

The interface between physical therapy, bioethics and education: an integrative review

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Abstract

Training and education in physiotherapy should consider technical and ethical aspects so that professionals can make prudent and resolute decisions. The present paper aims to investigate and synthesize scientific production about the interface between physiotherapy, bioethics and education. An exploratory and descriptive study in the form of an integrative review was performed. Data was collected through a survey of original scientific articles in the following databases: Virtual Health Library, PubMed, Scopus and Scientific Electronic Library Online. To analyze and exhibit the data the content analysis and thematic categorization methods were used. There is a shortage of both Brazilian and non-Brazilian studies. Many of these studies are descriptive and only a few include applied contributions from the field of bioethics in health decision making, with interpretations that contextualize Brazilian society and culture especially lacking. There are many deontological references in physiotherapy, which is reflected in training and education programs and lacks deeper bioethical reflections.

Keywords: Physical Therapy Specialty. Bioethics. Education, higher.

Resumo

Interface entre fisioterapia, bioética e educação: revisão integrativa

A formação em fisioterapia deve englobar aspectos técnicos e éticos para que os profissionais possam tomar decisões prudentes e resolutivas. Este trabalho tem como objetivo investigar e sintetizar as produções científicas acerca da interface entre fisioterapia, bioética e educação. Trata-se de estudo exploratório e descritivo, de revisão integrativa. Os dados foram coletados mediante levantamentos de artigos científicos originais nas bases de dados Biblioteca Virtual em Saúde, PubMed, Scopus e Scientific Electronic Library Online. Para avaliação e exposição dos dados empregou-se análise de conteúdo e categorização temática. Há escassez de estudos internacionais e nacionais; muitos são descritivos e poucos trazem contribuições aplicadas de bioética em tomada de decisão em saúde, principalmente que contextualizem nossa sociedade e cultura. Existem muitas referências deontológicas na fisioterapia, o que influencia também a formação acadêmica, que carece de reflexões bioéticas mais profundas.

Palavras-chave: Fisioterapia. Bioética. Educação superior.

Resumen

Interfaz entre fisioterapia, bioética y educación: estado del arte

La formación en fisioterapia debe incluir aspectos técnicos y éticos para que los profesionales puedan tomar decisiones prudentes y resolutivas. Este trabajo tiene como objetivo investigar y sintetizar las producciones científicas sobre la interfaz entre fisioterapia, bioética y educación. Se trata de un estudio exploratorio y descriptivo de revisión integradora. Los datos fueron recogidos a partir de la recolección de artículos científicos originales en las siguientes bases de datos: Biblioteca Virtual en Salud, PubMed, Scopus y Scientific Electronic Library Online. Para el análisis y la exposición de los datos se utilizó el análisis de contenido y la categorización temática. Existe escasez de estudios internacionales y nacionales; muchos de estos son descriptivos y pocos aportan contribuciones aplicadas de bioética en la toma de decisiones en salud, principalmente que contextualicen la sociedad y cultura brasileñas. Existen muchas referencias deontológicas en la fisioterapia, lo cual influye también en la formación académica que carece de reflexiones bioéticas más profundas.

Palabras clave: Fisioterapia. Bioética. Educación superior.

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Declararam não haver conflito de interesse.

In the second half of the twentieth century, the field of bioethics emerged with the aim of dealing with the complex combination of the scientific revolution and the crisis of traditional values that were engendered by profound societal transformations. In the field of biomedical sciences, in light of the vast capitalistic and biotechnical scientific developments that occurred, individual values and the lack of sound parameters for science became risk factors for humanity and planet earth. Therefore, a great many concerns arose regarding the continuity of life itself on our home planet¹. New conflicts within the sphere of clinical practice also aroused concern regarding the limits and possibilities of applying these new technologies¹.

As a result, bioethics is currently acknowledged as a theoretical, academic and practical field that arose from this trend of greater complexity in the provision of healthcare and in terms of life in general in this increasingly sophisticated world¹. As in any other healthcare profession, the practice of physiotherapy has become associated with various ethical conflicts. This fact created a need to prepare professionals that could tackle these new clinical demands, which frequently require, in addition to medical techniques, sound methods for resolving the ethical issues that have reshaped the field of healthcare.

The framework that outlines the profession has, as its principal quality, that of providing a cure, or rehabilitation, for varying ailments, focusing on the sequel that arise from trauma and musculoskeletal lesions²⁻⁵. In 2001, the National Curricular Directives began to include the disciplines of ethics/bioethics within the training of healthcare professionals, providing guidance for graduates and promoting subject matter that was congruent with the academic objective of refining the healthcare professionals perception of patients and their manner of living. These directives were the embodiment of the commitment that this change in the curriculum would bring when it placed institutions of higher learning within their social role in the fields of health and education⁶.

In terms of the practice of medicine, ethical decision-making and moral virtue are both facets of clinical practice which cannot be separated from the physiotherapeutic process⁷. As such, healthcare professionals must also be introduced not only to bioethical concepts in their training, but also to the skillset that these future professionals obtain during their training and education. It is believed that these educational changes will make it possible to attain a transformation within healthcare practices. This paper aims to answer several fundamental questions, such as: which bioethical themes are included in the overall debate regarding physiotherapy? How many studies have assessed the bioethical background of physical therapists? Is there a direct correlation

between the fields of physiotherapy, bioethics and the educational system? The objective of this review of scholarly literature is to investigate and summarize the scientific research that has been produced regarding the interconnections between these fields.

Methodology

This is an exploratory descriptive study based on the integrative revision method⁸, making it possible to evaluate knowledge that has been established by integrating studies that use different techniques. In May 2015, an inventory was conducted of journal entries hosted in the electronic databases of the Biblioteca Virtual em Saúde (Virtual Health Library) (BVS), PubMed, Scopus, and the Scientific Electronic Library Online (SciELO). The data that were obtained from this survey were updated in January 2016. During this phase, in addition to the researcher, a librarian aided not only in delimiting the search criteria that were adopted, but also in preparing the review of the literature.

The search terms that were used, in accordance with the Descritores em Ciências da Saúde (DeCS) (Health Sciences Descriptors), in Portuguese, English and Spanish, respectively, were: “*Fisioterapia*”, “Physical Therapy Specialty”, “*Fisioterapia*”; “*Bioética*”, “Bioethics”, “*Bioética*”; “*Educação Superior*”, “Education, Higher”, “*Educación Superior*”; and “*Educação Médica*”, “Education, Medical”, “*Educación Médica*”. The search strategy was developed by interchanging the terms in such a way so as to be able to include the largest number of journal entries possible that fall within the scope of the study. In each of the combinations, the Boolean operator “and” was used.

As such, the following keywords were inserted in the search: “*Fisioterapia*” (“Physiotherapy”) and “*Bioética*” (“Bioethics”) and “*Educação Superior*” (“Higher Education”); “*Educação Médica*” (“Medical Education”) and “*Bioética*” (“Bioethics”) and “*Fisioterapia*” (“Physiotherapy”); “*Bioética*” (“Bioethics”) and “*Fisioterapia*” (“Physiotherapy”). The search filter “complete texts” was used in order to give priority to studies that are made available free of charge, and, above all, to promote the notion that such studies are important in that they ensure equal access to information. Research was not selected based on it having been completed within a specific interval of time.

To be included in this study, the original indexed article had to be made available in its entirety, without restriction, in either Portuguese, English or Spanish. Duplicate articles, articles that were not directly associated with the scope of the study and

other types of media, such as the presentation of posters, conference annals, magazine editorials, as well as comments sent, dissertations, theses and brief reports, were excluded. Upon initial survey, 54 journal entries were obtained. Subsequently, the duplicate articles were excluded. Once the stand-alone studies were selected, their titles and abstracts were assessed, and those that corresponded to the selected subject matter were chosen. When such data were insufficient to understand the nature of the study, the entire journal article was read. Once this detailed screening process was concluded, researchers began an in-depth review of the 21 articles of the sample, and the results were compiled.

The technique of content analysis was adopted⁹, which included a classification of the subject matter. Within this qualitative approach, the publications were analyzed and organized, which included the identification of themes, patterns, similarities or disparities and overall trends that the studies had in common. In order to create the subcategories that arose from the category “bioethics and physiotherapeutic practices”, researchers adopted the three benchmarks of the historical overview of

the profession, as described by Swisher⁷. In order to analyze the number of publications by country, subject matter and year, a quantitative approach was employed. Regarding the description of the relevant topics in each journal of the publications included in this study, a simple search was conducted with the names of the journals of each publication within the Portal de Revistas Científicas em Ciências da Saúde (Health Sciences Scientific Journals portal).

Results and discussion

Initially, 54 articles were obtained: 16 were found in BVS, 20 in PubMed, 11 in Scopus and 7 in SciELO (Table 1).

In accordance with the following diagram (Figure 1), of the articles that were found, 21 were excluded for being duplicates. Of the 33 remaining articles, 12 were excluded for not meeting the eligibility criteria that were established, leaving a total of 21 articles as the *corpus* for the study (Chart 1).

Table 1. Number of articles by search engine and database

Descriptors	BVS	PubMed	Scopus	SciELO	Total per search engine
Physiotherapy and Bioethics and Higher Education	2	0	0	0	2
Medical Education and Bioethics and Physiotherapy	2	2	3	0	7
Bioethics and Physiotherapy	12	18	8	7	45
Total by database	16	20	11	7	54

Figure 1. Diagram of the review of the literature

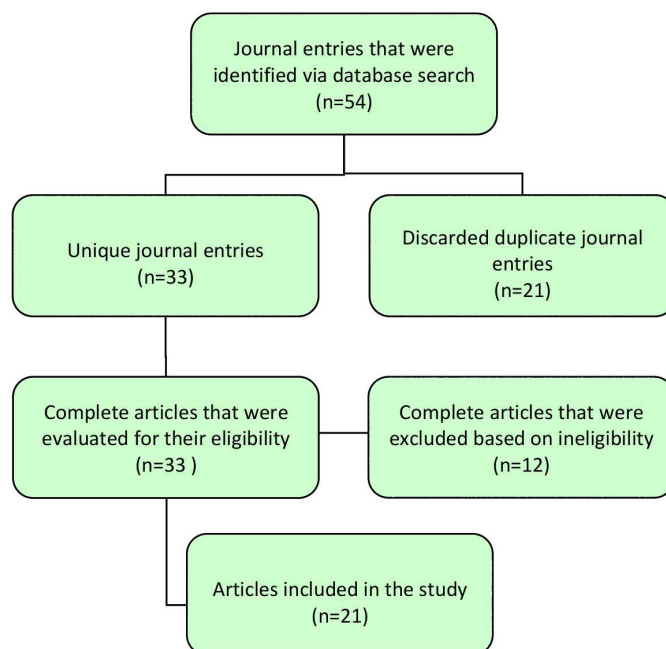


Chart 1. Systematization of the *corpus*

Author	Year	Country	Topic of interest	Topics
Swisher LL ⁷	2002	USA	Information regarding ethics within the literature of the field of physiotherapy	Physical medicine and rehabilitation
Renner AF, Goldim JR, Prati FM ¹⁰	2002	Brazil	Ethical dilemmas in the practice of physiotherapy	Physical medicine and rehabilitation
Waddington I, Roderick M, Bundred P ¹¹	2002	United Kingdom	Issues and ethical aspects regarding confidentiality in the healthcare professional-patient relationship	Sports medicine
Finch E, Geddes EL, Larin H ¹²	2005	United Kingdom	Ethical issues in the clinical decision-making process	Physical medicine and rehabilitation
Nosse LJ, Sagiv L ¹³	2005	USA	Moral values and ethics	Physical medicine and rehabilitation
Linker B ¹⁴	2005	United Kingdom	Ethical code	History of medicine
Scheirton LS, Mu K, Lohman H, Cochran TM ¹⁵	2007	USA	Ethical analysis of clinical cases and errors committed in patient well-being	History of medicine, medical care practices
Alves FD, Bigongiari A, Mochizuki L, Hossne WS, Almeida M ¹⁶	2008	Brazil	Bioethics and physiotherapeutic training	Physical medicine and rehabilitation
Oliveira RR, Siqueira JE, Matsuo T ¹⁷	2008	Brazil	Students' knowledge regarding stem cells	Public health, medicine
Feijó AGS, Sanders A, Centurião AD, Rodrigues GS, Schwanke CHA ¹⁸	2008	Brazil	Ethical issues in the use of animals in scientific investigation	Medicine
Badaró AFV, Guilhem D ¹⁹	2008	Brazil	Bioethics and research in physiotherapy	Physical medicine and rehabilitation
Amer Cuenca JJ, Martínez Gramage J ²⁰	2009	Spain	Bioethics and physiotherapeutic training	Therapy, physical medicine and rehabilitation, nursing
Covolan NT, Corrêa CL, Hoffmann-Horochovski MT, Murata MPF ²¹	2010	Brazil	Bioethics, death, illness and dying, education	Bioethics and ethics
Delany CM, Edwards I, Jensen GM, Skinner E ²²	2010	USA	Specific ethical issues in the practice of physiotherapy and knowledge regarding ethics	Physical medicine and rehabilitation
Greenfield BH, Jensen GM ²³	2010	USA	Phenomenology and moral context of the deficiency, ethical and clinical decision making in physiotherapy	Physical medicine and rehabilitation
Edwards I, Delany CM, Townsend AF, Swisher LL ²⁴	2011	USA	Theory of justice, ethics and clinical practices of the physical therapist	Physical medicine and rehabilitation
Edwards I, Delany CM, Townsend AF, Swisher LL ²⁵	2011	USA	Clinical and ethical decision making, healthcare inequality and social injustice	Physical medicine and rehabilitation
Santuzzi CH, Scardua MJ, Reetz JB, Firme KS, Lira NO, Gonçalves WLS ²⁶	2013	Brazil	Bioethics and professional practices within the ICU	Physical medicine and rehabilitation

Continues...

Author	Year	Country	Topic of interest	Topics
Masson IFB, Baldan CS, Ramalho VR, Esteves Junior I, Masson DF, Peixoto BO e colaboradores ²⁷	2013	Brazil	Ethical issues in the use of animals in scientific investigation	Bioethics and ethics
Lorenzo CFG, Bueno GTA ²⁸	2013	Brazil	Bioethics and research in physiotherapy	Physical medicine and rehabilitation
Figueiredo LC, Gratão ACM, Martins EF ²⁹	2013	Brazil	The ethical code of physiotherapy and professional autonomy	Physical medicine and rehabilitation

Bioethics and physiotherapeutic training

In Brazil, the discipline “Ethics and Deontology” is mandatory within higher education courses in the health sciences¹⁶. However, physiotherapy courses still exist which do not incorporate the debate regarding moral and ethical judgments²⁹ in terms of the practical realities that are faced by recent graduates. As a result, students face challenges in making decisions regarding the ethical dilemmas that arise during their clinical practice¹⁶. Deontology is the branch of ethics that deals with duties and standards, supplying its own moral codes to the professional classes, serving as behavioral norms that should be followed. On the other hand, bioethics is the part of applied ethics which addresses the issues that are related to life, and the field has the tools to discover the general theoretical implications regarding the specific forms of behavior and moral judgment³⁰.

In a comparative study between two physiotherapeutic institutions, in which one included a bioethics course and the other did not, Alves et al¹⁶, its researchers demonstrated that no students from either institution regarded themselves as having knowledge of the professional code of ethics. Regarding the privacy and intimacy of the patients, each of the students revealed themselves to be sensitive to these aspects, referring to bioethical arguments. The situation was similar with respect to the relationship between the physical therapist and the patient. However, the institution that offered the bioethics course was far superior in terms of preparing the students for dealing with other healthcare professionals.

Half of the students that participated in the study replied that they would not respect the patient’s right to determine aspects regarding their own well being¹⁶. Many healthcare practitioners may adopt the justification of beneficence in order to defend paternalistic attitudes. In other words, some healthcare professionals curtail the autonomy of the patient based on the belief they are benefiting others³¹. With respect to diagnoses and prognoses, the students of the university that did not study bioethics thought it better to discard such practices if they were to worsen the clinical situation of the patient, which

seems to be a result of the Hippocratic tradition that is associated with non-maleficence¹⁶.

Despite the differences in training, the results suggest that other mechanisms, formal (academic) or not (related to the students’ understanding of the world), contribute to bioethical learning when one considers individual characteristics as ethical principles, human values, moral character and integrity¹⁶. The concepts of “human being”, “life” and “ethics” are currently benchmarks in the field of physiotherapy, not only within the clinical setting, but also within university study²⁰. The framework of personal values begins to emerge in infancy; however, indicators exist that these values can change when one enters adulthood, specifically regarding the practices that are related to knowledge that is acquired in the university setting. Therefore, our understanding of the world and of life is influenced by the impact of anthropological and moral reference points which are related to the perspective of individual existence and determines the decision-making process and the manner in which individuals relate to one another²⁰.

A factor that is rarely mentioned and which should be studied more fully in education and training regards the duality known as “life and death”, and the anxieties and suffering that complicate facing the finite nature of life by healthcare professionals. Since the principal objective of these professionals is to restore health and ensure the patient’s quality of life, having to deal with the onset of illness, to monitor the finite nature of life and to witness the death of their patients may be very difficult experiences to face²¹. In this sense, bioethical assumptions must be emphasized during the education-training process in order to provide a foundation concerning the individual and collective rights and duties that pervade this field²¹.

Literature states that medical training must break the barrier of academic stagnation in favor of more refined consideration regarding the great achievements of science, such as the issues related to the use of embryonic stem cells in research and in the hospital setting. Although progress has been made and information flows quickly, the consideration of ethical principles and the teaching

of bioethics as related to the subject matter, especially in institutions of higher learning, has progressed more slowly,¹⁷ and information regarding the subject is lacking in the literature.

As a result, bioethics must be included in the training of physical therapists^{16,19,21,22,26} in an attempt to modify and maximize the educational content that is offered during the university course²⁰. In addition to the deontological code of ethics, the precepts of bioethics are central to the preparation of students with respect to their personal challenges, perfecting the academic repertoire that aims to prepare students to face more complex ethical dilemmas¹⁶.

Bioethics and research in physiotherapy

Bioethics notably emerged in the United States in the 1970s with the publication of the first observations on the subject, meaning that the ethical implications of physiotherapy have been studied in the country for more than three decades⁷. In Brazil, the development of this field began in the 1990s, and only in 2002 did the first debates arise regarding ethical issues and their relationship with physiotherapy¹⁹. Despite it being clear that interest regarding the subject has grown, the field of physiotherapy did not contribute greatly to the increase in scientific research in Brazil^{19,28}. The undertaking of studies that address the development of the profession within the country is still very incipient, both in terms of bioethics and in terms of public health²⁸.

The lack of publications in Brazil that infuse bioethical considerations within studies that evaluate physiotherapeutic practice may be a reflection of the challenge of including the field as a discipline in both undergraduate³² and specialized post-graduate³³ curricula. The inclusion of bioethics is, therefore, urgent, not only in the education and training of physical therapists, but also in the debate that is held within professional circles to contribute to the strengthening of the professional identity of these practitioners¹⁹ by including ethics as a subject within physiotherapeutic research.

With respect to the quality of Brazilian research papers, little progress has been noted in terms of the consideration of more current bioethical debate and trends that are applicable to the generation and potentiation of conflicts in the Brazilian socioeconomic and cultural contexts²⁸. In Brazil, research shows that the debate regarding bioethics, as it relates to physiotherapy, arose, historically speaking, based on deontological and legal concepts that were restricted to the professional code of ethical conduct^{19,28}. The majority of this research describes classical and hegemonic models that belong to the past of bioethical history, some of which do

not have a relevant conceptual definition or are, in some manner, imprecise. The principlist model, which is prevalent in clinical bioethics, and is based on the four *prima facie* principles (autonomy, beneficence, non-maleficence and justice) is still, to this day, the one that is most frequently cited as the foundation for ethical reasoning within physiotherapeutic practice²⁸.

Another aspect that was observed is that the literature regarding ethics in health includes many studies that address subject matter such as the transplantation of organs, decisions that were made at the end of one's life and experimental treatment, which are important for certain aspects of rehabilitation¹². However, other issues exist in the day-to-day professional practice that are rarely spoken of¹², such as the ethical challenges that arise from the care offered to patients.

Another concern that arises in literature refers to issues regarding the indiscriminate use of animals in scientific research, which can bring about the abuse of, and vulnerability, such creatures. Ethics in the use of animals, which is included in the field of bioethics, proposes considerations regarding the limits of the use of animals by man in scientific experiments. In light of this, Feijó et al.¹⁸ and Masson et al.²⁷ investigated ethical indicators for the use of animals in scientific research, and in the education of Brazilians, in order to produce didactic-scientific practices. These researchers espouse the theory of the three "Rs": reduce the number of animals that are used (*reduce*), reduce the animals' pain and suffering (*refine*) and replace the animals with a specific biological part to be studied or with models that are inanimate and/or computerized (*replace*)^{18,27}.

Despite the fact that the knowledge surrounding ethics has grown constantly between 1970 and 2000, Swisher⁷ concluded that gaps exist in current knowledge regarding the field. As such, further research is needed to resolve the ethical problems related to physiotherapy patients, to the multitude of ethical approaches that exist, to the factors that affect moral judgment, and to sensibility, motivation and courage, in addition to the cultural facets of ethical practices in physiotherapy.

Bioethics and physiotherapeutic practice

In order to understand the trajectory of the profession through history, Edwards et al.²⁴ highlighted three significant events, beginning with the codes of physiotherapeutic ethics and the evolution of their focal points. The first codes focused on professional identity; the next codes emphasized the patients and the professional obligations with respect to them; and the most recent code brought about a new emphasis that was

related to the inequalities in health care and social injustice. Similarly, one can perceive three events in the evolution of knowledge regarding ethics in physiotherapy: ethics that dealt with professional identity (1970-1979), ethics that focused on the patient (1980-1989), and ethics that emphasized the patient as well as societal evolution (1990-2000)⁷. In establishing this historical overview, subcategories with respect to studies about ethics in terms of physiotherapeutic practice began to be developed.

Deontological ethics and professional identity

The role of the physical therapist emerged after WWI in order to rehabilitate combatants, and was generally undertaken by women. In 1935, the American Physiotherapy Association, which regulates the profession within the United States, developed its code of ethics and conduct. The code brought about professional integrity and initially attributed the responsibilities of producing diagnoses, prescriptions and prognoses to doctors, thereby subjugating the physical therapist to these medical professionals¹⁴. At that time, efforts were centered exclusively in promoting a sound relationship with the doctor¹⁴. As a result, this code mainly dealt with the relationship between the physical therapist and the doctor, not the relationship between the physical therapist and the patient.

As the field of physiotherapy only became officially regulated in Brazil in 1969, its first code of professional conduct emerged as late as 1978. At that time, bioethics as a field had not garnered much attention; a greater focus was thereby placed on deontology²⁹. The initial code referred principally to the autonomy of the professional, not to that of the patient, reflecting more the corporate and legal concerns that existed, while placing the therapist in a position of greater power with respect to the patient⁹.

With the limitation of ethics to the study of the undertaking of responsibilities, the knowledge of bioethics cannot be considered to be integrated with its implementation²⁹. In addition, the beneficence that is described in the codes may represent a distorted vision of paternalism, becoming a prerogative so that physical therapy professionals, according to the standards of normalcy that are put forth by the codes, feel that they have the right to intervene in any situation that deviates from those standards, even if it contradicts the desire of the patient²⁹.

Physiotherapist-patient interpersonal relationship

Some studies highlighted a number of the practical issues that were experienced by the physical therapists: the correlation between the errors that were committed by the professionals and the moral aspect of the safety of the patient; the ethical dilemmas that were present in the practices of the Brazilian

physical therapist; the ethical relationships within the intensive care units (ICUs); and the confidentiality between physiotherapy professionals and professional soccer players from English soccer clubs.

Scheirton et al¹⁵ analyzed the mistakes that were committed during the practices of American physical therapists and occupational therapists and their impacts on the safety of patients. These researchers noted that many of these professionals were influenced by moral aspects that were scarcely investigated at the time. The following are moral errors: to omit information; to defraud billing that was not attributed to the professional that conducted the work; to cover up data or a measurement error that was perpetrated by another colleague; and, to cover up an abuse that was committed by another professional. In addition, researchers also noted a lack of effective communication during the process of referring patients in addition to breaches of confidentiality.

An ethical shortcoming may involve a breach the patients' confidence with respect to the profession as a whole, which would constitute a threat. Therefore, such errors must be revealed and deliberated upon within the clinical practice in an effort to offer the patient greater security¹⁵. The lack of scholarly material regarding ethical issues within the field of physiotherapy makes it more difficult for students to prepare for the practice of physical therapy and impedes physical therapists from learning from the publication of such experiences¹⁰. Having respect for people is taken as a universally accepted bioethical principle. In cases of malpractice occurring during the course of treatment, even if in some cases physical damage does not occur, psychological damage may have arisen. In such cases, the physical therapist must assume responsibility and formally apologize to the patient, thereby providing continuity to the treatment and recovering the confidence of the individual¹⁵.

In the field of health care, the ethical dilemma refers to the situation in which the professional is faced with two treatment alternatives, both of which are technically justifiable, but are reprehensible morally or socially³⁴. In Brazil, the most common ethical issues are related to: the limits placed on the physical therapist; the lack of financial backing; the efficiency and quality of the treatment; and the revealing or omission of the truth in order to favor optimistic perceptions in cases where the prognosis is unfavorable¹⁰. The issues that are reported by the physical therapists are more representative of everyday situations than of grand, overarching dilemmas, such as, for example, euthanasia or decisions regarding genetic engineering¹⁰, which corroborates significant international studies^{35,36}.

A Brazilian study concerning ethical issues revealed widespread abstention among the professionals in this field, which was interpreted as

a lack of interest on their part, as conflicting negative practical experiences amongst some participants and unsuitable answers regarding the ethical dilemmas that were experienced, which shows the professionals' incapacity to detect ethical impasses and to effectively take them into consideration¹⁰.

In light of the victories and professional autonomy that have been obtained in new areas of expertise, such as in the ICU, other important issues have emerged. Some examples include the difficult situations involving the severe and unstable nature of the cases, the need to face the death or personal suffering of the patient and their relatives, and the invasion of the patient's privacy²⁶. In light of such complexity, the physical therapist should engage the debate that involves the ethical dilemmas that arise in the ICU, which can bring about discussions regarding ethics and the humanization of intensive care in collaboration with other healthcare professionals²⁶.

With regard to another area of expertise, specifically sports, Waddington, Roderick and Bundred¹¹ investigated the confidentiality between medical professionals or physical therapists and soccer players that play for English professional teams, noting that these individuals did not make use of an ethical code to guide their actions. The researchers noted a conflict of interests with respect to the divulgence of information on the part of employees, media outlets and even sponsors, which was then transmitted by the doctors and physical therapists to the team managers as a result of the contractual obligations that existed between them.

Despite the great demand for results, which causes physical and psychological attrition, working in this area also requires that the healthcare professional operate within an ethical framework so that confidentiality may be considered a fundamental assumption in the doctor/physical therapist-patient relationship, guaranteeing, as such, the confidentiality of private or intimate information.

The clinical decision-making process

The lack of understanding about the clinical decision-making process based on ethics raises questions regarding the efficacy of healthcare practices, and also sheds light on the challenges that exist in the education and training of professionals in the various disciplines in the field of rehabilitation¹². In light of the recognition of the complexity and multiplicity of ethical conflicts, a number of studies have emerged that have proposed deeper consideration about the issue of the clinical decision-making process, more specifically about how to provide more efficient solutions to the various dilemmas that arise in everyday medical practice.

Delany et al.²² believe that these healthcare professionals should understand and balance the

needs of the patients, their families and other professionals, and work within the limitations and opportunities that are offered by healthcare policies and the institutional systems and structures.

A Canadian study¹² investigated scenarios in which physical therapists considered ethical values to be significant factors in their decision-making processes. Even though each one of these professionals reported situations of ethical discomfort in their personal practices, those that replied did not demonstrate the use of any knowledge or appropriate methods of ethical analysis, and were therefore not capable of identifying conflicts between the specific ethical principles that were involved¹².

As an applied proposal, some authors defended a model of ethics known as the active engagement model, which proposes to integrate the clinical and ethical aspects of the medical practice with the theoretical knowledge of ethics and that which is found in the literature on the subject²². This model sets forth three practical steps: active listening, reflexive thought processes and critical thinking. It is centered on the qualified skills, attitudes and actions that are necessary to the creation of a sense of moral action in the field of physiotherapy²².

The increase in patients surviving illnesses, as well as the risk of accidents, sparked greater interest concerning the ethical significance of long-term rehabilitation, the nature of clinical care, and the rehabilitation qualities of physiotherapy vis-à-vis the notion of physical deficiency³⁷. In this context, it is vital that physical therapists develop the skills that can help them to understand the changes and the physical, cognitive, emotional and moral challenges that follow the period of physical deficiency²³. The patients undergo transformations in their physical and mental capabilities as well as in their physical identities, and are subject to alterations in their social and familial roles²³.

Upon offering care, such professionals must be capable of observing, discovering and interpreting the meaning of the lifestyles of the patients and the values that are involved in the ethical clinical decision-making process. This means that such professionals must go beyond principlist, deontological and consequentialist proposals, which are traditionalist approaches of clinical bioethics²³ that do not offer moral insights that could help to select one or another principle in cases where an ethical dilemma must be resolved³⁸. The ethical decision-making process tends to be more rationalist, individual and guided by the isolated incident²³.

Greenfield and Jensen²³ are defendants of the notion that ethical concerns should encompass everyone that is involved, including relatives and members of the local community, with the aim of identifying the multiple meanings that exist

in how the illness is dealt with. This proposal is in agreement with current healthcare concepts and with the International Classification of Functioning, Disability and Health (ICF), which is a classification system established by the World Health Organization that describes, evaluates and measures health and disability, not only on an individual level, but also at the level of the community, thereby creating a more comprehensive and meaningful image of health to base decisions upon³⁹.

Phenomenological ethics occurs through dialogue, thereby encompassing thought and deliberation regarding the patient's needs within a mindset of humility, sensibility and flexibility²³. This relationship of mutual respect should mean that both parties, doctor and patient, are responsible for promoting quality care and the attainment of therapeutic objectives and desired rehabilitation results, while fostering a healthcare setting that is imbued with empathy, respect and emotional support for the patient. As a connection between ethics and the clinical setting, the authors advocate that phenomenology should be used as a tool by educators in order to develop students' rational narrative skills. The justification is that it promotes deliberation and understanding of the patient's perspective, and it can be developed through group work between the students and the professor/instructor, or even in smaller groups²³.

Social and healthcare inequality

The recent paradigm of employing ethics in physiotherapy is related to the growing evidence that is emerging regarding the relevance of the social determinants of health, the epidemiological tendencies with respect to the provision of services, and the greater participation of professionals in the restructuring of health care within various international contexts. These social dimensions that are associated with our ethical obligations manifest themselves in current-day ethical codes²⁴.

This guiding principle brings to light the significance of the physical therapist as a moral agent which has the capacity (individual or as a group) to act morally and bring change to broader contexts that are of a social and global nature, such as, for example, social disadvantages and injustice. As such, the profession is extending legitimacy to the emerging consensus that its influence extends beyond the relationship that exists between the individual therapist and the patient to the method of treatment itself, incorporating into its scope broader social and ethical issues that are paramount to health as a whole²⁴. The legal community is not directly involved in the development of moral arbitration in society, and manifests itself in the field

of healthcare through the interrelationship between healthcare professionals and patients²⁴.

Viewed from this perspective, Edwards et al.^{24,25} have postulated that ethical theories involving justice are necessary, not only with respect to clinical practice, but also regarding ethics as it relates to physiotherapy. However, among the four principles of principlist ethics, that of justice is considered to be the most complex and multidimensional, considering, furthermore, that there is a lack of theoretical work and practical research in academic literature that is associated with this profession. This fact generates certain disparities, since many of the needs of society continue to be expressed in professional literature in terms of facing the inequalities that are inherent to health care and the social injustices that professionals in this area must face during their daily practices²⁴.

With respect to the worldwide adoption of the ICF and its contribution to the biopsychosocial approach in the practice of physiotherapy, the authors suggest thought should be given to the existence of an equivalent biopsychosocial "range" that underlies the ethical approaches that are adopted in the field of physiotherapy²⁴. In this sense, the authors espouse an approach to health care that involves an understanding of the relationship between healthcare and social disadvantages, while considering, in a preventive sense, the health needs of the patients as an expression of the health needs of the communities or populations that said patients originate from²⁴.

In order to determine how physical therapists can more efficiently reduce inequalities in health care and social injustice, a new focal point regarding ethical principles in the court system is indispensable, fundamental for health care and would strengthen the link between the recognition of the social determinants in operation and the ethical principles of the law^{24,25}. From this perspective, the authors describe what they call the capability approach to justice, which is understood as the "capacity approach"²². This approach, which was proposed by Amartya Sen (in the field of economics) and by Martha Nussbaum (in the field of philosophy), is referred to as a broader informational perspective for the evaluation of inequalities in health care and advances the idea of "workings" as the central variable for social aggrandizement. Workings are related to the accomplishments of the individual, taking into account not only the person's well-being, but, above all, the freedom that the individual has to attain it²⁴.

This approach may facilitate the moral arbitration of physical therapists in facing situations of inequality in the health care field and social injustice in their clinical practice²⁴. This perspective makes it necessary for any professional in the field to help their patients improve their functionality, and,

with it, their level of choice and opportunity to attain greater physical liberties.

Moral values and ethics

The first reported case of the use of the theory of values and an instrument of measurement in the study of the structures and evaluative priorities of physical therapists was developed by Nosse and Sagiv¹³ and involved 565 American physical therapists. According to these researchers, it is proposed in literature that personal values influence behavioral choices. The results indicated that, when physical therapists think of their values in the context of their lives in general, they associate professional success with their competency in providing security instead of a means to achieve personal well-being. The value associated with benevolence was of paramount importance, and those associated with power were rated as less significant¹³. Benevolence refers to the preservation and improvement of the well-being of people with whom one maintains regular contact, which, with respect to the physical therapists, included patients, professional colleagues, friends and relatives¹³.

Due to the lack of research and publication of scholarly articles, combined with the insufficiently robust data available, it is clear that the undertaking of future studies that address the reality of the issue in Brazil is essential in order to understand the moral values of the physical therapists that work in health care. One can imagine that the acquisition of this knowledge will promote not only the implementation of policies that are more context-based, but also bring about the reformulation of the academic curricula and training programs of these professionals.

In order to address the various ethical problems that permeate the practice of physiotherapy and understand the complexity and multidimensionality of this type of care, it is not enough to act in accordance with principles that are determined by society and by this class of professionals. Education and training that is committed to going beyond the deontological framework of knowledge must be implemented, something which is in fact recognized by the Ministry of Education in its curricular directives²⁸. Actions directed by moral principles which are based on laws may represent, to a certain extent, the heteronomy of the professional; however, such precepts shall be incapable of providing moral guidance that could encompass all of the contexts that are brought to light during medical practice in addition to including the broader individual and collective beliefs.

In a recent study which investigated the opinions of physiotherapy students, it was concluded that the code of ethics should be capable of proposing strategies for the resolution of conflicts. The authors

of the present paper believe that this attribute should not be exclusive to this deontological instrument, which represents legal norms that exist to regulate standards of conduct³¹. No studies were found that could provide insight into the new 2013 professional code of ethics. As the scope of analysis proposed herein includes studies that were published up to that same year, it is believed that this may explain why no such research exists. It would be useful to draw such a parallel between older reflexive proposals and the new code in order to evaluate to what extent bioethics has been incorporated into the latter, in addition to assessing the current situation involving the education of these professionals and the health care they provide.

Regarding ethics in the field of research itself, no physiotherapy-related studies that evaluated the systems that regulate how research is undertaken in Brazil, such as the National Council of Research Ethics and the research ethics committees that arbitrate the use of human participants in studies, were found. The authors also noted a lack of academic material regarding ethical issues within the field of physiotherapy on a national scale, making it more difficult for students to prepare for the practice of physical therapy and impeding physical therapists from learning from the publication of such experiences¹⁰. In this context, it is important to note that many of the issues that are reported internationally are not relatable to the sociocultural framework in Brazil.

The studies that propose to examine bioethical approaches are mostly of a descriptive nature; and therefore very few proposals can be practically applied to the field of physiotherapy. Hence, more research is that correlates the practice of physiotherapy and ethics is required, not only in the training of professionals in the field, but also in the therapeutic process itself. This should include considerations regarding the process of providing care in light of the physical-emotional vulnerabilities that the patient may suffer, in the context of social inequalities and injustices.

There are reports of physiotherapy students who find it challenging to make decisions with respect to ethical issues that arise in their clinical practice,¹⁶ which, in the opinion of the authors, can also be explained by their tendency to overestimate their technical capabilities in detriment to their ethical and humanistic background³¹. With an ongoing biomedical tradition that continues to underlie physiotherapeutic training and education, the academic content is frequently incompatible, or out of context, with what is put into practice. As a result, a significant challenge emerges: how can one expect students to be mature and prepared enough to face the various ethical dilemmas that their future practice shall confront them with if they are not

required, with sufficient frequency, to resolve such situations during their training?

Although some studies have addressed the training in ethics that physical therapists have received^{16,17,20,21}, none report experiences involving teaching-learning, teaching proposals nor debates regarding academic curricula. These studies demonstrate that while “Ethics and Deontology”, as a discipline, is incorporated in physiotherapy curricula, work is still required to truly implement bioethics and its applied concepts within the pedagogical framework of the physiotherapy courses offered in Brazil. In order to meet current needs, healthcare practices must be kept up to date with advances in the field of bioethics and regarding the history of the profession itself - from deontology to the process of providing care itself to the issues that emerge in society.

The emphasis that is placed on physical rehabilitation must be overcome. One cannot deny that, considering the professional scope in the field of collective health care, much has been accomplished in the debate regarding the overarching concept of health and its social determinants. However, the authors believe that bioethical discussions that broaden points of view and augment moral judgments in the face of the scarcity of resources, healthcare technologies, patient autonomy, societal issues, the use of animals and of the planet as a whole, are still not included in the classroom debate, as is reflected in the insufficient number of articles that can be found in the scholarly literature.

The expansion of the academic base regarding death and finality is no less important, and can ensure greater preparedness for dealing with new healthcare demands. Currently, with the advance of

palliative care, professionals within the field need to be trained to care for patients that are terminally ill. The education of physical therapists must provide a context in which these future professionals can critically analyze such issues so that they are more prepared to offer dignified care that is increasingly humanistic in its nature.

Final considerations

Upon delimiting the scope of research regarding the interface between physiotherapy, bioethics and education, the authors inventoried the current body of academic research that is offered in Brazil and internationally. In doing so, it is hoped that this review of the literature may promote a deeper understanding of the status of bioethics within the education and training of physical therapists. The data that were obtained shed light on the urgent necessity of placing bioethics clearly in the consciousness of these professionals, which will require action at undergraduate and graduate levels, and, afterwards, on an ongoing basis. The authors propose that bioethics is a field of study that should permeate each of the levels of education mentioned above.

If the individual values of these professionals are determined by their world view and their behaviors, and if these values can be modified through academic training, the authors believe that this process is extremely significant in forging the character of future healthcare professionals, who will be qualified to employ clinical techniques and apply ethical standards as central mechanisms of their professional skills.

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Participation of the authors

Talita Leite Ladeira was responsible for the planning of the study, the collection and analysis of data, and the design and writing of the text. Lilian Koifman oriented all the phases of the study. Both authors collaborated on the revision of the article.

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