



## **Promotion and control of chronic non-communicable diseases in older adults: A Bibliographical Review**

**Promoción y control de enfermedades crónicas no transmisibles en los adultos mayores: Una Revisión Bibliográfica**

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### **ABSTRACT**

The article responded to a result related to the theoretical underpinnings on: health promotion and control of Chronic Non-Communicable Diseases in older adults corresponding to the research project "Promotion and control of Chronic Non-Communicable Diseases in older adults of the Clemencia Foundation and the Sofia Ratinoff Asylum in the city of Guayaquil". The promotion and control of chronic non-communicable diseases (NCDs) in older adults is fundamental to improve their quality of life and reduce the burden of disease in this population. NCDs, such as diabetes, hypertension, cardiovascular and respiratory diseases, represent a growing challenge in the aging population. Health promotion includes education on healthy lifestyles, such as a balanced diet and regular exercise, as well as prevention of smoking and excessive alcohol consumption. Effective control of NCDs involves comprehensive medical care, which may include regular blood pressure monitoring, blood glucose control, and appropriate administration of medications. The implementation of NCD promotion and control programs in older adults requires

interdisciplinary coordination and a patient-centered approach, with the aim of improving health and well-being at this stage of life. The research is of the documentary type by addressing a theoretical framework, with a qualitative approach. Theoretical methods used were: analysis and synthesis, induction and deduction from abstract to concrete and descriptive.

## RESUMEN

El artículo respondió a un resultado relativo a los sustentos teóricos sobre: promoción de la salud y el control de Enfermedades Crónicas no Transmisibles en los adultos mayores correspondiente al proyecto de investigación “Promoción y control de Enfermedades Crónicas no Transmisibles en los adultos mayores de la Fundación Clemencia y el Asilo Sofia Ratinoff de la Ciudad de Guayaquil”. La promoción y control de enfermedades crónicas no transmisibles (ECNT) en adultos mayores es fundamental para mejorar su calidad de vida y reducir la carga de enfermedad en esta población. Las ECNT, como la diabetes, hipertensión, enfermedades cardiovasculares y respiratorias, representan un desafío creciente en el envejecimiento de la población. La promoción de la salud incluye educación sobre estilos de vida saludables, como una dieta equilibrada y ejercicio regular, así como la prevención del tabaquismo y el consumo excesivo de alcohol. El control efectivo de las ECNT implica una atención médica integral, que puede incluir el monitoreo regular de la presión arterial, el control de la glucosa en sangre y la administración adecuada de medicamentos. La implementación de programas de promoción y control de ECNT en adultos mayores requiere una coordinación interdisciplinaria y un enfoque centrado en el paciente, con el objetivo de mejorar la salud y el bienestar en esta etapa de la vida. La investigación es de tipo documental al abordar un marco teórico, con un enfoque cualitativo. Se usaron métodos teóricos como: el análisis y síntesis, la inducción y deducción de lo abstracto a lo concreto y el descriptivo.

## Keywords / Palabras clave

Older Adults, Chronic Non-Communicable Diseases, Health Promotion, Disease Control, Integrated Health Care

Adultos Mayores, Enfermedades Crónicas No Transmisibles, Promoción de la Salud, Control de Enfermedades, Atención Médica Integral

## Introduction

The aging of the population is a global phenomenon that has led to a significant increase in the prevalence of chronic noncommunicable diseases (NCDs). These diseases, which include diabetes mellitus, arterial hypertension, cardiovascular diseases, among others, represent a considerable burden for health systems and affect the quality of life of older adults.

According to the World Health Organization (2022), health promotion is a process that provides the population with the means to exercise greater control over their own health and improve it; in the case of older adults, it is important to provide them with adequate health promotion and prevention activities, considering their longer life expectancy and the need to maintain their autonomy and prevent diseases.

Despite the availability of effective treatments for many chronic noncommunicable diseases, significant barriers to health care access and treatment adherence still persist in older adults, so it is important to investigate how health promotion and disease management interventions can be tailored to meet the specific needs of each vulnerable group or individual.

This study provides a solid basis for the design of public health policies and intervention programs that effectively address the health needs of older adults with chronic noncommunicable diseases. The objective of this study is to analyze the existing literature on health promotion and control of chronic noncommunicable diseases, through this analysis, we seek to evaluate the effectiveness of health promotion interventions and control strategies specifically targeted to this population. In addition, the aim is to identify associated risk factors, as well as to detect possible gaps in current knowledge that may guide future research.

Health promotion is fundamental to prevent diseases and improve quality of life. It is a dynamic process that involves the acquisition of health knowledge, skills and abilities at both the individual and collective levels (Meras & Rodríguez, 2021). The World Health Organization (2022) defines it as a means for people to have greater control over the factors that influence their health, resulting in overall health improvement. It is a process that encompasses social and political aspects, seeking to strengthen individual capacities and

modify social, economic and environmental conditions to reduce the negative impact on health at both the individual and community levels.

In the specific context, the Ministry of Public Health of Ecuador (2022) expands this definition, considering integral and specific aspects of Ecuadorian society. Health promotion here is understood as a comprehensive process that seeks to strengthen people's capacity to improve their health, taking into account cultural, social, environmental and economic factors. Special attention is given to gender, cultural and ethnic differences, as well as to the different life stages of individuals and communities. In summary, health promotion in Ecuador seeks not only to improve individual health, but also to address the inequities and social challenges that affect public health in general.

The promotion and control of chronic noncommunicable diseases in older adults is a crucial public health priority due to the increase in life expectancy and the prevalence of these diseases in this population. First, it is essential to implement health promotion programs that promote healthy lifestyles in older adults, including a balanced diet, the regular practice of physical exercise appropriate to their abilities, and the abandonment of harmful habits such as smoking and excessive alcohol consumption (De La Guardia & Ruvalcaba, 2020).

In addition, it is essential to establish systems for early detection and early diagnosis of chronic diseases in this population. This implies performing regular medical checkups that include the measurement of parameters such as blood glucose, blood pressure and body mass index, which allows identifying risk factors and diseases in early stages in order to intervene in a timely manner (Serra, 2020).

Another crucial aspect is to ensure equitable access to specialized health care services and medications for the treatment and control of chronic diseases in older adults. This includes the availability of regular medical consultations, essential medicines, as well as education and ongoing support for self-care and adherence to treatment (Tamayo, 2019).

In addition, secondary and tertiary prevention strategies should be promoted to reduce the impact of chronic diseases already established in older adults. This implies the implementation of rehabilitation programs, comprehensive management of chronic diseases and palliative care, in order to improve quality of life and reduce morbimortality associated with these diseases (Iza & Saavedra, 2023).

## Health and aging

Health is defined as an optimal state of adaptation, growth and development, while disease represents a rupture in this adaptation or a crisis of the human body when trying to maintain its adaptive balance, that is why health promotion is fundamental to build a healthier world, since it implies promoting healthy lifestyles and reducing the factors that predispose to disease (Flores & Aceituno, 2021).

For its part, population aging is a global phenomenon that is impacting all countries across the board and these people are in a phase of life in which they experience a series of physical and psychological changes that can influence their quality of life, therefore, they need specialized care to ensure their well-being and prevent the deterioration of their health (Maggi & Llanos, 2022).

One of the main challenges associated with population aging is the increase in chronic diseases and physical and cognitive disabilities. As people age, the risk of developing multiple conditions increases, which can have a significant impact on individuals' quality of life and represent a considerable burden on health care systems (Vizcaino et al., 2021).

In addition to health challenges, population aging also raises important social and economic considerations. For example, the increase in the older population may put pressure on pension and social security systems, as well as on health care and long-term care services (Forttes, 2020). It may also affect family and community structure, as more older people may require support and care from their families and communities (Robledo et al., 2022).

### Health promotion in older adults.

It is essential that older people are considered as active participants in the development process and that they can enjoy the benefits it generates (Saraiva & Salmazo, 2022). Development refers not only to a country's ability to increase its production of goods and services with high efficiency, but also to ensure that all citizens have equitable access to these resources and to create conditions that foster personal growth in a safe and dignified environment (Alvarez et al., 2019).

The primary objective of health promotion in older adults is to improve their quality of life by preventing or delaying diseases and

their consequences. Therefore, it is crucial to foster dynamic, collaborative and reflective educational spaces where older adults can share their knowledge and experiences (Pola et al., 2021). Likewise, it is essential to work on health promotion with families and caregivers of older adults to create safe, welcoming and stimulating environments. It is essential to identify and implement care strategies for older adults, making it clear that this responsibility is shared by all members of society (Troncoso et al., 2020).

#### Promotion of chronic noncommunicable diseases

The author Morla, (2020) emphasizes that recently, the control of chronic noncommunicable diseases has gained considerable importance, since the need to pay greater attention to these diseases has become evident, given that their incidence and prevalence significantly affect the quality of life and, therefore, social development. Araújo et al. (2022) consider that the term "noncommunicable diseases" refers to a set of conditions that are not primarily caused by acute infections, but result in long-term health consequences, often requiring ongoing treatment and care. These conditions encompass diseases such as cancer, cardiovascular disease, diabetes and chronic lung disease.

According to Soria et al., (2020) chronic noncommunicable diseases are conditions of uncertain origin and multiple causes, with prolonged incubation and latency periods, as well as extensive subclinical phases and frequent clinical episodes. They are characterized by a prolonged clinical course and lack specific treatment or spontaneous resolution over time. In addition, their etiology is not fully demonstrated, except in some types of cancer, and they have a great impact on the adult population.

These diseases, which are of long duration and with a generally slow evolution, represent a growing epidemic, partly due to the aging of the population and contemporary lifestyles that encourage sedentary lifestyles and poor nutrition (Shikha et al., 2023). This practice involves a range of strategies and activities that aim to prevent disease, promote healthy lifestyles, and create environments that support health in all aspects. Health promotion encompasses a wide range of areas, such as health education, promotion of physical activity, proper nutrition, stress management, prevention of harmful substance use, among others (Canuto et al., 2021).

Chronic noncommunicable diseases are a set of long-lasting and slowly progressive conditions that are responsible for a large burden of morbidity and mortality worldwide, especially in the older adult population. These diseases include conditions such as type 2 diabetes, cardiovascular disease, chronic obstructive pulmonary disease (COPD), cancer, and mental and behavioral disorders associated with aging, among others (Nittas et al., 2019)

#### Inadequate lifestyle

Lifestyle is closely related to the development of chronic noncommunicable diseases, i.e. having inadequate lifestyles makes you more vulnerable to suffer from these diseases that are long-lasting and generally progress slowly (Suarez et al., 2020). There are some ways in which an unhealthy lifestyle can contribute to the development of chronic noncommunicable diseases, which include:

**Unhealthy diet:** consuming foods that contain high amounts of saturated fats, refined sugars, and sodium, along with insufficient intake of fruits, vegetables, and whole grains, can increase the risk of cardiovascular disease, type 2 diabetes, and certain types of cancer. In particular, a diet rich in saturated and trans fats can raise LDL cholesterol levels in the blood, which promotes the formation of plaque in the arteries and increases the possibility of blockages, thus increasing the risk of cardiovascular disease (Riquelme, 2022).

**Excess refined sugars,** commonly present in sugary drinks, sweets and bakery products, can cause blood glucose spikes followed by steep drops, contributing to insulin resistance and increasing the risk of developing type 2 diabetes. In addition, a diet low in fruits and vegetables deprives the body of important vitamins, minerals, fiber and antioxidants needed to maintain a strong immune system and protect against chronic diseases, such as cardiovascular disease and certain types of cancer (Betivegna & Marquez, 2020).

**Excess dietary sodium,** commonly present in processed and fast foods, can raise blood pressure and increase the risk of cardiovascular diseases, such as hypertension and stroke. Likewise, a diet low in fiber can contribute to digestive problems such as constipation, diverticulitis, and colorectal cancer, as fiber is crucial for maintaining a healthy and regular digestive system (Gonzalez et al., 2022).

**Lack of physical activity:** Lack of physical activity is a determining factor in the development of chronic noncommunicable diseases and

can have a significant impact on a person's overall health. First, physical inactivity is associated with an increased risk of obesity. When not exercising regularly, excess calories are stored as fat, which can lead to weight gain and obesity, a major risk factor for chronic diseases such as type 2 diabetes, cardiovascular disease, and certain types of cancer (Muñoz et al., 2018).

Regular exercise helps strengthen the heart and blood vessels, improves blood circulation, and lowers blood pressure. It has been shown to reduce stress, anxiety, and depression, as well as improve mood and sleep quality. Physical inactivity, in contrast, can increase the risk of mood disorders and worsen overall mental health (Teixeira et al., 2020).

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**Tobacco and alcohol consumption:** Tobacco and alcohol consumption are two habits that are closely related to the development of chronic noncommunicable diseases. Smoking is one of the main risk factors for a variety of chronic diseases, including cardiovascular diseases, chronic respiratory diseases such as chronic obstructive pulmonary disease (COPD), and several types of cancer, such as cancer of the lung, mouth, throat, esophagus, bladder, and pancreas. Toxic chemicals present in tobacco smoke damage body tissues and can cause genetic mutations that lead to the development of cancer cells (García et al., 2021).

On the other hand, excessive alcohol consumption can increase blood pressure, damage the liver and increase the risk of liver diseases such as cirrhosis. In addition, it can contribute to the development of cardiovascular diseases, increase the risk of stroke, pancreatitis, and mental disorders such as depression and anxiety (Herrera, 2022).

Chronic stress is a condition in which a person experiences elevated levels of stress on a constant or recurrent basis over a prolonged period of time. First, it can negatively affect the cardiovascular system. The body reacts to stress by releasing hormones such as cortisol and adrenaline, which increase blood pressure and heart rate. In addition, chronic stress can affect the immune system, weakening the body's ability to fight disease and infection (Méndez & Sinarahua, 2022).

Inadequate rest lack of adequate sleep can negatively affect cognitive functioning. During sleep, the brain processes information, consolidates memory, and restores cognitive functions. Sleep deprivation can lead to difficulty concentrating, memory problems, decreased cognitive performance and lack of mental clarity. Lack of



sleep can alter levels of hormones related to hunger and metabolism, which can lead to increased appetite, increased intake of unhealthy foods and weight regulation problems (Cepero et al., 2020).

**Socioeconomic factors:** An individual's socioeconomic status influences his or her access to critical resources such as health care, education, employment, and housing. Those with low socioeconomic status may face difficulties in accessing nutritious foods, preventive health services, and exercise activities, increasing their vulnerability to chronic diseases. Those with lower incomes may face financial difficulties in accessing quality health services, which may result in poor detection and treatment of chronic diseases (Geri et al., 2023).

**Genetic factors and family predisposition:** Individuals with a family history of certain chronic diseases may be at increased risk of developing those same conditions due to a combination of shared genetic and environmental factors in the family. For example, if a close relative has a history of heart disease, other family members may also have an increased risk of developing cardiovascular disease due to shared genetic factors and behaviors (Castro et al., 2022).

## **Materials and Methods**

The research focused on the promotion and control of chronic noncommunicable diseases in older adults. Through a qualitative approach of documentary type of bibliographic review, relevant information was collected from various sources to understand in depth the factors related to these diseases in this specific population. The type of research, bibliographic, allowed reviewing and analyzing previous studies on chronic noncommunicable diseases in older adults, which provides an overview of existing findings and strategies for health promotion and disease control in this population.

The theoretical methods used such as: analysis and synthesis, induction and deduction from abstract to concrete and descriptive allowed to examine the theories and concepts related to chronic diseases in older adults, also to review provide concrete evidence on effective interventions and practices to promote health and control these diseases in this population.

Regarding the population and sample, all relevant literature on the topic was considered, including specific studies that address the promotion and control of chronic noncommunicable diseases in older adults, which included 53 articles of interest. For the sample that made

up the article, 45 articles were selected that covered the relevance of the topic.

The research interventions included careful selection of relevant literature sources, critical review of studies, and synthesis of findings to identify effective strategies for health promotion and disease control in older adults. In this context, the research instruments included systematic literature search and selection of studies that specifically addressed the topic of interest, thus providing a solid basis for the formulation of recommendations and policies in the field of health of older adults in relation to chronic noncommunicable diseases.

## Results

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For the analysis of the results, articles from various academic journals and scientific sources were taken into consideration. These articles include studies published in journals such as *Población y Salud en Mesoamérica*, *Enfermería Global*, *Revista Venezolana de Salud Pública*, *Revista Confluencia*, among others.

These sources provide a diversity of perspectives and approaches on topics related to health, lifestyle, pharmacological adherence in older adults, among other relevant aspects. By consulting these publications, we have sought to obtain a comprehensive understanding of previous research and the most recent findings in the field of public health and medicine.

These articles, from a variety of academic journals, provide valuable information to contextualize and support the analyses conducted in this study. Being from reputable, peer-reviewed sources, the quality and reliability of the data and conclusions presented in the analysis is assured.

The author Tamayo (2019) considers that within non-communicable diseases, cardiovascular diseases, such as acute myocardial infarction, heart disease and stroke, has produced deaths to 17 million deaths (48%) globally. In second place is cancer, which is responsible for 7.6 million deaths, followed by respiratory diseases such as asthma and chronic obstructive pulmonary disease (COPD), which have produced 4.2 million deaths, and in third place diabetes mellitus, with a condition of 1.3 million, with Europe and America being the regions with the highest incidence of deaths.

(2023) mentions that with the increase in life expectancy and the consequent growth of the population aged 60 years and older, the proportion of people suffering from chronic noncommunicable diseases is also increasing. A study was conducted with 300 older adults, where arterial hypertension was the most common disease, affecting 55% of the sample, followed by heart disease (32.3%) and diabetes mellitus (18.3%). It was observed that hypertension was more prevalent in men, while the other conditions predominated in women.

In the study by Vázquez et al. (2020), it is considered that the expected behavior of birth rate, mortality and migration has led to high morbidity rates for arterial hypertension, diabetes mellitus and mortality from cancer and heart disease. Thus, an expected increase of 26.1% in morbidity from arterial hypertension, 34.1% in diabetes mellitus, an increase of 56.2% in mortality from heart disease, and an increase of 47.3% in mortality from cancer by 2030 in the population aged 60 years and older is expected.

(2023) emphasizes that aging is a conditioning factor for the presence of chronic noncommunicable diseases, the most common being arterial hypertension and diabetes mellitus, which together with other conditions or factors such as socioeconomic level and schooling, can compromise the quality of life, in addition to directly influencing self-care, most of which will require total dependence, which represents economic expenses for the public system and the implementation of strategies and actions for the control of chronic diseases.

Likewise, the author Pajuelo et al., (2022) conducted a study to examine the prevalence of chronic noncommunicable diseases in older adults showed that 75% of older adults within the factors presented noncommunicable diseases in which arterial hypertension 36.3%, metabolic syndrome 31% and hypertriglyceridemia (35.8%), among others, were included. Men showed a lower frequency of obesity, metabolic syndrome and dyslipidemia compared to women.

In a study carried out by Santana et al. (2020), teachers from university institutions set out to investigate health promotion and healthy lifestyles in Ecuador, with a focus on the context of higher education institutions. Their objective was to identify and highlight the fundamental aspects related to this topic. As a result, they concluded that it is necessary to have teachers who possess adequate knowledge, skills and methodologies to promote health and contribute to people's wellbeing. In addition, they offered a series of suggestions and criteria

for developing actions and strategies that effectively promote health and healthy lifestyles.

In a study conducted by Macías et al. (2023), chronic noncommunicable diseases and their impact on quality of life in Ecuador were investigated using a documentary and descriptive approach. During the search for information, both original and review articles were included, excluding those older than 10 years. The results revealed that the main chronic noncommunicable diseases in Ecuador are respiratory diseases (75%), arterial hypertension (63%) and type II diabetes mellitus (38.5%). In addition, it was observed that quality of life is significantly affected by the presence or development of these diseases. It was concluded that chronic noncommunicable diseases are prevalent in the Ecuadorian population and are usually associated with various factors that influence their appearance.

## Conclusions

Health promotion as a dynamic process that involves the acquisition of health knowledge, skills and abilities at the individual and collective levels. It is recognized that health promotion is essential for disease prevention and improvement of quality of life, especially in vulnerable population groups such as the elderly.

The aging of the population and the increase in chronic noncommunicable diseases pose significant challenges in terms of health care and wellness. It highlights the need to implement health promotion strategies that address the risk factors associated with these diseases, such as inadequate lifestyles, tobacco and alcohol consumption, chronic stress, and lack of adequate sleep.

Health education programs aimed at older adults and their caregivers emerge as key tools to promote wellness and quality of life in that population. These programs not only provide practical advice on adherence to treatment, proper diet and physical exercise, but also foster the creation of social and emotional support networks that are fundamental to the overall well-being of older adults.

Ultimately, the importance of a comprehensive and equitable approach to health promotion, including equitable access to preventive health care services and health education programs tailored to the specific needs of older adults and their caregivers, is emphasized.

## References

- Álvarez, C., Sánchez, B., Herrera, E., Villalobos, G., Vargas, J., & Herrera, M. (2019). Análisis de sobrepeso y obesidad, niveles de actividad física y autoestima en la niñez del II ciclo escolar del cantón central de Heredia, Costa Rica. *Población y Salud en Mesoamérica*. <https://doi.org/10.15517/psm.v17i1.35323>
- Araújo, E., Tércio, T., Alves, I., de Assis, C., Rêgo, A., & Paiva, R. (2022). Autocuidado de usuarios con enfermedades crónicas en la atención primaria a la luz de la teoría de Orem. *Enfermería Global*, 21(68), 172-215. <https://doi.org/10.6018/eglobal.508511>
- Barrio, J., Suárez, C., Bandeira, M., Muñoz, C., Beca, M., Lozano, C., & del Cura, I. (2020). Enfermedades crónicas en población pediátrica: Comorbilidades y uso de servicios en atención primaria. *Anales de Pediatría*, 93(3), 183-193. <https://doi.org/10.1016/j.anpedi.2019.12.019>
- Betivegna, G., & Marquez, A. (2020). Medicina del estilo de vida. Una alternativa ante el avance de las enfermedades no transmisibles. *Revista Venezolana de Salud Pública*, 8(1), Article 1. <https://revistas.uclave.org/index.php/rvsp/article/view/2884>
- Brugere, D., Galarce, D., Gallegos, I., Hazín, C., & Rojas, J. (2020). Nivel de adherencia farmacológica en adultos mayores de 60 años con patología HTA-DM: Una revisión bibliográfica. *Revista Confluencia*, 3(2), 114-119. <https://revistas.udd.cl/index.php/confluencia/article/view/473>
- Canuto, K., Aromataris, E., Burgess, T., Davy, C., McKivett, A., Schwartzkopff, K., Canuto, K., Tufanaru, C., Lockwood, C., & Brown, A. (2021). A scoping review of Aboriginal and Torres Strait Islander health promotion programs focused on modifying chronic disease risk factors. *Health Promotion Journal of Australia*, 32(1), 46-74. <https://doi.org/10.1002/hpja.307>
- Casanova, D., Raymond, G., & García, Y. (2020). Estrés, apoyo social y representación de la enfermedad en pacientes con diabetes mellitus. *Revista Cubana de Endocrinología*, 31(1). [http://scielo.sld.cu/scielo.php?script=sci\\_abstract&pid=S1561-29532020000100009&lng=es&nrm=iso&tlng=es](http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S1561-29532020000100009&lng=es&nrm=iso&tlng=es)
- Cepero, I., González, M., González, O., & Conde, T. (2020). Trastornos del sueño en adulto mayor. Actualización diagnóstica y terapéutica. *MediSur*, 18(1), 112-125. <https://www.medigraphic.com/cgi-bin/new/resumen.cgi?IDARTICULO=99074>
- De La Guardia, M., & Ruvalcaba, J. (2020). La salud y sus determinantes, promoción de la salud y educación sanitaria.

- Journal of Negative and No Positive Results, 5(1), 81-90. <https://doi.org/10.19230/jonnpr.3215>
- Fernández, S., Cáceres, D., & Manrique, Y. (2020). Percepción del apoyo social en adultos mayores pertenecientes a las instituciones denominadas Centros de Vida. *Diversitas: Perspectivas en Psicología*, 16(1), 55-64. <https://doi.org/10.15332/22563067.5541>
- Flores, B., & Aceituno, J. (2021). Planes de prevención de enfermedades crónicas no transmisibles en niños y adolescentes. *Pediatría Atención Primaria*, 23(90), 143-153. [https://scielo.isciii.es/scielo.php?script=sci\\_abstract&pid=S1139-76322021000200006&lng=es&nrm=iso&tlng=es](https://scielo.isciii.es/scielo.php?script=sci_abstract&pid=S1139-76322021000200006&lng=es&nrm=iso&tlng=es)
- García, J., Moreno, A., & de la Cruz, E. (2021). Actividad física y estilo de vida relacionado con la salud en la población española con enfermedad musculoesquelética. *Nutrición Hospitalaria*, 38(1), 128-138. <https://doi.org/10.20960/nh.02998>
- Geri, M., Gutiérrez, E., & González, G. (2023). Patrones alimentarios de adultos mayores en una región argentina y su relación con factores socioeconómicos. *Revista de Salud Pública*, 21, 581-587. <https://doi.org/10.15446/rsap.v21n6.82930>
- González, N., Vega, L., Gloria, L., Molina, V., & Malo, M. (2022). Diseño de implementación del módulo de hábitos y estilos de vida saludables de HEARTS en el primer nivel de atención en México. *Revista Panamericana de Salud Pública*, 46, e200. <https://doi.org/10.26633/RPSP.2022.200>
- Guallo, M., Parreño, Á., & Chávez, J. (2022). Estilos de vida saludables en adultos mayores. *Revista Cubana de Reumatología*, 24(4). [http://scielo.sld.cu/scielo.php?script=sci\\_abstract&pid=S1817-59962022000400008&lng=es&nrm=iso&tlng=es](http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S1817-59962022000400008&lng=es&nrm=iso&tlng=es)
- Herrera, L. (2022). Relación entre tabaquismo y las principales enfermedades no transmisibles en El Salvador. *Alerta, Revista científica del Instituto Nacional de Salud*, 5(1), 26-32. <https://doi.org/10.5377/alerta.v5i1.11753>
- Horta, L., Bautista, M., Ibáñez, E., Cobo, E., & García, A. (2022). Calidad de vida y percepción de la salud en personas mayores con enfermedad crónica. *Revista Salud Bosque*, 12(1), Article 1. <https://doi.org/10.18270/rsb.v12i1.3278>
- Maggi, W., & Llanos, E. (2022). Prevalencia de enfermedades crónicas en adultos mayores atendidos en el área de consulta externa del Hospital IESS Milagro. *FACSALUD-UNEMI*, 6(11), 125-134. <https://doi.org/10.29076/issn.2602-8360vol6iss11.2022pp125-134p>

- Mena, E., Vega, M., & Córdova, W. (2022). Intervención educativa para la preparación de los cuidadores del adulto mayor. <http://scielo.sld.cu/pdf/ric/v101n2/1028-9933-ric-101-02-e3546.pdf>
- Méndez, E., & Sinarahua, Y. (2022). Estrés y enfermedades crónicas en adultos en Latinoamérica: Una revisión narrativa [Maestría, Universidad Peruana Unión]. <https://repositorio.upeu.edu.pe/handle/20.500.12840/6020>
- Meras, R., & Rodríguez, G. (2021). Algunas consideraciones sobre promoción de salud. *Medicent Electrón.*, 25, 4. <http://scielo.sld.cu/pdf/mdc/v25n4/1029-3043-mdc-25-04-658.pdf>
- Ministerio de Salud Pública de Ecuador. (2022). Funciones y acciones de la subsecretaría nacional de promoción de la salud e igualdad—2021 (Boletín-SNPSI-2021\_07-02-2022). [https://www.salud.gob.ec/wp-content/uploads/2022/02/Boletín-SNPSI-2021\\_07-02-2022.pdf](https://www.salud.gob.ec/wp-content/uploads/2022/02/Boletín-SNPSI-2021_07-02-2022.pdf)
- Monterrey, M., Linares, L. B., Toledo, R., Vázquez, A., Rivera, D., & Morales, C. (2021). Adherencia farmacológica y calidad de vida relacionada con la salud en adultos mayores hipertensos. *Revista de Ciencias Médicas de Pinar del Río*, 25(2). [http://scielo.sld.cu/scielo.php?script=sci\\_abstract&pid=S1561-31942021000200011&lng=es&nrm=iso&tlng=pt](http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S1561-31942021000200011&lng=es&nrm=iso&tlng=pt)
- Morla, E. (2020). Las enfermedades crónicas no transmisibles. *Ciencia y Salud*, 4(1), 3-3. <https://doi.org/10.22206/cysa.2020.v4i1.pp3-3>
- Muñoz, D., Arango, C., & Segura, Á. (2018). Entornos y actividad física en enfermedades crónicas: Más allá de factores asociados. *Universidad y Salud*, 20(2), 183-199. <https://doi.org/10.22267/rus.182002.122>
- Neves, T., Rêgo, A., Araújo, E., de Assis, C., Nóbrega, T., & Paiva, R. (2023). Perfil clínico y sociodemográfico de usuarios con enfermedades crónicas en atención primaria de salud. *Enfermería Global*, 22(69), 245-282. <https://doi.org/10.6018/eglobal.512211>
- Organización Mundial de la Salud. (2022). Promoción del bienestar y la salud (A75/10 Rev.1). [https://apps.who.int/gb/ebwha/pdf\\_files/WHA75/A75\\_R19-sp.pdf](https://apps.who.int/gb/ebwha/pdf_files/WHA75/A75_R19-sp.pdf)
- Pinilla, M., Ortiz, M., & Suárez, J. (2021). Adulto mayor: Envejecimiento, discapacidad, cuidado y centros día. Revisión de

- tema. *Revista Salud Uninorte*, 37(2), 488-505. <https://doi.org/10.14482/sun.37.2.618.971>
- Pola, E., Zuza, I., Gil, S., Justo, S., Campos, P., & López, A. (2021). Promoción del envejecimiento saludable a través del abordaje de la fragilidad. *Revista Española de Salud Pública*, 95. [https://scielo.isciii.es/scielo.php?script=sci\\_abstract&pid=S1135-57272021000100004&lng=es&nrm=iso&tlng=es](https://scielo.isciii.es/scielo.php?script=sci_abstract&pid=S1135-57272021000100004&lng=es&nrm=iso&tlng=es)
- Polanco, S., Rivera, I., Salamanca, E., & Velasco, Z. (2021). Características de salud y adherencia farmacoterapéutica en el adulto mayor del municipio de Acacías (Colombia). *Revista Colombiana de Ciencias Químico - Farmacéuticas*, 50(2), 325-338. <https://doi.org/10.15446/rcci quifa.v50n2.77677>
- Riquelme, R. (2022). Situación de estilo de vida y enfermedades no transmisibles de trabajadores chilenos atendidos en mutual de seguridad (Estudio Piloto). *Revista de la Facultad de Medicina Humana*, 22(1), 154-161. [http://www.scielo.org.pe/scielo.php?script=sci\\_abstract&pid=S2308-05312022000100154&lng=es&nrm=iso&tlng=es](http://www.scielo.org.pe/scielo.php?script=sci_abstract&pid=S2308-05312022000100154&lng=es&nrm=iso&tlng=es)
- Rodríguez, I. (2022). Estrategia comunitaria para desarrollar estilos de vida saludables en adultos mayores. *Revista Habanera de Ciencias Médicas*, 21(3). [http://scielo.sld.cu/scielo.php?script=sci\\_abstract&pid=S1729-519X2022000300012&lng=es&nrm=iso&tlng=en](http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S1729-519X2022000300012&lng=es&nrm=iso&tlng=en)
- Santana, G., Gutiérrez, J., Sampredo, M., Toala, R., & Santana, I. (2020). Criterios acerca de la promoción para la salud en el contexto de la educación superior ecuatoriana. *Polo del Conocimiento: Revista científico - profesional*, 5(10), 185-199. <https://dialnet.unirioja.es/servlet/articulo?codigo=7659402>
- Saraiva, R., & Salmazo, H. (2022). Qualidade da atenção à saúde do idoso atenção primária: Uma revisão integrativa. *Enfermería Global*, 21(1), 545-589. <https://doi.org/10.6018/eglobal.444591>
- Serra, M. (2020). Non-communicable Chronic Diseases and the COVID-19 Pandemic.
- Shikha, D., Kushwaha, P., Gokdemir, O., Marzo, R., & Bhattacharya, S. (2023). Editorial: Health literacy and disease prevention. *Frontiers in Public Health*, 11. <https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2023.1128257>
- Soria, A., Rodríguez, A., Medina, G., & Cabrera, M. (2020). Factores de riesgo asociados a las enfermedades crónico-degenerativas no transmisibles en los adultos mayores de la Parroquia Quisapincha. *Dilemas contemporáneos: Educación, Política y Valores*. <https://doi.org/10.46377/dilemas.v33i1.2129>



- Suarez, M., Navarro, M., Caraballo, D., López, L., & Recalde, A. (2020). Estilos de vida relacionados con factores de riesgo cardiovascular en estudiantes Ciencias de la Salud. *Ene*, 14(3). [https://scielo.isciii.es/scielo.php?script=sci\\_abstract&pid=S1988-348X2020000300007&lng=es&nrm=iso&tlng=es](https://scielo.isciii.es/scielo.php?script=sci_abstract&pid=S1988-348X2020000300007&lng=es&nrm=iso&tlng=es)
- Taiano, V., Chalela, L., & Sánchez, P. (2020). Análisis de programas de atención a personas adultas mayores a nivel internacional. [https://info.inclusion.gob.ec/phocadownloadpap/estudios/atencion\\_intergeneracional/2020/analisis\\_de\\_programas\\_de\\_atencion\\_a\\_personas\\_adultas\\_mayores\\_a\\_nivel\\_internacional.pdf](https://info.inclusion.gob.ec/phocadownloadpap/estudios/atencion_intergeneracional/2020/analisis_de_programas_de_atencion_a_personas_adultas_mayores_a_nivel_internacional.pdf)
- Tamayo, A. (2019). Prevención de enfermedades crónicas no transmisibles: A propósito de una reflexión. *Revista Finlay*, 9(4), 243-245. <https://revfinlay.sld.cu/index.php/finlay/article/view/725>
- Teixeira, T., Brito, H., & Mattos, R. (2020). INACTIVIDAD FÍSICA, ENFERMEDADES CRÓNICAS, INMUNIDAD Y COVID-19. *Revista Brasileira de Medicina do Esporte*, 26, 378-381. [https://doi.org/10.1590/1517-8692202026052019\\_0040](https://doi.org/10.1590/1517-8692202026052019_0040)
- Troncoso, C., Ximena Díaz, Martorell, M., Nazar, G., Cisternas, C., & Cigarroa, I. (2020). Revisión de estrategias para promover el envejecimiento activo en Iberoamérica Review of strategies to promote active aging in Ibero-America.
- Vargas, M. P., Rodríguez, M. C., Salgado M., C., Casallas, A. L., Vergel, J., & Laverde R., D. (2023). Educación para la salud en Enfermedades Crónicas No Transmisibles: Una revisión sistemática. *Revista de Educación en Ciencias de la Salud*, 20(1), 8. <https://dialnet.unirioja.es/servlet/articulo?codigo=8984677>
- Vázquez, E., Sánchez, I., Rodríguez, I., Fera, D., & Martínez, D. (2020). Envejecimiento y morbimortalidad por enfermedades crónicas seleccionadas en el municipio de Rafael Freyre, Holguín, Cuba. *Correo Científico Médico de Holguín*, 24(4), 1031-1047. <https://www.medigraphic.com/cgi-bin/new/resumen.cgi?IDARTICULO=98390>
- Vizcaíno, G., Joza, M., Vizcaino, J., & Tauriz, W. (2021). El sistema preventivo de enfermedades no transmisibles (SPENT) como modelo innovador a aplicar en instituciones de salud pública: The non-communicable diseases preventive system (SPENT) as an innovative model to apply in public health institutions. *South Florida Journal of Development*, 2(5), 6643-6660. <https://doi.org/10.46932/sfjdv2n5-024>