# What are the moral values essential for medical training?

Lumaira Maria Nascimento Silva da Rocha Marques<sup>1</sup>, Sandra Costa Fonseca<sup>2</sup>, Vitor Corradini Milioni<sup>3</sup>, Weydler Campos Hottz Corbiceiro<sup>4</sup>

#### **Abstract**

Este estudo propõe identificar que valores morais os estudantes de medicina consideram importantes para sua formação e que valores a universidade tem promovido durante a graduação. Trata-se de estudo quantitativo, descritivo e transversal com 153 estudantes de universidade pública do estado do Rio de Janeiro. Os participantes consideraram respeito, responsabilidade, paciência e humildade como os valores morais mais importantes para a formação médica, e responsabilidade, respeito, paciência e prudência foram apontados como os mais estimulados durante a graduação. Os estudantes reconhecem a importância da educação moral para a formação profissional e se mostram sensíveis ao tema. Por conseguinte, é necessário capacitar docentes e instituir educação permanente para que a formação moral não seja produto da casualidade ou continue à margem dos currículos. **Keywords:** Education, medical. Ethics. Morals.

#### Resumo

#### Quais são os valores morais essenciais para a formação médica?

Este estudo propõe identificar que valores morais os estudantes de medicina consideram importantes para sua formação e que valores a universidade tem promovido durante a graduação. Trata-se de estudo quantitativo, descritivo e transversal com 153 estudantes de universidade pública do estado do Rio de Janeiro. Os participantes consideraram respeito, responsabilidade, paciência e humildade como os valores morais mais importantes para a formação médica, e responsabilidade, respeito, paciência e prudência foram apontados como os mais estimulados durante a graduação. Os estudantes reconhecem a importância da educação moral para a formação profissional e se mostram sensíveis ao tema. Por conseguinte, é necessário capacitar docentes e instituir educação permanente para que a formação moral não seja produto da casualidade ou continue à margem dos currículos. Palavras-chave: Educação médica. Ética. Princípios morais.

# Resumen

# ¿Cuáles son los valores esenciales para la formación médica?

Este estudio tuvo como objetivo identificar los valores morales que los estudiantes de medicina consideran importantes para su educación y cuáles de estos valores la universidad ha promovido durante la graduación. Este es un estudio cuantitativo, descriptivo y transversal con 153 estudiantes de una universidad pública en el estado de Río de Janeiro, Brasil. Los estudiantes consideraron el respeto, la responsabilidad, la paciencia y la humildad como los valores morales más importantes para la educación médica. La responsabilidad, el respeto, la paciencia y la prudencia se señalaron como los valores más promovidos durante la graduación. Los estudiantes reconocen la importancia de la educación moral para la formación profesional y son sensibles al tema. Por lo tanto, es necesario planear capacitaciones e instituir una educación permanente para los docentes, para que la formación moral no sea producto de la casualidad ni continúe en la marginalidad de los planes de estudio.

Palabras clave: Educación médica. Ética. Principios morales.

#### Approval CEP-UFF CAAE 66918417.0.0000.5243

**1. PhD** lumaira\_@hotmail.com — Universidade Federal Fluminense (UFF) **2. PhD** sandracfonseca@yahoo.com.br — UFF **3. Graduate** vitormilioni@id.uff.br — UFF **4. Graduate** weydlerhottz@id.uff.br — UFF, Niterói/RJ, Brasil.

#### Correspondence

Lumaira Maria Nascimento Silva da Rocha Marques – Rua Aires Saldanha, 136/304 CEP 22030-030. Rio de Janeiro/RJ, Brasil.

The authors declare no conflict of interest.

What moral values would be essential for good medical education? This question permeates the imagination of professors, students, researchers, and health professionals. When one pictures a good doctor, traits such as empathy, respect, responsibility, humility, good clinical reasoning, knowing how to meet the needs of patients and the community, and ethical behavior come to mind 1. And these are attributes related to attitudes, character, and expertise.

While the positivist heritage has been gradually losing strength, moral values are now considered essential in medicine, since a well-performed technique alone does not guarantee the quality of medical care <sup>1,2</sup>. Thus, medical education should integrate both technical and moral training, even though they are often presented as incompatible <sup>3,4</sup>.

The 2001 5 and 2014 6 National Curriculum Guidelines highlight, beyond technical aspects, the importance of a generalist, humanized, critical, reflective, and ethical training. Therefore, it is necessary to transpose the biomedical paradigm and propose a curricular matrix that fosters social responsibility via the participation of students in knowledge construction. Multiprofessional teams should also be encouraged to prioritize primary healthcare based on social sciences, which address essential topics for the student's ethical education 7.

Moral values are assimilated, for instance, through quality interpersonal relationships, reflections, and controversial situations, and education helps to promote desirable principles for society. It is well established that the university's mission is to enable the moral education of students, teaching them, above all, how to coexist, participate, and live in the world. In this sense, higher education is committed with the moral education of individuals, giving sequence to the work carried out by the family and school, and understanding that this is a continuous process.

However, which moral values should be taught in medical schools? Which ones have been stimulated? These are the questions that guided this research, whose objective was to identify the moral values students consider most important for medical education and which ones have been promoted during the course. It is worth mentioning that here we will emphasize moral values, and other aspects of what is considered a "good doctor" will not be addressed.

The expressions "education of values," "moral education," and "moral training" will be used as synonyms, understanding that they have different theoretical references, but a common core of discussion: the teaching of moral issues <sup>10</sup>.

#### Method

A quantitative, descriptive, and cross-sectional study was carried out with students from a public medical school in Rio de Janeiro. We considered for the interviews students regularly enrolled in the eighth semester of the course in the first semester of 2017 and 2018 (n=180), and excluded those involved with research projects (n=2) and who were absent on the days of data collection (n=25), totaling 153 participants.

They were approached in the classroom, with prior permission from the course coordinator and professor. Data was collected through a self-administered questionnaire with 13 closed questions (Appendix). We highlight that the data was obtained on the last day of class of the eighth semester, so the participants had already completed all disciplines of the curriculum and would enter residency.

The first part of the questionnaire addressed sociodemographic data (age, gender, skin color, family income, religion, and marital status), and the second part moral values and the way they perceived its connection with the course. The students marked multiple-choice items in questions that aimed to identify, among other data, which moral values they considered important for their education, which ones they deemed to be stimulated by the course itself, which subjects or activities discussed this topic, and how much this discussion contributed to professional practice.

The moral values presented in this part of the questionnaire were chosen based on the Aristotelian and Thomistic virtues mentioned by MacIntyre <sup>11</sup>. The author believes that justice, courage, prudence, truth, trust, concord, humility, generosity, charity, mercy, hope, benevolence, gratitude, and patience are essential for individuals to live harmoniously in society. We also added "respect" and "responsibility" to our research as they are also understood as important moral values for medical education <sup>12</sup>.

The collected data were processed and analyzed with the SPSS version 17.0 statistical package. We describe the absolute and relative frequencies of the variables referring to the

students and the values analyzed. All variables were considered to be categorical, and their proportions described. Subsequently, we tested the associations between students' characteristics and the most prevalent values found using the chi-square test and significance level of 5%.

This study was approved by a Research Ethics Committee and all invited participants were duly informed and included in the study only after signing the informed consent form.

#### **Results**

Of the 180 students selected for the study, 153 (85%) were present when the questionnaire was applied, and all of them answered the questions. The sample is described in Table 1, and it is predominantly composed of women (57.5%), between 23 and 27 years old (66.7%), white (81.6%), and single (96.7%). Nearly a quarter of the students declared to have no religion; among the religious, Catholics (37.2%) and Spiritists (15.7%) were the most prevalent. As for family income, 53.6% receive up to 11 minimum wages, and approximately a quarter receive between 17 and 22 minimum wages.

The moral values identified as the most important for medical formation were "respect" (93.5%), "responsibility" (90.8%), "humility" (83.7%), and "patience" (82.4%). Women reported more frequently "responsibility" and "patience," but without statistically significant difference (p=0.06 and p=0.34, respectively). Professing or not professing a religion did not lead the participants to indicate more moral values, and only 22 (14.4%) of them, mostly women, indicated all options. The participants considered that the values most stimulated during medical school were "responsibility" (73.2%), "respect" (70.6%), "patience" (55.6%), and "prudence" (45.1%). The other aspects showed lower percentages (Table 2).

**Table 1.** Sociodemographic data of the 153 medical students participating in the study (Rio de Janeiro, Rio de Janeiro, Brazil, 2017-2018)

The de Janen of Brazil, 2017, 2010							
Variables	n	%					
Gender							
Female	88	57.5					
Male	61	39.9					
Not specified	4	2.6					
Age group							
18-22 years	29	18.9					
23-27 years	102	66.7					
28-32 years	13	8.5					
33-37 years	5	3.3					
Not specified	4	2.6					
Skin color							
White	125	81.6					
Black	1	0.7					
Brown	26	17.0					
Yellow	1	0.7					
Marital status							
Single	148	96.7					
Married	5	3.3					
Religion							
Catholic	57	37.2					
Spiritist	24	15.7					
Evangelical	17	11.1					
Other	18	11.8					
No religion (atheist/agnostic)	37	24.2					
Family income							
1-5 minimum wages	31	20.3					
6-11 minimum wages	51	33.3					
12-16 minimum wages	30	19.6					
17-22 minimum wages	40	26.1					
Not specified	1	0.7					

**Table 2.** Moral values considered important and promoted in the medical school, according to gender (Rio de Janeiro, Rio de Janeiro, Brazil, 2017-2018)

		Important		Promoted				
Values	Women n (%)	Men n (%)	Total n (%)	Women n (%)	Men n (%)	Total n (%)		
Responsibility	84 (95.5)	55 (90.2)	139 (90.8)	71 (80.7)	41 (67.2)	112 (73.2)		
Respect	85 (96.6)	58 (95.1)	143 (93.5)	64 (72.7)	44 (72.1)	108 (70.6)		
Patience	75 (85.2)	51 (83.6)	126 (82.4)	53 (60.2)	32 (52.5)	85 (55.6)		
Prudence	66 (75.0)	51 (83.6)	117 (76.5)	39 (44.3)	30 (49.2)	69 (45.1)		
Trust	63 (71.6)	44 (72.1)	107 (69.9)	15 (17.0)	10 (16.4)	25 (16.3)		

continues...

Table 2. Continuation

		Important		Promoted						
Values	Women n (%)	Men n (%)	Total n (%)	Women n (%)	Men n (%)	Total n (%)				
Justice	50 (56.8)	35 (57.4)	87 (56.9)	13 (14.8)	10 (16.4)	23 (15.0)				
Mercy	29 (33.0)	14 (23.0)	43 (28.1)	0 (0.0)	2 (3.3)	2 (1.3)				
Норе	47 (53.4)	29 (47.5)	76 (49.7)	12 (13.6)	10 (16.4)	22 (14.4)				
Truth	54 (61.4)	41 (67.2)	95 (62.1)	17 (19.3)	16 (26.2)	33 (21.6)				
Generosity	62 (70.5)	33 (54.1)	95 (62.1)	26 (29.5)	13 (21.3)	39 (25.5)				
Humility	77 (87.5)	51 (83.6)	128 (83.7)	39 (44.3)	18 (29.5)	57 (37.3)				
Charity	40 (45.5)	22 (36.1)	62 (40.5)	11 (12.5)	7 (11.5)	18 (11.8)				
Concord	18 (20.5)	11 (18.0)	29 (19.0)	1 (1.1)	1 (1.6)	2 (1.3)				
Benevolence	36 (40.9)	18 (29.5)	54 (35.3)	7 (8.0)	8 (13.1)	15 (9.8)				
Courage	56 (63.6)	32 (52.5)	88 (57.5)	22 (25.0)	12 (19.7)	35 (22.9)				
Gratitude	49 (55.7)	24 (39.3)	73 (47.7)	13 (14.8)	9 (14.8)	22 (14.4)				

The subjects most reported for having discussed or provided experiences on moral values were Semiology (56.9%), Fieldwork I (49.7%), Health and Society I (45.8%), and Ethics (40%). Others, such as Health and Society II and Fieldwork II, reached percentages between 20 and 39%. The others were below this value (Table 3).

**Table 3.** Relationship of the course, professors, and subjects with the moral and medical education of students (Rio de Janeiro, Rio de Janeiro, Brazil, 2017-2018)

Variables	Answers n (%)	
Subjects that discussed moral values*		
Semiology	87 (56.9)	
Fieldwork I	76 (49.7)	
Health and Society I	70 (45.8)	
Ethics	61 (40.0)	
Tutoring in Medical Education; Adult Psychiatry; Child Psychiatry; Medical Psychology; Fieldwork II and III; Health and Society II, III and IV; Infectious and Parasitic Diseases; Epidemiological Monitoring; Chemical Dependency	31-60 (20-39)	
Type of activity with greater influence on m education*	oral	
Practical experience	120 (78.4)	
Small group activity	94 (61.4)	
Case discussion	63 (41.2)	
Debates	54 (35.3)	
Lectures	23 (15.0)	

continues...

Table 3. Continuation

Variables	Answers n (%)
Influence of the disciplines	
Implicit	126 (82.4)
Explicit	21 (13.7)
Not specified	6 (3.9)
Professor-student relationship	
Vertical	97 (63.4)
Horizontal	47 (30.7)
Not specified	9 (5.9)
Importance of moral values in the medical p	ractice
Very important	121 (79.1)
Little important	27 (17.6)
None/not specified	5 (3.3)

<sup>\*</sup>More than one option could be marked

Most students (78.4%) recognize practical experiences as the best way to stimulate moral values. But almost all participants (82.4%) pointed out that the topic was implicitly presented by the disciplines and educational activities, and 63.4% stated that the relationship between professor and student is vertical. Finally, 79.1% believe that the discussion about moral values would contribute significantly to their professional practice (Table 3).

#### **Discussion**

The results show that students understand the importance of moral values in medical

education, but identify few learning situations related to the theme throughout the course. Some studies report that virtues and moral values may become a saturated topic during the course <sup>13,14</sup>, but in our research, even though the participants were finishing the eighth semester, and therefore had already completed all the disciplines and activities before residency, we observed the maintenance of values, at least conceptually.

The respondents mainly value respect, responsibility, patience, humility, prudence, and trust as the most important characteristics to be fostered during medical school. In a survey with Spanish healthcare students, the results were similar, being "responsibility" and "respect" the most important values <sup>12</sup>. Another similar study concluded that nursing, medicine, and dentistry undergraduates also considered moral education essential for their professional life, pointing out "responsibility," "commitment" and "having ethical values" as precepts to be encouraged <sup>15</sup>.

Other authors <sup>12,16</sup> also did not find significant differences between moral values reported by men and women. Despite this, "responsibility" and "patience" were more mentioned by female students, which can generate reflections on gender in moral and professional formation <sup>17</sup>. Gilligan <sup>17</sup> showed that women tend to interpret moral dilemmas as healthcare issues, and therefore are more concerned with values such as responsibility, respect, dialogue, and patience when making decisions.

Like other health areas, medicine focus mainly on meeting the needs of populations. In the professional sphere, healthcare actions should consider empathy, compassion, affection, and listening, since these are important factors for any treatment <sup>9,18</sup> and are in line with the idea of humanized care <sup>9,14,19</sup>.

This means focusing not only on the disease but on life itself. It is about changing paradigms and training professionals based on the principles and guidelines of the Unified Health System<sup>20</sup>. These transformations are in line with the National Curriculum Guidelines, which propose an ethical-political commitment with health education<sup>21</sup>.

The four values most frequently chosen as those promoted during medical school were "responsibility" (73.2%), "respect" (70.6%), "patience" (55.6%), and "prudence" (45.1%), indicating that the moral formation offered is below students' expectations. Responsibility and

respect were considerably more perceived than the promotion of other values. The first, defined as the awareness of one's actions and the acceptance of consequences <sup>22</sup>, may have been referred by students because of their explicit experiences – as in deontology, which work with the term "professional responsibility," provided for in the Code of Medical Ethics <sup>23</sup> – or implicit experiences via "hidden curricula" <sup>24</sup>.

It is also interesting to address the notion of responsibility in the field of morals, as it encompasses the concept of healthcare. Moral responsibility is not imposed by law, but results from the awareness of belonging to a collective group, which generates a feeling of protection, especially in asymmetrical relationships, such as among doctors and patients <sup>25</sup>. The findings of Hernando and collaborators <sup>12</sup> also highlight responsibility, being interpreted as a result of students' maturity and the desire for social acceptance.

In turn, "respect" refers to the way the individual sees and relates to the other <sup>26</sup>. The fact that the undergraduates could perceive it indicates that this value permeates interpersonal relationships throughout the course, especially professional ones. Teaching morally includes relating in a respectful, responsible, humble, and patient way with students, as it is through this relationship in which moral values are built that professors can establish a favorable environment for the undergraduate's cognitive and moral development <sup>27</sup>.

However, a contradiction persists: most students recognize respect as a value stimulated in medical schools, but at the same time, they state that the relationship with their professors are vertical and authoritarian. If the professor takes advantage from this type of relationship, the student can assume it as a model and reproduce this conduct when dealing with other individuals, including patients.

The presence of vertical relations may be related to academic narcissism in universities in general. This behavior, adopted by some professors, can be explained by the difficulty of denying their "not-knowing" 28. Assuming their expertise as an absolute truth impairs the construction of new knowledge, and moments of reflection and debate, as advocated by new teaching-learning methodologies. This can explain the intense appreciation of humility shown by students and the low perception of situations involving this moral

value during the course, also indicating that it is possible to learn from negative examples.

Aware that the relationship between professor and student is relevant for the student's moral education and considering that relationships influence individual formation, this issue cannot be ignored by teaching planning. We must understand that the field of interpersonal relations goes beyond the individual sphere, and needs interventions and changes.

And how to teach moral values? Most students in this research (78.4%) recognize that practical experiences are important for the learning process. This finding corroborates the study by Almeida and collaborators <sup>29</sup> which made relevant considerations about the insertion of medical students in primary healthcare since the beginning of the course, helping to qualify professionals capable of operating in another social logic.

The disciplines that most contributed to the discussion of moral values, according to the respondents of this study, were Semiology (56.9%), Fieldwork I (49.7%), Health and Society I (45.8%), and Ethics (40%). They all share activities and discussions in small groups, and most have humanistic content in their syllabus. We expected a higher percentage, but the fact that two of these disciplines are offered in the first semester of the course – being thus a personal memory of the students - may have contributed to the low performance. At first, we estimated that the Ethics discipline, whose proposal is the discussion of moral values and is offered in the same semester attended by respondents at the time of the survey, would show more positive results. Concerning Semiology, as there are different professors in the groups, this heterogeneity can explain the low performance.

Offering bioethics as a discipline, following the recommendations of the *Universal Declaration on Bioethics and Human Rights* <sup>30</sup>, is another important strategy to create a favorable environment for the reflection of moral conflicts in the professional practice and to provide support for decision making. Teaching techniques that value active methodologies are powerful tools to stimulate the education of values. They can be applied at the institutional level, by implementing, for instance, problem-based learning, or directly in the discipline, with changes in the role of the professor and activities that value individual participation and in small groups, stimulating the joint construction of knowledge related to

professional practice <sup>31</sup>. These transformations can cause some resistance, given the discomfort caused by the change from ignorance to knowledge, as already narrated by Plato <sup>32</sup> in the allegory of the cave.

Morality is not taught by a single discipline, nor just in theory; it is learned through example, practice, experiencing conflicts, and addressing them collectively <sup>14,19,33,34</sup>. According to Aristotle <sup>35</sup>, moral values or virtues are essential qualities of character acquired by habit and routine, in order to achieve excellence; they are desirable behaviors that should be included in curricula in general <sup>36</sup>.

The virtues serve as a reference for the education of values, enabling people to act in a rational and justified manner. The practice of virtues must be planned throughout the curriculum, and the attitude of the professor himself should serve as an example <sup>34</sup>. Moral education is promoted when the teacher becomes a role model of moral attitudes, instructing students to live morally and in a coherent manner, by aligning their speech to their actions <sup>27,34</sup>. One can teach morality without acting morally <sup>37</sup>, but a moral conduct is an important condition for educators to engage in teaching moral content.

Another aspect is planning the inclusion of ethical and moral issues in the curriculum, given that 82.4% of students recognize that moral values are an implicit topic in the disciplines and educational activities. According to this data, the lack of pedagogical planning subjects university moral formation to chance, depending on the professor's profile or their sensitivity to the theme, not assuming moral competence as a basic element of professional training in health <sup>38</sup>.

Recognizing the importance of these values in higher education is not enough: it is necessary to include it in teachers' meetings, promote reflections, qualify professors, and even institute continuing education, since many educators lack specific pedagogical training <sup>14,33,39,40</sup>. Moreover, we must rethink the curricular proposals of courses in specialized areas, which often leave this gap during the formation of teachers when prioritizing research <sup>39</sup>.

One limitation in this study is that only 85% of the students selected answered the questionnaire, although the percentage of responses was high. Another limitation concerns the participants' knowledge regarding the concepts of moral values. A study with medical students and professors showed differences in the definition of values such as "courtesy" and "simplicity," whose definition is more straightforward, while "honesty" was the most difficult one to conceptualize <sup>41</sup>. In this perspective, an interesting research direction would be combining the quantitative analysis with the definition of each participant about moral values, contributing thus to an in-depth understanding of the theme. One last limitation of our research is the limited number of moral values included in closed questions, not allowing the participants to include other values that they could consider important.

#### **Final considerations**

"Respect," "responsibility," "patience," "humility," as well as "prudence" and "trust," were the moral values listed by the students as essential for medical education. The participants recognize the importance of moral values for the professional practice and showed interest in the topic. But for this education to be effective, professors must become aware of their social role. Consequently, we must qualify professors and establish continuing education to avoid moral education becoming a product of chance or remaining outside the curriculum.

#### References

- Steiner-Hofbauer V, Schrank B, Holzinger A. What is a good doctor? Wien Med Wochenschr [Internet]. 2018 [acesso 15 abr 2020];168(15-16):398-405. DOI: 10.1007/s10354-017-0597-8
- 2. Gracia D. Pensar a bioética: metas e desafios. São Paulo: Loyola; 2010.
- 3. Burgess A, Oates K, Goulston K. Role modelling in medical education: the importance of teaching skills. Clin Teach [Internet]. 2016 [acesso 15 abr 2020];13(2):134-7. DOI: 10.1111/tct.12397
- Ferrari AG, Silva CM, Siqueira JE. Ensino de bioética nas escolas de medicina da América Latina. Rev. bioét. (Impr.) [Internet]. 2018 [acesso 15 abr 2020];26(2):228-34. DOI: 10.1590/1983-80422018262243
- Conselho Nacional de Educação. Parecer CNS/CES nº 1.133/2001. Diretrizes curriculares nacionais dos cursos de graduação em enfermagem, medicina e nutrição. Diário Oficial da União [Internet]. Brasília, 3 out 2001 [acesso 15 abr 2020]. Disponível: https://bit.ly/35fdz84
- Conselho Nacional de Educação. Resolução CNE/CES nº 3, de 20 de junho de 2014. Institui diretrizes curriculares nacionais do curso de graduação em medicina e dá outras providências. Diário Oficial da União [Internet]. Brasília, 23 jun 2014 [acesso 15 abr 2020]. Disponível: https://bit.ly/2ZhS5nf
- Ferreira MJM, Ribeiro KG, Almeida MM, Sousa MS, Ribeiro MTAM, Machado MMT, Kerr LRFS. Novas diretrizes curriculares nacionais para os cursos de medicina: oportunidades para ressignificar a formação. Interface Comun Saúde Educ [Internet]. 2019 [acesso 15 abr 2020];23(supl 1):e170920. DOI: 10.1590/interface.170920
- 8. Araújo UF, Puig JM. Educação e valores. 2ª ed. Arantes VA, organizadora. São Paulo: Summus; 2007.
- 9. Serodio A, Kopelman BI, Bataglia PUR. A promoção das competências moral e democrática: por uma virada educacional da bioética. Rev. bioét. (Impr.) [Internet]. 2016 [acesso 15 abr 2020];24(2):235-42. DOI: 10.1590/1983-80422016242123
- Puig Rovira JM, Martín García X. Para un currículum de educación en valores. Folios [Internet].
  2015 [acesso 15 abr 2020];(41):7-22. Disponível: https://bit.ly/35cGLwu
- 11. MacIntyre A. Dependent rational animals: why human beings need the virtues? Chicago: Open Court; 2001.
- Hernando A, Diez-Vega I, Lopez Del Hierro M, Martínez-Alsina M, Diaz-Meco R, Busto MJ et al. Ethical values in college education: a mixed-methods pilot study to assess health sciences students' perceptions. BMC Med Educ [Internet]. 2018 [acesso 15 abr 2020];18:289-300. DOI: 10.1186/s12909-018-1396-7
- 13. Hojat M, Vergare MJ, Maxwell K, Brainard G, Herrine SK, Isenberg GA *et al*. The devil is in the third year: a longitudinal study of erosion of empathy in medical school. Acad Med [Internet]. 2009 [acesso 15 abr 2020];84(9):1182-91. DOI: 10.1097/ACM.0b013e3181b17e55
- Seoane L, Tompkins LM, De Conciliis A, Boysen PG 2nd. Virtues education in medical school: the foundation for professional formation. Ochsner J [Internet]. 2016 [acesso 15 abr 2020];16(1):50-5. Disponível: https://bit.ly/3oDgJsJ
- Maldonado MC, Majía IS, Ulloa LV. Valores que se fomentan en la escuela universitaria de las ciencias de la salud. Rev Cient Esc Univ Cienc Salud [Internet]. 2015 [acesso 15 abr 2020];2(1):29-36. Disponível: https://bit.ly/2GBPoWZ
- Rabow MW, Evans CN, Remen RN. Professional formation and deformation: repression of personal values and qualities in medical education. Fam Med [Internet]. 2013 [acesso 15 abr 2020];45(1):13-8. Disponível: https://bit.ly/2GI2mCM

- 17. Gilligan C. In a different voice: psychological theory and women's development. Cambridge: Harvard: 1982.
- 18. Moyano LG. La ética del cuidado y su aplicación en la profesión enfermera. Acta Bioeth [Internet]. 2015 [acesso 15 abr 2020];21(2):311-7. Disponível: https://bit.ly/32aOt8w
- Karches KE, Sulmasy DP. Justice, courage, and truthfulness: virtues that medical trainees can and must learn. Fam Med [Internet]. 2016 [acesso 15 abr 2020];48(7):511-6. Disponível: https://bit.ly/376dNz3
- Passos E, Carvalho YM. A formação para o SUS abrindo caminhos para a produção do comum. Saúde Soc [Internet]. 2015 [acesso 15 abr 2020];24(supl 1):92-101. DOI: 10.1590/s0104-12902015s01008
- 21. Montanari PM. Formação para o trabalho no ensino das graduações em saúde. Saúde Soc [Internet]. 2018 [acesso 15 abr 2020];27(4):980-6. DOI: 10.1590/s0104-12902018180974
- 22. Japiassú H, Marcondes D. Dicionário básico de filosofia. 3ª ed. Rio de Janeiro: Jorge Zahar; 2001.
- 23. Conselho Federal de Medicina. Resolução CFM nº 2.217, de 27 de setembro de 2018. Aprova o Código de Ética Médica. Diário Oficial da União [Internet]. Brasília, nº 211, p. 179, 1º nov 2018 [acesso 28 maio 2020]. Seção 1. Disponível: https://bit.ly/3jXVNdv
- Lehmann LS, Sulmasy LS, Desai S. Hidden curricula, ethics, and professionalism: optimizing clinical learning environments in becoming and being a physician: a position paper of the American College of Physicians. Ann Intern Med [Internet]. 2018 [acesso 15 abr 2020];168(7):506-8. DOI: 10.7326/M17-2058
- 25. Farias JB Jr. Hans Jonas e Paul Ricoeur: a ética da responsabilidade à luz da alteridade. Sapere Aude [Internet]. 2013 [acesso 15 abr 2020];4(8):243-53. Disponível: https://bit.ly/3IZDI65
- 26. Sennett R. El respeto: sobre la dignidad del hombre en un mundo de desigualdad. Barcelona: Anagrama; 2003.
- 27. Martínez M, Esteban F, Jover G, Payà M, organizadores. La educación, en teoría. Madrid: Síntesis; 2016.
- Domingues KG, Almeida IMMZP. Sociedade, educação e narcisismo da relação do professor com o não-saber [Internet]. In: Anais do V Colóquio Internacional Educação e Contemporaneidade; 21-23 set 2011; São Cristovão. São Cristóvão: Educon; 2011 [acesso 15 abr 2020]. Disponível: https://bit.ly/3277clg
- Almeida PF, Bastos MO, Condé MA, Macedo NJ, Feteira JM, Botelho FP, Silva RL. Trabalho de campo supervisionado II: uma experiência curricular de inserção na atenção primária à saúde. Interface Comun Saúde Educ [Internet]. 2016 [acesso 15 abr 2020];20(58):777-86. DOI: 10.1590/1807-57622015.0692
- 30. Organização das Nações Unidas. Declaração universal sobre bioética e direitos humanos [Internet]. Paris: Unesco; 2006 [acesso 28 maio 2020]. Disponível: https://bit.ly/2F8LO6k
- 31. Marques LMNSR. As metodologias ativas como estratégias para desenvolver a educação em valores na graduação de enfermagem. Esc Anna Nery [Internet]. 2018 [acesso 15 abr 2020];22(3):e20180023. DOI: 10.1590/2177-9465-ean-2018-0023
- 32. Platão. A república. 3ª ed. São Paulo: Edipro; 2019.
- 33. Camps VC. Los valores de la educación. 7ª ed. Madrid: Anaya; 2000.
- Passi V, Johnson S, Peile E, Wright S, Hafferty F, Johnson N. Doctor role modelling in medical education: BEME Guide no. 27. Med Teach [Internet]. 2013 [acesso 15 abr 2020];35(9):e1422-36. DOI: 10.3109/0142159X.2013.806982
- 35. Aristóteles. Ética a Nicômaco. 4ª ed. São Paulo: Edipro; 2014.
- Román B. Formación del carácter: dar lo que uno tiene. In: Esteban F, editor. La formación del carácter de los maestros. Barcelona: Universitat de Barcelona; 2016. p. 19-30.
- 37. Fenstermacher GD, Osguthorpe RD, Sanger MN. Teaching morally and teaching morality. Teach Educ Q [Internet]. 2009 [acesso 15 abr 2020];36(3):7-19. DOI: 10.2307/23479186
- 38. Esteban F, Buxarrais MR. El aprendizaje ético y la formación universitaria: más allá de la casualidad. Teor Educ [Internet]. 2004 [acesso 15 abr 2020];16:91-108. Disponível: https://bit.ly/2ZgO9TS
- Freitas DA, Santos EMS, Lima LVS, Miranda LN, Vasconcelos EL, Nagliate PC. Saberes docentes sobre o processo de ensino-aprendizagem e sua importância para a formação profissional em saúde. Interface Comun Saúde Educ [Internet]. 2016 [acesso 15 abr 2020];20(57):437-48. DOI: 10.1590/1807-57622014.1177
- 40. Serodio A, Kopelman BI, Bataglia PUR. The promotion of medical students' moral development: a comparison between a traditional course on bioethics and a course complemented with the Konstanz method of dilemma discussion. Int J Ethics Educ [Internet]. 2016 [acesso 15 abr 2020];1(1):81-9. DOI: 10.1007/s40889-016-0009-8
- 41. Vargas Jorge Z. Valores humanos del médico del siglo XXI: grado de conocimiento de los estudiantes y docentes de la carrera de medicina de la U.M.S.A. 2017. Cuad Hosp Clín [Internet]. 2018 [acesso 11 set 2020];59(1):41-50. Disponível: https://bit.ly/3hbUgyX

#### Participation of the authors

Lumaira Maria Nascimento Silva da Rocha Marques coordinated the study. Vitor Corradini Milioni and Weydler Campos Hottz Corbiceiro collected and analyzed data. Sandra Costa Fonseca performed the methodological review and statistical analysis of the data. All authors contributed to the final writing of the paper.

Lumaira Maria Nascimento Silva da Rocha Marques

(D) 0000-0002-1167-273X

Sandra Costa Fonseca

(D) 0000-0001-5493-494X

Vitor Corradini Milioni

(i) 0000-0001-6651-1442

Weydler Campos Hottz Corbiceiro

(D) 0000-0002-4730-4744



# **Appendix**

# Questionnaire

Soc	ioe	conomic profile												
1. <i>A</i>	ge:													
2. 0	ien	der: ( ) Feminine		( ) Ma	scul	ine								
3. N	/lari	ital status: ( ) Single	(	) Marr	ied	(	) Widowed	(	) Divorced (	) (	)the	er:		_
4. S	kin	color: ( ) White (	) E	Black (	) E	Brov	vn ( ) Yello	)W	v ( ) Indigenoι	JS				
5. F	elig	gion: ( ) Catholic ( ( ) Other:	) E	vangelic	al 	(	) Spiritist (	).	Jehovah's Witnes	S	(	Ath	eist	
6. I	am					_			11 minimum wa than 23 minimum	_			12 to 16 minimum wage	:S
Qu	esti	ons about moral value	s											
		ch moral values do you itive.	ı be	lieve <i>ha</i> v	re bo	een	<i>promoted</i> du	ri	ng your medical	sch	ool	? You	can check more than on	e
(	) F	Respect	(	) Justice	5		(		) Mercy			(	) Hope	
(	) T	ruth	(	) Gener	osit	у	(		) Humility			(	) Responsibility	
(	) F	Prudence	(	) Trust			(		) Charity			(	) Concord	
(	) E	Benevolence	(	) Coura	ge		(		) Gratitude			(	) Patience	
8. V	Vhi	ch moral values do you	con	sider imp	ort	ant	for your educ	at	tion? You can che	ck r	nor	e tha	in one alternative.	
(	) F	Respect	(	) Justice	ž		(		) Mercy			(	) Hope	
(	) T	ruth	(	) Gener	osit	У	(		) Humility			(	) Responsibility	
(	) F	Prudence	(	) Trust			(		) Charity			(	) Concord	
(	) E	Benevolence	(	) Coura	ge		(		) Gratitude			(	) Patience	
9. V	Vhic	ch disciplines discussed	or p	rovided	the o	expe	erience of the	se	e moral values? Yo	ou ca	an c	heck	more than one alternative	e.
(	)	General Biology I	·		(	)	Epidemiolog				)		niology	
(	)	Neurobiology			(	)	Cardiology			(	)	Rac	liology	
(	)	Health and Society I			(	)	Chemical de	ре	endency	(	)	Hea	alth and Society IV	
(	)	SF I - A			(	)	Dermatology	y		(	)	SF I	II - A	
(	)	Cellular and molecula	r bic	ology	(	)	IPD			(	)	SF I	V - A	
(	)	Medical Psychology I			(	)	FED			(	)	Hea	alth and Society V	
(	)	Health and Society II			(	)	Gastroenter	ol	logy	(	)	Enc	locrinology	
(	)	Morphology I			(	)	Gynecology			(	)	Epi	demiology IV	
(	)	Immunobiology			(	)	Obstetrics			(	)	Clin	ical pharmacology	
(	)	Epidemiology I			(	)	Hematology			(	)	Leg	al Medicine	
(	)	SFI-B			(	)	UTI			(	)	One	cology	
(	)	Epidemiology II			(	)	Neurology			(	)	Ort	hopedics	
(	)	Health and Society III			(	)	MGD			(	)	Psy	chiatry	
(	)	Morphology II			(	)	Pneumology	r		(	)	Rhe	eumatology	
(	)	Physiology VI			(	)	Antibiotic th	eı	rapy	(	)	Тох	icology	
(	)	SF II - A			(	)	SF III - B			(	)	Pat	hologic anatomy	
(	)	ADM I			(	)	HPM III			(	)	Clir	ical pathology	
(	)	Physiology VII			(	)	Child Neuro	ps	sychiatry	(	)	PPS	;P	
(	)	HPM I			(	)	Anesthesiolo	gc	ζ <b>y</b>	(	)	eth	ic	
(	)	Morphology III			(	)	General surg	зe	ry	(	)	SA		

(	)	Neurosurgery	(	)	ADM II	(	)	Plastic surgery		
(	)	SF II – B	(	)	Thoracic surgery	(	)	Medical psychology II		
(	)	Geriatrics	(	)	HPM II	(	)	Clinical Immunology		
(	)	Pediatrics	(	)	Nephrology	(	)	Pathology		
(	)	Neonatology	(	)	LABMED	(	)	Ophthalmology		
(	)	Pharmacology	(	)	Otorhinolaryngology	(	)	Genetics		
(	)	Urology	(	)	Elective course. Which one:	(	)			
Ma Sup 10.	le Ge port Wh	ervised Fieldwork; IPD: Infectious and Pa enital Diseases; ADM: Aggression and De Program; SA: Surgical Anatomy; LABME ich pedagogical method used provic tive.	fens D: La	e N iboi	lechanism; HPM: Health Planning and atory Medicine	d M	ana	gement; PPSP: Psycho-Pedagogical		
•	) Pr	cture ( ) Small group actical experience ( ) Discussion hers:	of fi	lms		cas	es	( ) Portfolio ( ) Debates		
11.	Do	you believe that moral values have I	oeer	ı w	orked in a way that was:					
(	) Ex	plicit in the course content								
(	) Im	plicit in the course content								
12.	Hov	w has the relationship between stud	ent	s ar	nd teachers been during your cou	rse	?			
(	( ) Vertical/authoritarian ( ) Horizontal/based on dialogue									
13.	Do	you think that discussions about mo	ral	valu	ues will contribute to your profess	sior	nal <sub>l</sub>	practice?		
	( ) It will contribute a lot ( ) It will contribute little ( ) It will not contribute									