



RESEARCH

Interfaces, gaps and challenges between bioethics and oncology

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Abstract

Bioethics and oncology are interdisciplinary areas that aim at the integral understanding of the human being. This article made a survey of studies on interface between these areas, identifying possible contributions, gaps and emerging challenges. We carried out an integrative review that sought the descriptors “oncology” or “cancer”; “bioethics” or “ethics”, and found 29 articles. The discussions referred to the knowledge or application of principles of bioethics in oncology; difficulties in the physician-patient communication; and ethical standards in research. Therefore, it is necessary to guarantee the application of bioethics’ principles; to increase investment in the formal teaching of bioethics, to improve interpersonal and physician-patient communication skills; and to disseminate bioethics to the general population. It is hoped that this study will give continuity of those already carried out, and that new interests will arise on the subject.

Keywords: Bioethics. Medical oncology. Health.

Resumo

Interfaces, lacunas e desafios entre bioética e oncologia

Bioética e oncologia são áreas interdisciplinares que visam o entendimento integral do ser humano. Este artigo levantou estudos sobre temas de interface nessas áreas, identificando possíveis contribuições, lacunas e desafios emergentes. Foi feita revisão integrativa que buscou os descritores “oncologia” (*oncology*) ou “câncer” (*cancer*); “bioética” (*bioethics*) ou “ética” (*ethics*) e encontrou 29 artigos. As discussões remetiam ao conhecimento ou aplicação de princípios da bioética na oncologia; dificuldades na comunicação médico-paciente; e aspectos e normas éticas em pesquisa. Torna-se necessário, portanto, garantir a aplicação de princípios bioéticos, ampliar investimentos no ensino formal de bioética, nas habilidades interpessoais e de comunicação médico-paciente, e divulgar a bioética para a população em geral. Espera-se que este estudo dê continuidade aos já realizados e que surjam novos interesses sobre o assunto.

Palavras-chave: Bioética. Oncologia. Saúde.

Resumen

Cruces, lagunas y desafíos entre bioética y oncología

Bioética y oncología son áreas interdisciplinarias que apuntan al entendimiento integral del ser humano. El presente artículo realizó una recopilación de estudios sobre temas de intersección entre estas áreas, identificando posibles contribuciones, lagunas y desafíos emergentes. Se realizó una revisión integrativa que buscó los descriptores “oncología” (*oncology*) o “cáncer” (*cancer*); “bioética” (*bioethics*) o “ética” (*ethics*), y se encontraron 29 artículos. Las discusiones se remitían al conocimiento o aplicación de principios de la bioética en la oncología; dificultades en la comunicación médico-paciente; y aspectos y normas éticas en investigación. Se hace necesario, por lo tanto, garantizar la aplicación de los principios bioéticos; ampliar la inversión en la enseñanza formal de bioética, en las habilidades interpersonales y de comunicación médico-paciente, y difundir la bioética en la población en general. Se espera que este estudio dé continuidad a aquellos ya realizados, y que surjan nuevos intereses sobre el tema.

Palabras clave: Bioética. Oncología médica. Salud.

Declaram não haver conflito de interesse.

Oncology appeared between 1733 and 1788 in France as a specialty of physicians and scientists devoted to systematic studies on cancer¹. This pathology results from the uncontrollable growth of abnormal cells - triggered by physical, chemical and biological factors - that invade adjacent tissues and, through the bloodstream and lymphatic system, invade other organs, generating metastasis. This disordered and accelerated growth of neoplastic cells results from mitosis cell division, which culminates in the formation of deformed and numerous anaplastic cells. The mass that makes up the cancer is poorly delimited and locally invasive, and may infiltrate adjacent tissues through metastasis².

Formerly restricted to medicine, oncology is today an interdisciplinary area that congregates several branches of knowledge. This science aims to give full attention to the person with cancer and to expand the research in the area from various theoretical-methodological perspectives². It is emphasised that the Ministry of Health's Governmental Order 2,439 of 8th December, 2005³ stipulates that oncological care should be based on multidisciplinary work, including fields such as clinical psychology, social work, nutrition, physiotherapy, dentistry and psychiatry.

However, although cancer care has been extended beyond the medical and biological aspects of cancer, the amount of research conducted and based on other areas of knowledge is still small. Recent works show that studies on basic biology and the special treatment of cancer, that is, on the production of knowledge about biomarkers and new drugs, are still predominant¹. Therefore, it is understood that the challenge to cover the different human aspects of cancer remains, being necessary research with other approaches, in order to justify the integrality and interdisciplinarity of oncology.

One field of knowledge that has interacted with other sciences is bioethics. According to the United Nations Educational, Scientific and Cultural Organisation (Unesco), bioethics is a systematic and pluralistic study of ethical, theoretical and practical problems raised by medicine, as well as other life sciences and associated technologies⁴.

A landmark case that prompted the discussion of bioethics occurred in 1962 at the University of Washington when a small group of non-physicians met in Seattle to decide who would receive hemodialysis, a new treatment at the time. The contribution of philosophy, theology and other fields of knowledge in the reflections on the use of the technology, whose choice was so far

restricted to the medical class, was remarkable. Since then, bioethics has been characterised by its interdisciplinary character, not limited to only biomedical knowledge⁵.

Although there are records of an earlier use of the term "bioethics" (ethics of life) in history, it is not the purpose of this article to debate who first used the word bioethics. It is recognised, however, that the work published in 1971 by the American oncologist Van Potter, whose title is: *Bioethics: Bridge to the future*, can be considered the seminal work that launched the modern theoretical bases for the discipline, which has been consolidating as a new science that expresses a systematic-critical reflection, seeking a connection between scientific discoveries and an ethical-humanistic vision for science.

From the theoretical growth of bioethics and its increasing importance in academic and social circles, it has become difficult and problematic to disregard the questions raised by bioethics about the future of humanity when science and technology are developed without an ethical-moral content. Science can not develop at any cost without taking into account the dangers and threats it can pose to the future of humanity and the planet. Bioethics, therefore, believes that scientific-technological knowledge must consider its ethical implications⁶.

Focusing specifically on general medical practice, four principles were outlined by Beauchamp and Childress in 1979 to define bioethics. These terms are currently the most widespread, especially in regard to their application in the relationship between professional and patient or in research: respect for autonomy, that is, the ability of the individual to deliberate on their goals and act from their decisions; beneficence, that is, to act for the benefit of the patient; non-maleficence, which concerns the avoidance of harm; and justice, which means fairness in the distribution of benefits, risks and costs. These principles represent normative ethics to be applied to medical-assistance conflicts. However, their use can not be dogmatic or mechanised, but properly mediated and interpreted, adapting to each case⁵.

Considering bioethics and oncology as interdisciplinary fields, in which it is necessary to fully understand the human being, we question how both have dialogued. In order to better understand this relationship, we conducted a survey research of studies on the two knowledges, identifying possible contributions, gaps and challenges that arise from this interaction. For that, we carried out an integrative review on the theme. It is hoped to encourage reflections on this interdisciplinary

articulation, aiming to improve the contributions to human health, besides problematising it and suggesting future studies.

Method

The integrative literature review synthesised the knowledge produced on the theme, guided by question-focus, critically discussing the theme, considering its applicability and pointing out priorities for future studies⁷. National and international studies published in the last eleven years were searched. The databases accessed were SciELO, PubMed, Lilacs, Web of Science, Scopus and BVS, using the following terms in Portuguese and English, as defined by the Descritores em Ciências da Saúde - DeCS (Health Sciences Descriptors): “oncology” or “cancer” and “bioethics” or “ethics”. The Boolean operator “and” was used in order too combine the search terms.

We included open access articles and theses that analysed human beings and whose main theme were bioethical aspects of interest in the oncology area. We excluded repeated articles, literature reviews, meta-analysis articles, animal research, editorials, declaration/convention articles or validation of instruments not related to bioethics and reports of experiments and texts that referred to ethics only in

order to be approved by an ethics committee (without necessarily addressing ethics). Publications with at least two of the terms in the title, in the keywords or in the abstract have been selected for reading in full.

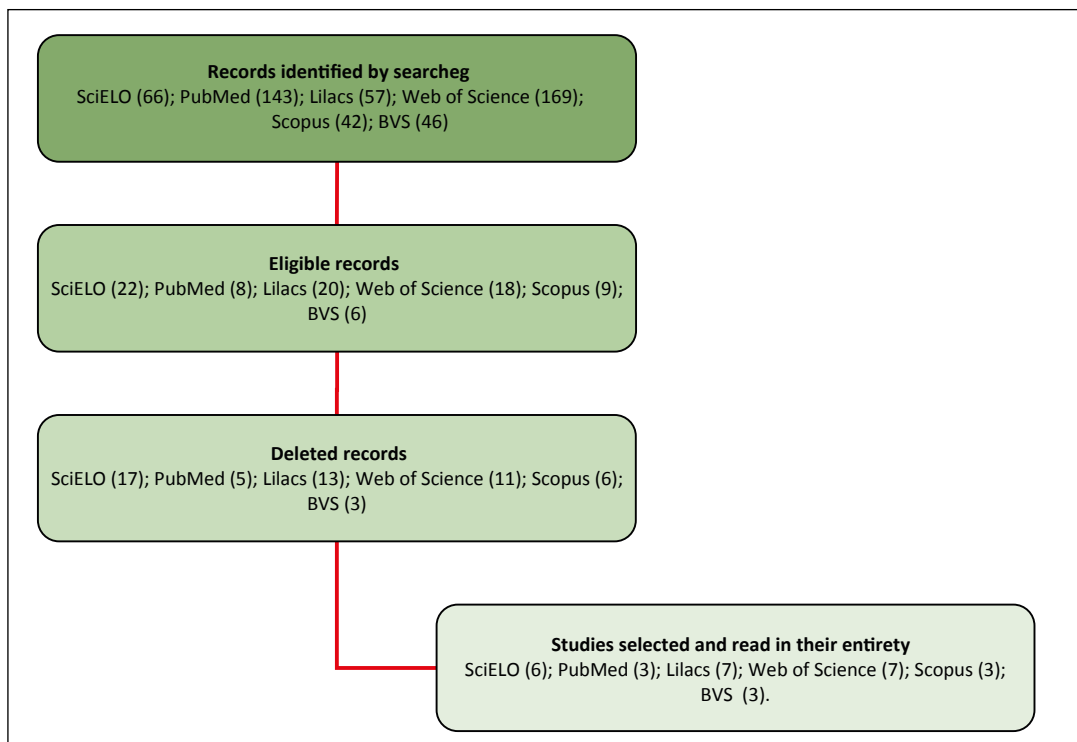
In order to systematize the selected material, the following information from each publication has been prioritized: what is the source of the study (periodic)? Who participated (authoring institution, participants and subject-matter of the research)? What is the possible interface between oncology and bioethics? What are the main gaps and challenges for both areas?

The content was analysed according to the Bardin technique⁸, which seeks to clarify the analysis criteria and the systematicity of the information. Categories to identify those that best expressed the proposals of the text and allowed their division into classes were used⁹. After being characterised, the information was organised, and the data collected were discussed according to the literature, pondering on possible gaps and challenges for future dialogues.

Results and discussion

29 surveys were selected after the search and filtering according to the mentioned criteria (Figure 1).

Figure 1. Diagram of the bibliographic survey by databases



Characterisation of the studies

It can be seen that most publications are in the form of article (26). Only the *Revista Bioética* (Bioethics Journal), BMC Medical Ethics and the *Revista da Associação Médica Brasileira* (Journal of

the Brazilian Medical Association) published more than one article on the subject. 11 of the institutions searched were Brazilian and 17 were international, which represents, at first glance, the expressive production on the subject in the country.

Chart 1. Characterisation of studies on oncology and bioethics - reference, type and source.

Reference	Type	Title	Source - Database
1. Chacón e colaboradores ¹⁰ ; 2008	Article	Algunas variables del tratamiento quirúrgico maxilofacial y bioética en el adulto mayor	Revista Cubana de Cirugía – Lilacs
2. Santos, Silva, Paranhos ¹¹ ; 2014	Article	Conflito de interesses em ensaios clínicos iniciais envolvendo pacientes com neoplasia de pulmão	Revista Bioética – SciELO
3. Pentz e colaboradores ¹² ; 2014	Article	Unmet needs of siblings of pediatric stem cell transplant recipients	Pediatrics – PubMed
4. Primo, Garrafa ¹³ ; 2010	Article	Análise ética da revelação do diagnóstico e tratamento em pacientes com câncer genital ou mamário	Revista da Associação Médica Brasileira – SciELO
5. Albuquerque, Araújo ¹⁴ ; 2011	Article	Informação ao paciente com câncer: o olhar do oncologista	Revista da Associação Médica Brasileira – Lilacs
6. Geovanini ¹⁵ ; 2011	Dissertation	Notícias que (des)enganam: o impacto da revelação do diagnóstico e as implicações éticas na comunicação de más notícias para pacientes oncológicos	Fundação Oswaldo Cruz, Escola Nacional de Saúde Pública – Lilacs
7. Vanoni ¹⁶ ; 2014	Thesis	La bioética aplicada al contexto de la práctica médica asistencial cotidiana	Universidad Nacional de Cordoba, Facultad de Ciencias Médicas – Lilacs
8. Trindade e cols. ¹⁷ ; 2007	Article	O médico frente ao diagnóstico e prognóstico do câncer avançado	Revista da Associação Médica Brasileira – Lilacs
9. Verástegui ¹⁸ ; 2006	Article	Consenting of the vulnerable: the informed consent procedure in advanced cancer patients in Mexico	BMC Medical Ethics – PubMed
10. Burke ¹⁹ ; 2014	Article	Rethinking the therapeutic misconception: social justice, patient advocacy, and cancer clinical trial recruitment in the US safety net	BMC Medical Ethics – PubMed
11. Selli, Garrafa, Junges ²⁰ ; 2008	Article	Beneficiários do trabalho voluntário: uma leitura a partir da bioética	Revista de Saúde Pública – SciELO
12. Rodríguez e cols. ²¹ ; 2014	Article	Aspectos bioéticos en pacientes con cáncer de pulmón	Medisan – SciELO
13. Crespo e cols. ²² ; 2007	Article	Principios bioéticos, su relación con el paciente oncológico: estudiantes de 2do año licenciatura en enfermería	Revista de Ciencias Médicas de Pinar del Rio – Lilacs
14. Gamboa, Gregianin ²³ ; 2013	Article	Aspectos éticos e normativos de um estudo clínico multicêntrico de oncologia pediátrica	Revista Bioética – SciELO
15. Duque, Ramalho, Casali-da-Rocha ²⁴ ; 2010	Article	Termo de consentimento e análise de material biológico armazenado	Revista da Associação Médica Brasileira – SciELO
16. Ferreira ²⁵ ; 2012	Dissertation	A percepção dos profissionais de saúde do Inca sobre os cuidados no fim de vida de crianças com câncer	Fundação Oswaldo Cruz, Escola Nacional de Saúde Pública Sérgio Arouca – Lilacs
17. Eich, Verdi, Martins ²⁶ ; 2015	Article	Deliberação moral em sedação paliativa para uma equipe de cuidados paliativos oncológicos	Revista Bioética – BVS
18. Monsalve e cols. ²⁷ ; 2009	Article	El consentimiento informado en el Instituto Nacional de Cancerología (Colombia)	Revista Colombiana de Cancerología – BVS

continues...

Chart 1. Continuation

Reference	Type	Title	Source - Database
19. Ebbesen, Pedersen ²⁸ ; 2007	Article	Empirical investigation of the ethical reasoning of physicians and molecular biologists: the importance of the four principles of biomedical ethics	Philosophy, Ethics, and Humanities in Medicine – BVS
20. Cueto ²⁹ ; 2012	Article	Bioethical issues in oncology	Revista Mexicana de Anestesiología – Scopus
21. Bont e cols. ³⁰ ; 2007	Article	Decisiones en la práctica médica del final de la vida: importancia basada en la opinión, grado de información y formación de médicos que laboran en los estados Aragua y Carabobo	Salus – Scopus
22. Tsouskas, Paraskeuopoulos ³¹ ; 2006	Article	The contribution of bioethics history in management of surgical treated oncology patients	Surgical Chronicles – Scopus
23. Luz e colaboradores ³² ; 2015	Article	Ethical problems experienced by oncology nurses	Revista Latino-Americana de Enfermagem – Web of Science
24. Thomas, O’Leary, Fried ³³ ; 2014	Article	A comparison of the willingness of resident and attending physicians to comply with the requests of patients at the end of life	Journal of General Internal Medicine – Web of Science
25. Kleiderman e cols. ³⁴ ; 2012	Article	Recruiting terminally ill patients into non-therapeutic oncology studies: views of health professionals	BMC Medical Ethics – Web of Science
26. Wittmann-Vieira, Goldim ³⁵ ; 2012	Article	Bioética e cuidados paliativos: tomada de decisões e qualidade de vida	Acta Paulista de Enfermagem – Web of Science
27. Malan, Moodley ³⁶ ; 2016	Article	Phase 3 oncology clinical trials in South Africa: experimentation or therapeutic misconception?	Journal of Empirical Research on Human Research Ethics – Web of Science
28. Pfeil e cols. ³⁷ ; 2015	Article	What keeps oncologists from addressing palliative care early on with incurable cancer patients? An active stance seems key	Oncologist – Web of Science
29. Louie e cols. ³⁸ ; 2013	Article	Assessing fitness to drive in brain tumour patients: a grey matter of law, ethics, and medicine	Current Oncology – Web of Science

Table 1. Characterisation of studies on oncology and bioethics - reference, type and source

Target audience of the sampled studies	
Patients	35.4%
Health professionals - only physicians	23.5%
Health professionals - including physicians	17.6%
Family members	11.8%
Population in general	8.8%
Students	2.9%
Themes in oncology and bioethics %	
Level of knowledge or application of principles in bioethics	43%
Difficulties in physician-patient communication	33%
Ethical Aspects and Norms in Research	24%
Challenges for oncology and bioethics%	
Ensure knowledge and application of bioethical principles	45.7%
Develop interpersonal and communication skills in the patient-physician relation	26.1%
Increase investment in the teaching of bioethics	21.7%
Disseminate bioethics	6.5%

The researches record different perspectives regarding the interaction between bioethics and oncology. Patients, family members and the general population, representing civil society, have been targeted by more than half of the researches. This may indicate that by giving voice to this public, it is possible to understand personal experiences and important data about those who are directly “affected” by bioethics.

On the other hand, the number of studies that address the interdisciplinarity of oncology and bioethics is still small when compared to those who address only the aspects related to medical practice. Even smaller is the amount of research on future professionals - there is only one study with nursing students.

The data may indicate a predominance of medical participation in the dialogue between oncology and bioethics, which denotes the incipient discussion of this topic by other professionals who work with cancer patients, as stipulated by the Government Order 2,439/2005³. It is questioned whether this data would be related to the gap in knowledge production in the interaction between these areas.

Dialogue between oncology and bioethics

The data collected were analysed in the following categories: 1) level of knowledge or application of bioethics’ principles; 2) difficulty in the physician-patient communication; and 3) ethical aspects and standards in research. It is emphasised that in practice the categories are interconnected and were divided only for didactic purposes.

The most frequent topic was knowledge about bioethics’ principles or, moreover, about their practice in the oncological context. Of all the principles, autonomy was the most discussed, relating to the decision-making power of cancer patients during treatment or their participation in clinical trials.

On this last point, it is important to remember that the termo de consentimento livre e esclarecido – TCLE (informed consent form) is a document in which the patient and/or their person responsible explicitly informs the consent to the performance of a certain procedure. Established by the Resolução do Conselho Nacional de Saúde (National Health Council Resolution) 466 of 12th December, 2012, the term should have clear, objective and easy-to-understand language about the procedure to be applied, the patient’s rights

as well as risks and benefits involved³⁹. The TCLE becomes an instrument to protect the patient’s autonomy, assuming that the patient has an interest in making decisions about their treatment³¹ and is in good condition to do so³⁵.

However, some studies show that the consent term has not always fulfilled its function. Although many patients undergo invasive procedures, they do not have full knowledge of the document to make this decision¹⁰ and this ends up limiting their power of choice in relation to medical treatment^{10,27}. Some studies have also shown that many patients have participated in clinical trials to test drugs without knowing possible health damages caused by the drugs^{11,36}.

In addition, autonomy was evaluated in people who decided to donate hematopoietic tissue cells to sick relatives. It was found that most donors did not have access to important information about this procedure, and did not even know their rights. The absence of this information and the lack of resulting knowledge, therefore, make an effective decision making unlikely¹².

Factors relevant to this discussion are the vulnerability in which these patients are and the inadequate communication of information about their condition and therapeutic alternatives, which impairs their autonomy. The fact that the patient is vulnerable by the disease itself can make the patient passive in relation to the alternatives presented, given the small chance of cure^{11,27}.

In another study, it was found that most physicians avoid asking the patient to make decisions²⁸ when the patient is physically and psychologically unable to decide on treatment. According to oncologists in the same study, patients in terminal stage of cancer accept to participate in clinical trials in order to benefit others who are under the same conditions. However, some biologists disagree with this view, believing that these patients are restricted to the circumstances of their terminal condition to make a choice (generally favourable to any treatment, including possible risks)²⁸.

In developing countries the autonomy of these patients may be even more compromised because of little or no alternative means of treatment beyond those offered in clinical trials. Half of the participants in a study¹⁸, who lived in poverty and had low or no schooling, considered the consent forms difficult to understand. In the same study,

most physicians agreed that these forms were not understood by patients.

Class inequality and the patient's dependence on public health also influence the submission to invasive procedures. This raises doubts as to the validity of the consent form in this vulnerable group, since it puts in question the exercise of their autonomy. As the studies analysed in this review demonstrate, a good number of patients do not feel free to make their treatment¹³, which subjects them to unilateral decisions of the physician and reveals a paternalistic attitude towards cancer patients.

Thus, doctors seem to confuse "do good" (protect) to the patient (principle of beneficence) and the right of the patient to make their own decisions (autonomy) in the treatment of cancer^{11,13-17,27}. In this case, extreme paternalism masked by beneficence removes the patient's autonomy and nullifies their right to determine their own destiny.

Some authors have also questioned the dual role of the physician in the relationship with oncology patients because, at the same time that the physician attends the patient, he or she is also a research recruiter. Thus, the inability of the patient to decide, by having their autonomy compromised, can increase trust and dependence on the physician and, because of this, the patient may not have his or her real interests defended¹¹.

Many patients do not seem to distinguish participation in clinical research from ordinary treatment and attribute therapeutic intent to research procedures. It is assumed that in this case it is not clear to patients what it means to participate in a clinical trial as, for most of them, research and treatment flow together. This may also be due to the lack of knowledge about consent term and can generate confusion between recruitment for clinical trials and real health needs, as well as concerns about the patient's condition¹⁹.

Issues of knowledge and application of the principles of beneficence and non-maleficence were also present in the results. Both principles were discussed by comparing the results of seven US clinical trials in which people with cancer received a certain therapeutic procedure for an experiment that tested the effect of a drug. It was observed that the toxic effects (including the number of deaths) of this experiment increased statistically, generating risks and damages to the participants. This treatment, which was said to be innovative, did not even bring benefits¹¹.

Another study investigated the perception of volunteers in a cancer hospital. It was observed that the promotion of well-being generated different perspectives for this group. The first showed that the volunteer was the greatest beneficiary of the work, for reasons of learning, self-improvement, redirection of daily life, and contact with other people. The second perspective, without significant difference in relation to the first one, understood that not only the volunteer benefited, but also the patient, being this perspective more horizontal and empathic in the volunteer-patient relationship.

Lastly, a small number of volunteers attributed the benefits of their participation to the institution and to society. Of particular note is the lack of reflection on the principle of justice in voluntary participation in researches, with a predominance of understanding of beneficence¹⁶. On the other hand, in research with physicians and biologists, concern for justice predominated, mainly regarding resource allocation, although they did not have knowledge about theories on the subject²⁸.

With regard to the knowledge of bioethical principles in general, it should be noted that patients with more schooling were better informed about the matter^{21,27}, with the justice principle being the most known principle²¹. Another study which examined second-year nursing students showed that they had no satisfactory knowledge of bioethics in the case of patients with brain death, organ donation, necropsy (know and confirm reason for death), and other principles. On the other hand, the study that evaluated the degree of information of physicians about legal documents that supervise their ethical conduct reveals that those physicians were not up to date with their knowledge on the matter³⁰.

Some studies show conflicts among oncology professionals in situations in which bioethical principles are required. One of the studies describes the complex task of palliative sedation in cases of extreme suffering, which results in a shock of values between patient, family and health team²⁶. Doctors and nurses are uncertain about the ideal time to discuss the end of life and the clinical balance between the physician's emotional involvement and the patient's wishes^{32,37}. Opinions of physicians about requests of patients at the end of life, their willingness to comply with requests such as retention of intubation, application of increasing doses of drugs are related to experience in the area, with substantial change during residency³³.

Problems of communication between doctors and patients were also frequent in the studies.

Research has shown that, generally, the information provided has been very limited, and one hypothesis would be the difficulties and ethical conflicts in the communication between those involved, both in diagnosis and prognosis.

Most oncologists reported the diagnosis at the first visit, although many times the patient was already aware of the disease^{14,17,29}. During communication of the diagnosis, most physicians inquired their patients about the desire to know about the disease, waiting for the patient to ask questions about it. When asked, they used medical terms to inform the patient, but they also explained those terms. Oncologists still assessed that the information to the patient was not always complete, demonstrating the frequency of a practice that should be an exception. In fact, properly informing the patient does not cause problems; in most cases the complete diagnosis does not generate conflicts¹⁴.

To tell the truth in a direct way is considered a difficult task by oncologists and doctors in general^{15,16,27}. In the perception of these professionals, this is due to the lack of emphasis on communication during medical graduation, the negative image of cancer, fantastical conceptions related to diagnosis and the difficulties of approaching the the subject of death¹⁵. The family plays a very important role during the communication of bad news^{15,29}, but depending on the family's dynamics (if it is absent or excessively participatory), it can create conflicts that will affect the doctor-patient relationship. For example, when asked by the family, the doctor can omit the diagnosis of the patient, and this will generate ethical conflicts¹⁵.

As already mentioned, information about diagnostic is usually passed on to patients. However, in researches with these individuals, the correlation is not positive. The result of a research showed that the majority of those affected would like to be informed about the disease, even if it was very serious. When informed about the disease, although most were aware of the therapeutic procedures to which they would be subjected (and their adverse reactions), only 45% knew the true diagnosis³¹.

In another study, this number was less than 10%²¹. When asked about the quality of the information, patients recalled the first diagnosis as a "very bad" experience. Most of them were warned only about the severity of the disease, and just a small part understood everything, even in technical terms¹³. There was also a lack of information about important attitudes to be taken in brain

tumor patients, since in this case they are more predisposed to neurocognitive deficits³⁸.

There are also ethical difficulties and conflicts in the prognosis. Informing the diagnosis is different from talking about the prognosis, since even the patient interested in all the information about the first one does not necessarily want to be informed about the prognosis¹⁴. Oncologists tend to rely on the support of the patient's relatives when life expectancy is poor^{14,17}. Part of the oncologists communicates patient and family members; another part communicates just the family. There are few who inform only the patient and leave to him or her the decision to tell the relatives or not.

Other physicians reported feeling uncomfortable in giving bad news about the prognosis because they believe that they cause more discomfort to the patient, or that the family would become more responsible for the patient than the professional itself¹⁴. It should be noted that one of the studies pointed to a tendency of religious doctors in dealing better with the communication of bad news²⁷.

Ethical protocols were also highlighted in the studies, since problems were observed in compliance with ethical and normative aspects in experimental protocols of oncology research centres. These limitations of some institutions referred to the non-submission of the research project to the responsible research ethics committee and the non-assurance of all signatures in the informed consent to indicate consent to participate in the research²³, procedures already established by Resolution CNS 466/2012³⁹.

An ethical procedure investigated was related to obtaining an TCLE by postal system. It is noted that this option may present other risks, such as anxiety (due to receiving a diagnosis at home) and other psychological disorders. Even a simple phone call, telegram, or a hospital call by letter could remit to memories of the disease, bringing emotional maladjustments. Thus, the procedure that would initially be the most relevant and appropriate is not in line with the best practice, challenging the principle of non-maleficence²⁴.

Gaps and challenges for future dialogues

As seen, the analysed studies point out some gaps and problems that need attention, suggesting challenges of new dialogues in the interaction of the studied areas. Although bioethical principles are standardised in resolutions, protocols and other documents, there are often failures in

their application, whether in research or medical care. One of the most reported problems was the impairment of patient autonomy. Such a principle can not be limited to the signature of the *termo de consentimento livre e esclarecido* (informed consent form - TCLE)^{14,17,23}, because it is a gradual process based on the physician-patient relationship, in order to provide enough information for the patient's decision-making. The TCLE should not be only a mechanism, but an instrument in favor of autonomy¹⁰.

In addition, it should be pointed out that this question should not be confused with the respect for the decision of the patient - if the patient is not well informed, he or she will not make well-founded decisions²⁷. One must also combat the physician's paternalistic tendency in relation to patients, as well as his or her double role as health care professional and research recruiter. It is suggested, therefore, more effective measures^{11,14,15,19,35}, such as availability of recruiters³⁴ and more spaces, schedules and strategies to clear doubts of the patients²⁷.

It is also necessary to improve the quality of information provided to patients and research participants, so that their conditions and real interests are analysed more objectively. To this end, communication between health professionals and the sick is essential in order to provide appropriate treatment to the patient's needs¹⁵. The doctor-patient communication about diagnosis, prognosis, risks and treatment objectives is made mandatory by the Code of Medical Ethics in force in the country, unless the communication can cause harm. In this case, the professional must communicate with the legal representative of the person affected⁴⁰.

The moment to guarantee autonomy should not be limited to the final phase of the patient, but should also be guaranteed during illness, so that decisions are made consciously in the face of ethical dilemmas that arise. Thus, decisions about more aggressive treatments need not be made only when death is imminent, but throughout the process, while the subject still has autonomy^{26,37}. It is recommended to palliative care professionals that they improve their ethical knowledge and axiology²⁶.

In the scope of teamwork, consensual, prudent and reasonable decisions are required among all involved^{5,19,26}. Conversations, meetings between professionals, family members and the patient are seen as the main instruments to achieve this²⁶. Decisions must go beyond universal ontological principles and be sensitive to otherness. In this

sense, the ethics of Levina's alterity encompasses the problematic of human dignity and its interpersonal relations, aiming to base criteria in face of bioethical dilemmas to instrumentalise all those involved⁴¹.

The great amount of studies that claim for the guarantee of knowledge and application of bioethical principles ratifies the medical activity beyond the technique. The profession can not focus on purely technical aspects, since its essence permeates the interrelationship with the other, characterising relationships that refer to moral demands^{42,43}.

Some authors of the studies analysed suggest the development of interpersonal skills and communication²⁹. It is up to the physician to be prepared to perceive the patient's capacity for understanding and discernment so that the patient can exercise his or her true autonomy¹⁷. The moment of giving bad news requires preparation and sensitivity^{14,15}, and should be thought by the professional from the psychological conditions of the patient, adapting the information in the best possible way^{13,14}. It is also necessary to consider gender, schooling, age and socioeconomic conditions for more adequate solutions¹⁴.

This interpersonal handling in the doctor-patient relationship can improve the disclosure of diagnosis and therapeutic agreements, improving the autonomy of cancer patients. The professional should not only provide information about the patient's clinical condition (physical or neurocognitive aspects)³⁸, but also prepare the patient for the last phase of their life. However, more objective guidance would be needed on when to start this communication, so that patients with advanced cancer can make the most conscious choices³⁷.

In the paediatric context, it is recommended that health professionals consider the participation of children, providing quality care and explaining procedures and behaviours to which they will be submitted. Improving the quality of communication and interaction between medical staff and children may favor their autonomy, in addition to improving their capacity for questioning, self-esteem and self-care²⁵.

The formal medical school curriculum or continuing medical education can be a way of learning to improve the communication between doctor and patient, and to increase the bioethical knowledge of the health professional. However, this education can not be restricted to theoretical content, but also to practice and

experience^{14-16,25,27,30,32,34}. It is also worth mentioning the need for studies on training strategies, their influence on medical performance and the impact on the quality of ethical decisions³³.

The teaching of medical ethics has been encouraged by the Resolution of the Câmara de Educação Superior do Conselho Nacional de Educação (National Board of Higher Education of the National Council of Education) - Resolution CNE / CES 3/2014⁴⁴ - which establishes the Diretrizes Curriculares Nacionais do Curso de Graduação de Medicina (National Curricular Guidelines of the Medicine Course) and proposes a general, humanistic, critical, reflective and ethical medical education. The importance of the teaching at all academic levels⁴⁵ is stressed, as well as the need to reconcile the critique between medical precepts and dispositions of the ethical-political context, which makes teaching a political and ethical activity. The humanist formation, which allows the student to establish values referring to the idea of humanity from their personal experiences, will be the differential of the doctor and will even allow the transmitting of confidence to people who are ill. For this purpose, methodologies that discuss experiences about situations that have caused conflicts and ethical dilemmas are suggested⁴⁷. It is also recommended the update of bioethical knowledge and the improvement of technical-scientific collaboration and ethical basis, in order to favour future generations and the well-being of the population⁴⁵.

Given the lack of knowledge of patients, family members and society in general, there is a need for further studies to verify the understanding of bioethics and its impact on cancer diagnosis and therapy²¹. In this context, the main themes of bioethics should be disseminated throughout the society^{12,22,31}.

There are gaps especially in the fulfilment of justice when it comes to vulnerable and marginalised people, whether due to cancer or other diseases. In this case, bioethics must strengthen its links with

social movements in defense of these groups²⁰. The fulfilment of beneficence and non-maleficence also presented flaws in the research. Therefore, it is always necessary to assure participants of all possible benefits and minimize harm by providing clear information about the risks to which the patients will be submitted and approach therapeutic misconceptions in cancer research³⁶.

It is also important to emphasise the care that medical researchers must have in order not to cause harm that would further damage the time of life of the cancer patients¹¹. It is necessary to guarantee beneficence in relation to the care provided, aiming the well-being of the patients and, for those who are in the terminal phase, a dignified death²⁵.

Final considerations

This review work has raised 29 studies that deal with topics about oncology and bioethics. Proportionally, Brazil was the locus of most of the researches found, and cancer patients corresponded to the public most approached in the surveys. The discussion about the interconnection between oncology and bioethics focused mainly on the knowledge and application of bioethics' principles, difficulties in the physician-patient communication, as well as ethical aspects and norms in research.

There are still many challenges to improve the relationship between these areas, as well as to ensure the application and dissemination of bioethical principles, to increase investment in formal education in bioethics and in interpersonal and physician-patient communication skills.

It is expected that dialogues between the topics on focus will encourage more discussion and help improve the assistance and development of research with oncology patients and others involved. In addition, it is expected that more studies will emerge, giving continuity to those already carried out, and that will spark new interests from then on.

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