

## Gerontology as a Science and its Intervention in the Field of Health: Conceptual Approaches

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**Introduction:** Gerontology defined by the Royal Spanish Academy as the science that deals with old age and the phenomena that characterize it. Likewise, knowledge of the sciences of aging has relevant importance in clinical application, specifically at the first level of health care **Objective:** Identify and reflect on the applications of gerontology as a science in the clinical setting **Methodology:** A systematic review of scientific literature on gerontology carried out, using scientific search engines: Latindex, Scielo, PubMed and Semantic Scholar. In this sense, two categories focused on for the systematic analysis of the information: 1) Gerontological conceptual approaches, and 2) Professional competencies in the clinical field. **Results:** Nine articles published between 2016 and 2023 reviewed. In this sense, the identified findings are conceptual approaches and intervention methods in the clinical setting **Conclusions:** Gerontology is a science with little scientific literature and sufficient research regarding clinical intervention in professional settings. Consequently, recommended to design and execute actions from Higher Education Institutions and public policy to highlight the importance of gerontology in society.

**Keywords:** Gerontology, Science, Conceptual approaches, Clinical setting, older people.

### INTRODUCTION

Gerontology defined by the Royal Spanish Academy as the science that deals with aging and the phenomena that characterize it. Similarly, the US National Academy of Sciences defines it as the scientific study of the processes and problems of aging from all aspects. It is important to remember that the origin of the word comes from the prefixes: geronto meaning old and logo meaning study or treatise. In this sense, gerontology as a science emerged in 1903 through its precursor, the Russian biologist and sociologist Michel Elie Metchnikoff, who stated that it would have an impact on society. "Data from the World Health Organization show that between 2015 and 2050, there will be a 12% to 22% increase in older adults worldwide [1].

Currently, gerontology studied at the undergraduate or graduate level; in Latin America, there is a professional position as a Bachelor of Gerontology. This academic training comprises four to five years of study according to the curriculum of each university. There are also master's degrees and specializations in gerontology. The countries that primarily offer this

training are Mexico, Peru, Venezuela, Colombia, Ecuador, and Argentina. However, as it is a transdisciplinary field, where a series of interdisciplinary knowledge from medicine, psychology, social sciences, and basic science converge, its conceptualization can be confusing and, therefore, misused.

In bibliographic reviews, few articles define the concept of gerontology as a science. In this regard, Fergusson *et al.*, [2] mention that the bibliographic references on gerontology found in scientific information databases reaffirm the interdisciplinary nature of this science; the topics related to social gerontology, biogerontology, aging models, or psychogerontology are those that offer the greatest theoretical foundation.

Research is the substantial axis of the study of gerontology, as it allows for the study of aging from different perspectives. It allows for the design of transdisciplinary Gerontological programs at the primary care level, the analysis of the population impact of the progressive increase in the number of people aged sixty and over, and the study of the etiopathogenesis of the

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diseases that most affect this age group at the cellular and molecular level. It also contributes to the physical and emotional well-being and quality of life of older adults. All of this based on evidence-based practice.

That said, "Gerontology professionals must exercise their specific competencies within the following

areas of practice: Management, Promotion of active aging, Intervention in functional dependency, and care and support at the end of life." [3] Table 1 lists the scope of gerontology represented by the different areas of study and interdisciplinary practice.

**Table 1: Areas of study in gerontology**

Study Area	Objective
<b>Biogerontology</b>	The study of the phenomenon of aging from a cellular and molecular perspective. Its focus is primarily on basic science laboratories and brings together biogerontologists and basic science fields.
<b>Clinical Gerontology</b>	The approach to the health of older adults at the primary care level. Its scope is in health centers and promotes education, advocacy, and disease prevention. This area brings together clinical gerontologists, physicians, nurses, and rehabilitation specialists in geriatrics.
<b>Social Gerontology</b>	Research into the social problems and phenomena that influence old age and the aging process. This area brings together social gerontologists, social workers, sociologists, law, social anthropologists, economics, and other social fields.
<b>Psicogerontology</b>	To investigate phenomena related to the psychological, cognitive, and emotional well-being of older adults, providing guidelines for an appropriate approach. Psychogerontologists, neuropsychologists, and clinical and/or social psychologists converge in this area.
<b>Geragogy</b>	Design and develop strategies for the teaching and learning process of older adults, with the goal of greater adaptability to their environment. Geragogos converge in this area.

**Note:** Prepared by the authors based on a systematic review of the information in 2024

## DEVELOPMENT

The Gerontological approach constitutes a public health challenge within comprehensive care. This is due to figures from the World Health Organization indicating that, by 2030, one in six people worldwide will be over 60 years of age, with 1.4 billion older adults [4] requiring specialized clinical care and social services to promote healthy aging. In the context of Mexico, the exponential increase in this age group between 2020 and 2024 was 2,228,918 million people aged 60 or older; according to data from the National Population Council published in the Official Gazette of the Federation [5].

Gerontology defined as the scientific study of aging, its processes, and problems from all aspects. In this sense, a gerontologist is a scientist who studies, analyzes, and intervenes in all processes and problems related to old age and the aging process. In Latin America, there is professional training at the undergraduate and graduate levels in gerontology. However, there are insufficient social programs and public institutions to facilitate this specialized approach for the older population.

Mexico has institutions such as the National Institute of Geriatrics (INGER) that promotes research and academia in the area of aging sciences. Likewise, it has programs to care for the elderly at the primary care level; the Mexican Social Security Institute (IMSS) was the entity that developed the Institutional Geriatric Plan "GeriatrIMSS" as a strategic action that comprehensively addresses the needs of the elderly [6]. Likewise, the Institute of Security and Social Services for State Workers (ISSSTE) employs actions to promote healthy

aging in its family medicine and primary health care units [7]. These actions related to the identification of risk factors associated with health and the prevention of chronic diseases, nutrition, physical activity and strategies that promote a decent quality of life. In terms of social policies, the National Institute for Older Persons (INAPAM) is a government agency that leads the design and implementation of programs aimed at fostering inclusion and promoting the human rights of this age group.

The professional competencies of the clinical gerontologist in the primary care setting directed toward interdisciplinary work and from a social and health perspective, seeking to provide health care from a perspective that strengthens functional and multidimensional capacity throughout the lifespan [8]. Likewise, interventions must be designed to enhance active and healthy aging, resulting in the autonomy and independence of older adults.

For the integration of information as part of the Gerontological clinical approach, effective communication within the gerontologist-patient relationship is necessary, as well as rapport, active listening, and collaborative work with the family and/or caregivers. Furthermore, specialized instruments are essential for analyzing, designing, and planning person-centered interventions. In this sense, the Gerontological Clinical Record (GCR) is a legal document for the professional practice of the Clinical Gerontologist and allows for the recording of activities performed during the interview, diagnosis, and intervention plan. In this sense, it is made up of the following sections:

Identification form, reason for care, family chart, comprehensive Gerontological assessment and clinimetry, Gerontological diagnosis and intervention strategies [9].

All of the above allows the clinical gerontologist to perform a situational and integrated diagnosis of each patient and establish the necessary strategies based on techniques and actions aimed at promoting the older adult's functionality. Likewise, they can refer patients to other specialists within the interdisciplinary team if any specific alteration identified.

Therefore, the geriatric syndromes, defined as the four giants of geriatrics, are manifestations that affect older adults and listed below falls, immobility, urinary incontinence, and cognitive decline. Similarly, sensory deprivation is one of the reasons older adults seek primary care consultation. For this reason, it is essential to evaluate and identify these manifestations through screening tests to design the optimal strategy that involves interdisciplinary knowledge and skills.

The strategies implemented as part of the intervention plan should focus on health promotion, education, and prevention—fundamental pillars of public health. Likewise, they should focus on physical stimulation, learning, neurocognitive rehabilitation, emotion regulation, healthy eating, and social integration through support networks or mutual aid groups. All of this is comprised of an interdisciplinary team of health professionals: Clinical Gerontologists, Nursing, Medicine, Nutrition, Rehabilitation, Psychology, and Social Work personnel specializing in Gerontology and Geriatrics.

Considering the ravages of the COVID-19 pandemic and the psychosocial and health impact of this disease on older adults, it is necessary to consider Gerontological approach programs at the primary care level, and the integration of specialized personnel to address this age group, families, and caregivers—from an individual, group, and collective perspective. Currently, there are insufficient social and health programs proposed by social and educational institutions.

## CONCLUSIONS

Considering the ravages of the COVID-19 pandemic and the psychosocial and health impact of this disease on older adults, it is necessary to consider Gerontological approach programs at the primary care level and the integration of specialized personnel to address this age group, families, and caregivers; from an individual, group, and collective perspective. Currently, there are insufficient social and health programs proposed by social and educational institutions. Likewise, it is necessary to establish methodological and scientific actions to promote the appropriate framework

that provides gerontology with its own identity. Scientific dissemination, plenary agreements at specialized conferences, and the design of multicenter research protocols based on the real needs and areas of opportunity in this field will be of utmost importance to achieve this goal.

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