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ANÁLISE DAS PUBLICAÇÕES
SOBRE A ÉTICA NA
INVESTIGAÇÃO CIENTÍFICA
EM SCIENTIFIC ELECTRONIC
LIBRARY ONLINE (SCIELO)

ANÁLISIS DE LAS PUBLICACIONES
SOBRE LA ÉTICA EN LA INVESTIGACIÓN
CIENTÍFICA EN SCIENTIFIC ELECTRONIC
LIBRARY ONLINE (SCIELO)

Analysis of manuscripts on ethics in scientific research at **Scientific Electronic Library Online (SciELO)**

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RESUMEN

La ética en la investigación se convirtió en un tema central en relación con la globalización del desarrollo científico, sobre todo cuando se refieren a las condiciones socioeconómicas de los países que participan como socios en los protocolos de investigación, la producción de los insumos y del conocimiento. El objetivo de este trabajo es analizar las fuentes de información acerca de la ética en la investigación actual en Scientific Electronic Library Online (SciELO). Metodológicamente, se trata de un estudio exploratorio que se llevó a cabo mediante el análisis sistemático de la literatura disponible. Los motores de búsqueda recuperaron 885 resúmenes, de los cuales se analizaron 170. La primera publicación fue fechada en 1996 y se pudo identificar la mención a los documentos internacionales sobre la investigación en seres humanos. Desde 2002 ha habido un aumento de las publicaciones relacionadas con la ganancia de la legitimidad del tema en la academia. Como conclusión, aunque la cantidad no es muy grande, los manuscritos presen gran impacto, ya que estimulan debates y producen el conocimiento científico sobre el tema. Se puede observar que la ética en la investigación ha resultado del campo de la biomedicina, que se inserta en otros campos del conocimiento.

Palabras clave

Ética en investigación, publicaciones científicas y técnicas, artículo de revista.

SUMMARY

Ethics in research became a central theme regarding globalization of the scientific development, particularly when related to the socioeconomic conditions of the countries involved as partners in research protocols, production of inputs and of knowledge. The objective of this paper is to analyze the sources of information about ethics in research present at Scientific Electronic Library Online (SciELO). Methodologically, this is an exploratory study was carried out by the systematic analysis of the literature available. The search engines retrieved 885 summaries, from which 170 were analyzed. The first publication was dated from 1996 and it could be identified the mention to international documents about research in humans. Since 2002 there has been an increase of publications related to the gain of legitimacy of the topic in academy. As a conclusion, although the amount is not huge, the manuscripts presented great impact as they stimulated debates and produced scientific knowledge on the topic. It can be observed that ethics in research has outcome the biomedical field, being inserted in other fields of knowledge.

Keywords

Ethics, Research, Scientific and Technical Publications, Journal Article.

RESUMO

A ética em investigação tornou-se um tema central em relação com a globalização do desenvolvimento científico, em especial quando se refere às condições socioeconômicas dos países que participam como sócios na implementação de pesquisa, na produção dos insumos e do conhecimento. O objetivo do presente estudo é analisar as fontes de informação sobre a ética na pesquisa atual em Scientific Electronic Library Online (SciELO). Metodologicamente, trata-se de um estudo exploratório, que levou-se por meio da análise sistemática da literatura disponível. Os motores de busca recuperaram 885 resumos, dos quais foram analisados 170. A primeira publicação foi datada em 1996 e foi capaz de identificar a referência aos documentos internacionais sobre a pesquisa em seres humanos. Desde 2002 tem havido um aumento das publicações relacionadas com o ganho da legitimidade do tema na academia. Em conclusão, embora a quantidade não é muito grande, os manuscritos presen grande impacto, pois estimulam debates e produzem o conhecimento científico sobre o assunto. Pode-se ver que a ética na investigação tem sido o resultado do campo da biomedicina, que é inserido em outros campos do conhecimento.

Palavras-Chave

Ética em investigação, publicações científicas e técnicas, artigo de revista.

INTRODUCTION

Ethics in research became a central theme regarding globalization of the scientific development, particularly when related to the socioeconomic conditions of the countries involved as partners in research protocols, production of inputs and of knowledge. Historically there were many episodes of disrespect to the human rights of the volunteers in research protocols hence they served as strong motive to discussion and creation of international and regional guidelines to the new studies under the lights of ethical principles¹.

Guilhem and Zicker¹ present two unethical situations published in high impact reviews. The first situation was published in the New England Journal of Medicine and reported the case of ACTG 76 about the vertical transmission of HIV. In this research, placebo was given to seropositive African women. The second situation was published in Nature and described the posture of researchers in the conduction of experiments, such as falsification of data, plagiarism, and maleficence to the research subjects, breakage of privacy and confidentiality of data and the modification of the methodology according to exigencies from the sponsors^{2,3}. Such cases illustrate some examples of bad behavior in research, however it is noticeable that the minority of them was published in high impact journals. It is estimated that in the United States there are 100 thousand researchers who periodically misbehave, just like these ones⁴. As a field of knowledge, Ethics in Research is directly linked to Bioethics. Braga⁴ highlights that the historical process of interpretation of Bioethics as being the Principlist Theory, guided by the principles of autonomy, beneficence, non-maleficence and justice, influenced the editors of scientific periodicals in bioethics and public health to refer to articles in bioethics as being the ones about ethics in research⁵. However, the key words in Health Sciences of the Virtual Library on Health consider the two expressions differently: bioethics is a subdivision of applied ethics whose focus is to study the *'implications of value of practices and development in the scientific fields of life sciences, medicine and health care'*⁶ while ethics in research is defined as the moral obligations that regulate the practices of research and that must be used as a general topic⁶.

Considering the importance of the topic of ethics in research in the production of scientific, technological and sociocultural knowledge, the objective of this paper is

to analyze the sources of information about ethics in research present at Scientific Electronic Library Online (SciELO), in order to map the main aspects of the field in this area. SciELO is an electronic library that enables free access to scientific literature. There are more than 434,200 articles from 1041 periodicals of Brazil, Chile, Cuba, Spain, Venezuela and other Latin American countries⁷.

METHODOLOGY

An exploratory study was carried out by the systematic analysis of the literature available at SciELO from December, 2012 to March, 2013. The search was guided by the key words in Portuguese: *'ética em pesquisa'* and *'ética na pesquisa'* (research ethics and ethics in research). Since the database of SciELO is enormous, the present research has not used specific key words related to the topic, such as human experiment, animal experiment, fetal research, research subjects, embryo research, ethics committee, etc.

For data collection, all the topics of the forms – title, author and abstract – were considered. The available regional literature from Brazil, Argentina, Portugal, Chile, Cuba, Spain, Mexico and Venezuela were analyzed, as well as those classified as Public Health or Social Science area. Articles, editorials, comments, debates and book reviews were considered as sources of information.

After this first selection, the summaries of the texts were evaluated in a form made at the software Excel Microsoft Office. The form contained the following variables: kind of source of information (article, book review, debate, comment, editorial), title of the document, name of the journal, year of publication, institutional affiliation of the first author, number of authors, gender (male, female or both), key words and if the document was theoretical or empirical, that is, if it used research data. The impact factor of the 2012 journals and the total amount of citations that the review received since it was first added to the SciELO databasis were also registered.

The data were systematized, reviewed from the abstract and quantified for discussion under the lights of the literature about ethics in research and scientific knowledge. It needs to be emphasized that some texts could not be identified due to problems in indexation of the journal or the adoption of different keywords by the authors. The finality of the present paper is to give visibility to knowledge production about ethics in research without intending to generalize the results obtained.

RESULTS AND DISCUSSION

The search using the keywords “*ética na pesquisa*” and “*ética em pesquisa*” retrieved respectively 401 and 484 texts from SciELO. After the analysis of the 885 summaries, 170 texts were selected as they approached at least one of the requirements of ethics in research linking the moral obligations that rule and conduct the procedures of research in the different fields of knowledge. The first publication about ethics in research at SciELO was dated from 1996 at *Cadernos de Saúde Pública* and presents the objective of discussing the ‘*questions related to ethics of biomedical investigation in Brazilian indigenous populations, mainly regarding the obtainment of post-information consent in researches that involve collection of biological samples*’⁸. In this text, it can be identified the mention to local and international documents that talk about ethics in research in humans: the Code of Nuremberg (1947), the Declaration of Helsinki of the World Medical Association (1964 and 1975), the International Ethical Guidelines for Biomedical Research Involving Human Beings of the International Organizations of Medical Sciences Council (CIOMS) in collaboration with World Health Organization (WHO) of 1993⁹. Regarding the Brazilian documents, this article presents the norms of the Resolution n. 01/1988, the first normative framework of the National Health Council of the Ministry of Health. Also, it was in the same year of 1996 that the Resolution n. 196/1996 of the National Health Council was published, named as Guidelines and Regulatory Norm of Research Involving Human Beings, in substitution to the Resolution n. 01/1988.

In this article of 1996, the references mention the International Ethical Guidelines for Biomedical Research Involving Human and the Resolution n. 01/88, both published in 1995 in an issue of *Revista Bioética* of the Federal Council of Medicine with the general theme of ‘analysis of work of the Ethical Committees on Research of Human Beings in Brazil and overseas and the divulgation of the national and international guidelines’, as highlighted by the Editorial Board. However, this journal was not indexed in SciELO at that year, so, probably, the articles in this issue were the first ones to introduce and provoke reflection in the scientific context about the relevance of ethics in research as a tool for promotion of integrity of the involved subjects.

As shown in Chart 1, from 1996 to 2002, it was registered about two texts per year on the topic; from 2003 to 2007, a signify number of 12 articles per year; a peak occurred in 2008, with 27 articles; from 2009 to 2012 about 16

publications per year and from January to March of 2013, two more references appeared and one of them was innovative in analyzing the definitions and implications of modernity in ethics of research in music. The improvement of publications on ethics in research since 2002 is apparently related to the gain of legitimacy of the topic in academy and with the publication of many international documents at that period, as follows: VI Declaration of Helsinki (52nd General Assembly of the World Medical Association, Edinburgh, Scotland, 2000); Operational Guidelines for Ethics Committees that Review Biomedical Research (UNDP/World Bank/WHO Special Program for Research and Training, 2000); Ethical Considerations in Biomedical HIV Prevention Trials (UNAIDS, 2000); Ethical and Policy Issues in Research Involving Human Participants: Clinical Trials in Developing Countries (NBAC, 2001) and Ethics in Research Related to Healthcare in Developing Countries (Nuffield Council on Bioethics, 2002 and 2004)¹⁰.

Also, in 2002, the Ethical Considerations in International Biomedical Research Involving Human Subjects of CIOMS/WHO was published and also the note of clarification of the 29th paragraph of the Declaration of Helsinki after the 53rd General Assembly of the World Medical Association, carried out in Washington, USA, was added. These documents had great repercussion; the Guidelines because of the proposal of instrumentalization of the ethical principles that must conduct the biomedical research on human beings as presented at the Declaration of Helsinki, considering the socioeconomic aspects of the countries, as well as their laws and regulations related to ethics in research. The repercussion on the note of clarification of the 29th paragraph of the Declaration of Helsinki was due to the use of placebo, one of the topics of dissent that got power and visibility after the 52nd General Assembly of the World Medical Association carried out in Edinburgh, Scotland, in 2000^{11 12}.

The analysis of the sources of information pointed out that 88 publications discussed theoretically one of the aspects related to the theme of ethics in research with the goal to incite a critical or analytical reflexion; 68 documents used data to dialog with the theory; 8 were editorials; 4 were book reviews; 1 was a debate and 1 was a comment related to the topic. Regarding the editorials, 4 approached the interface between knowledge production and ethics in research, as follows: ‘Ethics of research on human beings and the publication of scientific articles’, of *Jornal de Pneumologia* (1999); and ‘Ethics Committee on Research and the scientific publications’ and ‘Relevance of Ethics

Committees on Research in scientific publications', both in Arquivos Brasileiros de Oftalmologia and 'Ethics in scientific research and in the publishing of papers in biomedical journals' in Revista Brasileira de Otorrinolaringologia (2008).

The 170 texts were published in 60 different periodicals. The classification of the journals by topic showed the following distribution: 40 of Health Sciences, from which 12 were of Public Health, 17 of Medical Sciences, 7 of Nursing, 3 of Dentistry and 1 of Nutrition; 16 of Human Sciences, from which 8 were Psychology, 3 of Education, 3 of Anthropology, 1 of Social Service and 1 multidisciplinary; 2 of Applied Social Sciences, from which 1 of Administration and 1 of Law; 1 of Earth and Exact Sciences, this one of Accounting and Finances and 1 of Linguistics, Literature and Arts, of the field of music. Among these journals, Acta Bioethica, edited by the Interdisciplinary Center of Studies on Bioethics of the University of Chile, was the responsible for the publication of 33 articles, followed by the Ciência & Saúde Coletiva (17), Revista da Associação Médica Brasileira (10), Cadernos de Saúde Pública (10), Revista de Saúde Pública (6), Revista Escola de Enfermagem (6), Texto Contexto de Enfermagem (5), Acta Cirúrgica Brasileira (4), Hacia la Promoción de la Salud (4), Interface – Comunicação, Saúde, Educação (4).

Regarding the impact factor of a three-year period, based on 2012, from the 10 journals that had most publications about ethics in research, Revista de Saúde Pública, according to Table 1, was the one of greater impact, followed by Cadernos de Saúde Pública and Acta Bioethica. About the impact factor of a journal, Teixeira et al emphasize that this is a determining aspect in the ethics presented at the instruction of authors of the periodicals of the medical field¹³. It is possible to identify that the journals of greater impact publish articles of high scientific excellence that adopt ethical procedures, with good design and methodologies, and were very careful in the beginning of the investigation. However, the authors highlight the necessity of standardization of the ethical requirements in the instructions of submission of scientific texts. Revista de Saúde Pública and Cadernos de Saúde Pública in their respective instruction to authors present a section about the ethical criteria of the research. Acta Bioethica has no specific section and this can be explained by the fact that its mission is the one of stimulating ethical discussions about scientific investigation, so that it is inherent that the authors must comply with ethical exigencies in the conduction of protocols and subsequent publication by the local and international guidelines.

Regarding the number of citations that the texts of the available issues got, Chart 2 shows that Cadernos de Saúde Pública and Revista de Saúde Pública were the periodicals of reference among authors, having received, respectively, 28.653 and 25.731 citations. As a group, the texts of Acta Bioethica were cited 252 times. If this number of citations was compared to Cadernos de Saúde Pública and to Revista de Saúde Pública, at a first glimpse it would be concluded that they would not have improved new knowledge nor would they have served as a parameter for other studies. However, Acta Bioethica is published semiannually for it aims at producing knowledge in the field of Bioethics and, mainly, of becoming a pluralist space of opinions that '*accepts contributions of reputed authors compromised to an interdisciplinary posture of the conditioning factors and of the ethical consequences of the technoscientific investigation*'. Also, Watts¹⁴ discussed the limits of the impact factor and stresses that several important scientific discoveries are published in diverse formats, such as the official reports, that is, it is not restricted to the periodicals. Other point cited by the author is the profile of the journals and the rating of the kinds of research – epidemiological, social, experimental, biomedical – to meet the editorial criteria¹⁴.

Regarding the institutional affiliation of the first author, from the 170 texts, 81 different institutions were registered, and this information was lacking in 9 texts. Out of these 81 institutions, 49 were Brazilian and 31 were foreign ones. University of São Paulo was mentioned in 20 articles, followed by University of Chile, pointed out in 10 articles, Oswaldo Cruz Foundation, 7 times and University of Brasília and Paulista University Júlio de Mesquita Filho, both identified 6 times as the institution referred by the first author. University of São Paulo is an institution of excellence, as confirmed by QS University Rankings: Latin America, where it appears in the leadership of education and research¹⁵. According to Chart 3, USP, University of Chile, Fiocruz, Unesp and UFSC are the responsible for the periodicals that mostly published articles on the theme.

The 170 texts were written by 366 different authors. Seventy five (75) publications of single authorship were registered, 39 with two authors, 31 with three authors, 12 with four authors, 10 publications of groups of 5 researchers, 1 publication with 6 authors, and 2 with 8 authors. The gender distribution was: 67 of only women, 51 of only men and 52 written by men and women together.

The keywords are used for indexation of articles and for localization of them in search basis such as SciELO. In the field of health it was used Virtual Health Library. The 170 texts registered 631 key words, from which 330 were different,

others practically equal, differing by being in singular or plural or by a different preposition, as illustrated by: ethics [in, of the] research (in Portuguese 'ética [em, na, da] pesquisa'), and Declaration of Helsinki (in Portuguese 'Declaração de Helsinki' or 'Declaração de Helsinque'). The keywords more frequently cited were: Ethics (61), Bioethics (47), Ethics in Research (34), Research (27), Ethics Committees on Research (13), Informed Consent (8), Biomedical Research (8), Qualitative Research (8), Legislation (6) and Public Health (6). Associated or derived from the word 'ethics', there were 37 different key words and the word 'research' was associated with other 38 key words.

It was observed that descriptors linked to fields of knowledge – Anthropology, Bioethics, Accountancy Profession, Law, Education, Nursing, Philosophy, History, Medicine, Music, Psychology, Psychoanalysis, Dentistry, Public Health, Collective Health, Social Service, Sciences: Biomedical, Human, Health and Social –, and types of methods and techniques of research – qualitative, quantitative, as well as the experimental surgery, ethnography, animal experimentation, epidemiological records, the clinical trials and the use of databases. As exposed by the keywords, it can be observed that ethics in research has outcome the biomedical field, being inserted in other fields of knowledge.

CONCLUSION

The results of this research pointed out a small number of specific texts related to ethics in research, although the initial search using the keywords 'ética na pesquisa' and 'ética em pesquisa' had registered 885 documents. However, considering that the topic of ethics in research has gained visibility after the divulgation of new (or revised) regulations and international guidelines, all of them speaking about clinical or experimental research on human beings, as well as local norms in the last decades, it can be considered that 170 texts presented great impact as they stimulated debates and produced scientific knowledge on the topic.

Certainly, in the Brazilian context new debates will be provoked from the publication of the Resolution CNS n. 466 of December 12th, 2012, that revokes the Resolutions CNS n. 196/1996, 303/2000 and 404/2008. In this new Resolution, the necessity of guaranteeing the integrity of research is emphasized as it states that the sponsor agencies should require evidential documents of approval of the project by the Brazilian System Review of Researches Involving Human Beings – CEP/CONEP system, conformed by a National Commission of Ethics in Research and 650 Research Ethics Committees.

As exposed by the keywords, it can be observed that ethics in research has outcome the biomedical field, being inserted in other fields of knowledge that are essential for the advancement of science and technology, social development and dissemination of applied ethics in all the spheres of life – environmental, scientific, cultural, economical, social. The present results points out the predominance of Bioethics and Public Health in the field of ethics in research. Although it could be found articles in all fields of knowledge, the present work reveled the pioneering and the predominance of the field of health sciences in the discussions about ethics in research.

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