

## PHYSICAL EDUCATION, GERONTOLOGY AND BIOETHICS: PERSPECTIVES ON THE AUTONOMY OF THE ELDERLY<sup>1</sup>

### *EDUCAÇÃO FÍSICA, GERONTOLOGIA E BIOÉTICA: VISÕES SOBRE A AUTONOMIA DO IDOSO*

### *EDUCACIÓN FÍSICA, GERONTOLOGÍA Y BIOÉTICA: OPINIONES SOBRE LA AUTONOMÍA DE LAS PERSONAS MAYORES*

Lucimauro Fernandes de MELO<sup>2</sup>  
José Roberto GOLDIM<sup>3</sup>

**ABSTRACT:** This study is a literature review that seeks to demonstrate the views of Physical Education, Gerontology, and Bioethics regarding the Autonomy of the Elderly. The bibliographical research aimed to provide access to literature to analyze the studies already produced on the subject and was carried out with the studies related to the practices of the preparation of the Doctoral Thesis in Biomedical Gerontology at the Geriatrics and Gerontology Institute of the Pontifical Catholic University of Rio Grande do Sul. The theme is justified due to the importance it assumes in the current scientific scenario and in its discussions in a strategic dimension, which makes it important to emphasize and stimulate the practice of aging with health and quality. Autonomy, along with physical, mental, and psychological functions, is of utmost importance for a healthy aging process, promoting independence and dignity for the elderly to make their own choices. As a result of the research, it can be emphasized that it is essential to encourage the regular practice of aerobic physical activity or muscle strengthening, which bring changes for the adoption of an active lifestyle for the individual and is a fundamental part of an aging with quality and health. In this way, the study considers that Bioethics is concerned with the existing quality of life of human beings; since it follows with special attention the health areas; and observes the applicability and the relationship of its principles with the production of knowledge. The knowledge produced aims to understand the importance of Physical Education and also to verify if its practices are directed towards the studies of Gerontology and respect for the Autonomy of the Elderly.

**KEYWORDS:** Physical education. Gerontology. Bioethics. Autonomy.

**RESUMO:** *Este estudo é uma revisão de literatura que busca demonstrar as visões da Educação Física, da Gerontologia e da Bioética em relação à Autonomia do Idoso. A pesquisa*

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<sup>2</sup> Regional University of the Middle-Upper Uruguay (URI), Frederico Westhalen – RS – Brazil. Full Professor in the Physical Education Course and Member of the Physical Education Research Group – GPEDF (Health Sciences, Physical Education). Doctoral Student in the Postgraduate Program in Geriatrics and Biomedical Gerontology (PUCRS). ORCID: <https://orcid.org/0000-0002-8351-1580>. E-mail: [lucimauro@uri.edu.br](mailto:lucimauro@uri.edu.br)

<sup>3</sup> Pontifical Catholic University of Rio Grande do Sul (PUCRS), Porto Alegre – RS – Brazil. Adjunct Professor at the PUCRS School of Medicine, Professor at the Postgraduate Program in Medicine and Health Sciences and at the Postgraduate Program in Biomedical Gerontology. Doctorate in Medicine: Internal Medicine (UFRGS). ORCID: <https://orcid.org/0000-0003-2127-6594>. E-mail: [jose.goldim@pucrs.br](mailto:jose.goldim@pucrs.br)

*de cunho bibliográfico objetivou proporcionar acesso à literatura para análise de estudos já produzidos sobre o assunto e realizada junto aos estudos relacionados às práticas de elaboração de Tese de Doutorado em Gerontologia Biomédica, no Instituto de Geriatria e Gerontologia da Pontifícia Universidade Católica do Rio Grande do Sul. Justifica-se a temática devido à importância que esta assume no cenário científico atual e em suas discussões em uma dimensão estratégica, a qual torna importante enfatizar e estimular a prática de envelhecer com saúde e qualidade. E sendo a Autonomia, juntamente com fatores de funções físicas, mentais e psicológicas, de suma importância para um envelhecer saudável, promovendo para a pessoa idosa a sua independência e a dignidade para realizar suas escolhas. Como resultado da pesquisa pode se enfatizar que é imprescindível estimular a prática regular de atividade física aeróbica ou de fortalecimento muscular, as quais trazem mudanças para a adoção de um estilo de vida ativo ao indivíduo e é parte fundamental de um envelhecer com qualidade e saúde. Desta forma o estudo considera que a Bioética está preocupada com a qualidade de vida existente, dos seres humanos; acompanhando com atenção especial as áreas da saúde; e observa a aplicabilidade e a relação dos seus princípios com a produção do conhecimento. O conhecimento produzido tem por objetivo compreender a importância da Educação Física e ainda verificar se suas práticas estão voltadas para os estudos da Gerontologia e do respeito à Autonomia do Idoso.*

**PALAVRAS-CHAVE:** Educação física. Gerontologia. Bioética. Autonomia.

**RESUMEN:** *Este estudio es una revisión bibliográfica que pretende demostrar los puntos de vista de la Educación Física, la Gerontología y la Bioética en relación con la Autonomía de las Personas Mayores. La investigación bibliográfica tuvo como objetivo el acceso a la literatura para el análisis de los estudios ya producidos sobre el tema y realizados con las prácticas de preparación de Tesis de Doctorado en Gerontología Biomédica en el Instituto de Geriatria y Gerontología de la Pontifícia Universidad Católica de Rio Grande do Sul. El tema se justifica por la importancia que asume en el escenario científico actual y en sus discusiones en una dimensión estratégica, lo que hace que sea importante enfatizar y estimular la práctica del envejecimiento con salud y calidad. La autonomía, junto con las funciones físicas, mentales y psicológicas, es de suma importancia para un proceso de envejecimiento saludable, promoviendo la independencia y la dignidad de las personas mayores para que tomen sus propias decisiones. Como resultado de la investigación, se puede destacar que es fundamental fomentar la práctica regular de actividad física aeróbica o de fortalecimiento muscular, que aportan cambios para la adopción de un estilo de vida activo al individuo y es parte fundamental de un envejecimiento con calidad y salud. De esta manera el estudio considera que la Bioética se ocupa de la calidad de vida existente en los seres humanos; donde sigue con especial atención las áreas de la salud; y observa la aplicabilidad y la relación de sus principios con la producción de conocimiento. El conocimiento producido tiene como objetivo comprender la importancia de la Educación Física y también verificar si sus prácticas están dirigidas a los estudios de Gerontología y al respeto de la Autonomía de los Mayores.*

**PALABRAS CLAVE:** Educación física. Gerontología. Bioética. Autonomía.

## **Introduction**

The growth of technology and scientific research in the health area produce several questions for professionals who work with the elderly. Thus, it is necessary to analyze studies such as the one carried out by the Brazilian Institute of Geography and Statistics (IBGE, 2010) which carried out a survey stating that the current life expectancy of citizens is 76 years. And for 2016, Brazil would have the fifth largest elderly population in the world, reaching 29.6 million. The institute also estimates that by 2030 this nation of elderly people will be larger than the population of children under 14; in 2060, 1 in 4 Brazilians will be elderly, that is, we are becoming a country of elderly people. The research carried out by the IBGE, allows us to reflect on aging in Brazil, it is necessary to make a relationship with the structures of knowledge that Physical Education has and for this the Brazilian Society of Physical Activity and Health brings us that Physical Education does part of health care globally, considering all the elements that make up the human body; thus, for us to define the concept of Gerontology, it is necessary to base ourselves on these considerations.

Some of the concepts that will be used throughout this discussion have been adequately defined and compiled by the best specialists in the field of Physical Education. Among the concepts that deserve special attention are:

a) Physical activity: defined as any bodily movement produced as a result of muscle contraction that results in caloric expenditure.

b) Exercise: defined as a subcategory of physical activity that is planned, structured and repetitive; resulting in the improvement or maintenance of one or more physical fitness variables.

c) Physical fitness: it is considered not as a behavior, but as a characteristic that the individual possesses or achieves, such as aerobic power, muscular endurance, muscular strength, body composition and flexibility. Changes in body structure and composition that are more evident and that can be aggravated by some factors such as diseases, level of physical activity, psychosocial factors, among others.

Thus, as Gerontology is the science that studies the human aging process in order to meet the physical, emotional and social needs of the elderly, it is shown that working with this age group, in particular, does not only require thinking about the muscular or physiological aspects (SBAFS, 2019).

Bioethics makes its contributions as an interdisciplinary science and which is based on ethical principles, which watch over life when it is put at risk, and the same science analyzes theoretical content, concepts, practices and professional attitudes within Physical Education and Gerontology.

By experiencing physical activity practices, the elderly, in addition to disease prevention, have the possibility of longer life expectancy, having the opportunity to expand their functional capacity and autonomy, which is essential for quality of life (MATSUDO, 2001).

In relation to Autonomy, historically, in health care relationships, the paternalistic posture has prevailed. In this conception, decisions are unilateral and, generally, the Physical Education professional decides about what is best for the elderly. These attitudes strongly predominate in the practices of professionals in caring for the elderly, as they believe they are incapable of making a sensible decision about their health. In this sense, one of the basic principles of Bioethics can be affected, which is respect for autonomy. Respect for the principle of autonomy in elderly care should lead health professionals, particularly those in Physical Education, to consider the patient's ability to choose, beliefs and moral values. This allows the elderly to exercise their autonomy and decide between the care alternatives presented, based on a clear understanding of each one of them.

## **Objective**

The study aims to analyze the views of Physical Education, Gerontology and Bioethics in relation to the Autonomy of the Elderly. This theme is extremely important in the current scientific scenario and in its discussions, considering a strategic dimension in which autonomy is a central aspect of healthy aging, which promotes the independence of elderly people, showing the right to self-determination, maintaining their dignity, integrity and freedom of choice, being fundamental for the promotion of quality of life (BRASIL, 2006). We therefore propose to base ourselves on Bioethics so that the practices of Physical Education and Gerontology follow the precepts of human equality in relation to the Autonomy of the Elderly.

## **Justification**

We justify the study, which demonstrates the vision of Physical Education, Gerontology and Bioethics on the Autonomy of the Elderly, due to the great importance of the theme in the

current scientific scenario and in its discussions. It is important to emphasize that encouraging the regular practice of physical activities, whether aerobic or muscle strengthening, brings changes to the adoption of an active lifestyle and is a fundamental part of aging with health and quality, and the areas of knowledge, Physical Education, Gerontology and Bioethics, in this study are able to contemplate and exercise their roles within scientific actions aimed at aging.

## **Method**

For this study, a literature review (bibliographic) was used, in order to provide access to the literature for analysis of research already produced on the subject, we approached Physical Education, Gerontology, Bioethics and their views on the Elderly Autonomy; articulating its role to scientific actions aimed at aging. The research was carried out together with studies on the practices of elaboration of the Doctoral Thesis in Biomedical Gerontology, at the Institute of Geriatrics and Gerontology of the Pontifical Catholic University of Rio Grande do Sul. This research being in the line Sociocultural, Demographic and Bioethical Aspects of the Institute of Geriatrics and Biomedical Gerontology Program. Its results have been significant for the future implementation of care policies and formation of professionals who work with the elderly population. The researchers will use the Alto Uruguai and Missões region, in Rio Grande do Sul, as a setting. For the literature review, 28 manuscripts were selected, among books, articles published and search on websites from 2002 to 2020, which were analyzed as to the discussion about Physical Education and Bioethics and respect for the Autonomy of the Elderly. Several authors in recent years have been dedicating themselves to studies on factors associated with the practice of physical activity (SALLIS; OWEN, 1994; JACKSON *et al.*, 1999). Sallis and Owen (1999) carried out a meta-analysis involving approximately 300 studies and found a variety of factors related to physical activity in adults, presenting an association (positive or negative) with it, classifying these factors into six different dimensions: demographic and biological; psychological, cognitive and emotional; cultural and social; environmental issues. Thus, the practice of physical activity demonstrates a complexity and diversity of aspects that can influence its performance.

Thus, we also verified that physical exercise, which can be conceptualized as any planned and structured physical activity that aims to improve or maintain physical components, muscle structure, balance and flexibility. And that when it can generate improvements in quality of life, not only in the physical and functional aspect, but also in routine, sociability and self-esteem. Furthermore, physical activity can be conceptualized as different body movements

resulting from muscle contractions related to an energy expenditure above the basal level (rest), provided that it produces significant changes and acts in a preventive and corrective way in relation to diseases and injuries. Thus, the term Physical Activity will be adopted for a better understanding of the analyses. The relationship between physical activity, health, quality of life and aging has been increasingly discussed and scientifically analyzed. The discussion and analysis occur because the regular practice of physical activities allows an improvement in blood circulation, strengthening the immune system, helping with weight loss, reducing the risk of heart disease, strengthening bones and providing well-being. According to the consensus of the American College of Sports Medicine, elderly patients with cardiovascular disease should start the physical activity program with lower exercise intensity, especially in the sedentary group, due to the risk of complications related to the underlying disease or to musculoskeletal involvement.

Physical activity is an important resource to minimize the changes caused by aging, being an important factor in the prevention and treatment of chronic-degenerative diseases, being essential for allowing and preserving the independence and autonomy of the elderly, thus enabling the maintenance of an active life (NÓBREGA *et al.*, 1999). Currently, there is practically a consensus among health professionals that physical activity is a determining factor in the success of the aging process. The consensus is due to the beneficial results of physical activities, for example regarding the locomotor system and pathologies in elderly patients with heart disease. So, some authors talk about good practices related to physical activities.

Association between the practice of physical activity and better health standards has been reported in the literature for a long time and has increased in the current decade (STEPHENS, 1983).

Geis (2003) compares the human body with a machine that, if not used, becomes damaged over time. Like the machine, the human body needs movement.

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Still, this review has the method to establish the main determining factors of Physical Education, Gerontology and Bioethics on the Autonomy of the Elderly; and at what levels are these sciences to, during aging, trigger benefits in the active lifestyle of the elderly. When physical activity prevails over non-communicable chronic diseases, mortality and helps to maintain functional capacity during the aging process.



## **Discussion**

Evidence shows a decrease in the level of physical activity with increasing chronological age, making sedentary lifestyle a risk factor for morbidity and mortality during the aging process. The data show that the barriers to the practice of regular physical activity in old age are easily overcome and that public health policy strategies can be implemented. Thus, it is possible to encourage the adoption of an active lifestyle during aging, sensitizing the population about the possibility of being physically active without needing to have a lot of time and specific skills, knowledge or equipment.

Likewise, the evidence emphasizes the role of the Physical Education professional as a facilitating agent for the regular practice of physical activity at this stage of life. To reinforce and achieve success, the authors recommend that the prescription of physical activity be carried out in writing, considering the time available to perform physical activity, the practitioner's desire, the equipment and facilities available, remembering the comorbidities that can affect the performance to perform the activity and, most importantly, be nurtured as a lifelong habit.

Physical activities are related to changes in weight and body composition, which are linked to age. It appears that the need of the individual entering the elderly is to practice regular physical activities, so that conditioning and prevention are present in the life of the elderly and, thus, can contribute to an improvement in quality of life. But physical exercise does not have a great impact to significantly change weight and body composition in the elderly when it does not occur efficiently, as it is necessary for the person to incorporate some lifestyle habits, such as healthy eating, among others.

Aerobic training, like resistance training, can help reduce fat stores in the elderly; this demonstrates that even the individual not following a caloric restriction, for the modification of the body composition, it is important the regular practice of physical activity, to provide a prevention of diseases caused by the accumulation of fat in the body, as in the case of heart attacks, among others. It is also verified with physical activity, weight control, even without caloric restriction, which is important for the elderly. When talking about the neuromuscular level of the elderly, one immediately thinks of the loss of muscle mass and, consequently, of the natural muscle strength in the aging process. With this factor come: lack of balance, difficulty in mobility, lack of strength.

According to Matsudo (2002, p. 200, our translation): “Sarcopenia indicates a loss of mass, strength and quality of skeletal muscle, which has a significant impact on public health due to its well-recognized functional consequences on walking and balance [...]”. The loss of

muscle mass also causes a reduction in the size of the type II fiber, and the type I fiber (slow contraction) is much less affected. With this process, there is also a loss of agility in the elderly and the ability to react quickly, making what was previously simple to do in the execution of something with great difficulty.

With all the scientific arguments in place, we have a demonstration of the benefits and harms for those who do not exercise. In the latter case, we see an elderly person who no longer has autonomy in relation to physical movement, motor gestures and, in some cases, in relation to social, financial and cultural autonomy. We can also observe the importance of an interdisciplinary work related to Health Sciences, Physical Education, Gerontology and Bioethics.

## **Conclusion**

Given the above, the real importance of Bioethics in research practice is observed. Physical Activity and Physical Fitness should be encouraged not only for the elderly, but also for adults, as a way to prevent and control chronic non-communicable diseases that appear more frequently during old age and as a way to maintain autonomy (functional independence). We know that aging can bring a series of pathologies that can reduce autonomy and limit the quality of life of the elderly, depending on several factors, such as: lifestyle, culture, heredity, among others (BRASIL, 2006).

Evidence suggests that regular physical activity and an active lifestyle play a fundamental role in the prevention and control of non-communicable chronic diseases, especially those that constitute the main cause of mortality: cardiovascular diseases and cancer. But, in addition to this, physical activity is also associated with better mobility, functional capacity and quality of life during aging (MATSUDO, 2001).

It is important to emphasize, however, that encouraging the regular practice of aerobic physical activity or muscle strengthening brings changes to the adoption of an active lifestyle and is a fundamental part of aging with health and quality. Bioethics is concerned with the existing quality of life, especially for human beings, that is, it monitors health areas with special attention. Physical Education professionals become a link with society, being the element that articulates theories with practices for their dissemination, through sport, play, bodily manifestations, music, leisure activities, giving social quality to the life, due to the wide coverage of Physical Education in these areas of activity. It was necessary for professionals to delimit spaces and directions for their performance, and Bioethics emerges as a regulator and



guide of the action of the Physical Education professional, which aims to guide, discipline and supervise the exercise in general, in addition to contributing to the improvement in the population's quality of life.

Thus, the principles of Bioethics and its relationship with the production of knowledge aim to understand the importance of Physical Education and also verify whether its practices are geared towards studies in Gerontology, respecting the Autonomy of the Elderly.

## REFERENCES

AMERICAN COLLEGE OF SPORTS MEDICINE. **Guidelines for exercise testing and prescription**. 5. ed. Philadelphia: Williams & Wilkins, 1995.

BRASIL. **Lei 10.741, de 01 outubro de 2003**. Dispõe sobre o Estatuto do Idoso. Brasília, DF, 03 out. 2003. Available: <https://www2.camara.leg.br/legin/fed/lei/2003/lei-10741-1-outubro-2003-497511-norma-pl.html>. Access: 10 Oct. 2020.

BRASIL. Ministério da Saúde. **Portaria n. 2.528, de 01 de outubro 2006**. Aprova a Política Nacional da Pessoa Idosa. Brasília, DF: Ministério da Saúde, 2006. Available: [https://bvsms.saude.gov.br/bvs/saudelegis/gm/2006/prt2528\\_19\\_10\\_2006.html](https://bvsms.saude.gov.br/bvs/saudelegis/gm/2006/prt2528_19_10_2006.html). Access: 10 Oct. 2020.

DIAS, J. M. **Bioética e educação física**. Documento CONFEF/CREF. Available: <http://www.confef.org/>. Access: 10 Oct. 2020.

GOLDIM, R. J. **Bioética e Interdisciplinaridade**. Available: [www.bioetica.ufrgs.br/bioetica.htm](http://www.bioetica.ufrgs.br/bioetica.htm) acessado. Access: 10 Oct. 2020.

IBGE. Instituto Brasileiro de Geografia e Estatística. Available: <https://www.ibge.gov.br/home/estatistica/populacao/condicaoodevida/indicadoresminimos/sinteseindicsoais2016/default.shtm>. Access: 10 Oct. 2020.

LOPEZ, M. **Fundamentos da clínica médica: a relação paciente-médico**. Rio de Janeiro, RJ: Medsin Editora Médica e Científica, 2007.

MANTOVANI, E. P. **Atividade física, saúde e envelhecimento**. Available: [https://www.fef.unicamp.br/fef/sites/uploads/deafa/qvaf/funcamp\\_cap9.pdf](https://www.fef.unicamp.br/fef/sites/uploads/deafa/qvaf/funcamp_cap9.pdf). Access: 02 Apr. 2012.

MATSUDO, S. M. Atividade física e envelhecimento: aspectos epidemiológicos. **Rev Bras Med Esporte**, São Paulo, v. 7, n. 1, 2001.

MATSUDO, S. M. Envelhecimento, atividade física e saúde. **R. Min. Educ. Fís.**, Viçosa (MG), v. 10, n. 1, p. 195-209, 2002.

NÓBREGA, A. C. L. *et al.* Posicionamento oficial da Sociedade Brasileira de Medicina do Esporte e da Sociedade Brasileira de Geriatria e Gerontologia: atividade física e saúde no idoso. **Rev Bras Med Esp.**, v. 5, n. 6, p. 207-211, nov./dez. 1999.

PESSINI, L.; BARCHIFONTAINE, C. P. **Problemas atuais de bioética**. 5. ed. São Paulo, SP: Loyola, 2000.

PONT GEIS, P. **Atividade física e saúde na terceira idade: teoria e prática**. Trad. Magda Schwartzaupt Chaves. 5. ed. Porto Alegre, RS: Artmed, 2003.

ROTANIA, A. A linguagem como veículo da ética. **Cadernos de Ética em Pesquisa**, ano 4, v. 13, p. 23, 2004.

SALLIS, J. F.; OWEN, N. **Physical activity and behavioral medicine**. Thousand Oaks, California: Sage Publications. 1994.

SBAFS. Sociedade Brasileira de Atividade Física e Saúde. 2019. Available: [https://www.sbafs.org.br/\\_artigos/548.pdf](https://www.sbafs.org.br/_artigos/548.pdf). Access: 02 Apr. 2012.

STEPHENS, T. **Fitness and lifestyle in Canada: a report**. Ottawa: Fitness and Amateur Sport; 1983.

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