

Bioethics teaching in dentistry as seen by course coordinators

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Abstract

This article analyzes the importance dentistry course coordinators attribute to bioethics teaching and their opinion on the expected graduate profile. An exploratory, descriptive cross-sectional study was conducted with 130 coordinators of Brazilian dentistry courses. Data underwent descriptive analysis and Bardin's content analysis. Most participants attribute importance to bioethics teaching in different situations and 23.8% considered a professional with an ethical and humanized attitude, who is reflective and technically competent as a suitable profile. Dentistry courses are increasingly including bioethics in their curricula, and although most coordinators consider it important, not all understand its principles.

Keywords: Teaching. Curriculum. Bioethics. Dentistry.

Resumo

Bioética na odontologia: o que pensam os coordenadores dos cursos

Este artigo analisa a importância que coordenadores dos cursos de odontologia brasileiros atribuem ao ensino da bioética e sua opinião sobre o perfil desejável para egressos desse curso. Trata-se de estudo exploratório, descritivo e transversal realizado com 130 coordenadores de cursos de odontologia brasileiros no qual foram realizadas análises descritivas e análise de conteúdo de Bardin. A grande maioria dos participantes atribuiu importância à bioética em diferentes situações e 23,8% deles consideraram um perfil adequado o profissional com postura ética e humanizada, reflexivo e com competência técnica. A bioética está sendo inserida na matriz curricular dos cursos de odontologia, e a maioria dos coordenadores a considera importante em diferentes situações, mas nem todos os gestores entendem o que ela contempla.

Palavras-chave: Ensino. Currículo. Bioética. Odontologia.

Resumen

Bioética en odontología: qué piensan los coordinadores de las carreras

Este artículo analiza la importancia que los coordinadores de las carreras de Odontología en Brasil atribuyen a la enseñanza de la bioética y su opinión sobre el perfil deseable para los graduados de esta carrera. Se trata de un estudio exploratorio, descriptivo y transversal, realizado con 130 coordinadores de las carreras de Odontología de Brasil en el que se llevaron a cabo análisis descriptivos y análisis de contenido de Bardin. La mayoría de los participantes considera que la bioética es importante en diferentes situaciones, y el 23,8% de ellos estiman que un profesional con actitud ética y humanizada, reflexivo y técnicamente competente es un perfil adecuado. La bioética se está incluyendo en el plan de estudios de las carreras de Odontología, y la mayoría de los coordinadores la consideran importante en diferentes situaciones, pero no todos los directores entienden su alcance.

Palabras clave: Enseñanza. Curriculum. Bioética. Odontología.

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The national curricular guidelines (NCG) for the dentistry course, published in 2002, guided higher education institutions (HEI) to train professionals with a generalist, humanist, critical, and reflective profile. Professionals should be prepared to work at all levels of healthcare, based on technical and scientific rigor, and trained to base their actions on ethical and bioethical principles¹.

Almost two decades later, new NCG were published for the same course. These guidelines brought bioethics even closer to teaching dentistry, including in their text attention to the dignity of the human person as a necessary characteristic for the graduate's profile and the objective of training professionals who work considering the ethics and characteristics of each person or group².

The presence of bioethics in undergraduate courses has been identified as essential for the ethical and humanistic development of students³⁻⁹, as it contributes to students' understanding that patients' rights must be respected⁹, making it essential for the training of professionals with the profile desired by the NCG.

Its importance is even more significant in countries like Brazil, where there are still great social inequalities. Maluf and Garrafa highlight that *strengthening spaces for discussing bioethical topics and constructing solid theoretical-critical training for students must constitute an indispensable prerogative*¹⁰. For Justen, Pires and Warmling⁹, the importance of bioethics for healthcare professionals is also related to the possibility of enabling the student to see what is not usually seen, that is, what is behind an illness process, through the development of solidarity and empathy.

However, Neves, Araújo and Rego⁷ consider that, despite the proven importance of teaching bioethics, its strengthening as a field of knowledge and discipline is still challenging. In fact, considering that changes in legislation are not enough to modify professional training effectively¹¹, the NCG guidelines on the desirable profile for graduates may not be enough to generate changes in the political-pedagogical projects (PPP) of the courses, nor in the matrix curriculum. Training graduates with such characteristics must also be a priority for HEI.

In HEI, course coordinators have a prominent role in academic administration, with political power to manage the quality of institutional processes¹², curricular reorganization, and the preparation and monitoring of the PPP¹³⁻¹⁶. It can be inferred, therefore, that the priorities in student training established by these professionals are reflected in the desired profile for the graduate of the course they coordinate. In this sense, we sought to analyze the importance attributed to bioethics by coordinators of Brazilian dentistry courses and the opinion of these professionals about the desirable profile for graduates of the courses.

Method

This is an exploratory, descriptive, and cross-sectional study conducted with coordinators of dentistry courses at Brazilian HEI. Contact with participants was made via email registered on the e-MEC website or obtained from the HEI websites. Three emails were sent to the HEI for courses where this information was unavailable on the e-MEC or HEI websites. Subsequently, telephone contact was established three times, requesting contact from the dentistry course coordinator.

At the end of all attempts, the electronic addresses of the coordination staff or coordinators of 431 dentistry courses were obtained, representing 96.6% of the 446 courses in the area operating during the period. Data collection took place between September and December 2021, using semi-structured, self-administered, and remotely applied questionnaires emailed to coordination staff or directly to Brazil's coordinators of dentistry courses.

Three emails were sent explaining the objectives of the research and the importance of each person's participation, and a link was sent, which, after directing the participant to a digital informed consent form (ICF), led to the questionnaire. Participants who agreed to the ICF and agreed to participate in the research had access to the semi-structured questionnaire. In the end, 130 coordinators agreed to participate in the research and responded to the questionnaire, representing 30.2% of the sample.

The questionnaire construction used the Google Docs tool, a file storage and synchronization service chosen because it is free and easy for researchers and respondents to access. This type of questionnaire can include radio buttons and drop-down lists that only allow one answer, boxes that allow multiple answers, and text boxes with a limited or unlimited number of characters¹⁷.

The questionnaire consisted of 27 questions (open, multiple choice, and with numerical answers). The questions were divided into three blocks: 1) identification data, 2) issues related to the subject of bioethics, and 3) questions regarding the coordinators' opinion on the teaching of bioethics and the profile of graduates.

Data from multiple choice questions, numerical answers, and short answers were processed and analyzed in the SPSS Statistics 23.0 software, and an exploratory analysis was carried out to obtain descriptive statistics of these indicators. Categorical and short answer variables will be presented using absolute and relative frequencies, and continuous variables will be presented using means, median, standard deviation, and interquartile range.

Evaluation of the qualitative open questions used Bardin's content analysis technique¹⁸, which proposes a sequence for assessment. It is based on the following steps: pre-analysis, exploration of the material, and treatment and interpretation of results.

The research was carried out in compliance with Resolutions CNS 466/2012¹⁹ and 510/2016²⁰ of the National Health Council of the Ministry of Health and was approved by the Ethics Committee (IEC/IRB) of the Sergio Arouca National School of Public Health of the Oswaldo Cruz Foundation (ENSP-Fiocruz).

Results

The answers regarding the identification of coordinators (n=130) highlighted the profile of the participants: 59.2% were female, 98.5% had a degree in dentistry, and 84.6% coordinated dentistry courses in private or philanthropic HEI. Furthermore, 52.3% of coordinators had already worked in other management positions

before coordinating the dentistry course they represented. Only six coordinators (4.6%) had ethics and/or bioethics training.

The mean age of the coordinators was approximately 44 years old, with 9 years as the standard deviation. The mean time working as a course coordinator was 3.8 years, with a 4.3 years as the standard deviation. The mean weekly workload for course coordination was 27.3 hours (10.6 years as the standard deviation).

The presence of a bioethics subject in the curriculum of dentistry courses was reported by 80 coordinators (61.5%), being optional in three courses (2.3%), with a greater frequency of offerings in the first two years of graduation (36.9%). Of the coordinators who responded that there was no specific bioethics subject in the curriculum (38.5%), only one stated that bioethics content was not included in other subjects.

The question "For what reason(s) has the bioethics subject not yet been included in the curriculum?" was directed to coordinators who responded that they did not have the subject in their curriculum (n=50). Of these, 22 (44%) justified that bioethical content was already covered in other subjects; nine (18%) said that there was no time available due to the course's restricted workload; and four (8%) said that the course is undergoing curricular restructuring, but did not specify whether bioethics will be included as a subject.

In this group, three participants (6%) responded that they were not included due to an institutional decision; two (4%) said they did not consider bioethics important; and one (2%) stated that he did not have the discipline as per the NCG rules. Four participants (8%) said they did not know how to answer this question, and five (10%) left it blank.

Another question proposed to all participants (n=130) was "What importance do you attribute to bioethics for the training of students?" Seventy-seven (59.2%) simply responded that they considered it "very important and/or necessary and/or essential," but without specifications. Its importance was attributed to the more humanized training of professionals by 11 participants (8.46%), and eight (6.15%) responded that it is essential because it

contributes to improving professional clinical practice. Finally, eight coordinators (6.15%) responded that numerous factors make bioethics essential and prepared more complete responses, as exemplified in the following quote. Table 1 presents these data.

Table 1. Importance attributed to bioethics by course coordinators for student training

	N	%
Very important/necessary/indispensable (no specifications)	77	59.2
Contributes to more humanized training	11	8.5
Contributes to the improvement of professional clinical practice	8	6.2
Prepared more complete answers, describing aspects that explain why they consider bioethics important	8	6.2
Contributes to scientific research	5	3.8
Contributes to the DCE's knowledge and/or dealing with ethical processes	4	3.1
Important in interpersonal relationships (with patients, colleagues, staff, and society)	4	3.1
Contributes to improving social responsibility	2	1.5
Contributes to decision-making	1	0.8
Not essential	1	0.8
Did not answer the question	9	6.9

DCE: Dental Code of Ethics

“Bioethics is fundamental to the exercise of the profession as it is directly related to the patient’s right to information and informed consent concerning the treatment. Furthermore, many conflicts involving bioethics are routine in day-to-day dental practice, and knowledge of bioethics is essential for resolving these conflicts” (C2).

All participants were also asked, “In what situations in the daily professional life of a dental surgeon do you consider knowledge of bioethics

important?” Some coordinators responded by mentioning only one type of situation, and others mentioned several in a single response. The situations were categorized according to the frequency in which they appeared. “Clinical care and/or treatment planning and/or choice of procedures” was the most frequently cited category (31.54%), followed by respondents who stated “in all situations” (30.77%) and the category “interpersonal relationships” (23.85%). Table 2 shows the data.

Table 2. Situations in the daily professional life of a dental surgeon in which the coordinator considers knowledge of bioethics important

	N*	%
In clinical care, treatment planning and choice of procedures	41	31.5
In all situations	40	30.8
In interpersonal relationships (with patients, colleagues, staff, and society)	31	23.9
In scientific research	18	13.9
In decision-making	7	5.4
In advertising, social networks	7	5.4
In the knowledge of the DCE and in the face of ethical processes	6	4.6
In confidentiality, in the custody of dental records	5	3.9
In concern for the environment, with the disposal of chemical products	3	2.3

continues...

Table 2. Continuation

	N*	%
In training/teaching	3	2.3
In the humanization of care	3	2.3
When charging professional fees	3	2.3
In caring for people with vulnerabilities	1	0.8
When referring patients to colleagues	1	0.8
In biosafety	1	0.8
In valuing the profession	1	0.8
When filling out certificates	1	0.8
In the knowledge of principlism	1	0.8
In informed consent	1	0.8
Did not answer the question	13	10.0

*The sum of the responses is greater than n=130 and 100%, as there were responses in which the researchers included more than one situation; DCE: Dental Code of Ethics

The question “What professional profile should Brazilian dentistry courses form?” was also directed to all participants (n=130). The majority (23.8%) described a profile that included an ethical, humanist, critical, reflective, generalist, and technically competent stance, followed by those who responded only generalist (13.9%),

humanist, and ethical (13.9%) and ethical, with a humanist stance, aware of their social and critical role, but without mentioning technical competence (13.9%). Other participants described only a technically competent professional as the desired profile, without mentioning ethics or humanization (11.5%) (Table 3).

Table 3. Professional profile that Brazilian dentistry courses should form, according to the opinion of course coordinators

	N	%
Ethical, humanist, reflective, and technically competent	31	23.8
Generalist	18	13.9
Humanist and ethical	18	13.9
Ethical, with a humanist stance, awareness of their social and critical role (no mention of technical competence)	18	13.9
With technical competence (no mention of ethics or humanist stance)	15	11.5
Ethical and/or bioethical	11	8.5
Only responded that they are following the profile recommended by the NCG without detailing	6	4.6
With conduct guided by the DCE and/or regulations and laws	3	2.3
Did not answer the question	10	7.7

DCE: Dental Code of Ethics; NCG: national curriculum guidelines

Discussion

Considering that research carried out through questionnaires usually has the disadvantage of low adherence by the target audience^{21,22}, averaging 25% in responses obtained²¹,

the percentage of coordinators who agreed to participate in this research can be considered satisfactory (30.2%).

Of the total number of coordinators who participated in the survey, 4.61% responded that they had training—specialization, master’s,

or doctorate—in the areas of ethics and/or bioethics. This percentage is higher than that found in the survey on the Lattes curriculum of coordinators—registered on the e-MEC website—of dentistry courses in Brazil. The survey showed that only 1.1% of the curriculums had a record of such training²³, indicating that professionals trained in this field may have responded to the questionnaire because they identify with the research theme.

When asked whether bioethics, as a subject, was present in the course's curricular matrix, 61.5% of participants responded positively, and in 36.9% of these courses, the subject was taught in the first two academic years. This data is in line with the recommendation of some authors that the basic training cycle is the best period to teach bioethics^{3,5,7}. The objective that teaching this field of knowledge becomes cross-sectional throughout the course is well-known, causing more significant learning.

The coordinators (38.5%) who responded that bioethics was not present as a subject in the course were asked about the reason for this absence in the curricular matrix, and the majority (44%) stated that other subjects covered the contents of bioethics. The association between bioethics and normative content within the same subject is not recommended⁷ because, despite complementary themes being presented, different subjects have different purposes in professional training²⁴. The objectives of bioethics include raising students' awareness of the importance of respecting the patients' rights⁹, which contributes to the moral formation of students, and therefore, its effective presence in the curricular matrix, in the form of subject, is essential⁷.

Some participants who gave the justification that other subjects covered the content also reported that these themes were worked on cross-sectionally. In fact, several authors have published articles highlighting the importance of bioethical content being addressed in cross-sectionally during undergraduate studies^{6,25-29}. However, although the cross-sectional teaching of ethics is engaging, it is necessary to consider its actual scope.

Some professionals still associate ethics with applying the Dental Code of Ethics (DCE)³⁰, and professors consider teaching ethics to be limited to the regulations of code⁷. Not considering bioethics as an autonomous subject, relegating the ethical discussion to other subjects, even cross-sectionally, could divert its actual objective. For Rego³⁰, the cross-sectional teaching of ethics is necessary in the education system, but it must be an alternative to be considered in the long term.

It is worth noting that 18% of participants claimed that bioethics is absent in the curriculum due to course workload restrictions, 4% responded that they do not consider bioethics important, and 2% considered that it is not present per the guidance of the NCG. These data reveal a lack of prioritization of bioethics within some dentistry courses and even a lack of knowledge of the NCG guidelines, published since 2002¹.

In response to the question "What importance do you attribute to bioethics in the training of students?", most participants (59.2%) responded, without detail, that they considered bioethics to be very important and/or necessary and/or essential in the training of students. The others described the circumstances in which they attributed importance to bioethics, with more humanized training being the most cited (8.46%). Notably, 6.2% of participants related its importance only to improving professional clinical practice and 3.1% to the knowledge of the DCE and ethical processes, which suggests a lack of knowledge about the scope of bioethics content.

The answers to this question can be compared to those to why bioethics had not been included in the curricular matrix, answered by the course coordinators who declared the absence of bioethics (n=50). From the comparison, it is possible to infer that, although most coordinators attribute importance to bioethics in the training of students, some of them still do not consider it a priority or understand that only the supposed teaching of their content through other subjects is sufficient.

The answers to the question "In which situations in the daily professional life of a dental surgeon do you consider knowledge of bioethics important?" are also significant. Thus, 30.8% only

responded that they considered it essential in “all” situations. At the same time, other participants specified the types of situations in which they considered bioethics essential, scoring one or more, grouped according to the frequency in which they appeared in the answers.

The most frequently cited situations were clinical care, treatment planning, and choice of procedures (31.5%). These answers may be associated with the cultural issue related to the traditional technical teaching of dentistry⁸ and the lack of knowledge of what bioethics represents by these coordinators.

The answers to the question “What professional profile should Brazilian dentistry courses form?” were analyzed and grouped according to the meaning of the sentences and the frequency in which they appeared. Of all the resulting categories, “a humanized, reflective profile, with an ethical stance and technical competence” was the most frequently cited (23.8%). This profile follows the recommendations for the dentistry course in the 2002 NCG¹, reiterated in the 2021 NCG², whose definition of a suitable professional covers all dimensions of technical, humanistic, reflective, critical, and ethical training.

What drew attention was that 11.5% of participants responded that achieving technical excellence would be the desired profile for graduates, without mentioning any humanistic or ethical characteristics. While Brazilian dentistry is already recognized for its technical excellence³¹, this technical teaching model has been criticized and identified as insufficient to guarantee a quality service³², in addition to being unable to meet the current requirements for complete and humanized care⁸. To achieve these objectives, it is necessary for HEI to also commit to—and prioritize—the moral and ethical training of their students¹¹ and for people in charge to understand that a humanized profile is as essential for healthcare professionals as technical skills¹².

A small percentage responded that the desired profile for the graduate would be a professional who guides their conduct based on the DCE, regulations, and laws. The DCE has constituted

the basis for teaching ethics for a long time³³. In fact, its discussion in the training of students is indispensable, as it is linked to the regulation of professional practice. However, it is not enough to provide students with an understanding of what ethics is⁷, nor to contemplate the humanistic training necessary for professionals³⁴. Furthermore, a purely deontological understanding of ethics can have disastrous consequences in managing actual ethical conflicts⁶.

Final considerations

This research showed that bioethics has been included in the curriculum of Brazilian dentistry courses but that in most HEI, its content is still taught within other subjects. Furthermore, most coordinators attach importance to bioethics in different situations in professional training and consider ethical, humanized, critical, and reflective training in the profile described as appropriate for graduates.

However, it is worrying that 13.9% of participants responded that the desired profile for the graduate would only be that of a generalist professional; 11.5% believe that only technical competence would be enough; and 2.3% responded that it would be a professional who would guide their conduct by the DCE, and/or by regulations and laws. Analysis of the responses suggests that some coordinators are unaware of the NCG guidelines for the profile of graduates or that they simply ignore such guidelines.


As Rego³⁰ considers, the recognized distance between theory and practice cannot be ignored, as the academic curriculum matrix does not represent reality, only expressing the ideology of its formulators and the intention of the course in question. In this sense, the training of students does not necessarily correspond to the profile idealized by coordinators and HEI concerning the ethical, humanistic, critical, reflective dimension, or even technical competence. However, if such characteristics are not even part of the idealization of the formulators, the curricular matrices, and the PPP of the courses, the training of graduates with the profile guided by the NCG will be even more out of reach.

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Participation of the authors

Renata Maria Colodette contributed to the conception and design of the work and the analysis and interpretation of the results. Andréia Patrícia Gomes participated in the conception and design of the work and in the critical review of the manuscript. Tiago Ricardo Moreira collaborated in data analysis and the critical review of the manuscript. All authors approved the final version submitted to the journal.

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