

Ageism in scientific research

Edmilson Leal Bastos de Moura¹

¹ Universidade do Distrito Federal, Brasília/DF, Brasil.

Abstract

Ageism is one of the most prevalent and pervasive prejudices today. The exclusion of older adults from clinical studies has been identified as an element of bias and, despite having been described in the 1960s, ageism remains without a practical solution, highlighting the consolidated marginalization of this group. This review aims to provide a brief overview of the impact of this prejudice on clinical research and show potential strategies to overcome it.

Keywords: Ageism. Aged. Research. Bioethics. Ethical review.

Resumo

Ageísmo na pesquisa científica

O ageísmo é um dos preconceitos mais prevalentes e perversivos da atualidade. A exclusão de idosos de estudos clínicos tem sido identificada como elemento de viés, e, apesar de descrito já na década de 1960, o ageísmo segue sem solução prática, evidenciando a arraigada marginalização desse segmento etário. Esta revisão pretende fornecer um breve panorama da repercussão desse preconceito na pesquisa clínica e apontar possíveis estratégias para superá-lo.

Palavras-chave: Etarismo. Idoso. Pesquisa. Bioética. Revisão ética.

Resumen

El ageísmo en la investigación científica

El ageísmo es uno de los prejuicios más prevalentes y generalizados en la actualidad. La exclusión de los ancianos de los estudios clínicos se ha identificado como un elemento de sesgo y, a pesar de que ya se describió en la década de 1960, el ageísmo sigue sin tener una solución práctica, lo que pone de manifiesto la arraigada marginación de este segmento de edad. Esta revisión pretende ofrecer una breve panorámica de las repercusiones de este prejuicio en la investigación clínica y señalar posibles estrategias para superarlo.

Palabras clave: Ageísmo. Anciano. Investigación. Bioética. Revisión ética.

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The increase in life expectancy observed in the last century has led to an increase in morbidity and mortality, polypharmacy, and frailty¹. Considering that the prevalence of most chronic diseases increases with age², the presence of comorbidities with aging is expected, despite the heterogeneous health status of this population³.

The term “ageism” was proposed by Robert Butler in 1969 to describe the “prejudice by one age group toward other age groups”⁴. It is a broad concept that was later reformulated to “attitudes of prejudice and assumptions about older people, discriminatory practices or structural elements that perpetuate stereotypes about older people”⁵. Because of ageism and its biased and stereotyped, predominantly negative representation, the older adults are considered a homogeneous group, characterized by weakness, illness, and senility⁶.

As a result, they are rejected and disrespected, their individuality is devalued and they are considered unworthy of the rights and privileges granted to other members of society⁷. Therefore, this population has been excluded from social participation in various everyday scenarios. In clinical research, older adults remain underrepresented, either because of arbitrary or omitted age limitations, or because of a concern with clinical frailty as a determinant of inadequacy.

This review aims to describe the practice of ageism in scientific research, analyze its impact on the older population and the rest of society, and highlight challenges to better understanding and eliminating it.

Particularities of ageism in clinical research

The ethical principles for medical research involving human subjects comply with the Declaration of Helsinki, adopted at the 18th General Assembly of the World Medical Association in Finland in June 1964. According to Article 13 of the Declaration, *groups that are underrepresented in medical research should be provided appropriate access to participation in research*⁸.

Therefore, ethical supervision of clinical research is justified, as it regulates the requirements and best practices in this activity. In this sense, subsequent

codes of research ethics were created, such as the Belmont Report⁹ of 1979, which highlights the best practices in the selection of research subjects.

Research is regulated and operationalized by institutional committees, and evaluated according to specific criteria for approval, according to fundamental ethical elements – fairness, respect for persons, and beneficence. Among these rules, it should be noted that the selection of research subjects must be equitable, respecting the principle of fairness¹⁰.

The underrepresentation of the older population in research has been observed since the 1990s, highlighting the need to pay attention to this problem and its solution³. Following a document issued in 1989 by the Food and Drug Administration encouraging research on drug safety in older adults and highlighting the lack of data in the literature¹¹, the International Conference on Harmonization¹² was organized to determine the pharmacokinetic and pharmacodynamic characteristics of drugs used predominantly by geriatric patients, which were unknown at the time.

This initiative aimed to consolidate knowledge about drugs used in diseases that are more prevalent in this population (such as Alzheimer’s disease) or intrinsically related to them (comorbidities, organ failure). Finally, the guideline¹² recommended that the exclusions of new drug formulations or drug combinations, determined by the technical evaluations performed by this task force after taking into account physiological particularities and the most prevalent conditions among older adults (such as organ failure), should be recorded and reported to the authorities, based on objective criteria (estimates of disease prevalence by age or the age distribution of other drugs of the same class or used for the same indication)¹².

Although emblematic for being a pioneering initiative, it failed when it stated that *clinically important differences would normally be detected* in a group of 100 patients over 65 years of age¹². Unfortunately, the standard population sample of 100 people over 65 years of age was then adopted, as it was considered sufficient to rule out age-related clinical peculiarities, without evidence that it was appropriate, perhaps only as a minimum threshold³.

Many studies have raised concerns about this issue, such as an Australian study which showed that most (85%) national pharmacotherapy guidelines referred to the elderly, but omitted any reference to age¹³. In addition, a systematic review of 4,341 randomized clinical trials¹⁴ revealed an alarming finding: most studies did not include explicit minimum or maximum age limits, or when they did, no explanation of the reason for such limits was provided.

Of note, the omission of such information from the inclusion criteria may often imply a recruitment bias, favoring younger participants¹⁵. Finally, even considering the associated non-intentionality and involuntariness, the devaluation of this age group is evident, perhaps based on limited stereotypes. Anyway, this situation is inappropriate for a research environment and, even hidden, it constitutes ageism¹⁶.

This problem is even worse in less developed countries, where ageism is more prevalent, healthy life expectancy is lower, and the likelihood of illness among older adults is higher. In these countries, the increased exposure of the population to health problems in old age reinforces negative attitudes towards aging¹⁷.

According to Shenoy and Harugeri¹⁸, the regulatory authorities in these countries have several concerns about enrolling elderly patients (aged 65 and older) in clinical trials:

- lower life expectancy when compared to the Western population;
- greater dependence on health care by this population, which is seen as a barrier to participate in clinical trials;
- not exposing vulnerable populations to experimental drugs;
- comorbidities that may affect efficacy and safety outcomes; and
- potential increase in serious adverse events, especially death.

Therefore, scientific progress in the geriatric population presents a true ethical dilemma. While it requires the participation of older adults to ensure representativeness, it must recruit competent individuals to give valid consent (a fundamental requirement in research ethics)¹⁹.

In other words, research on older people is both ethically necessary and ethically suspect¹⁹.

Discussion

Ageing is a controversial subject, neglected in many ways. The definition of age shows that, regardless of the cut-off point used, the terms “older,” “old age,” and “elderly” cover people with an age difference of up to 35 years²⁰.

The incorporation of ageist practices into scientific research was first described by Butler⁵, who designed structural or institutionalized stereotypes that result in practices and policies that harm older people. Often inseparable from other types of prejudice, ageism can be expressed in organizational and academic environments. In these environments, known for the pressure to be productive and achieve goals, it can be seen both against researchers²¹ and, eventually, against individuals to be recruited.

Despite being the major consumers of new therapies, older people have been underrepresented in the clinical trials that led to the discovery of these drugs^{1,14}. As a result, applying research to target populations is a challenging task¹⁴, that is, there is insufficient evidence and knowledge about the responses of geriatric patients to drugs¹⁸. This is because medical research involving young and middle-aged people does not necessarily benefit the elderly²², requiring the representative participation of this population.

Some strategies to mitigate the harmful effects of ageism in clinical research are: the adoption of inclusive public policies, the establishment of targeted guidelines, and raising awareness among the scientific community¹.

With a view to inclusion, a strategy has been proposed for advising researchers based on five elements, called 5Ts (target population, team, tools, time, tips to accommodate)²³. This strategy emphasizes:

- representation of the target population in order to avoid exclusions that limit the generalizability of the study;
- the importance of creating research teams with experience in aging, including geriatric researchers and aging specialists;

- appropriate tools to measure function and outcomes reported by the patient;
- allowing time for extended study visits, with access to food and medication; and
- meeting common needs with practical tips, such as provision for transportation and adequate printed material.

Challenges related to the recruitment phases and research settings seem equally relevant. The former concerns diverse and fair participation, respecting the representativeness of the sample, while the latter highlights special situations such as home confinement or palliative care²². Cognitive limitation also raises several ethical issues, making older people particularly vulnerable to exclusion.

Understanding informed consent and agreeing with it requires perception, memory, judgment and reasoning skills, correlated with educational level and time availability^{22,24}. For this reason, researchers must be trained to communicate research results to the target audience in a comprehensible way, as these data are considered difficult for older people to understand²⁵. Solutions must be anticipated and incorporated into research projects.

The British Geriatrics Society has implemented initiatives to change geriatric health policies, procedures, and behaviors, although unfortunately it has not yet achieved concrete changes²⁶. The American Geriatrics Society recognizes age disparities and prejudices in North American health policies and is committed to promoting fairness and eliminating these barriers²⁷.

In Brazil, age issues have been on the government policy agenda for the past two decades, driven by the need to reform social security²⁸. Then, legal provisions, such as the

Statute of the Elderly²⁹, are examples of the recognition of these challenges by legislators and government officials²⁸.

Since current practices are exclusionary, there are challenges to be overcome, and it is essential to implement policies that promote communication and the preparation of researchers and health professionals in order to bring the issue to the attention of those responsible for scientific production. It is the responsibility of the researcher to protect the rights and well-being of research participants and ensure that research is conducted in accordance with appropriate ethical standards.

Final considerations

The engagement of the community and governmental institutions that ensure compliance with the regulations contained in national health policies must be the driving force to change dogmatic scientific precepts that prevent the equitable participation of age groups under fictitious claims. In addition, the engagement of research organizations and research awareness are required, driven by the search for truth and dissatisfaction with the *status quo*. Inclusive strategies would reduce the current imbalance that excludes the older people from their fair and essential participation in scientific studies.

Fighting against ageism in clinical research is not just a matter of practicing empathy or intergenerational alterity. It means ensuring respect for the individuality and rights of older people, with diversity as a social value and ethics as a humanitarian principle. It also fulfills the social role of fairness and equity that enables the exercise of citizenship.


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Edmilson Leal Bastos de Moura – Master – edmilson.bastos@escs.edu.br

 0000-0003-3344-8453

Correspondence

Edifício Fepecs – SMHN, conjunto A, bloco 1, Asa Norte CEP 70710-907. Brasília/DF, Brasil.

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