

Medical School Curriculum And The Level Of Compassion Of Portuguese Medical Students

Luiz Miguel Santiago (✉ luizmiguel.santiago@gmail.com)

University of Coimbra <https://orcid.org/0000-0002-9343-2827>

Ana Teresa Sá Cachada Batptista

Universidade de Coimbra Faculdade de Medicina

Katia Maurício

Universidade de Coimbra Faculdade de Medicina

Sean Siytangco-Johnson

Universidade de Coimbra Faculdade de Medicina

Research article

Keywords: Compassion, Medical students, Empathy

Posted Date: March 16th, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-17379/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Objectives To evaluate and to compare the levels of compassion of students throughout the Integrated Master's in Medicine (MIM) in Portuguese Universities and relating them to University's formal curriculum.

Methods Cross sectional study of the levels of compassion of 1st, 3rd and 5th year students (3rd, 4th and 5th years in the University of XX) by electronically appliance of the Jefferson Scale of Medical Empathy (student version), between October and November 2018. Curricular plans of each University was searched on the institutional sites. The percentages of Credit Units (CU) and EUROPEAN CREDIT TRANSFER SYSTEM (ECTS) were calculated for the concept and/ or pillars of compassion. Adequate descriptive and inferential statistics were defined with difference definition for $p < 0.03$.

Results Mean levels of compassion are numerically far from their maximum value (49), being different between sexes $p < 0.001$, year of attendance, $p = 0.022$ and university, $p = 0.026$). The percentage of CU related to the compassionate approach is significantly different between faculties ($p < 0.001$), but the percentage of ECTS is not different ($p = 0.031$).

Discussion This is the first comparative study between Portuguese medical schools. The reduction in the levels of compassion of future physicians is a matter of concern for medicine schools.

Conclusion There are differences in the levels of compassion among the students of the var universities according to the year attended. There are no differences between the percentage values of ECTS, according to the institutional websites. The measured value is generally favourable to student's Compassion. Differences between Universities deserves future studies.

Background

Compassion is crucial in the doctor-patient relationship¹. It is supported by five pillars- recognition of suffering, comprehension of its universality, empathic emotional response, tolerance to implied uncomfortable feelings (stress, anger and fear) and motivation to act in a way that alleviates it^{1,2}, such as improving the quality of information collected from patients and clinical outcomes as well as increasing patient satisfaction³.

Therefore, compassion-promoting interventions are advocated, translated into recognition of the suffering of the patient and inducing internal response in order to alleviate it by presence, word and action⁴.

However, a final Master's In Medicine (MIM) thesis proved the decline of compassion in students over the course of Medical studies, namely in the University of Escola Médica da Universidade do Minho – University of Minho Medical School, (EM-UM)⁵. Later on, another final thesis, pointed to the formal curriculum as one of the most influential reasons for this erosion, especially the limited time of contact with the patient and the academic formation that mainly promoting theoretical knowledge and the search

for diagnosis, without disregarding the high pupil/tutor ratio and the overload of lective hours⁶. To revert the situation, it was indicated as fundamental, the increase of the practical component and, in particular, a focus on the compassionate attitude that a future doctor should adopt⁶.

Other studies also reinforce that medical students can present compassion as an innate quality at the beginning of the course, but nevertheless it is necessary to reinforce this trait throughout the course in order to promote its maintenance and development⁴.

Thus, the need to perceive the influence of the formal curricular plan in the compassionate behaviour appeared, extending the study to other Universities teaching Medicine in Portugal.

The singularity of the formal curricular plan of each of the Portuguese Universities teaching Medicine is visible, some of them recently reformulated, including the focus on the humanist attitude that should be part of the future medical traits^{8,9}.

As stated by the Course Director of the Medical School-University of the University of Minho (EM-UM) "... The medicine of the future will be different because today's medicine clearly is not working," mentioning that one of the objectives of ongoing curricular reform is the development of the humanist attitude and that "... in 30 years what will differentiate the good from the bad professionals is the ability to communicate."⁸. The Founder and former Director of the Department of Biomedical Sciences-University of Algarve (DCBM-UALG) states that "... There is a real risk to train medical technicians who consider the patient only as the object of a mechanistic intervention and not medical ...", reason why it is sought, in that university, that a Medicine course must aim "... to train men and women with a high degree of humanism in their professional relationship with the sick, always acting with empathy and compassion."⁹

In order to understand the influence of the official curriculum on compassionate behaviour, it was the objective of this study was the evaluation and comparison of the levels of compassion of the students throughout the medical course in selected Portuguese teaching Medicine Universities., relating this to their official curriculum. We hypothesised that better student's compassion is related to its teaching in Medical School.

Methods

1- Population and sample

An observational cross-sectional study was carried out, including students from the 1st, 3rd and 5th years (except for the DCBM-UALG, in which the study was carried out in the 3rd, 4th and 5th years), in the 2018/2019 academic year, of the MIM of different Portuguese universities randomly selected to represent the universe of schools: University of Minho Medical School (EM-UM), University of Porto Faculty of Medicine (FMUP), Institute of Medical Sciences Abel Salazar (ICBAS), University of Coimbra Faculty of

Medicine (FMUC), Nova Medical School (NMS) Lisbon, University of Beira Interior Health Sciences Faculty (FCS-UBI), Biomedic Sciences Department of the University of Algarve (DCBM-UALG).

The sample size was calculated for a confidence level of 95% and a margin of error of 5%. In this study, only 1st, 3rd and 5th grade students were included (except DCBM-UALG students, where the study was carried out in the 3rd, 4th and 5th grade students) of the MIM of the randomly selected colleges: EM-UM, FMUP, ICBAS, FMUC, NMS, FCS-UBI, DCBM-UALG - in the academic year 2018/2019 as of a total of 3582 students. This value did not take into account possible dropouts along the course nor differences in numerous clauses between the years of study frequency

2- Data Harvest Instrument

Levels of Compassion

In order to evaluate the levels of compassion along the course of the MIM, a questionnaire was organized in three parts:

- A. Characteristics of the student: Sex, curricular year and college.
- B. The 7 items related to the dimension of compassion, from the Jefferson Scale of Medical Empathy - version for medical students. For each item, agreement was requested on a scale of 1 (Strongly disagree) to 7 (Strongly agree).

The compassion dimension is studied through 7 items, the maximum possible value being 49 points, corresponding to the lowest level of compassion, since, taking into account the content of the items and the fact that the sentences are in the negative, a value that tent for the maximum is equivalent to a lesser degree of compassion and the questionnaire in the Portuguese version is shorter in item than the original^{10,11}.

3- Curriculum Plans

The curriculum plans were consulted on each university site. Only objective data were used with reference to the concept of compassion and/or the pillars that form for compassion in teaching objectives of the curricular unit^{12, 13, 14, 15, 16, 17, 18}.

4- Data Collection

Levels of Compassion

The questionnaire was applied in October and November of 2018, via Google Forms, and it was left to a student and/or the course committee of each university to share the form for the respective curricular year via social network Facebook, a reminder ten days after the invitation. The form explained the purpose of the study and allowed participant to anonymously participate via Google Forms and that they consented to the use of the data obtained. Instruments were installed to verify duplication of responses.

The size of the population of the students of the studied faculties in the curricular years was obtained, through the page of Access to Higher Education¹⁹. With respect to the University of Medicine of the DCBM-UAlg, this value was obtained in the university's page.

Information for Critical Analysis of Curriculum Plans

In each curricular plan, the Credit Units (CU) of each year was analysed, attending only to the common ones to all the students, excluding the optional CUs.

In each CU, both the scientific area in which it was integrated and the value of EUROPEAN CREDIT TRANSFER SYSTEM (ECTS) were identified, corresponding to the student's workload in acquiring and developing the competencies defined in their objectives.

In order to evaluate whether the CU presented a focus on the compassionate attitude and/or communicational development, we used the evaluation of the objectives, learning outcomes and teaching methodology.

The CUs whose values could not be obtained were not part of the calculations performed for the analysis. Due to lack of detailed explanation of CU, the 6th year of FCS-UBI was not included in the study.

Organization of data for Critical Analysis

In order to interpret the analysis of the curricular plans, the data were organized numerically in percentage values, since each curricular year and even each University presented a different number of CU and a different valuation of each CU.

Because CUs differed between colleges/faculties, they were grouped by major scientific areas, following the division conducted by EM-UM. For standardization, this division was applied to all curricular plans. As major scientific areas were considered:

- Community Health and Social and Human Sciences (SC-CSH),
- Biological and Biomedical Sciences (CBB),
- Pathology (P),
- Clinic (C)
- Multidisciplinary (M).

5- Variables

Levels of Compassion:

The variables used in the investigation of levels of compassion were gender, the year of attendance and the medical school attended.

Curriculum Plan Analysis

The variables required for the analysis of formal curricula were average number of CUs that focused on the compassion and/or pillars of compassion and the average number of ECTS referring to CUs that addressed the compassion and/or pillars of compassion.

6- Statistical Analysis

A descriptive and inferential analysis was performed with SPSS Software for Windows version 19.0, after verifying the normality of the data. Non-parametric tests (Kolmogorov-Smirnov test, Kruskal Wallis test, Mann Whitney test and Chi-square test) were used and the value of $p < 0.03$ was defined as statistically significant.

Results

The calculated sample size was 348 students, and a sample of $n=784$ was obtained.

The sample is characterized in Tables I, for the year and University attended by gender and in Table II according to the year attended and the respective University. There is a higher frequency of answers by females, with a higher proportion of responses in the first year of attendance at each University. The college with the highest number of answers was the EM-UM (20.8%) and the one with the lowest number was DCBM-UALG (7.1%); however, it should be borne in mind that, although certain faculties have a low frequency of responses, it is representative of the student's population for the years studied.

There was no normal distribution of the total sum of the questions in the chapter "Compassion", Kolmogorov-Smirnov ($p < 0.001$). Table III shows the distribution by sex, year attended and University. The average value is far from the maximum for bad compassion, significant differences existing according to sex, the masculine one having the highest total score, as a function of the year of school attendance, the 1st year with a higher average and according to the University, being higher in FCS-UBI, EM-UM, NMS.

Table IV represents the distribution of the mean value of responses to the "compassionate" items of the Jefferson Scale of Medical Empathy - Student version, between the first year and the fifth year a negative growth momentum, FMUP, NMS, FCS-UBI and DCBM-UALG.

In the first half of the training period (1st to 3rd year), there is a predominance of major areas of Biological and Biomedical Sciences (CBB) and Pathology (P), in contrast to the second half of the formative course (4th to 6th year), in which the Clinical and Community Health and Social and Human Sciences predominate. The DCBM-UALG and FCS-UBI schools are an exception to this tendency, and the former shows a greater distance from the initial trend, because it shows a predominance of the major Multidisciplinary and Clinical areas. Although the FCS-UBI does not show a distribution that is so far from

the trend, there should be a significant presence of the major community health area and social and human sciences in the first half of the training course, according to Table V.

At the level of UC, there were significant differences between the medical schools under study ($p < 0.001$). However, regarding the distribution of ECTS related to the compassionate approach, no statistically significant differences were found between medical schools ($p = 0.031$).

The distribution of percent results by CUs and ECTS, relative to the compassionate approach, is given in Table VI.

The calculated sample size was 348 students, and a sample of $n=784$ was obtained.

The sample is characterized in Tables I, for the year and University attended by gender and in Table II according to the year attended and the respective University. There is a higher frequency of answers by females, with a higher proportion of responses in the first year of attendance at each University. The college with the highest number of answers was the EM-UM (20.8%) and the one with the lowest number was DCBM-UALG (7.1%); however, it should be borne in mind that, although certain faculties have a low frequency of responses, it is representative of the student's population for the years studied.

There was no normal distribution of the total sum of the questions in the chapter "Compassion", Kolmogorov-Smirnov ($p < 0.001$). Table III shows the distribution by sex, year attended and University. The average value is far from the maximum for bad compassion, significant differences existing according to sex, the masculine one having the highest total score, as a function of the year of school attendance, the 1st year with a higher average and according to the University, being higher in FCS-UBI, EM-UM, NMS.

Table IV represents the distribution of the mean value of responses to the "compassionate" items of the Jefferson Scale of Medical Empathy - Student version, between the first year and the fifth year a negative growth momentum, FMUP, NMS, FCS-UBI and DCBM-UALG.

In the first half of the training period (1st to 3rd year), there is a predominance of major areas of Biological and Biomedical Sciences (CBB) and Pathology (P), in contrast to the second half of the formative course (4th to 6th year), in which the Clinical and Community Health and Social and Human Sciences predominate. The DCBM-UALG and FCS-UBI schools are an exception to this tendency, and the former shows a greater distance from the initial trend, because it shows a predominance of the major Multidisciplinary and Clinical areas. Although the FCS-UBI does not show a distribution that is so far from the trend, there should be a significant presence of the major community health area and social and human sciences in the first half of the training course, according to Table V.

At the level of UC, there were significant differences between the medical schools under study ($p < 0.001$). However, regarding the distribution of ECTS related to the compassionate approach, no statistically significant differences were found between medical schools ($p = 0.031$).

The distribution of percent results by CUs and ECTS, relative to the compassionate approach, is given in Table VI.

Discussion

In the interpretation of the results regarding the levels of compassion identified in the students responding to the survey of the MIM years under study, it is important to note that the application was carried out in the months of October and November of 2018 and that a $p < 0,03$ value was used. As such, the levels of compassion obtained in the students of the higher levels of compassion (lesser scores) for entry into the MIM were obtained by the DCBM-UALG students, perhaps as a result of the method of appliance to such medical school. Students enter such University not by the conventional national exam mark. Instead they are listed according to cognitive skills and interviews evaluating their profile. In addition, such candidates are post-graduates with a higher level of maturity.

On the other hand, the levels of compassion obtained by the students of the 3rd (4th in the DCBM-UALG) and 5th years resulted from the approach of compassion influenced by the teaching.

As it turned out, in the third year, although ICBAS presented a low-level approach to the compassion dimension (both at CU level and ECTS level) and in EM-UM. There was a significant increase in its approach in the first two years (of CU - along with FCS-UBI - and ECTS, making it the college with the highest approach in the second year), ICBAS has the highest level of compassion, and the EM-UM the lowest level. In the fifth year, despite the compassionate approach - translated by the percentage value of ECTS - it is higher in the 3rd and 4th years of ICBAS than in previous years and higher than in other colleges (at the level of the percentage value of UC, is also of the highest), there is a decline of the levels of compassion of this university.

Faculties such as FMUP and NMS, which show a continual increase in levels of compassion, have been found to have low levels of compassion (especially at ECTS level). This phenomenon is even more pronounced in the first two years of the NMS, which, although it does not have a CU that develops the subject of compassion, has an increase in the levels of compassion from the 1st to the 3rd years.

The distribution of CU referring to the compassionate approach presents statistically significant differences among the studied medical schools. However, the distribution of ECTS related to the compassionate approach does not reveal significant differences.

However, in order to relate the distribution of the levels of compassion achieved with the approach of this dimension that is evident in each of the universities teaching medicine, the variable ECTS is the one that best translates the approach that is actually made in the CU, since it represents the workload to which the student is subject to the acquisition and development of the competencies inherent to the objectives mentioned by the UC. As such, it has been contacted that the distribution of compassion levels among the medical schools under study is significantly different, but not dependent on the percentage of ECTS pertaining to the compassionate approach.

Possibly, the inconsistency of results will be due to:

- an approach to compassion that may not be effectively developed / operationalized in faculties where there is a reference to compassion and / or the pillar of compassion in the official curriculum;
- an approach to compassion which is not contemplated in the objectives and results of learning curricular units of certain faculties, but which is actually being developed in medical teaching and / or is assimilated from the example of the medical tutors, which serve as models;
- a mismatch between the information on the objectives, learning outcomes and curricular units program explained in the university websites and the clinical approach concretized in the practical classes that include contact with the patient, conditioned by the example of the doctor who teaches them / medical tutor (whose profile may not fit the list), which may promote a similar attitude in the student in formation.

At this point, however, it is important to consider the students' reflective evaluation capacity, according to intrinsic values, on models to imitate.

Thus, future studies should be carried out to understand the differences in the evolution of levels of compassion among the Portuguese Faculties of Medicine contemplated in this study for it is important to understand how Curricular Units and ECTS that explicitly are linked to compassion can bring about results, both by their numbers and their curricular content. Such studies must also address the issue of student's own characteristics and the role model of tutors.

Conclusion

Although there are difference we have studied, there are no significant differences between the ECTS regarding compassion and the formal curriculum plans available on the websites of each of the faculties. But the number of CU that focus on this matter are significantly different among the various Universities teaching Medicine investigated in this study.

Abbreviations

MIM: Integrated Master's degree in Medicine

EM-UM: Escola Médica da Universidade do Minho – University of Minho Medical School

FMUP: Faculdade de Medicina da Universidade do Porto – University of Porto Faculty of Medicine

ICBAS: Instituto de Ciências Médicas Abel Salazar – Institute of Medical Sciences Abel Salazar

FMUC: Faculdade de Medicina da Universidade de Coimbra – University of Coimbra Faculty of Medicine

NMS: Nova Medical School, Lisbon

FCS-UBI: Faculdade de Ciências da Saúde – Universidade da Beira Interior – University of Beira Interior
Health Sciences Faculty

DCBM-UALG: Departamento de Ciência Biomédicas da Universidade de Algarve – Biomedic Sciences
Department of the University of Algarve

SC-CSH - Community Health and Social and Human Sciences

CBB - Biological and Biomedical Sciences

P - Pathology

C - Clinic

M - Multidisciplinary

CU - Credit Units

ECTS - EUROPEAN CREDIT TRANSFER SYSTEM

Declarations

Ethics approval and consent to participate

This paper has had the Ethics Committee of the Faculty of Medicine of the University of Coimbra approval. All participants gave their written informed consent prior to answer the questionnaire.

Consent to publish

The authors asked for respondents authorization of publication, which has been granted individually. The authors wish to express the will to see this paper published, too.

- Availability of data and materials

All data and materials will be released if asked for.

- Competing interests

The authors wish to state no conflict of interests.

- Funding

No funding has been granted for this work. The authors fully payed all expenses.

- Authors' Contributions

LMS – MD, PhD; Conception, data analysis writing and scientific report review; Faculty of Medicine of the University of Coimbra

General Practice Family Medicine Clinic of the Faculty of Medicine of the University of Coimbra

AB - MD; Conception, field work, data analysis writing and scientific report review, Faculty of Medicine of the University of Coimbra

KM – MD; Critical review of the report and translation; Faculty of Medicine of the University of Coimbra

SSJ – Medicine student; Scientific and final review of the report and translation; Faculty of Medicine of the University of Coimbra

- Acknowledgements

To all those medicine students that filled-in the questionnaire.

The authors have read and approved the text.

References

1. Strauss C, Taylor BL, Gu J, Kuyken W, Baer R, Jones F, Cavanagh K. What is compassion and how can we measure it? A review of definitions and measures. *Clinical psychology review*. 2016;47:15-27.
2. Gu J, Cavanagh K, Baer R, Strauss C. An empirical examination of the factor structure of compassion. *PLoS ONE*. 2017;12(2):e0172471.
3. Lown BA, Rosen J, Marttila J. An agenda for improving compassionate care: a survey shows about half of patients say such care is missing. *Health Affairs*. 2011 Sep 1;30(9):1772–8. pmid:21900669.
4. Sinclair S, Norris JM, McConnell SJ, Chochinov HM, Hack TF, Hagen NA, McClement S, Bouchal SR. Compassion: a scoping review of the healthcare literature. *BMC Palliative Care*. 2016;15:6.
5. Machado AFB. A Empatia Médica na ótica dos estudantes de medicina. [Trabalho Final de Mestrado não publicado]: Medicina, Faculdade de Medicina da Universidade de Coimbra; 2016.
6. Pires JIF. O Declínio da Compaixão nos Estudantes de Medicina [Trabalho Final de Mestrado]: Medicina, Faculdade de Medicina da Universidade de Coimbra, 2018.
7. Helmich E, Bolhuis S, Laan R, Dornan T, Koopmans R. Medical students' emotional development in early clinical experience: a model. *Advances in health sciences education*. 2014;19.
8. Alumni Medicina. Escola de Medicina quer preparar médicos do futuro. Acedido em: 5 de fevereiro de 2019, em: <http://www.alumnimedicina.com/noticias/escola-de-medicina-quer-preparar-medicos-do-futuro/>.

9. Universidade do Algarve. Missão do Mestrado Integrado em Medicina. Acedido em: 5 de fevereiro de 2019, in: <https://dcbm.ualg.pt/pt/content/missao-0>.
10. https://www.researchgate.net/publication/277179921_Escala_de_Empatia_para_Medicos_-_Versao_para_Estudantes_JSE-spv [accessed the 20th february, 2018]
11. Magalhães E, DeChamplain E, Salgueira E, Costa MJ: Empatia Médica: Adaptação e validação de uma escala para estudantes de medicina. In Paper presented at the National Symposia of Psychology Research – Portugal Edited by: Nogueira C, Silva I, Lima L, Almeida AT, Cabecinhas R, Gomes R, Machado C, Maia A, Sampaio A, Taveira MC 77-89[<http://www.actassnip2010.com>]
12. Escola de Medicina da Universidade do Minho. PIYear de Estudos. Acedido em: 21 de agosto de 2018, em: <https://www.med.uminho.pt/pt/Medicina/Paginas/PIYear-Estudos.aspx> .[assessed the 2nd November 2018]
13. Faculdade de Medicina da Universidade do Porto. Mestrado Integrado em Medicina - PIYear oficial 2013 (Reforma Curricular). Acedido em: 21 de agosto de 2018, em: https://sigarra.up.pt/fmup/pt/cur_geral.cur_plYears_estudos_view?pv_plYear_id=5402&pv_Year_lectivo=2013&pv_tipo_cur_sigla=MI&pv_origem=CUR. [assessed the 2nd November 2018]
14. Instituto de Ciências Biomédicas Abel Salazar. Novo PIYear de Estudos do Mestrado Integrado em Medicina. Acedido em: 21 de agosto de 2018, em: https://sigarra.up.pt/icbas/pt/cur_geral.cur_view?pv_Year_lectivo=2018&pv_origem=CUR&pv_tipo_cur_sigla=MI&pv_curso_id=1289. [assessed the 2nd November 2018]
15. Universidade de Coimbra. Mestrado Integrado em Medicina. Acedido em: 22 de agosto de 2018, em: <https://apps.uc.pt/courses/PT/course/5841>. [assessed the 2nd November 2018]
16. Universidade Nova de Lisboa. Mestrado Integrado em Medicina. Acedido em: 22 de agosto de 2018, em: http://www.unl.pt/guia/2018/fcm/UNLGI_getCurso?curso=9813. [assessed the 2nd November 2018]
17. Universidade Beira Interior. PIYear de Estudos. Acedido em: 22 de agosto de 2018, em: <http://www.ubi.pt/PIYearDeEstudos/52/1595/2019>. [assessed the 2nd November 2018]
18. Universidade do Algarve. PIYear de estudos do Curso de Mestrado Integrado em Medicina. Acedido em: 20 de agosto de 2018, em: <https://dcbm.ualg.pt/pt/content/PIYear-estudos-16>. [assessed the 2nd November 2018]
19. Direção Geral do Ensino Superior. Listas de Candidatos ao Ensino Superior na 1.ª Fase – 2018. Acedido e: 7 de dezembro de 2018, em: <http://www.dges.gov.pt/coloc/2018/col1listas.asp?CodR=11&action=2>. [assessed the 2nd November 2018]

Tables

Table I - Characterization of the student sample (n=784) according to gender, year of attendance and university attended.

Year (*)	Gender		Total
	Female	Male	
1stYear ¶	44,4 %	40,5%	43,5%
3rdYear ¶	35,1%	35,1%	35,1%
5thYear	20,5%	24,3%	21,4%
Total	100,0%	100,0%	100,0%
University (**)			
EM-UM (1)	10,4 %	8,1%	9,8%
FMUP (2)	20,0%	23,2%	20,8%
ICBAS (3)	13,5%	13,0%	13,4%
FMUC (4)	19,9%	17,3%	19,3%
NMS(5)	18,4%	16,2%	17,9%
FCS-UBI(6)	10,4%	16,2%	11,7 %
DCBM-UALG(7)	7,5%	5,9%	7,1%
Total	100,0%	100,0%	100,0%

¶ 3rd year DCBM-UAlg ¶ 4th year DCBM-UAlg

(*) p=0,252; (**) p=0,677

Note: (1) College of Medicine of the University of Minho; (2) College of Medicine of the University of Porto; (3) Abel Salazar Institute of Basic Biomedical Sciences (Porto), (4) College of Medicine of the University of Coimbra; (5) Nova Medical School (Lisbon); (6) College of Health Sciences of the University of Beira Interior; (7) Biomedical Department of the University of Algarve.

Table II - Characterization of the sample (n=784) according to the medical school attended and the year of attendance.

University (*)				Total
	1 st Year	3 rd Year	5 th Year	
EM-UM (1)	10,0 %	8,7%	11,3%	9,8%
FMUP (2)	18,8%	19,3%	27,4	20,8%
ICBAS (3)	10,6%	20,7%	7,1%	13,4%
FMUC (4)	23,2%	15,3%	17,9%	19,3%
NMS (5)	18,5%	18,9%	14,9%	17,9%
FCS-UBI (6)	11,7%	11,3%	12,5%	11,7 %
DCBM-UALG (7)	7,3%	5,8%	8,9%	7,1%
Total	100,0%	100,0%	100,0%	100,0%

□ 3rd year DCBM-UAlg □ 4th year DCBM-UAlg

(*) p=0,371

Note: (1) College of Medicine of the University of Minho; (2) College of Medicine of the University of Porto; (3) Abel Salazar Institute of Basic Biomedical Sciences (Porto), (4) College of Medicine of the University of Coimbra; (5) Nova Medical School (Lisbon); (6) College of Health Sciences of the University of Beira Interior; (7) Biomedical Department of the University of Algarve.

Table III: Summation and average of the chapter "Compassion" by gender, academic year and university.

Compassion	Gender	n	Average	Standard deviation	p
Sum	Female	599	16,0	4,5	<0,001
	Male	185	18,7	5,6	
Year of study					
Sum	1 st Year □	341	17,2	1,9	0,022
	3 rd Year □	275	16,1	4,4	
	5 th Year	168	16,2	4,7	
University					
Sum	EM-UM (1)	77	17,2	3,7	0,026
	FMUP (2)	163	16,2	4,9	
	ICBAS (3)	105	16,1	4,8	
	FMUC (4)	151	16,3	4,6	
	NMS (5)	140	17,9	5,1	
	FCS-UBI (6)	92	17,2	5,3	
	DCBM-UALG (7)	56	14,4	3,8	

Note: (1) College of Medicine of the University of Minho; (2) College of Medicine of the University of Porto; (3) Abel Salazar Institute of Basic Biomedical Sciences (Porto), (4) College of Medicine of the University of Coimbra; (5) Nova Medical School (Lisbon); (6) College of Health

Table IV - Distribution of the number and average value of responses to the item set that evaluates Compassion (taking into account the "attendance year" and "medical school")

		EM-UM (1)	FMUP (2)	ICBAS (3)	FMUC (4)	NMS (5)	FCS-UBI (6)	DCBM-UALG (7)
1STYEAR	<i>N</i>	34	64	36	79	63	40	25
	Score	16,7	17,1	17,6	15,8	18,9	19,3	14,5
	SD	5,3	5,7	4,4	4,9	4,8	6,4	3,9
3RDYEAR	<i>N</i>	24	53	57	42	52	31	16
	Score	17,8	16,0	14,6	17,0	17,2	15,7	14,6
	SD	4,4	4,5	4,1	4,2	4,9	3,9	3,3
5THYEAR	<i>N</i>	19	46	12	30	25	21	15
	Score	17,3	15,1	19,2	16,9	17,1	15,4	13,9
	SD	4,0	4,1	6,4	4,4	6,1	3,9	4,4
Δ 1ST YEAR- 5THYEAR		0,04	-0,12	0,09	0,07	-0,10	-0,20	-0,04

□ 3rd year DCBM-UAlg □ 4th Year DCBM-UAlg

Δ Growth dynamics

Note: (1) College of Medicine of the University of Minho; (2) College of Medicine of the University of Porto; (3) Abel Salazar Institute of Basic Biomedical Sciences (Porto), (4) College of Medicine of the University of Coimbra; (5) Nova Medical School (Lisbon); (6) College of Health Sciences of the University of Beira Interior; (7) Biomedical Department of the University of Algarve.

Table V: Curricular Units and ECTS by university with expressed mention of Compassion.

University	Number of Curricular Units		p	Number of ECTS		P
	Average	Standard deviation		Average	Standard deviation	
EM-UM (1)	0,5	0,1	<0,001	0,2	0,1	<0,031
FMUP (2)	0,2	0,1		0,3	0,2	
ICBAS (3)	0,3	0,2		0,4	0,2	
FMUC (4)	0,2	0,1		0,2	0,1	
NMS (5)	0,2	0,2		0,3	0,3	
FCS-UBI (6)	0,3	0,2		0,2	0,1	
DCBM-UALG (7)	0,6	0,1		0,5	0,2	

Note: (1) College of Medicine of the University of Minho; (2) College of Medicine of the University of Porto; (3) Abel Salazar Institute of Basic Biomedical Sciences (Porto), (4) College of Medicine of the University of Coimbra; (5) Nova Medical School (Lisbon); (6) College of Health Sciences of the University of Beira Interior; (7) Biomedical Department of the University of Algarve.

Table VI - Distribution of results in percentage of Curricular Units and ECTS of the compassionate approach.

CU _s	1 ST YEAR	2 ND YEAR	3 RD YEAR	4 TH YEAR	5 TH YEAR	6 TH YEAR
EM-UM (1)	33,3	75,0	60,0	16,7	50,0	50,0
FMUP (2)	10,0	25,0	18,2	16,7	40,0	37,5
ICBAS (3)	11,1	0,0	27,3	44,4	66,7	50,0
FMUC (4)	18,2	0,0	27,3	9,1	11,1	16,7
NMS (5)	0,0	0,0	28,6	42,9	42,9	50,0
FCS-UBI (6)	14,3	75,0	25,0	33,3	66,7	-
DCBM-UALG (7)	-	-	60,0	60,0	75,0	33,3
ESCTS						
EM-UM (1)	8,9	57,4	21,7	1,8	37,5	83,3
FMUP (2)	5,0	16,7	22,2	11,1	55,6	35,0
ICBAS (3)	17,7	0,0	40,0	57,9	83,3	52,6
FMUC (4)	19,6	0,0	39,3	16,1	5,4	10,0
NMS (5)	0,0	0,0	33,3	26,3	70,2	47,37%
FCS-UBI (6)	10,0	36,7	13,3	16,7	26,7	-
DCBM-UALG (7)	-	-	40,0	40,0	86,7	6,52%

Note: (1) College of Medicine of the University of Minho; (2) College of Medicine of the University of Porto; (3) Abel Salazar Institute of Basic Biomedical Sciences (Porto), (4) College of Medicine of the University of Coimbra; (5) Nova Medical School (Lisbon); (6) College of Health Sciences of the University of Beira Interior; (7) Biomedical Department of the University of Algarve.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [PracticePointsABapt.docx](#)