

Knowledge of Palliative Care Among Medical Students of the University of Coimbra

Conhecimento sobre Cuidados Paliativos em Estudantes de Medicina da Universidade de Coimbra



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ABSTRACT

Introduction: The need for palliative care is increasing. Future doctors must be prepared for this, so it is essential to develop skills during their undergraduate studies. The aim of this study was to evaluate the knowledge of medical students at the Faculty of Medicine of the University of Coimbra regarding palliative care.

Material and Methods: An observational and cross-sectional study was performed through the application of a questionnaire answered by fifth year medical students. The collected data were analyzed using IBM® SPSS® Statistics, version 20 for Windows®.

Results: All 186 students surveyed were aware of what palliative care is and recognized its importance. From the total, 52.7% of students reported they knew what an informal caregiver is and 96.8% disagreed that palliative care is only provided at the end of life; 88.2% have never had any training on how to deal with palliative care patients. Only 57.5% of students reported that they had been trained to communicate 'bad news', but 70.4% assumed that they were not able to communicate such bad news. On the other hand, 89.8% reported their inability to take care of palliative patients and 98.4% admitted that they needed more training in this area.

Discussion: With the increasing number of patients who require palliative care, there is the need to investigate whether medical students are being adequately prepared to care for these patients and assess their knowledge level in this context.

Conclusion: Fifth-year medical students know what palliative care is and consider it important. However, they do not feel adequately trained and ready to take care of patients who need palliative care. It is essential to reflect on how physicians should be trained and to reconsider the medical syllabus, given the present lack of undergraduate medical training in palliative care.

Keywords: Education, Medical; Palliative Care; Portugal; Students, Medical; Surveys and Questionnaires

RESUMO

Introdução: Cada vez mais doentes necessitam de cuidados paliativos. Os futuros médicos têm de estar preparados para esta realidade, pelo que é fundamental que desenvolvam competências ao longo do curso. Este estudo teve como objetivo avaliar o conhecimento sobre cuidados paliativos em estudantes de Medicina da Faculdade de Medicina da Universidade de Coimbra.

Material e Métodos: Foi realizado um estudo observacional e transversal, através da aplicação de um questionário a estudantes de Medicina, do quinto ano. Os dados recolhidos foram analisados no IBM® SPSS® Statistics, versão 20 para Windows®.

Resultados: Todos os 186 estudantes inquiridos mostraram saber o que são cuidados paliativos e reconheceram a sua importância. Do total, 52,7% afirmaram saber o que é um cuidador informal e 96,8% discordaram que a prestação de cuidados paliativos apenas acontece em fim de vida; 88,2% não receberam formação para lidar com doentes terminais ou dependentes de cuidados permanentes. Somente 57,5% dizem ter recebido formação para comunicar 'más notícias', mas 70,4% assumiram que não eram capazes de o fazer. Por outro lado, 89,8% revelaram não se sentir capacitados para cuidarem de doentes em cuidados paliativos e 98,4% manifestaram necessidade de mais formação nesta área.

Discussão: Com o número crescente de doentes a precisar de cuidados paliativos surge a necessidade de investigar se os estudantes de medicina estão a ser adequadamente preparados para cuidarem destes doentes e avaliar o seu grau de conhecimento no âmbito dos cuidados paliativos.

Conclusão: Os estudantes do quinto ano de Medicina sabem o que são cuidados paliativos e consideram-nos importantes. No entanto, não se sentem adequadamente preparados para cuidarem de doentes que precisam destes cuidados. É essencial refletir sobre como deverão ser formados os médicos e ponderar o plano de estudos do ensino médico, dada a falta de formação dos estudantes de medicina em cuidados paliativos.

Palavras-chave: Cuidados Paliativos; Educação Médica; Estudantes de Medicina; Inquéritos e Questionários; Portugal

INTRODUCTION

Palliative care (PC) have emerged with an increasingly relevant role in our society due to the increasing average life expectancy and prevalence of chronic diseases¹ associated with better living and healthcare conditions, as well as the adoption of new lifestyles.²

In Portugal, 70.7% of adult deaths are due to conditions that would benefit from PC.³ Although the access of Portuguese citizens to PC has been ensured by the *Lei de Bases*

dos Cuidados Paliativos [Act on Palliative Care (Law No. 52/2012)], leading to the development of the *Rede Nacional de Cuidados Paliativos* [National Network of Palliative Care (RNCP)],⁴ coverage shortage and asymmetries, constraints related to medical referral and staffing shortage still exist.⁵ In addition, there are almost no paediatric palliative care (PPC) facilities and these are increasingly required.⁶ Professional training is still suboptimal and this seems to be the

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main constraint towards successful PC teams.^{5,7}

According to the World Health Organization (WHO), PC is aimed at “improving the quality of life of patients suffering from an incurable disease and their families, with poor or life-threatening prognosis, through the prevention and relief of suffering, using early identification, appropriate assessment and comprehensive treatment of not only physical problems such as pain, but also psychosocial and spiritual problems.”^{8,9} These healthcare should be provided by a multidisciplinary team (including physicians, nurses and other professionals) with holistic training.⁹ Based on different studies, the promotion of PC education strategies was recommended by the Council of Europe and the *Comissão Nacional de Cuidados Paliativos* [National Commission for Palliative Care (CNCP)].^{7,10,11} Therefore, the mandatory implementation of pre and postgraduate training in palliative medicine was recommended by the *Resolução da Assembleia da República* no. 5/2017 of January 4 and its recognition as a specialty was recommended by the Portuguese Medical Association.¹²

International studies have shown a suboptimal knowledge of PC by medical students and reinforced the relevance of improving medical education in this area.¹³⁻¹⁸ Future physicians have described insecurities regarding PC, particularly at psychosocial and spiritual level, showing that they are not prepared to care for patients with terminal diseases.¹³ The uncertainties related to symptomatic control and the lack of willingness to communicate with these patients were also described by students.^{14,15} Morais¹⁹ has also shown that students attending different health-related courses do not have enough knowledge of PC, nor are they properly trained to deal with patients requiring PC.

This study was aimed at assessing the knowledge of PC among students of the Integrated Master Degree in Medicine (MIM) of the Faculty of Medicine at the University of Coimbra (FMUC).

MATERIAL AND METHODS

Study design

This was an observational cross-sectional study.

Study population

Fifth-year (2017/2018) MIM students at the FMUC were the study population (n = 330), as these were attending the curricular year preceding the internship orientation program (*estágio programado e orientado* - EPO) and students were expected to have acquired all the adequate theoretical skills for clinical practice. A randomly selected sample

of those enrolled in the fifth year of the MIM was analysed by applying the questionnaire to those attending a compulsory theoretical class, on a randomly selected day, within the curricular unit of Paediatrics, aimed at obtaining the maximum number of students and the highest number of responses over the shortest period. Despite the obligation, class absences are limited and the sample size (n = 178) was obtained in order to ensure the representativeness of the target population, with a 95% confidence level and margin of error of 5%, by using an online calculation tool.²⁰

Pre-data collection proceedings

A two-part questionnaire was designed, based on other questionnaires:^{14,19} one part regarding the characterisation of the population as regards gender (nominal variable) and age (discrete quantitative variable), both variable criteria targeted for analysis in this research and another part subdivided into two sections, with ‘Yes’ and ‘No’ response items and others, with options from ‘Strongly disagree’ (1) to ‘Strongly agree’ (4), on a Likert-type scale, including 15 items. PC-related issues were addressed in this second part, according to the purpose of the study. Therefore, the questions were aimed to collect information on the participant’s level of knowledge of PC, on whether the participants had attended the PC and Pain Therapy Course Unit (*Unidade Curricular de Cuidados Paliativos e Terapêutica da Dor*), whether they had ever been informal caregivers, whether they had ever attended a Course Unit in which they had been taught on breaking bad news, whether they were aware of the World Health Organization definition of PC, whether they were aware of a National Palliative Care Network and whether they felt the need for more information on PC. An introductory note on the voluntary and anonymous nature of the questionnaire was also included, in addition to asking for serious responses and within the aim of the questionnaire.

The initial version of the questionnaire was submitted to a pre-test and applied to a group of students (n = 20) in order to assess any misinterpretation and/or design mistake.

Data collection

Following prior information to students on the location and date of distribution of the questionnaires and with the approval of the head teacher, the forms were distributed during a lecture class and were collected at the end of the session. A course unit attended simultaneously by almost all the students enrolled in the fifth year was selected, ensuring access to the highest number of students.

Table 1 – Characteristics of the study population, according to gender and age

		n	%
Gender	Female	133	71.5
	Male	53	28.5
	Total	186	100
Age	< 22 years	2	1.1
	22 - 23 years	127	68.3
	24 - 25 years	46	24.7
	> 25 years	11	5.9
	Total	186	100

n: sample size

Statistical analysis

Data were analysed using IBM® SPSS® Statistics software, version 20 for Windows®, after being downloaded and organised into a 2013 Microsoft® Excel® database. Descriptive statistical methods and inferential analysis techniques

were used, as well as the Kolmogorov-Smirnov, Mann-Whitney's U and χ^2 non-parametric tests. A p -value < 0.05 was defined as statistically significant. Due to the fact that extreme answers with low values or no results were obtained for many questions, two groups of 'agree/strongly agree' and 'disagree/strongly disagree' responses were considered for sampling and statistical analysis.

Ethical aspects

The questionnaire that was given out to students included an introductory note on the objectives of the study, clarifying its voluntary completion, as well as ensuring that all results would be anonymised and asking for serious responses. The study project was submitted and approved by the Ethics Committee of the FMUC and was only carried out after this decision was obtained.

RESULTS

It is worth mentioning that a sample size of $n = 178$ was

Table 2 – Responses to questions 1 to 9

	Yes n (%)	No n (%)	Total
Q1. Have you any knowledge of Palliative Care?	186 (100)	0	186
Q2. Have you attended the optional <i>Cuidados Paliativos e Terapêutica da Dor</i> – CPTD (Palliative Care and Pain Therapy) course unit?	21 (11.3)	165 (88.7)	186
Q3. Do you know what an informal caregiver is?	98 (52.7)	88 (47.3)	186
Q4. If you responded affirmatively to the previous question, are you or have you ever been an informal caregiver?	16 (16.3)	82 (83.7)	98
Q5. Have you received any specific training throughout the course on how to deal with terminally ill patients?	22 (11.8)	164 (88.2)	186
Q6. Have you received any specific training throughout the course on how to break bad news to patients and their families?	107 (57.5)	79 (42.5)	186
Q7. Are you aware of any WHO definition of Palliative Care?	84 (45.2)	102 (54.8)	186
Q8. Are you aware of the <i>Rede Nacional de Cuidados Paliativos</i> ?	99 (53.2)	87 (46.8)	186
Q9. Do you feel the need for any additional Palliative Care training?	183 (98.4)	3 (1.6)	186

n: sample size

Table 3 – Responses to statements 10 to 15

		Strongly agree	Agree	Disagree	Strongly disagree	Total
S10. I acknowledge how important Palliative care are as healthcare..	n	172	14	0	0	186
	%	92.5	7.5	0	0	100
S11. Palliative care only start at patient's end-of-life period.	n	0	6	93	87	186
	%	0	3.2	50	46.8	100
S12. I feel able to deal with terminally ill patients.	n	2	17	130	37	186
	%	1.1	9.1	69.9	19.9	100
S13. I feel able to break bad news.	n	0	55	102	29	186
	%	0	29.6	54.8	15.6	100
S14. I am aware of how to start an opioid treatment.	n	14	108	60	4	186
	%	7.5	58.1	32.3	2.2	100

n: sample size

previously calculated in order to ensure the representativeness of the study population; 189 completed questionnaires were obtained, three from which were excluded due to inconsistent or double responses.

A final sample of 186 students was obtained (71.5% female, mean age 23.20 years, with no significant differences between genders, $p = 0.745$ (Mann-Whitney's U-test), median of 23 years, corresponding to a 25th age quartile of 22 years and to a 75th quartile of 24 years) (56.4% of the 5th grade student population) (Table 1). Non-normality of age distribution was assessed with the Kolmogorov-Smirnov test.

The responses to the survey are shown in Tables 2 and 3. All respondents with adequately completed surveys (98.4%) have described their knowledge on PC and their relevance. A positive response was obtained from a significant rate of respondents when asked whether they were aware of a WHO definition of PC (45.2%), whether they were aware of the NLPR (53.2%) or whether they were aware of what an informal caregiver is (52.7%). A rate of 88.2% of the respondents said they had not received any training throughout the course to deal with terminally ill pa-

tients (Table 2) and 89.8% (Table 3) did not feel able to care for these patients. Just over half of the students described having received training on breaking bad news (Table 2) and 70.4% did not feel able to break bad news to patients and family members (Table 3). There is a need for further training on PC, according to 98.4% of the respondents.

We tried to assess whether there were statistically significant differences by gender based on the answers to the questions "Have you attended the optional course unit on Palliative Care and Pain Therapy?" and "If you answered affirmatively to the previous question, are you an informal caregiver or have you ever been one?"

Statistically significant gender-based differences were only found in the statement "I feel able to break bad news", in which 45.3% of the males said that they feel able to break bad news, while only 23.3% of the females have given this response ($p = 0.013$).

Considering the students who attended the optional course unit on Palliative Care and Pain Therapy (PPCTD), 81% were aware of the WHO definition of PC and 90.5% were aware of what an informal caregiver is. All of them were aware of the RNCP (Table 4). Among these students,

Table 4 – Results according to the response to Q2 "Have you attended the optional *Cuidados Paliativos e Terapêutica da Dor* – CPTD (Palliative Care and Pain Therapy) course unit?"

	Have you attended the optional <i>Cuidados Paliativos e Terapêutica da Dor</i> – CPTD (Palliative Care and Pain Therapy) course unit? (*)		<i>p</i>
	Yes n (%)	No n (%)	
Q3. Do you know what an informal caregiver is?	Yes	19 (90.5)	< 0.001
	No	2 (9.5)	
	Total	21 (100)	
Q5. Have you received any specific training throughout the course on how to deal with terminally ill patients?	Yes	9 (42.9)	< 0.001
	No	12 (57.1)	
	Total	21 (100)	
Q7. Are you aware of any WHO definition of Palliative Care?	Yes	17 (81)	< 0.001
	No	4 (19)	
	Total	21 (100)	
Q8. Are you aware of the <i>Rede Nacional de Cuidados Paliativos</i> ?	Yes	21 (100)	< 0.001
	No	0 (0)	
	Total	21 (100)	
S13. I feel able to break bad news.	Agree or strongly agree	9 (42.9)	0.038
	Disagree or strongly disagree	12 (57.1)	
	Total	21 (100)	

n: sample size; (*) χ^2

Table 5 – Results according to the responses to Q4 “If you responded affirmatively to the previous question, are you or have you ever been an informal caregiver?”

		Q4. If you responded affirmatively to the previous question, are you or have you ever been an informal caregiver?				p
		Yes		No		
		n	%	n	%	
S12. I feel able to deal with terminally ill patients.	Strongly agree / Agree	9	56.3	5	6.1	< 0.001
	Disagree / Strongly disagree	7	43.7	77	93.9	
	Total	16	100	82	100	
S13. I feel able to break bad news.	Strongly agree / Agree	10	62.5	23	28.0	0.006
	Disagree / Strongly disagree	6	37.5	59	72.0	
	Total	16	100	82	100	

n: número de indivíduos; (*) χ^2

42.9% have described having received training in dealing with terminally ill patients and felt able to break bad news (Table 4).

Whenever an affirmative response to the question “Do you know what an informal caregiver is?” was given, respondents were asked to answer the question “Are you or have you ever been an informal caregiver?” Most (83.7%) of the respondents answered negatively (Table 2). Statistically significant differences were found in the items “I feel able to deal with terminally ill patients” and “I feel able to break bad news” based on the response to the item “If you answered affirmatively to the previous question, are you or have you ever been an informal caregiver?” (Table 5).

A 56.3% rate of positive responses was obtained from responders who were informal caregivers and felt able to deal with terminally ill or permanently dependent patients, while a 62.5% rate was obtained from responders who were able to break bad news. Finally, the answers to the questions “I feel able to deal with terminally ill patients”, “I feel able to break bad news” and “I am aware of how to start an opioid treatment” suggest that students have the perception of knowing the drugs and the technical procedures to be used. However, they do not feel able or qualified to provide practical care to PC patients.

DISCUSSION

This study was aimed to assess the knowledge of the students of the FMUC MIM of different aspects related to PC at an advanced stage of training, when it is expected that they have already acquired all adequate theoretical skills for clinical practice. The answers were obtained within a short period to avoid contaminating the answers that would be possible with other ways of questionnaire application. Data were treated in order to obtain solid results that could substantiate the interest and need to develop teach-

ing.

Our results have shown that fifth-year MIM students at the FMUC have described knowing what PC is and recognise its relevance. These results were consistent with those of Eyigor,¹⁵ who also found that students with a similar level of education know what PC is and are able to define it. The study by Morais¹⁹ involved students in Health Sciences and has also shown that students are familiar with the concept of PC and consider it important in the context of healthcare provision and for society in general. In our study, students were also able to identify that PC can be started early and not only at the end of life, in addition to recognising their interest. However, other issues and concepts, directly or indirectly related to PC, such as informal caregivers or the RNCP, were unknown to 52.7% and 53.2% of the students included in the sample, respectively, showing that these issues were little or not addressed during the course.

In general, respondents did not feel able to deal with terminally ill patients, particularly regarding PC, despite knowing well the theoretical basis, the drugs to be used for example for pain control as well as other technical procedures. Similar results were found by Jolien Pieters *et al.*,²¹ that should make us reflect on the need to adjust the pedagogical models to medical practice, making them more appropriate to training physicians with the ability of dealing with situations of great suffering and dependence and, often, end-of-life situations – that are increasingly frequent in our population. Although the primary objective is always training doctors with excellent scientific knowledge, the acquisition of clinical skills and attitudes should also be promoted and learning of professional and ethical values should be encouraged, so that they can always become good doctors, regardless of where and who they have to treat. Therefore, the adaptation of curricula of undergraduate teaching is crucial, through inter-professional teaching,

problem-solving oriented, with the integration of modules that aim to stimulate skills (knowledge and know-how) and prepare future doctors for patient-centred clinical practice. In this sense, the inclusion of Palliative Care/Palliative Medicine course unit, which is mandatory in all curricular plans in MIM, would contribute to better training through the development of a set of communication abilities, behaviours, ethical and moral expertise that are crucial to an open doctor/patient/family relationship, oriented by respect, empathy and compassion, which are crucial in this area of Medicine.²²⁻²⁷

In summary, teaching should move from a purely theoretical aspect to an eminently practical one, in which students learn how to translate knowledge into action on the patients.

On the other hand, students also do not feel adequately prepared or able to break bad news, which may reflect the lack of training in these areas during the course. Corroborating these results, Pinheiro¹⁴ found that most fifth and sixth year medical students are not aware of the WHO definition of PC, nor have they received training to care for terminally ill patients and/or break bad news to patients and families. The studies by Weber *et al.*,¹³ Eyigor¹⁵ and Morais¹⁹ reinforced the lack of preparation of students dealing with palliative care patients and highlighted the communication gaps with these patients. This study was in line with other authors and reinforced the presence of suboptimal training in this subject.

Considering the consistent evolution of global life expectancy, ageing population and the rapid medical breakthroughs that increasingly enable the cure of the disease or its transformation into a chronic disease,²⁸ the investment in PC training of young doctors seems crucial, allowing them to deal with these requirements and challenges that seem to be on the rise. These issues have in fact been attended by different international and national recommendations.^{7,29-31}

As far as gender differences are concerned, it was found that males feel more able to break bad news, with no adequate explanation found in literature, all the more so since, on the contrary, Orlander *et al.*³² did not find any gender-based differences regarding how prepared physicians feel for this task. As regards communication skills, higher confidence to break bad news has been described by those who attended the CPTD course unit and by those who were, or had been informal caregivers.

Those who attended the CPTD course unit had more knowledge, mainly theoretical, than others. They were also better trained in dealing with terminally ill patients. However, few students (less than one-third of the total number

of students in the same course year) attended this course unit. In a study by Centeno *et al.*³³ it was also shown that students who attended a PC course unit described that this has prepared them for clinical practice and that what they had learned, besides being useful, was applicable to any type of patient. At the same time, they were surprised with the human and holistic vision that the course provided.

In our study, students who were or had been informal caregivers seem to have better practical knowledge, because they feel more able to deal with palliative care patients. These results are understandable and can be explained by the knowledge and practice that they had to acquire and develop as caregivers. Similar results were described by Eyigor¹⁵ and Anderson *et al.*,³⁴ who also found that students who were informal caregivers of palliative care patients had more knowledge on PC than those who did not care for these patients.

It seems clear that the investment in PC education is crucial for the development of adequate monitoring and treatment of palliative care patients.

Strengths and limitations

Even though an anonymous questionnaire has been used and therefore ensuring reliable responses, it is not possible to ensure that these truly correspond to reality. A simple random sample has not been obtained as the completion of the questionnaire was voluntary, which could be a source of error. To avoid neutral answers, a four-item Likert-type scale was used instead of the typical five-item format which, according to Lozano *et al.*,³⁵ is equally valid and ensures the reliability of the answers.

The methodology allowed investigating the objective of this study and was in line with other studies.^{14,15} However, the questionnaire could have been applied to other MIM years or even a longitudinal study could have been carried out, aimed at the assessment of the same sample throughout the course. A longitudinal design with measurements over the years would allow meeting the evolving knowledge acquired throughout undergraduate training. Such a study would identify, throughout the training period, the most adequate form of organising the different course units to obtain the best results in terms of integration of knowledge in Palliative Care.

CONCLUSION

This study allowed us to reach the conclusion that the fifth-year MIM students at the FMUC know what PC is and recognise its relevance, even though they are not adequately prepared to take care for palliative care patients.

Those who attended the PCTD course unit had greater knowledge and were more able to deal with these patients, as expected. The same was true for those who were or had been informal caregivers.

The need to update the study program with the adequate and mandatory integration of PC training has been reinforced by this study, due to the suboptimal training of future physicians and the increasing number of palliative care patients. The investment in this area of education is crucial, both at theoretical and practical level, in order to change the current paradigm.

Further studies should include students attending other years of the MIM in order to assess the evolution of the knowledge of PC throughout their training. Further studies aimed at the identification of the characteristics that support the fact that males feel more able to break bad news, even with no specific training, would also be relevant.

HUMAN AND ANIMAL PROTECTION

The authors declare that this project complied with the regulations that were established by the Ethics and Clinical Research Committee, according to the 2013 update of the Helsinki Declaration of the World Medical Association.

DATA CONFIDENTIALITY

The authors declare that they have followed the protocols of their work centre on the publication of patient data.

CONFLICTS OF INTEREST

The authors declare that there were no conflicts of interest in writing this manuscript.

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