Knowledge, Attitude, and Perception Regarding the Application of Bioethical Principles in Students of the School of Dentistry, National University of Caaguazú, Paraguay, Year 2022

By Martinez-Gutierrez, Giselle, Cespedes-Santacruz, Gerardo Adrian & Soto-Godoy, Claudia Liliana

National University of Caaguazú

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Knowledge, Attitude, and Perception Regarding the Application of Bioethical Principles in Students of the School of Dentistry, National University of Caaguazú, Paraguay, Year 2022

Conocimiento, Actitud Y Percepción Sobre La Aplicación De Principios Bioéticos En Estudiantes De La Facultad Odontología, Universidad Nacional De Caaguazú, Paraguay, Año 2022

Martínez-Gutiérrez, Giselle a, Cespedes-Santacruz, Gerardo Adrian a & Soto-Godoy, Claudia Liliana a

Abstract: Ethics and its principles are essential elements that all individuals must have as a guide for daily life. In the case of healthcare professionals, particularly dentists, due to the nature of the profession, which involves working with human beings, it also entails the application of a set of values such as respect, empathy, and also, a solid moral foundation with the sole purpose of ensuring the physical and emotional well-being of the patient. The study aims to identify the knowledge, attitude, and perception regarding the application of bioethical principles in students of the School of Dentistry at the National University of Caaguazú, Paraguay, in the year 2022. An observational, cross-sectional descriptive study with a census-type sampling was conducted among fourth and fifth-year students. Data was collected by administering a survey to determine knowledge, attitude, and perception regarding the application of bioethical principles during dental clinical care. 73.21% of the respondents demonstrated MEDIUM LEVEL OF KNOWLEDGE, and 89.29% of the students exhibited AN APPROPRIATE ATTITUDE toward bioethical principles. 71% of the participants perceived that ETHICAL PRINCIPLES were ALMOST ALWAYS applied during pre-professional dental practice. In conclusion, nearly three-quarters of the respondents had a moderate level of knowledge about bioethical principles, and a slightly higher number showed an appropriate attitude. In terms of perception regarding the practical application of bioethical principles, nearly three-quarters of the respondents perceived that the bioethical principles were almost always applied during pre-professional dental practice.

Keywords: bioethics; deontology; bioethical principles; pre-professional dental practice; humanized dental care.

Resumen: La ética y sus principios son elementos esenciales que todos los individuos deben tener como guía para la vida diaria. En el caso de los profesionales de la salud, en particular los odontólogos, debido a la naturaleza de la profesión, es que trabajan con seres humanos, implica, además, aplicar de la técnica odontológica, un conjunto de valores, tales como el respeto, la empatía y agregando un sólido andamiaje moral con el único fin de asegurar el bienestar físico y emocional del paciente. El objetivo de este estudio fue identificar el conocimiento, la actitud y la percepción sobre la aplicación de los principios bioéticos en estudiantes de la Facultad de Odontología de la Universidad Nacional de Caaguazú, Paraguay, año 2022. Se realizó un estudio observacional, descriptivo de corte transversal con un muestreo tipo censo entre los alumnos del cuarto y quinto curso. Los datos se recolectaron aplicando una encuesta para determinar los conocimientos, la actitud y la percepción para la aplicación de los principios bioéticos durante la atención clínica odontológica. El 73.21% de los encuestados alcanzaron un CONOCIMIENTO MEDIO y 89.29% de los estudiantes mostraron una ACTITUD ADECUADA sobre los principios bioéticos; el 71% de los participantes percibe que CASI SIEMPRE se aplican los principios éticos durante la práctica odontológica pre profesional. En conclusión, casi tres cuartas partes de los encuestados el conocimiento sobre los principios bioéticos fue regular, en un número ligeramente superior, la actitud adecuada y en cuanto a la percepción sobre la aplicación práctica de los principios bioéticos también casi tres cuartas partes de los encuestados perciben que casi siempre se aplican los principios bioéticos durante la práctica odontológica pre profesional.

Palabras clave: bioética; deontología; principios bioéticos; práctica preprofesional odontológica; atención odontológica humanizada.

I. INTRODUCTION

In the area of healthcare, every scientific discipline must continually demonstrate its social commitment and incorporate it into its purposes. Therefore, in the case of dentistry, it is crucial to consider that dental clinics operate in a multifactorial environment where the social responsibility of the profession, the social function of the dentist, and their social awareness must be promoted.

Hence, it is essential to highlight that Bioethics is an interdisciplinary theoretical-practical study whose objective is to address the moral challenges technology
poses to the development of life, health, and the environment (Cantú-Martínez, 2019).

For dentists, particularly, due to the meaning of their relationship and interaction with the patient, their enhanced knowledge of clinical and therapeutic biopsychosocial aspects, compels them to extensively develop the ethical component during professional practice (Villacis et al., 2019).

Therefore, it is necessary to find ways for students to incorporate ethical reflections and foundations into their ways of acting, behaving, and putting into practice what they have learned to emphasize and conceive ethics as a foundation during healthcare and scientific research, thereby promoting the formation of comprehensive professionals capable of making informed decisions and critically reflecting on situations that require it in their daily practice. These qualities should not be limited to codes, rules, and etiquettes; they involve the consistent adoption of ethical principles and professional virtues, such as respect for the dignity of the human person and the pursuit of well-being for humanity.

In Latin America, integrating Bioethics into university curricula remains an outstanding issue. Therefore, in some cases, students graduate without optimal preparation for ethical and moral reasoning (Barreto & Durán, 2021). The absence of such training during undergraduate studies can result in dehumanized healthcare practice.

The school is a fundamental entity in the comprehensive training of dentists; hence, they must consider developing competent professionals cannot occur without ethical and moral education (Jácome Liévano, 2019).

The literature reports deficiencies and inefficiencies related to the lack of Bioethics knowledge among health sciences students. Also, healthcare institutions may be facing a loss of values in dental care (Morales et al., 2021).

In Quito, Ecuador, in 2016, Palacios conducted a study on the level of knowledge and application of ethical and moral duties in pre-professional preparation among ninth-semester students at the School of Dentistry, Central University. The study found that 44% of the surveyed students had a moderate level of knowledge, and only half of the participants demonstrated the application of ethical duties during pre-professional practice (Palacios, 2016).

Villacis et al. (2019) conducted a study in 2019 to assess students’ knowledge of dental bioethics and its application in clinical practice at the Dental Care Unit of the Regional Autonomous University of the Andes. A lack of dental bioethical principles in students during pre-professional practice toward their patients was identified. The study’s results showed a low level of knowledge about dental bioethics. They suggested improving the curriculum to provide students with better bioethical training.

The education provided to students should be based on current realities and should be focused on responding to everyday problems during professional life. It is necessary to analyze the interests and values that will later guide and be the fundamental characteristic of the pre-professional and professional development of the dentist, such as honesty and responsibility for their actions, reflecting the competence of a comprehensive professional. These qualities will make a difference among graduates because, although they all acquire up-to-date knowledge and clinical skills in dentistry during both undergraduate and postgraduate studies, what distinguishes a comprehensively trained professional is their attitude and the correct decision-making, i.e., critical reflection on moral aspects involved in bioethical decisions.

This research focused on identifying the knowledge, attitude, and perception regarding the practical application of bioethical principles in students of the School of Dentistry at the National University of Caaguazú, 2022.

The research provided valuable information about the positive and negative aspects of Dentistry students regarding Bioethics and its application in clinical practice. With this information, the faculty may take action to strengthen and improving the training of future dentists. Besides, it promotes reflection and ethical decision-making to protect patients’ rights and avoid ethical-legal conflicts, always aiming to provide humane and high-quality patient care.

II. Materials and Method

The study was observational, descriptive, and cross-sectional. It was conducted at the School of Dentistry of the National University of Caaguazú, in 2022. The study population consisted of fourth and fifth-year students. Using a census-type sampling, all students were recruited, resulting in a sample size of 56 units of analysis. All enrolled students were included, and the exclusion criterion was the explicit desire of individuals not to participate.

Data collection was carried out through a survey using a questionnaire similar to the one used by Salamanca (Salamanca & AFOM, 2017). The instrument consisted of 12 questions to assess general knowledge of Bioethics, 10 questions to measure attitude, and ten questions to determine perception regarding the practical application of Bioethics during the provision of dental services in the school clinic.

Using a Likert-type scale, the following categories were assigned:

Knowledge of bioethical principles: HIGH: 9-12; MEDIUM: 5-8; LOW: 1-4.
The study was conducted following basic ethical principles for non-experimental research. The confidentiality of the subjects and the data they provided were maintained by coding the questionnaires so that they could not be linked to the respondents. Participation in the research was voluntary, giving students the autonomy to decide whether or not to participate in the study without any harm or repercussions. Once the research was finished, the subjects received a copy of the draft of the Code of Ethics and Dental Deontology of Paraguay in digital format.

### III. Results

The participants ranged from 21 to 31 years old, with a median age of 24 years. The female gender prevailed at 66% (37).

#### Level of knowledge about bioethics among fourth and fifth-year students of the Santo Tomás de Aquino Faculty at the National University of Caaguazú, 2022. N=56.

<table>
<thead>
<tr>
<th>Level of knowledge</th>
<th>N</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>6</td>
<td>10.71</td>
</tr>
<tr>
<td>Medium</td>
<td>41</td>
<td>73.21</td>
</tr>
<tr>
<td>High</td>
<td>9</td>
<td>16.07</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100</td>
</tr>
</tbody>
</table>

68% correctly identified the concept of Bioethics, 83% acknowledged its characteristics, 86% recognized the principles, and 62% responded correctly to the use of Informed Consent. They correctly identified the concepts of Negligence (79%), Ineptitude (18%), Incompetence (65%), and Recklessness (23%). In general, 73.21% (41) of the students achieved a MEDIUM level of knowledge.

#### Attitude towards bioethical principles among fourth and fifth-year students of the Santo Tomás de Aquino Faculty at the National University of Caaguazú, 2022. N=56.

<table>
<thead>
<tr>
<th>Attitude</th>
<th>N</th>
<th>F</th>
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<tbody>
<tr>
<td>Adequate</td>
<td>50</td>
<td>10.7</td>
</tr>
<tr>
<td>Inadequate</td>
<td>6</td>
<td>89.3</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100</td>
</tr>
</tbody>
</table>

89.29% of the students demonstrated an adequate attitude towards bioethical principles.
Perception of the practical application of bioethical principles among fourth and fifth-year students of the Santo Tomás de Aquino Faculty, National University of Caaguazú, 2022. N=56.

Regarding the perception of the practical application of bioethical principles, 62.5% perceive that the risk-benefit is ALWAYS considered when choosing treatment for patients. 46.4% perceive the managing of infectious waste is ALWAYS appropriately handled, and 35.7% perceive that informing the patient in case of a previous mistake is ONLY SOMETIMES done.

41% of the respondents said that, in their opinion, informing the patient always happens if an unintentional error occurs during treatment. Regarding patient care, 57.1% perceive that everyone is ALWAYS treated the same way.

According to the respondents' perception, they are ALMOST ALWAYS compassionate (46.3%) and merciful (35.7%). 75% agreed that they do not engage in malpractice or unnecessary work, and the same percentage (75%) agreed that the faculty clinic provides patients with quality, dignified, and responsible care.

In 55.3% of cases, they perceived that ALMOST ALWAYS there is an excellent relationship among patients, students, teachers, and administrative staff, and 41% said that ethical dilemmas are ALWAYS identified, and Ethical standards are applied according to the dental code of ethics.

In general, 71% of the respondents perceive that the bioethical principles are ALWAYS followed during dental clinical care for patients treated at the faculty.

IV. Discussion and Comments

The present research found that 73.21% of the respondents reached a MEDIUM level of knowledge about bioethical principles, while the remaining 16.07% positioned themselves at a HIGH level of understanding. These results align with those reported by Flores in Peru, who found that 76% of the respondents had regular knowledge (Flores Huamaní, 2018). On the other hand, when comparing these results with other studies in the same research area, a significant difference is observed. Aguilar, for instance, reported a low knowledge level of 61.5% regarding ethics and bioethics among dentistry students (Aguilar Portocarrero, 2017).

In contrast, Eulogio's study findings reported 97.8% of participants with fair knowledge of Bioethics and its application in odontology (Eulogio Ccaccya, 2018).

In the present research, only 10.71% of the surveyed students fell into the low knowledge category, which is opposed to what Taquire found, where 54.9% of dentistry faculty students had a poor level of knowledge (Taquire Almerco, 2019). The literature consulted reaffirms the significant disparity in knowledge about Bioethics and its principles among both undergraduate and postgraduate dentistry students throughout South America (Quispe, 2015; Navarro, 2016).

This research found that 89.29% of the participants had a proper attitude, which coincides with the findings of Brítez, who reported 94% of respondents with a fair attitude (Brítez, 2011). Conversely, Acosta and
colleagues found an appropriate attitude in only 56% of the respondents (Munive, Romero, & Soto, 2015).

Regarding the perception of the practical application of bioethical principles, it was found that a higher percentage almost always values these principles. Mayurí, in a similar study, found that 50% of the respondents claimed to almost always practice bioethical principles (Mayurí & Alberto, 2017).

It would be essential to implement actions to improve these figures and raise greater awareness among future professionals during their academic training about the importance of understanding and applying bioethics in our professional lives.

V. Conclusions

A significant portion of fourth and fifth-year students at FOUNCA achieved a MEDIUM level of knowledge regarding bioethical principles, while almost all displayed an appropriate attitude towards them. Concerning the practical application of these principles in the provision of dental clinical services, the majority perceived that the bioethical principles are ALMOST ALWAYS applied in patient’s treatment.

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