The Review Of
DIABETIC
STUDIES OPEN ACCESS

Communication Health Promotion In The Elderly: A Community-Based Intervention In Sincelejo, Colombia

Katia Lucia Zambrano Ruiz [a], Marinela Álvarez Borrero [a], Jhon J. Feria Díaz [b]

[a] *Faculty of Health Sciences, Universidad de Sucre Colombia*
[b] *Faculty of Engineering, Universidad de Sucre, Colombia*

ABSTRACT

This quantitative, quasi-experimental study was designed to promote communication health among adults over 60 years of age living in community-based, non-institutional settings. It was conducted as part of the speech-language pathology training program at the University of Sucre. The study included 16 older adults who initially underwent a pretest to evaluate their cognitive-linguistic abilities. They then participated in 36 intervention sessions over three months, organized into three therapeutic phases: communication health education, language stimulation, and functional communication enhancement, all grounded in the biopsychosocial model. A post-test was administered to reassess their abilities. The program produced significant improvements in oral expression, auditory comprehension, and the organization of both oral and written discourse, thereby enhancing communication skills in family, social, and community contexts.

Keywords: geriatric population, speech-language therapy intervention, biopsychosocial framework, communication health.

1. INTRODUCTION

Aging is a continuous process that occurs across the human lifespan, involving biological, psychological, and social transformations that influence health and functionality (WHO, 2024). With advancing age, individuals often experience a reduction in social relationships, which may lead to diminished cognitive function and decreased communicative interaction (Rojas et al., 2022). Furthermore, differences in lifestyle, behavior, and attitudes shape the aging process, such that individuals of the same chronological age may display markedly different biopsychosocial outcomes. While some older adults maintain robust functioning, others experience progressive decline, resulting in frailty, dependency, and illness. These changes, coupled with transitions such as retirement, declining health, loss of loved ones, relocation, or reduced mobility, further intensify the challenges associated with aging (Kaplan & Wasserman, 2025).

Healthy aging is understood as a process that seeks to optimize opportunities for maintaining and enhancing physical and mental health, independence, and quality of life. From this perspective, health professionals face a key challenge: developing strategies to effectively identify and address the needs of the elderly population (PAHO, 2023). The United Nations General Assembly's declaration of the Decade of Healthy Ageing 2021–2030 calls on all social and economic stakeholders to enhance older adults' capabilities, ensure integrated, person-centered care and

services, and expand access to long-term care. This framework emphasizes the role of Higher Education Institutions in generating interdisciplinary knowledge to inform public policies that address the needs of the elderly (PAHO, 2021).

In line with this vision, the University of Sucre, through its Social Outreach and Extension Policy (2021), promotes knowledge generation, appropriation, and dissemination by fostering inclusion, participation, and community engagement. These initiatives address social, cultural, environmental, and economic challenges through projects in the domain of social outreach and solidarity. Within this framework, the Faculty of Health Sciences and the Speech and Language Pathology program contribute by addressing the community's social needs. In accordance with national regulations, these projects are guided by the technical and operational standards of the Comprehensive Care Pathway for elderly health promotion and maintenance, as established by Resolution 3280 of 2018 of the Ministry of Health and Social Protection.

The Health Intervention Project for Older Adults (aged 60 and above), within the subproject "Communication Health and Well-being in Older Adults," is designed to strengthen effective communication through strategies that promote communication health and prevent language impairment. These strategies aim to improve cognitive-communicative skills, foster social participation, and enhance quality of life. Accordingly, this research introduces an intervention study on communication health in older adults, carried out in non-clinical, community-based settings during training activities. The primary objective is to improve communication health through the implementation of strategies rooted in an integrated model, ultimately contributing to the development of functional communication abilities in the elderly.

2. MATERIALS AND METHODS

This study employed a quantitative approach, a descriptive design, and a quasi-experimental methodology (Hernández et al., 2014). The population consisted of 24 older adults from non-clinical, community-based settings who were enrolled in the Speech-Language Pathology Program at the University of Sucre, Colombia. Sixteen participants were selected through purposive, non-probability convenience sampling, based on the following inclusion criteria: age 60 years or older, evidence of healthy aging, literacy, and absence of cognitive impairment. These individuals were included within the framework of the Health Intervention for Older Adults project, specifically the subproject "Communication Health and Well-being in Older Adults," conducted during the second semester of 2024.

Ethical compliance was ensured through individual interviews with each participant and a family member, during which the study procedures were explained and voluntary written consent was obtained. All procedures followed Colombian ethical regulations for human subjects research (Resolution 008430 of the Ministry of Health, 1993) and the international Declaration of Helsinki (2013).

The assessment protocol was based on the University of Sucre's Clinical Practice Manual (2017), which outlines procedures for evaluating adult communicative abilities. A standardized plan was implemented, beginning with a case history obtained through the adult language assessment form (Contreras et al., 2017). This tool gathers information on personal, family, psychiatric, psychosocial, neurological, socioeconomic, and clinical history, along with health status, daily activities, and communication skills. To exclude cognitive impairment, the Mini-Mental State Examination (MMSE) (Folstein et al., 1975; Lobo et al., 1979) was administered. To establish the linguistic profile, the NEUROBEL neuropsychological language assessment battery, adapted by Adrián et al. (2015), was used. This battery evaluates basic language production and comprehension

abilities. Results were interpreted using standardized scoring guidelines, with summary scores used to establish cognitive and linguistic profiles. For data collection and coding, standardized record sheets for each test were used. Normative and scoring data were applied in the analysis and interpretation of results, which were compiled in a Microsoft Excel 2019 matrix for comparison and graphical representation.

The intervention program was informed by a review of the scientific literature on communication health education and cognitive-communicative stimulation. This review guided the development of a biopsychosocial intervention model (Engel, 1997; Wade & Halligan, 2017) designed to strengthen functional communication and promote active participation in both family and community contexts. The program incorporated activities for maintenance, promotion, prevention, and counseling in communication health, with the overarching goal of enhancing quality of life and social interaction among older adults. Program planning considered the characteristics of the participant group, and the intervention comprised 36 group sessions, conducted three times per week for two hours each, over a three-month period.

3. INITIAL ASSESSMENT RESULTS

Table 1 summarizes the Mini-Mental State Examination (MMSE) findings. Nine participants (38%) demonstrated normal cognitive function, eight (33%) exhibited signs of cognitive impairment and/or dementia based on normative data adjusted for educational level, and seven (29%) obtained scores suggestive of an underlying cognitive disorder.

Table 1. Results of the Mini-Mental State Examination (MMSE)

MMSE Score	n (%)	Qualitative Description
≥27 points	9 (38)	Normal
24-26 points	7(29)	Suspected pathology
12-23 points	5(21)	Cognitive impairment
9-11 points	3(12)	Dementia

Results from the NEUROBEL neuropsychological language assessment battery are shown in Table 2. All participants (100%) exhibited spoken language impairments, particularly in sentence comprehension and in matching spoken words with pictures. Additionally, difficulties were observed in producing complex sentences, often characterized by word-finding problems (anomia), phonetic paraphasias, and semantic paraphasias.

Table 2. NEUROBEL neuropsychological language assessment results

Basic Language Processes	Task	Mean	SD	General Average	Qualitative Description
Comprehension	Phoneme discrimination	11.11	27.315	11.75	Average
	Auditory lexical decision	11.03	0.440	13.12	Average
	Matching spoken word to	13.85	0.576	10.68	Below average

	picture				
	Sentence comprehension	9.85	0.390	4.43	Below average
Production	Repetition	10.15	0.350	12.81	Average
	Naming pictures	8.53	0.337	11.43	Average
	Naming actions	8.92	0.582	5.62	Average
	Completing sentences	7.45	0.829	4.75	Below average
NEUROBEL Total		80.92	27.31	73.76	Below average

4. COMMUNICATIVE HEALTH INTERVENTION PROGRAM

The Communicative Health Intervention Program for adults over 60 years of age was developed in accordance with the guidelines and projects for targeted population groups outlined in the Social Outreach and Extension mission of the Speech-Language Pathology Program at the University of Sucre (2021). The program followed a biopsychosocial model (Engel, 1997; Wade & Halligan, 2017) and was implemented in three stages of therapeutic intervention.

Stage 1. Educational activities on communicative health were conducted with older adults and their families. These sessions provided clear and age-appropriate information, emphasized respect for autonomy, and encouraged active listening, empathy, and continuous support. The objectives were to foster self-care, informed decision-making, and active participation in communicative health. Additional goals included enhancing understanding, expression, and participation in health-related decisions; improving communication with peers, family members, and healthcare professionals; promoting preventive self-care practices; and reducing communication barriers such as isolation and misinformation (Muñoz & Ríos, 2017). Eight intervention sessions were carried out, including workshops on risk factors and communication-related disorders, strategies to understand medical instructions and warning signs, activities to strengthen the expression of health needs, and group discussions promoting meaningful conversations in family and community contexts (Medina & Barreto, 2020). Practical exercises included workshops on assertive communication, reading and interpreting prescriptions, role-playing medical consultations, functional language training, and group activities for sharing health-related experiences (Velandia & Díaz, 2018).

Stage 2. Functional social communication interventions were designed to strengthen the ability to interact effectively in everyday contexts, using verbal, non-verbal, or sign language to express needs and perspectives. The aim was to support meaningful relationships, facilitate decision-making, enable help-seeking, and preserve autonomy in respectful social environments (Cardona et al., 2020). Ten interventions were delivered, focusing on promoting communicative autonomy, preventing decline in communication skills, enhancing self-esteem, and maintaining cognitive-linguistic functions such as verbal memory, sustained attention, and lexical fluency (González & Pérez, 2019). Activities included discussion groups with family members, use of simple communication technologies, intergenerational workshops to strengthen family bonds, and training for caregivers on active listening and effective communication (Londoño & Toro, 2020).

Stage 3. Language stimulation strategies were applied to preserve communicative skills while accounting for age-related changes. The objectives were to maintain oral and written language

functions, improve comprehension and expression, facilitate lexical access and semantic memory, support sequencing and discourse coherence, and reinforce functional language use in everyday contexts (Sáez, 2023; Martín, 2024). Eighteen sessions were implemented, including word-retrieval exercises, storytelling activities, language games with visual and auditory support, auditory comprehension tasks, guided conversations on daily topics, use of digital applications for cognitive-linguistic stimulation, and written exercises such as composing notes and letters (Calatayud et al., 2023; Tian & Ding, 2024).

5. RE-EVALUATION RESULTS

Figure 1 compares the pre- and post-test results of the MMSE, showing a general improvement in cognitive function. Post-intervention scores were consistently higher than baseline values, suggesting progress in maintaining the cognitive status of the older adults.

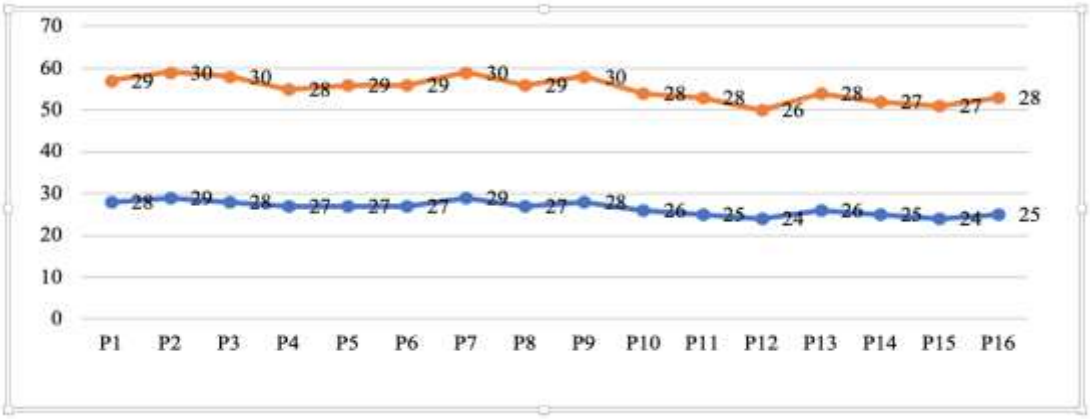
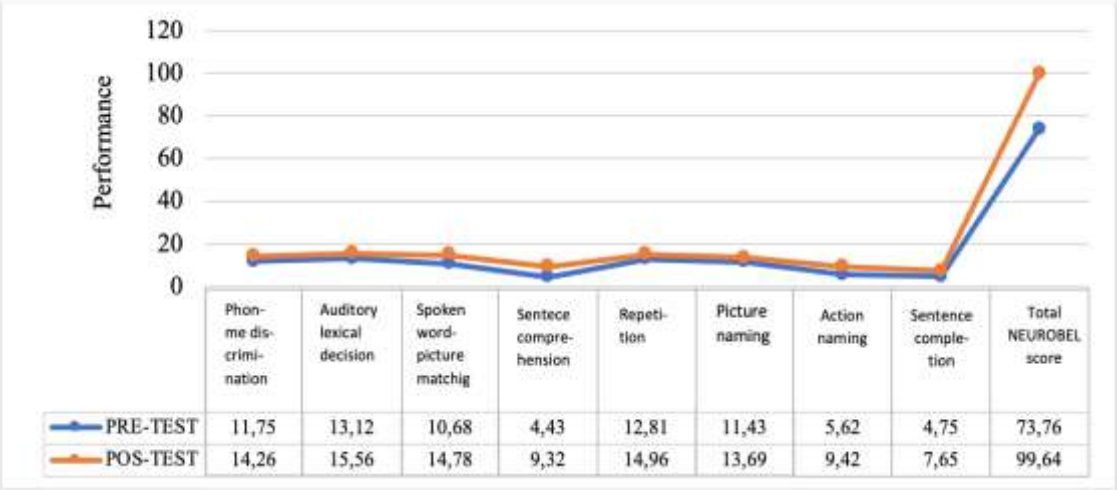


Figure 1. Comparison of pre- and post-test scores on the MMSE

Figure 2 presents the comparison of pre- and post-test performance on the NEUROBEL battery after implementation of the intervention program. Improvements were noted in auditory comprehension, including phoneme discrimination (11.75 → 14.26), auditory lexical decision (13.12 → 15.56), word-picture matching (10.68 → 14.78), and sentence comprehension (4.43 → 9.32). These results indicate enhanced capacity to identify, interpret, and assign meaning to spoken language, as well as greater ease in following conversations and distinguishing between similar sounds.

Progress was also evident in language production tasks, including repetition (12.81 → 13.69), picture naming (11.43 → 13.69), action naming (5.62 → 9.42), and sentence completion (4.75 → 7.65). These gains reflect improved word retrieval, sentence construction, and discourse organization, accompanied by a reduction in anomic errors. The increase in the total NEUROBEL score (73.76 → 99.64) further confirms the effectiveness of the intervention in enhancing both comprehension and production skills, ultimately improving the clarity, organization, and fluency of spoken language.



	Phon-me dis-crimi-nation	Auditory lexical decision	Spoken word-picture matchig	Sentece compre-hension	Repeti-tion	Picture naming	Action naming	Sentence comple-tion	Total NEUROBEL score
PRE-TEST	11,75	13,12	10,68	4,43	12,81	11,43	5,62	4,75	73,76
POS-TEST	14,26	15,56	14,78	9,32	14,96	13,69	9,42	7,65	99,64

Figure 2. Comparison of pre- and post-test results on the NEUROBEL battery

6. EVOLUTION OF THE INTERVENTION PROCESS IN ADULTS OVER 60 YEARS OF AGE

Based on the post-evaluation results of the group's linguistic performance, notable improvements were identified in key aspects of the intervention program. In the domain of communicative health education, the activities implemented fostered greater knowledge, positive attitudes, and healthier communication practices. These outcomes enabled older adults to assume an active, participatory, and inclusive role within their family and social environments.

Regarding functional social communication, improvements were observed in the ability to use spoken, nonverbal, and/or sign language to interact effectively. Participants demonstrated clearer expression of both basic and complex needs, the ability to establish relationships, and more active participation in social and community life. Progress was also evident in the appropriate use of vocabulary, grammar, intonation, facial expressions, eye contact, and body language, as well as in adapting language to different contexts and interlocutors. Furthermore, participants developed greater social understanding, including comprehension of conversational norms, turn-taking, irony, and communicative intentions.

With respect to general linguistic skills, the group showed progress in maintaining and optimizing fluency and coherence of speech, improving the organization and speed of linguistic processing, increasing comprehension and semantic understanding, following instructions, expanding vocabulary, and strengthening decision-making skills for solving everyday problems.

7. DISCUSSION

In typical aging, communication is influenced by cognitive, neurosensory, and social changes that give rise to linguistic manifestations associated with impairments in working memory, such as difficulties in accessing vocabulary—commonly referred to as the "tip-of-the-tongue" phenomenon. These difficulties lead to reduced verbal fluency and slower information-processing speed, which affect reaction time to questions and the comprehension of complex sentences and instructions (Campos et al., 2020). Additional age-related changes include decreased syntactic and semantic complexity in spoken and written discourse (Malcorra et al., 2022) and difficulties in articulation,

voice, and prosody linked to tooth loss, reduced muscle strength, and respiratory changes (Ardila, 2013). Moreover, deficits in social communication are frequently observed, such as reduced communicative initiative, difficulty adapting to interlocutors or contexts, decreased use of nonverbal communication, and pragmatic dysfunctions (Bambini et al., 2020).

In this context, the results of the present study support the need for communication health interventions designed from a biopsychosocial perspective. Such interventions should focus on strengthening linguistic skills through health education, language stimulation, and functional communication training, while simultaneously fostering social and community integration. Maintaining communication health is thus positioned not only as a compensatory measure for the normal linguistic changes of aging, but also as a key contributor to active, inclusive, and healthy aging.

The outcomes of the implemented intervention program reinforce this perspective. Significant improvements were documented in oral expression, naming, verbal fluency, comprehension of instructions, vocabulary acquisition, written production, discourse cohesion and coherence, and functional communication within family, social, and community contexts, as evidenced by pre- and post-test results. These findings emphasize the importance of early detection of language deficits and the development of targeted strategies to preserve communication skills, thereby enhancing interactions with the social environment (Hernández & Rojas, 2018).

Furthermore, the findings are in line with prior research. Sosa (2023) demonstrated that addressing age-related linguistic changes through health education strategies contributes to the prevention of cognitive-communicative decline. Likewise, Davis et al. (2021) and Gaskin et al. (2021) highlighted the effectiveness of group therapy programs based on a biopsychosocial model, which foster improvements in language production and comprehension, functional skills in real-life contexts, adaptation to social environments, and the use of active communication strategies. Similarly, Lastre (2019) reported enhanced comprehension, reading, and writing skills following a language stimulation program for older adults experiencing typical communicative aging. Collectively, these results converge with the present study, underscoring that comprehensive interventions generate measurable benefits not only in linguistic performance but also in social participation and overall communicative well-being.

8. CONCLUSIONS

The Communicative Health Intervention, grounded in the biopsychosocial model, facilitated the design of a therapeutic program integrating health education, language stimulation, and functional communication. The results of the follow-up evaluation confirmed the effectiveness of this approach, with significant improvements in oral expression, auditory comprehension, and discourse organization in both spoken and written modalities. These advances positively impacted the communicative participation of older adults within their family, social, and community contexts.

Beyond the observed improvements, this study underscores the importance of adopting multidimensional strategies that address not only linguistic skills but also social interaction and communicative health education as essential pillars for active and inclusive aging. Future research should expand the sample size, include longitudinal follow-up, and examine the differential effects of intervention components, in order to strengthen the evidence base and optimize therapeutic strategies for older populations.

REFERENCE

1. Adrián, J., Jorquera, J. and Cuetos, F. (2015). NEUROBEL: Breve batería neuropsicológica de evaluación del lenguaje oral en adultos-mayores. Datos normativos iniciales. Revista de Logopedia, Foniatría y Audiología, 35(3): 101-113. Obtenido de https://doi.org/10.1016/j.rlfa.2014.12.004
2. Ardila, A. (2013). El lenguaje en el envejecimiento normal y patológico. En Ardila & Rosselli (Eds.), Neuropsicología clínica (pp. 345–362). Manual Moderno
3. Bambini et al. (2020). How to improve social communication in aging: Pragmatic and cognitive interventions. Brain Lang. 211:104864. doi: 10.1016/j.bandl.2020.104864. Epub 2020 Nov 1. PMID: 33137591.
4. Campos et al. (2020). Longitudinal Patterns of the Tip-of-the-Tongue Phenomenon in People With Subjective Cognitive Complaints and Mild Cognitive Impairment. Front Psychol, 13;11:425. doi: 10.3389/fpsyg.2020.00425. PMID: 32231626; PMCID: PMC7083146.
5. Cardona, D., Segura, A., & García, M. (2020). Envejecimiento activo: revisión integradora. Revista CES Salud Pública, 11(1), 109-123. https://revistas.ces.edu.co/index.php/ces_salud_publica/article/view/5202
6. Contreras, F., Muñoz C., Prieto, P., y Valdés, J. (2017). Instrumentos de Evaluación Fonoaudiológica. Una aproximación a las Metodologías de Evaluación. Serie Creación N° 15. Unidad Habla y Lenguaje Adultos, Carrera de Fonoaudiología. Facultad de Ciencias de la Salud. Centro de Investigación en Educación Superior CIES - USS; Santiago-Chile.
7. Davis et al. (2022). A systematic review of language and communication intervention research delivered in groups to older adults living in care homes. Int J Lang Commun Disord. 57(1):182-225. doi: 10.1111/1460-6984.12679. Epub 2021 Nov 28. PMID: 34841623.
8. Declaración De Helsinki De La AMM (octubre de 2013). Principios éticos para las investigaciones médicas en seres humanos, 64ª Asamblea General, Fortaleza, Brasil.
9. Folstein, M., Folstein, S., & McHugh, P. (1975). «Mini-mental state». A practical method for grading the cognitive state of patients for the clinician. Journal Of Psychiatric Research, 12(3), 189-198. http://search.ebscohost.com/login.aspx?direct=true&db=mdc&AN=1202204&site=eds-live
10. Gaskin, D. J., et al. (2021). Health Disparities in Older Adults. American Journal of Public Health, 111(3), 397-404.
11. González, M., & Pérez, J. (2019). Intervenciones en comunicación funcional en adultos mayores con deterioro cognitivo leve. Revista Española de Geriatría y Gerontología, 54(1), 30–35. https://doi.org/10.1016/j.regg.2018.06.001
12. Hernández y Rojas (2018). Diseño de estrategias comunicativas para la población Adulta mayor vinculada al Asilo San Rafael de la ciudad de Bucaramanga, utilizando un modelo cognitivo (enfatizado en la Ruta Fonológica). [Tesis de pregrado, Universidad de Santander, Colombia]. https://repositorio.udes.edu.co/server/api/core/bitstreams/143ed8fa-0a2c-4d0c-b46f-83b2e840ab8c/content
13. Hernández, R., Fernández, C., & Baptista, P. (2014). Metodología de la investigación (6.ª ed.). México D.F., México: McGraw-Hill Interamericana de España. ISBN 978-1456223960

14. Kaplan, D., & Wasserman, M. (2025). Efectos de los periodos de transición sobre los ancianos. En Manual MSD versión para profesionales. Merck & Co., Inc. https://www.msdmanuals.com/es/professional/geriatr%C3%ADa/aspectos-sociales-en-los-ancianos/efectos-de-los-per%C3%ADodos-de-transici%C3%B3n-sobre-los-ancianos
15. Lastre, K (2019). Efectos de un programa de estimulación del lenguaje en adultos mayores con envejecimineto comunicativo normal. Psicología desde el Caribe, 36(3), 377-399. http://www.scielo.org.co/pdf/psdc/v36n3/2011-7485-psdc-36-03-377.pdf
16. Londoño, N., & Toro, M. (2020). Comunicación efectiva en salud: una herramienta clave en la atención centrada en el paciente. Revista CES Medicina, 34(1), 58-66. https://doi.org/10.21615/cesmedicina.34.1.6
17. Malcorra et al. (2022). Lower Education and Reading and Writing Habits Are Associated with Poorer Oral Discourse Production in Typical Adults and Older Adults. Front Psychol.18; 13: 740337. doi: 10.3389/fpsyg.2022.740337. PMID: 35369132; PMCID: PMC8972065.
18. Medina, J., & Barreto, P. (2020). Comunicación en salud: un elemento clave para el empoderamiento del adulto mayor. Revista Española de Geriatría y Gerontología, 55(6), 353–360. https://doi.org/10.1016/j.regg.2020.05.005
19. Ministerio de Salud de Colombia. Resolución Numero 8430 de 1993 (octubre 4). Santafé de Bogotá; 1993.
20. Ministerio de Salud y Protección Social. (2018, 2 de agosto). Resolución 3280: Por medio de la cual se adoptan los lineamientos técnicos y operativos de la Ruta Integral de Atención para la Promoción y Mantenimiento de la Salud https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/DE/DIJ/resolucion-3280-de-2018.pdf
21. Ministerio de Salud y Protección Social. (2022). Politica Publica Nacional de Envejecimiento y Vejez 2022-2030. https://www.minsalud.gov.co/Normatividad_Nuevo/Decreto%20No.%20681%20de%202022.pdf
22. Muñoz, J., & De los Ríos, A. (2017). Educación para la salud con adultos mayores: una mirada desde la promoción de la salud. Revista Hacia la Promoción de la Salud, 22(2), 118-131. https://doi.org/10.17151/hpsal.2017.22.2.1
23. Organización Mundial de Salud. (2024). Envejecimiento y salud. https://www.who.int/es/news-room/fact-sheets/detail/ageing-and-health
24. Organización Panamericana de la Salud & World Health Organization. (2021). Década del Envejecimiento Saludable 2021–2030: Informe de referencia. OPS. https://iris.paho.org/handle/10665.2/57049
25. Organización Panamericana de la Salud. (2023). La influencia de los entornos en el envejecimiento saludable: El desarrollo de la Red Mundial de la OMS de Ciudades y Comunidades Amigables con las Personas Mayores. Washington, DC: OPS. https://doi.org/10.37774/9789275327012
26. Rojas, C., Riffo, B., & San Martín, M. (2022). Habilidades lingüísticas en un cerebro envejecido: revisión de estudios empíricos en adultos de tercera y cuarta edad cognitivamente sanos. Estudios filológicos, (69), 213-233. https://dx.doi.org/10.4067/S0071-17132022000100213
27. Sosa, A. E. (2023). Envejecimiento y lenguaje: Cambios morfológicos y estrategias de intervención. Areté, 23 (1), 23-29. https://arete.ibero.edu.co/article/view/2535

28. Universidad de Sucre. Facultad Ciencias de la Salud. (2021). Documento Maestro del Programa de Extensión y Proyección social.
29. Universidad de Sucre. Consejo Superior Universitario. Acuerdo N°24 de 2021. Por medio de la cual se aprueba la Politica de Extensión y Proyección Social de la universidad de Sucre.
30. Universidad de Sucre. Facultad Ciencias de la Salud. Programa de Fonoaudiología. (2017). Manual de procedimiento para la práctica formativa.
31. Velandia, S. C., y Díaz, E. (2018). Comunicación en salud con adultos mayores: desafíos desde la perspectiva del envejecimiento activo. Revista Latinoamericana de Ciencias Sociales, Niñez y Juventud, 16(2), 1345–1357. https://doi.org/10.11600/1692715x.162311316201
32. Wade, D. & Halligan, P. (2017). The biopsychosocial model of illness: a model whose time has come. Clinical Rehabilitation, 31(8), 995–1004. https://doi.org/10.1177/0269215517709890