AUDITIO
SPANISH JOURNAL OF AUDIOLOGY

Research Communications

Description of the scientific-disciplinary reader profile of Spanish-speaking audiology professionals

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OPEN ACCESS
PEER REVIEWED
COMMUNICATIONS

Received: 10.03.2022
Reviewed: 4.08.2022
Accepted: 11.08.2022
Prepublished: 1.10.2022
Published: 28.10.2022

Editor:
Carlos Benítez Barrera
Universidad de Winsconsin, EEUU.

Reviewers:
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How to cite:
Cañete O. and Hernández, P. (2022). Description of the scientific-disciplinary reader profile of Spanish-speaking audiology professionals. *Auditio*, 6, e83. https://doi.org/10.51445/sja.auditio.vol6.2022.0083

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Abstract

Audiologists are recognized in Spain and most countries in Latin America and have practised in various fields for more than 40 years. Despite this, a paucity of information exists regarding audiologists' engagement with scientific journals both as readers and authors alike. The aim of this paper was to describe the scientific-disciplinary reader profile of Spanish-speaking audiology professionals. A questionnaire was distributed online with 16 questions grouped into two sections: 1) General and demographic data and 2) Readership profile. A total of 200 questionnaires were completed. With the results, a qualitative analysis was performed and a summary was written for each question.

General audiology and hearing aids/amplification systems were found to be the areas of greatest interest among respondents (74% and 71%, respectively). In the readership profile section, 66% of respondents reported consulting scientific journals (at least once a month). The most common reason, given by 51% in this group, was to keep up to date. However, 81% of respondents reported never having published in a peer-reviewed journal. The main reason for not publishing was lack of confidence to write an article (51%). Despite audiologists showing a keen interest in reading audiology journals, only a small proportion submits articles for publication.

Keywords

Audiology, Reader, Journal, Latin America, Spain

Findings, Limitations, Perspectives and Considerations

Findings • Keen interest in reading specialist audiology journals. • Reduced experience contributing to specialist audiology journals.	**Perspectives** • Development of or improvement in strategies to engage readers of specialist audiology journals.
Limitations • Low participation in some countries in Latin America, limiting generalization of results.	**Considerations** • Diversification and/or broadening of areas of interest in scientific journals to attract readers.

https://journal.auditio.com/
Publicación de la Asociacion Española de Audiología (AEDA)
Published by the Spanish Audiological Society (AEDA)

Research Communications - Vol. 6 · DOI: 10.51445/sja.auditio.vol6.2022.0083 · ISSN: 1577-3108X

Introduction

The science of audiology emerged during World War II to meet the needs of war veterans who sustained hearing loss during military service (Katz, 2009). Nowadays, audiologists work in various areas, providing services that cover diagnosis, treatment and care of children and adults with hearing loss.

In Latin America, the audiologist's role varies by profile and name. In most countries, professionals are known as "phonoaudiologists", which encompasses language, speech, voice and hearing. However, depending on the country, other audiology professions exist, such as medical technologist with major in ENT in Chile (Universidad Austral de Chile, 2021; Universidad de Chile, 2021), audiologist in Costa Rica and Puerto Rico (Universidad de Puerto Rico, 2021; Universidad Santa Paula, 2021), and medical doctor specialised in ENT or audiology and phoniatrics in Mexico (Global Audiology, 2021). Training is a four- or five-year university degree (except for specialty doctors) and in some countries, training can be continued with a master's degree or AuD, as in the case of Costa Rica and Puerto Rico, respectively (Universidad de Puerto Rico, 2021; Universidad Santa Paula, 2021). Phonoaudiology programmes in Latin America date back to the late 1950s, although training was first offered in Argentina in 1948 (ASALFA, 2021).

Spain, for its part, has an audiology professional role known as *Técnico Superior en Audiología Protésica (TSAP)* [Hearing-Aid Specialist (HAS)]. The HAS vocational training course is a non-university based qualification, equivalent to level 5 of the European Qualifications Framework. The course lasts two academic years and is organised into modules with theoretical and practical content (Real Decreto 1685/2007, n.d.). Furthermore, some professionals hold vocational training and postgraduate studies in audiology; vocational training in audiology and a university degree in a related discipline, or vocational training in audiology, a degree in a related discipline and a postgraduate degree in audiology (Benitez-Barrera & De Diego-Lázaro, 2021).

There is no current data on the total number of audiologists practising in Latin America, although the World Health Organization estimates that the number ranges from 1 to 10 audiologists per million inhabitants in the region (Kamenov et al., 2021). Although a considerable number of professionals work in the audiology field in Latin America, few Spanish-language scientific publications focus exclusively on this field. This dearth of Spanish-language resources, together with their sometimes restricted access, contrasts with a wealth of English-language audiology-related journals, numbering at least 33 (Clarivate, n.d.; Scimago, 2021). Spanish-language publications often have outlier contributions on audiology; in other cases, audiology articles are published in sections of other medical journals, such as ENT-specialty journals. Likewise, limitations in the dissemination of and access to existing publications can limit knowledge and consultation by professionals.

In view of the above, very scarce information is available regarding the profile of audiologists and their interest in and experience as readers of Spanish-language audiology journals. The aim of this paper was therefore to describe the scientific-disciplinary reader profile of Spanish-speaking audiology professionals, provide an overview of this reader profile, identify their reading needs and analyse how they engage with the publication process.

Material and Methods

We designed a 16-item online questionnaire using Microsoft Forms, based on a literature review, selection and adaptation of questions from other similar instruments and consultation with two independent audiologists. We grouped the items into two sections: 1) general demographics; profession; years of experience; main area of work and 2) readership profile; area of interest in audiology; experience as author or co-author of scientific articles (see supplementary material). No specific exclusion criteria were defined for participation. Responses were received between April and May 2021.

A link to the questionnaire was shared on social media, including audiology groups on Facebook, LinkedIn, the Audiology Association of Argentina and the Audiology Association of Colombia. Participation was voluntary and all participants gave their consent for use of their responses (informed consent through an online form). Response frequency was used where appropriate for the data analysis. This paper reports the results of the descriptive study.

Results

Participants

A total of 200 questionnaires were received, 145 of which were completed by women. Spain was the country with most respondents (n=60), followed by Chile (n=44), Uruguay (n=33), Argentina (n=29) and Colombia (n=24). The remaining 10 respondents came from Peru, Mexico, Paraguay, Venezuela and Bolivia. Over half (56%) of the participants had at least 10 years of work experience.

Although participants were able to select more than one option for place of work, they were asked to state which area they worked in most of the time. **Figure 1** shows that just under three-quarters (71%) of participants worked in general audiology (mainly referring to general hearing assessment, pure tone audiometry and impedance measurements). Nearly half (47%) of the respondents selected geriatric audiology as their area of work, and only 14% selected other areas such as rehabilitation in adults and older adults, and auditory, vestibular and epidemiological studies.

Readership profile

The readership profile was evaluated through questions focused on areas of interest in audiology and experience as contributors to scientific journals. The two leading areas of interest reported by respondents were general audiology and hearing aids/amplification systems (74% and 71%, respectively). Only 9% reported other areas of interest such as tinnitus study/management, central auditory processing study and epidemiology (**Figure 2**).

When asked how often they consulted scientific journals, two-thirds (66%) of respondents reported consulting scientific journals often (at least once a month). The most common reason, given by half (51%) this group, was to stay up to date (**Figure 3**).

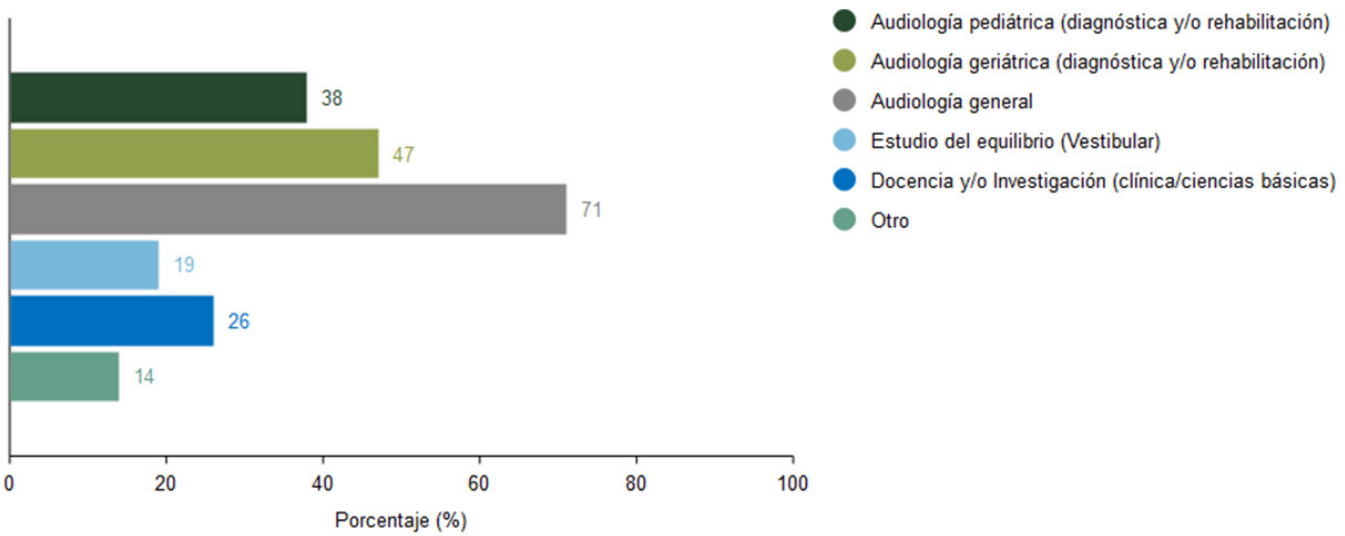
Some 81% of respondents reported having no experience with being published in a peer-reviewed journal. Of the respondents who had participated in a peer-review publication process, 74% (28) said they had contributed to original research articles, 47% (18) to literature or systematic reviews, 34% (13) clinical cases and only 8% (3) had published letters to the editor. The most common reasons for not having experience in a scientific publication process were 1) lack of confidence to write an article (51%), 2) lack of time (25%) and 3) not knowing what peer review is (19%).

A total of 85.5% (121) of respondents stated they would be interested in contributing to a scientific journal (such as AUDITIO) if they had the opportunity. Of the remaining respondents, 36% (72) stated they might participate and only 3.5% (7) said they would not participate.

Discussion

Although audiologists have a fairly widespread presence in Latin America today, the limited existence and availability of Spanish-language audiology journals means that little is known about why readers consult

Figure 1. Area of work (percentage of participants)



Research Communications - Vol. 6 · DOI: 10.51445/sja.auditio.vol6.2022.0083 · ISSN: 1577-3108X

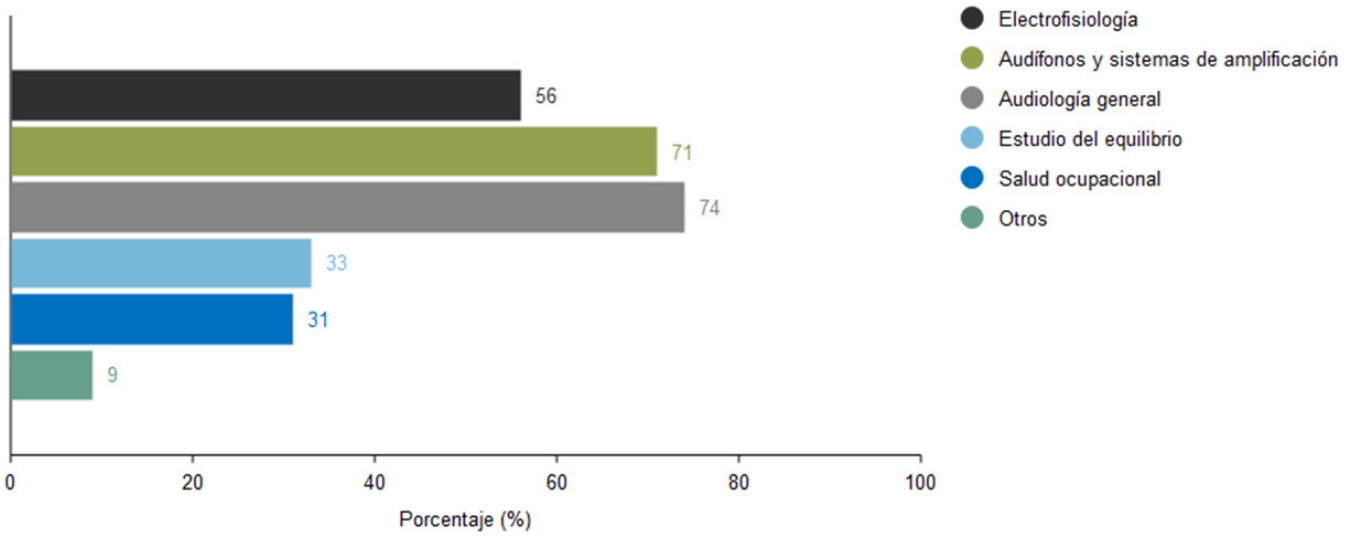


Figure 2. Audiology area of interest (percentage of participants)

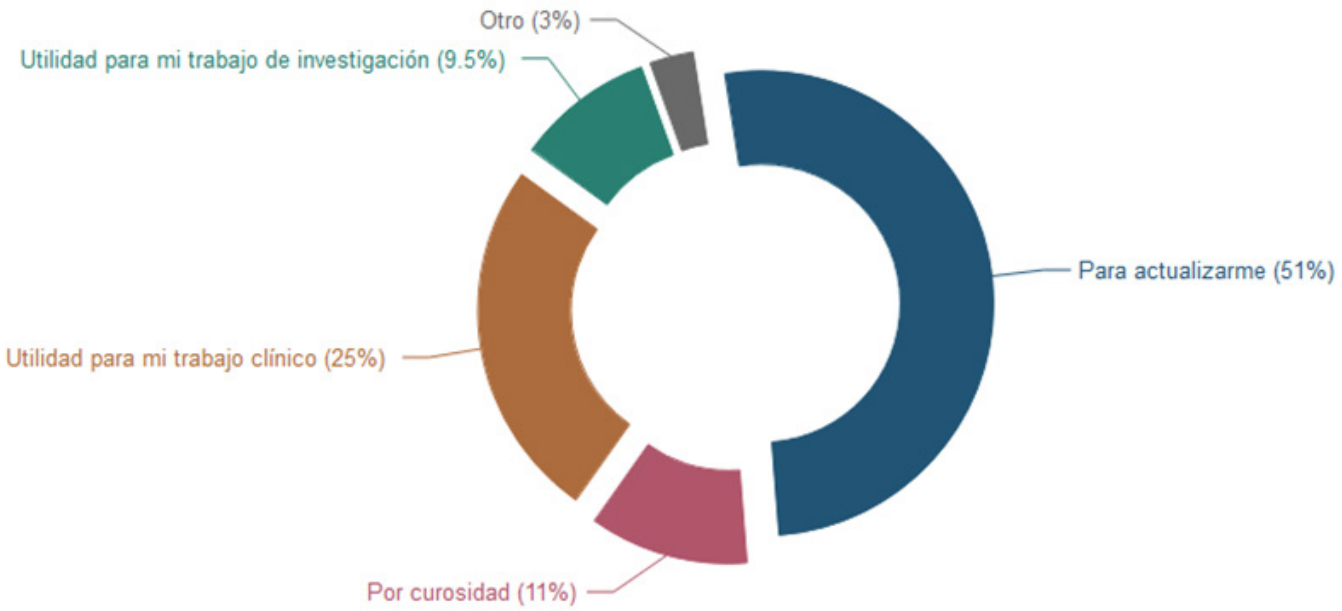


Figure 3. Reasons for consulting scientific journals among the respondents

audiology journals and how much experience they have as academic authors.

Identifying the reading habits of healthcare professionals is a complicated task, especially in the area of audiology. We were unable to find information about audiology journal readership habits and preferences, but some studies have been conducted in other medical disciplines. For example, a study conducted in Spain among primary care doctors showed that 73% of general practitioners prefer to read about clinical cases, followed by 49% who like to read updates, while 74% of primary care paediatricians prefer to read reviews and 66% clinical cases (González De Dios et al., 2011). These figures show that reading preferences are probably influenced by clinical discipline. Our results show that audiologists mainly read articles to keep up to date and for their daily clinical practice. Although the populations studied are different, the results bear similarities, with both populations showing a clear interest in keeping up to date.

According to our data, audiologists in Latin America mainly work in audiology diagnoses across the life span, treating individuals with hearing impairment and vestibular dysfunction, and carrying out preventive actions in associated disabilities. Conversely, in Spain, general audiology is more predominant (e.g., performing audiometry and impedance measurements) as the main field of work. These differences could be explained by differing skills, training and health systems in each country.

Gonzales de Dios et al (2011) found that 48% of respondents read one to four scientific journal articles every week. In our study, 66% of respondents reported consulting scientific journals at least once a month, which shows they have a keen interest in using these information sources.

González de Dios et al (2011) reported that 67% of respondents stated they had published an academic article in the past five years. This finding differs from our study, in which 19% of audiologists had published articles. This difference may be due to various factors. For example, almost all degree programmes have a clinical-care focus, and therefore participating in research and contributing to academic publications may be absent from audiologists' academic training and professional skills. In addition, resources available for publication are generally limited. These factors may help explain the feeling of insecurity reported by audiologists when they consider submitting papers for publication. This lack of confidence could be addressed by organizing postgraduate or other types of courses or workshops, where participants would gain more focused knowledge on audiological sciences, thus promoting translational medicine, by fostering cooperation between clinicians and scientists (Bendowska et al., 2022; Le Prell & Lobarinas, 2016).

Our study shows that audiologists work in various fields of audiology and have diverse interests. These findings could help inform journals in the field when identifying their readers' needs. These needs could be met by adding diverse formats, such as original research articles, short communications, clinical reviews and clinical guidelines. A wider range of formats would encourage participation by audiologists who have been disinclined to publish to date.

LIMITATIONS

Due to limitations when distributing the questionnaire, not all Spanish-speaking countries participated. Spain and Chile were the most widely represented countries. Therefore, the data reported here represent a limited sample in terms of the number of countries and number of participants per country. As a result, caution should be exercised when considering generalization of the data. However, the purpose of this paper is to describe the profile of audiologists in Spanish-speaking regions, giving an overview of the interests and experience of the audiology journal readership, comprised of audiologists.

Another limitation is the absence of information collected on the language that participants read journals in and how they access articles. It would be interesting to investigate mode of access, because most journals are now available online, permitting wider access. Furthermore, we did not investigate potential barriers to access scientific knowledge, such as financial constraints.

Finally, we did not consider possible interactions between the questions and the results, which would have been beyond the scope of this study. However, one area of future research could be the possible existence of correlations, for example between country of residence and working in specialty areas.

Conclusions

Audiologists show a keen interest in reading audiology journals, but only a small proportion publishes articles in this specialty. The main reason audiologists consult scientific articles is to keep up to date.

Audiologists are interested in diverse areas of work, such as general audiology, hearing aids and amplification systems, and electrophysiology. These areas should therefore be covered by publications in this area.

References

ASALFA. (2021). *Reseña Histórica de la Fonoaudiología en la Argentina*. Accessed 20 June 2021. https://www.asalfa.org.ar/web/resena-historica-de-la-fonoaudiologia-en-la-argentina/

Bendowska, A., Malak, R., Zok, A., & Baum, E. (2022). The Ethics of Translational Audiology. *Audiology Research*, *12*(3), 273–280. https://doi.org/10.3390/audiolres12030028

Benitez-Barrera, C. R., & De Diego-Lázaro, B. (2021). Servicios y Formación de los Técnicos Superiores en Audiología Protésica: Una Comparación con el Modelo de Audiólogo General. *Auditio*, *5*(3), e78. https://doi.org/10.51445/sja.auditio.vol5.2021.0078

Clarivate. (n.d.). *Journal Impact Factor - Journal Citation Reports - Web of Science Group*. Accessed 18 June 2022, from https://clarivate.com/webofsciencegroup/solutions/journal-citation-reports/

Global Audiology. (2021). *Audiology in Mexico*. Accessed 18 June 2022. https://globalaudiology.org/index.php/audiology-mexico/

González De Dios, J., Flores Canoura, Á., Jiménez Villa, J., & Gutiérrez Fuentes, J. A. (2011). Qué revistas médicas españolas leen y cómo se informan los médicos de atención primaria. *Atencion Primaria*, *43*(12), 629–637. https://doi.org/10.1016/j.aprim.2010.11.008

Kamenov, K., Martinez, R., Kunjumen, T., & Chadha, S. (2021). Ear and Hearing Care Workforce: Current Status and its Implications. *Ear and Hearing*, 249–257. https://doi.org/10.1097/AUD.0000000000001007

Katz, J. (2009). A Brief Introduction to Clinical Audiology and This Handbook. In M. Chasin, K. English, L. J. Hood, & K. L. Tillery (Eds.), *Handbook of Clinical Audiology* (7th ed., p. 3). Wolters Kluwer — Medknow Publications.

Le Prell, C. G., & Lobarinas, E. (2016). Perspectives on Auditory Translational Research. In *Translational Research in Audiology, Neurotology, and the Hearing Sciences* (pp. 1–17). Springer, Cham. https://doi.org/10.1007/978-3-319-40848-4_1

Real Decreto 1685/2007. (n.d.). *Boletin Oficial del Estado - Técnico Superior en Audiología Protésica y se fijan sus enseñanzas mínimas.* Accessed 10 December 2021 https://www.boe.es/eli/es/rd/2007/12/14/1685

Scimago. (2021). *Journal Rankings on Scopus*. Accessed 18 June 2022. https://www.scimagojr.com/journalrank.php?category=3616&area=3600&type=j&wos=true

Universidad Austral de Chile. (2021). *Tecnología Médica UACh*. Accessed 18 June 2022. http://tmedicapm.uach.cl/perfil-de-egreso-del-tecnólogo-médico

Universidad de Chile. (2021). *Tecnología Médica*. Accessed 18 June 2022. https://www.futuroestudiante.cl/tecnologia-medica/

Universidad de Puerto Rico. (2021). *Vicepresidencia en Asuntos Académicos – Ofrecimientos Académicos – Universidad de Puerto Rico*. Accessed 18 June 2022. https://www.upr.edu/vicepresidencias/vicepresidencia-de-asuntos-academicos/ofrecimientos-academicos-2/#doctorados

Universidad Santa Paula. (2021). *Audiología*. Accessed 18 June 2022. https://usantapaula.com/inicio/academia/carreras-de-grado/audiologia/

APPENDIX

Translation of Figures and Tables

Fig 1

Audiología pediátrica (diagnóstica y/o rehabilitación)	Paediatric audiology (diagnosis and/or rehabilitation)
Audiología geriátrica (diagnóstica y/o rehabilitación)	Geriatric audiology (diagnosis and/or rehabilitation)
Audiología general	General audiology
Estudio del equilibrio (Vestibular)	Balance study (vestibular function)
Docencia y/o Investigación (clínica/ciencias básicas)	Teaching and/or research (clinical or basic scientific research)
Otro	Other
Porcentaje (%)	Percentage (%)

Fig 2

Electrofisiología	Electrophysiology
Audífonos y sistemas de amplificación	Hearing aids and amplification systems
Audiología general	General audiology
Estudio del equilibrio	Balance study
Salud ocupacional	Occupational health
Otros	Other
Porcentaje (%)	Percentage (%)

Fig 3

Otro	Other
Utilidad para mi trabajo de investigación	Useful for my research work
Utilidad para mi trabajo clínico (25%)	Useful for my clinical work
Por curiosidad	Out of interest
Para actualizarme	To stay up to date

Conflict of interest

The authors declare no conflict of interest.

Author contributions

OC and PH contributed equally to the conception, data collection, analysis, drafting, review and editing of the manuscript

Acknowledgements

The authors are grateful to the Asociación Argentina de Audiología (ASARA), Asociación Colombiana de Audiología (ASOAUDIO), Daphne Marfull (Universidad de Valparaíso, Chile) and Mariana Kuchman (Universidad Católica del Uruguay) for their assistance in distributing the questionnaire. They are also indebted to Mariela Torrente for her valuable comments on the manuscript.
Finally, the authors wish to thank all the participants in Latin America and Spain who helped by completing the questionnaire.

Supplementary material

https://journal.auditio.com/auditio/e83/suppl

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