $p < 0.05$  was considered to be statistically significant. Statistical data thus obtained was analyzed using SPSS version 23. **Results:** From a total of 452 medical students, 278 were females (61.5%) and 174 were males (38.5%). The ages ranged from 19 to 25 with 22 being the mean age with SD 0.962. 26.1% never heard of palliative care and 82.7% felt that the knowledge they have regarding palliative care is insufficient. 68.4% were apprehensive in communicating with a cancer patient. 35% of the students encountered an end-stage cancer patient and 62% felt that end-stage patients should be resuscitated, which were both found to be highly significant in terms of their medical profession ( $p < 0.05$ ). No significant difference was found among students who have interest in gaining palliative care education, if the knowledge they have is sufficient enough, if they are interested in offering end-of-life care, if they encountered a death case due to cancer, and if they felt nervous in communicating with such patients in terms of their professional medical course ( $p > 0.05$ ). 79% of undergraduates highlighted the importance of gaining education in palliative care and 66.6% would want to work in providing end-of-life care. **Conclusion:** Students of all medical courses lacked sufficient knowledge regarding palliative care. A large portion of them were hesitant to communicate with cancer patients. They wish to study and learn more about end-of-life care, and several indicated a desire to work in the palliative care discipline. Therefore, it is a necessity for future medical practitioners to get prompt knowledge about palliative care along with its practical implementation which calls for a revised medical curriculum for undergraduates.

**Key words:** Palliative care, Medical students, Awareness, Education

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**INTRODUCTION:**

The etymology of the word 'palliative' is much discussed, and it is derived from the Latin word pallium, which means a "cloak or to cover". The Oxford dictionary defines palliative care as 'to relieve without curing' [1].

The World Health Organization (WHO) defines palliative care as an "approach that increases the quality of life of the patients and their families who are affected by life-threatening illnesses. It prevents and alleviates suffering through early identification, adequate assessment, and appropriate treatment of pain and other problems, whether, physical, psychosocial or spiritual" [2].

The roots of palliative care date back to 1967, when, St. Christopher's Hospice (the first modern hospice) was established by a British Medical Practitioner named Dame Cicely Saunders, with the sole purpose of providing care for people who are nearing the end of their lives. Her accomplishment in uplifting her patients' well-being directed her to introduce this concept to other health care professionals who immediately recognized the importance of respecting the wishes and needs of end-of-life patients [3][4].

Palliative care is a multifaceted approach to health care. The crew that provides palliative care comprises members from different healthcare disciplines including specialist consultants, nurses, physiotherapists, nutritionists, and social workers. It is crucially important for all the team members to have mutual aims, adequate understanding and adhere to their distinct responsibilities and duties to yield the best possible end-of-life care [5].

Individuals suffering from cancer and other life-threatening illnesses are becoming more frequent. Palliative care does not just apply to cancer patients or those who are suffering from other incurable diseases. The management of long-term and critical illnesses also comes under the umbrella of palliative care. Usually, health care providers pursue a more cure-

oriented route of management thus many are unable to relieve the misery of the dying patient even though a considerable proportion of the population is afflicted with life-limiting conditions [5]. Hence, to reduce physical distress and morbidity, to sustain autonomy for as long and as comfortably as possible, to alleviate the anxiety, fear, and isolation that comes with the dreadful disease, to provide an honorable death to the sufferer, and to offer support to those who have lost a loved one at the hands of death, such are the motives behind palliative care [1]. There is a pressing need to provide comprehensive palliative care education in medical schools. Currently, there is no default curriculum in place for palliative care education. However, many medical schools have started to provide adequate education to undergraduates, despite that, the students still have a significant lack of understanding that needs to be catered to [4][6].

What is needed is an educational intervention to increase palliative care understanding and help pave way for the implementation of an effective curriculum that would allow students to gain an appropriate understanding of the subject and obtain a skill set in the palliative care domain, and also to inspire the establishment of palliative centers in Pakistan, which exist but are insufficient in number.

**METHADODOLOGY:**

**Study design:** A descriptive, cross-sectional study was conducted in medical colleges of Rawalpindi/Islamabad.

**Study setting:** Rawalpindi/Islamabad.

**Study duration:** The study was conducted from 4<sup>th</sup> December 2021 to 20<sup>th</sup> October 2022.

**Study subjects:** The research was carried out on undergraduate medical students enrolled in several different medical colleges. There was no gender specification and both male and female medical students were included.

**Inclusion Criteria:**

- All male and female medical students studying in 3rd, 4th and final year of their respective professional education.
- Only those students were considered who were studying in medical colleges of Rawalpindi/Islamabad.

**Exclusion Criteria:**

- 1<sup>st</sup> and 2<sup>nd</sup> year medical students.
- Non-medical students.
- Students situated outside Rawalpindi/Islamabad.

**Ethical Consideration:**

A statement was incorporated at the beginning of the questionnaire which asked the participants for their informed consent and it was clarified that the participation in this research is voluntary and that the collected information would remain confidential and will only be used for the context of this research. Furthermore, the study was approved by the ethical review committee of the institute.

**Sampling technique:**

Non probability convenience sampling was employed and the questionnaire was distributed, via link to google forms and was sent to various medical students of different colleges to be filled.

**Data collection tool:**

A pre-validated questionnaire which was used in the work of Çıtlı R, Okan İ, Önder Y, Çeltek NY, Süren

M, Bulut YE, et al. (permission granted) was used. The questionnaire was customized to include a section on student demographics. The questionnaire was distributed, via link to google forms and was sent to various medical students of different colleges to be filled. The data was collected through google forms and then transferred to SPSS for data analysis.

**Statistical analysis tools:**

IBM SPSS Statistics Version 23 was used to analyse the data. Chi-square test was performed to see if there was any significant difference between students studying in different medical programmes and the relevant questions regarding palliative care and end-stage cancer patients in the questionnaire.

**Sample size:**

384

**Sample size calculation:**

Sample size was calculated by WHO sample size calculator. The sample was chosen to detect a prevalence of 50%, confidence interval of 95% and a precision of 5%

**RESULTS:**

Results were obtained from a total of 452 medical students, studying in various health care programs. Out of which 278 were females (61.5%) and 174 were males (38.5%). The ages ranged from 19 to 25 with 22 being the mean age with SD 0.962. 21 questions were asked in total, out of which the first 4 questions were related to student information which is summed up in table 1.1 as given below:

Table 1.1

STUDENT INFORMATION		N	%
1. AGE	19	1	0.2%
	20	3	0.7%
	21	92	20.4%
	22	131	29.0%
	23	185	40.9%
	24	33	7.3%
	25	5	1.1%
2. GENDER	Female	278	61.5%
	Male	174	38.5%
3. MEDICAL COURSE	BDS	94	20.8%
	BSN (nursing)	80	17.7%
	DPT	85	18.8%
	MBBS	193	42.7%
4. MEDICAL YEAR	3rd Year	152	33.6%
	4th Year	225	49.8%
	5th Year	75	16.6%

Table 1.2 demonstrates the next three (5, 6, and 7) questions related to the health status of students (if suffering from a chronic disease), and history of cancer patients in first degree relatives. The results obtained are stated below:

Table 1.2

HEALTH STATUS OF STUDENTS AND HISTORY OF CANCER IN FAMILY		N	%
5. DO YOU HAVE A DIAGNOSED CHRONIC DISEASE?	Yes	36	8.0%
	No	416	92.0%
6. HEALTH STATUS IF SUFFERING FROM CHRONIC DISEASE	Good	20	4.4%
	Moderate	13	2.9%
	Poor	3	0.7%
	Not Applicable	416	92.0%
7. DO YOU HAVE HISTORY OF CANCER PATIENTS IN THE FIRST DEGREE RELATIVES?	Yes	28	6.2%
	No	424	93.8%

Further on, table 1.3 displays questions (8 and 9) which were related to the exposure of students with the end-stage cancer patients.

Table 1.3

HISTORY OF ENCOUNTER		N	%
8. HAVE YOU ENCOUNTERED AN END-STAGE CANCER PATIENT IN YOUR CLOSE RELATIVES OR DURING CLINICAL ROTATION/ INTERNSHIP?	No	294	65.0%
	Yes	158	35.0%
9. HAVE YOU ENCOUNTERED A DEATH CASE DUE TO CANCER?	No	371	82%
	Yes	81	18%

Question 10 asked the natural emotions of students towards the death of patients who died from cancer, 32.7% of the students responded that they cried and felt sad in such a situation with another 22.3% thought that patient's suffering has ended, 21.2% thought that it was natural, 12.6% responded that they got frightened and 11.1% of the students felt nothing.

Table 1.4 demonstrates questions (11, 12, 13 and 14) which were regarding the basic knowledge of palliative care and if resuscitation should be done in end-stage patients.

Table 1.4

PALLIATIVE CARE KNOWLEDGE ASSESSMENT & IMPLEMENTATION OF CPR		N	%
11. HAVE YOU HEARD ABOUT PALLIATIVE CARE?	No	118	26.1%
	Yes	334	73.9%
12. HAVE YOU FELT UNEASY IN COMMUNICATING WITH CANCER PATIENTS/RELATIVES WITH CANCER?	No	143	31.6%
	Yes	309	68.4%
13. DO YOU THINK ALTERNATIVE MEDICINE SHOULD BE PROVIDED TO THE END-STAGE CANCER PATIENTS IN ADDITION TO MEDICAL SUPPORT?	No	108	23.9%
	Yes	344	76.1%
14. DO YOU THINK THAT CPR (CARDIOPULMONARY RESUSCITATION) SHOULD BE DONE IN END-STAGE PATIENTS?	No	172	38.0%
	Yes	280	62.0%

For question 14, Figure 1.5 demonstrates the responses of the students about their opinions of where palliative care should take place, 59.29% students stated it should be at home, 23.45% stated it should be at nursing homes specially designed for taking care of such patients, 11.5% participants believed that it should be at inpatient units of hospitals, and 5.75% stated that the patient should be in an isolated place if he/she demands.

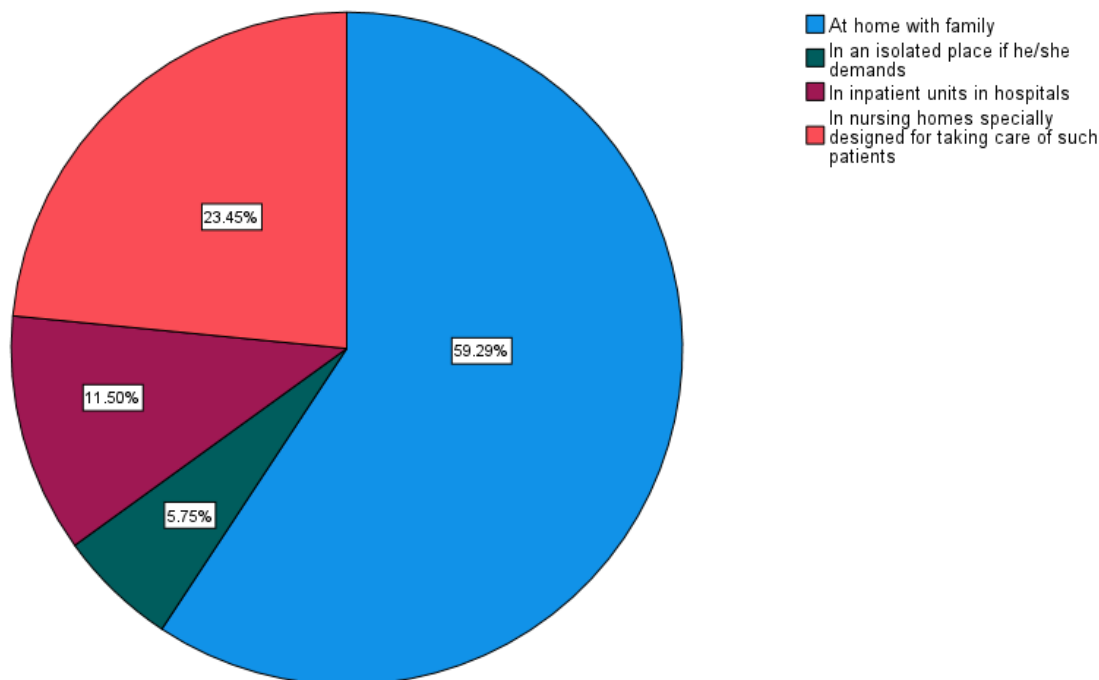


Figure 1.5

Questions 15 was related to the goals and objectives of palliative care, a lot of students gave a scattered response to the question, the students believed that the objectives were, to increase the quality of life of the patients (86.1%), pain control (83.4%), to increase quality of life for patient's family (78.1%), for ensuring a comfortable and peaceful death (74.1%), to support the family in process of death (69.9%), to provide support for physical care (69.2%), to support for psychological problems (59.5%), providing nutritional support (40.5%), social support (39.2%),

support for legal and ethical issues (13.5%), solving communication problems (8.6%) and others (doing everything required to do) (4%).

Question 16 asked the students about the most frequent causes of admission to hospital for end-stage cancer patients, the main reasons were stated as pain (95.1%), shortness of breath (92.3%), bleeding (79.2%), nausea and vomiting (63.1%), depression (52.2%), acid reflux (13.3%) and constipation (3.1%).

Table 1.6 displays questions (17,18 and 19) which were related to the importance of palliative care.

Table 1.6

IMPORTANCE OF THE PALLIATIVE CARE KNOWLEDGE		N	%
17. IF YOU HAVE KNOWLEDGE ABOUT PALLIATIVE CARE, DO YOU THINK THIS MUCH KNOWLEDGE IS SUFFICIENT?	No	374	82.7%
	Yes	78	17.3%
18. DO YOU WANT TO GET EDUCATION IN PALLIATIVE CARE?	No	95	21.0%
	Yes	357	79.0%
19. DO YOU WANT TO WORK IN TAKING CARE OF END-STAGE CANCER PATIENTS LATER IN LIFE?	No	151	33.4%
	Yes	301	66.6%

From table 1.7 it can be seen that there is a 'high significance' (P value <0.05) between students of different medical courses and their medical years, their gender status, history of cancer in first-degree relatives, the application of CPR, implementation of alternative medicine and their encounter with an end-stage cancer patient.

Furthermore, there was found to be 'no significant difference' between students of different medical courses and their health status (P value = 0.220), their interest in working in palliative care later on (P value = 0.194), their interest in acquiring palliative care knowledge (P value = 0.625), if the knowledge on palliative care was sufficient enough (P value = 0.157), their familiarity with palliative care (P value = 0.165), if they had communication problems with cancer patients or relatives (P value = 0.119), and if they encountered a death case due to cancer (P value = 0.206).

Table 1.7

			Medical Course				P value
			BDS	BSN (nursing)	DPT	MBBS	
Gender	Female	N	71	46	74	87	<0.05*
		%	75.5%	57.5%	87.1%	45.1%	
	Male	N	23	34	11	106	
		%	24.5%	42.5%	12.9%	54.9%	
Medical year	3rd Year	N	22	75	27	28	<0.05*
		%	23.4%	93.8%	31.8%	14.5%	
	4th Year	N	72	5	38	110	
		%	76.6%	6.2%	44.7%	57.0%	
	5th Year	N	0	0	20	55	
		%	0.0%	0.0%	23.5%	28.5%	
Do you have a diagnosed chronic disease?	Yes	N	5	6	4	21	0.220
		%	5.3%	7.5%	4.7%	10.9%	
	No	N	89	74	81	172	
		%	94.7%	92.5%	95.3%	89.1%	
Is there a history of cancer or death due to cancer in the first-degree relatives (mother, father or siblings)?	No	N	94	77	82	171	<0.05*
		%	100.0%	96.3%	96.5%	88.6%	
	Yes	N	0	3	3	22	
		%	0.0%	3.8%	3.5%	11.4%	
Have you encountered an end-stage cancer patient in your close relatives or during clinical rotation/ internship?	No	N	63	64	59	108	<0.05*
		%	67%	80.0%	69.4%	56.0%	
	Yes	N	31	16	26	85	
		%	33.0%	20.0%	30.6%	44%	
Have you encountered a death case due to cancer?	No	N	83	67	70	151	0.206
		%	88.3%	83.7%	82.4%	78.2%	
	Yes	N	11	13	15	42	
		%	11.7%	16.3%	17.6%	21.8%	
Have you felt uneasy in communicating with cancer patients/relatives with cancer?	No	N	39	21	24	59	0.119
		%	41.5%	26.3%	28.2%	30.6%	
	Yes	N	55	59	61	134	
		%	58.5%	73.7%	71.8%	69.4%	

Have you heard about Palliative care?	No	N	33	18	21	46	0.165
		%	35.1%	22.5%	24.7%	23.9%	
	Yes	N	61	62	64	147	
		%	64.9%	77.5%	75.3%	76.1%	
Do you think alternative medicine should be provided to the end-stage cancer patients in addition to medical support?	No	N	31	26	23	28	<0.05*
		%	33%	32.5%	27%	14.5%	
	Yes	N	63	54	62	165	
		%	67.0%	67.5%	73%	85.5%	
Do you think that CPR (cardiopulmonary resuscitation) should be done in end-stage patients?	No	N	31	46	40	55	<0.05*
		%	33.0%	57.5%	47.1%	28.5%	
	Yes	N	63	34	45	138	
		%	67.0%	42.5%	52.9%	71.5%	
If you have knowledge about palliative care, do you think this much knowledge is sufficient?	No	N	82	70	65	157	0.157
		%	87.2%	87.5%	76.5%	81.3%	
	Yes	N	12	10	20	36	
		%	12.8%	12.5%	23.5%	18.7%	
Do you want to get education in Palliative care?	No	N	19	21	18	37	0.625
		%	20.2%	26.2%	21.2%	19.2%	
	Yes	N	75	59	67	156	
		%	79.8%	73.8%	78.8%	80.8%	
Do you want to work in taking care of end-stage cancer patients later in life?	No	N	39	21	27	64	0.194
		%	41.5%	26.2%	31.8%	33.2%	
	Yes	N	55	59	58	129	
		%	58.5%	73.8%	68.2%	66.8%	
Where, N=Count. *P value<0.05 indicates the high statistical significance							

### DISCUSSION:

An upsurge in life expectancy and the growing number of non-communicable and communicable diseases around the globe have made palliative care a key health concern in many nations across the world. [7]. End-of-life care is already obtained by over 40 million individuals each year [8], a figure that is expected to rise significantly in the future years. End-of-life care expertise training has turned out to become a crucial component of general internal medicine and a vital part of medical care. Palliative care is expanding and developing at a pivotal juncture, and it retains a distinct place in the health care system and is required by more individuals than any other form of medical care [7].

Students studying medicine and other health-related fields all across the globe are uneasy in confronting end-of-life scenarios. According to the present health care paradigm, death is still regarded as a clinical failure. This lack of knowledge at the grass-root level has led to deficiencies in the clinical competencies [9]. The significance of acquiring end-of-life care knowledge has been emphasized by the European Association for Palliative Care (EPAC) [10]. Relevant education regarding the subject is neglected in the curricula, and the related professionals do not put enough emphasis on it. The scarcity of end-of-life information in medical textbooks is also a significant impediment to obtaining sufficient knowledge on the

issue. Although end-of-life care services play a vital role in our health care system, deficiency in knowledge leads to a failure of implementation of palliative care in a majority of the health care facilities, which remains a great obstacle to adequate palliative care service quality and delivery [11].

Various studies around the globe have stated that appropriate training and basic knowledge in palliative care has not been provided to the undergraduate students of medicine [12,13,14] and a significant number of young physicians in various countries such as the USA [15], Turkey [16], Brazil [17] and Germany[18] do not believe they are adequately prepared. Most medical school graduates were said to be hesitant about delivering end-of-life care [17]. The importance of palliative care education has been asserted by the World Health Organization (WHO) [19]. In a previous study conducted in the Netherlands [20], many features of palliative care, according to the polled students, were underserved. They are hesitant about delivering end-of-life care nor possess the required expertise. According to them, the curriculum did not address several important areas of the topic.

The knowledge of medical students will increase sufficiently if the curriculum is updated such that special attention is given to palliative medicine [21]. Research has also shown that the approach of doctors who went through special training and education in palliative medicine is much more empathetic relative to the ones who didn't, an example would be the withdrawal of life-prolonging medications in terminal patients. [22].

Despite knowing the significance of delivering top-quality care to patients in their final days, doctors are said to be unable to communicate properly with them, which might be related to deficiencies in medical school teaching. [23]. In our study, 68.4% of medical students reported feeling nervous when talking with cancer sufferers or relatives suffering from cancer. Effective communication is crucial to all clinical communication and is important for proper palliative care, but there may be obstacles that need to be understood and addressed. It remains a two-way task that requires a triad of empathy, sensitivity/understanding, and 'active listening', which will pave way for an accurate evaluation of the patient's emotional and psychological requirements. [24].

The findings of our research show that a majority of the students (82.7%) feel that the knowledge about palliative care they have is insufficient. In a study

conducted in Turkey, most of the students who claimed to know about palliative care expressed that the knowledge they have is not sufficient [25].

In another study conducted by Eyigör *et al*, 90.3% stated that they were not provided with any teaching in communicating with patients who were receiving end-of-life care, greater than half (64.6%) of the participants had insubstantial knowledge about palliative care, and their understanding on the relevant subject was insignificant [16].

In our study, more than 35% of medical students encountered a terminal stage cancer patient in their near relatives or during the hospital rotation/internship.

Wechter *et al*. [23], highlighted that students' exposure to end-of-life care throughout their medical school would add great value to students and enable them to be more competent for medicine in the clinical context. Hence, encountering moribund patients, students will be more prepared for providing effective care and treatment to these patients.

WHO states that the two most frequent and severe symptoms experienced by individuals who need end-of-life care are pain and difficulty in breathing [2]. In our study, (95.1%) medical students felt that pain, and (92.3%) students felt shortness of breath were the main reason for frequent admission in hospitals of these patients.

In our research, over half of the surveyed students (59.2%) think that end-of-life care for sufferers should be taken place at home with their loved ones. Many end-stage cancer sufferers wish to spend the remaining days of their life with their nearest and dearest. Many countries have acknowledged that care should be offered at home during the final days. In a nation like Pakistan, where there is strong connectivity between families, providing patient treatment at home should be prioritized.

Greater than half of the surveyed students (62%) in our study believe that end-stage patients should be resuscitated. In a study conducted in China [26] regarding the evaluation of medical student's view about end-of-life decisions, a majority of the students (62%) believed that resuscitation was required to be carried out in terminal stage patients, In a study conducted in Turkey [25], 34.8% of the students believed that resuscitation was necessary to be performed in terminally ill patients. When compared to individuals without a background of cancer in their



family, the need for resuscitation was shown to be considerably less in people with a cancer-related family. The choice to not resuscitate patients receiving palliative treatment (Do Not Resuscitate: DNR) may be lawful in certain western nations, but it is not in ours. Anyone who expires in a hospital in Pakistan is legally required to get resuscitated after prompt discussion with the family.

Furthermore, most students who took part in our research, (79%) want to acquire more education in palliative care. This study highlights the significance of educating medical students in palliative care, enrolled in different undergraduate programs. An effective curriculum will enable students to gain appropriate information, skills, and abilities in palliative care while also changing their approach toward patients who acquire end-of-life care and treatment. According to the results of our research, palliative care is an essential subject for medical students to learn about throughout their undergraduate training.

### CONCLUSIONS:

It is evident from the results of our research that students do not have an adequate understanding of palliative care. Despite a greater number of students having clinical encounters with end-stage cancer patients, a majority of them are hesitant in communicating with such patients which depicts their lack of expertise and learning. It is pertinent to mention that a greater number of students express their desire to work in taking care of patients with chronic diseases which would pose the need for a positive approach given towards palliative care in our educational system, to enlighten the future medical practitioners and fulfill their educational demands which would enable them to meet their career goals. The majority of undergraduate students are well aware of the significance of palliative care, and they express inadequacy of their information, which is why they desire to learn more about end-of-life care as future physicians, nurses, and physiotherapists. This calls for a pressing need to introduce more topics/modules on palliative care in the curriculum for all medical courses (MBBS, BDS, BSN, and DPT) with its practical implementation so that the purpose to provide quality care can be served in the long run.

### CONFLICT OF INTEREST:

The authors have no conflict of interest.

### FINANCIAL ESTIMATE AND SOURCES:

The authors received no financial assistance of any kind from any organization, institution or person. All the expenses were endured by the author themselves.

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