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Article

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Accessibility in Scientific Journals: approaches, technologies and applications

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ABSTRACT

Introduction: Scientific journals play a crucial role in the advancement of science, serving as spaces for communication, access and dissemination of scientific information. Aligned with the principles of Open Access and Open Science, they must be available to everyone, without barriers, including People with Disabilities. Objective: Analyze the approaches, resources and tools used to promote accessibility for People with Disabilities in scientific journals. Methodology: This is descriptive research, of a bibliographic nature, which adopts a mixed analysis method, combining qualitative and quantitative techniques. The research was based on the analysis of scientific production related to the accessibility of journals in multidisciplinary databases. Results: Few publications addressing the topic were found, predominantly focused on specific issues, such as assessing the accessibility of websites or reports on practices adopted by journals, often aimed at specific disabilities. The accessibility assessments performed were mostly manual or mixed, with the automatic ones being conducted by tools that verify compliance with the W3C accessibility criteria. No widely preferred assessment tool was identified in the studies analyzed. Conclusion. The limited number of contributions on the topic and their limited scope highlight the need for further research. Furthermore, the importance of including web accessibility in discussions on Open Access is highlighted, considering its compatibility with the principles of promoting universal access to scientific information

KEYWORDS

Eletronic journals. Accessibility. Open access; Eletronic publications.

Acessibilidade em Periódicos Científicos: abordagens, tecnologias e aplicações

RESUMO

Introdução: Periódicos científicos desempenham um papel crucial no avanço da ciência, servindo como espaços de comunicação, acesso e disseminação da informação científica. Alinhados aos princípios do Acesso Aberto e da Ciência Aberta, devem estar disponíveis a todos, sem barreiras, incluindo às Pessoas com Deficiência (PcD). Objetivo: Analisar as abordagens, recursos e ferramentas utilizadas para promoção da acessibilidade para Pessoas com Deficiências (PcD) nos periódicos científicos. Metodologia: Trata-se de uma pesquisa descritiva, de natureza bibliográfica, que adota um método de análise mista, combinando técnicas qualitativas e quantitativas. A investigação baseou-se na análise da produção científica relacionada à acessibilidade

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dos periódicos em bases de dados multidisciplinares. Resultados: Foram encontradas poucas publicações que abordam o tema, predominantemente focadas em questões específicas, como a avaliação da acessibilidade de websites ou relatos de práticas adotadas por periódicos, frequentemente voltadas a deficiências específicas. As avaliações de acessibilidade realizadas foram, em sua maioria, manuais ou mistas, sendo as automáticas conduzidas por ferramentas que verificam a conformidade com os critérios de acessibilidade do W3C. Não se identificou uma ferramenta avaliadora amplamente preferida nos estudos analisados. Conclusão. O número restrito de contribuições sobre o tema e sua limitada abrangência destacam a necessidade de aprofundamento das pesquisas. Além disso, ressalta-se a primazia em incluir a acessibilidade web nas discussões sobre o Acesso Aberto, considerando sua compatibilidade com os princípios de promoção do acesso universal à informação científica.

PALAVRAS-CHAVE

Periódicos eletrônicos. Acessibilidade. Acesso aberto. Publicações científicas.

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INTRODUCTION

Publishing is essential for the communication and advancement of scientific knowledge in all fields and is considered an indicator of a country's development (Batista; Farias, 2023; UNESCO, 2021). This communication takes place in journals, books, and events that have processes for evaluating and certifying the content of these publications (Batista; Farias, 2023).

Scientific journals are well established as the main means adopted by researchers to disseminate their research (Mugnaini; Igami; Krzyzanowski, 2022), either because of the rapid dissemination of information or because of the reach or the breaking down of geographical barriers that they provide (Gingras, 2020).

The vast majority of scientific research is financed by public funds, through projects, grant holders, researchers, or even the instruments used to carry out the study (Abadal; Nonell, 2019). Therefore, these productions should be available to the public as a process of returning the resources invested to the community (Kuramoto, 2006; Swan, 2008).

In this scenario, the Open Access Movement emerged as a proposal from the scientific community to promote barrier-free access to scientific information (Rios; Lucas; Amorim, 2019), resulting in a specific focus in which the reader has the freedom to access the content without any restrictions, whether financial, legal, or technical (Rios; Lucas; Amorim, 2019). However, in order for the practice to be in line with the philosophy expressed in the different declarations of the movement (BOAI, 2002), it is necessary to consider the technical barriers to access to scientific information, in addition to financial barriers. In this context, web accessibility is related to scientific information and scientific journals.

Accessibility works as a mechanism aimed at the social inclusion of individuals, based on the integration of people and their specificities in the physical and digital environment (Morais et al., 2023). The concept is related to providing access to people with disabilities, temporary limitations, degenerative diseases, the elderly and other groups, ensuring that they can use information, products and services available in different environments without facing significant barriers (Rocha; Alves; Duarte, 2011). On the web, guidelines and standards have been developed to make websites more accessible (Nazário; Coelho, 2019).

To promote accessibility, the Worldwide Consortium (W3C), an international consortium for web standardization, created the Web Accessibility Initiative (WAI) in 1999, establishing an initiative for the inclusion of people with disabilities (PwD) in the digital environment (W3C, [2023?]). In doing so, they established web content standards to be followed to develop more accurate websites with similar standards (W3C, [2023?]). The WAI's initiatives resulted in the Web Content Accessibility Guidelines (WCAG), which standardize websites worldwide to promote accessibility on the Web (Shing-Han, Yen; Wen-Hui; Tsun-lin, 2012).

Despite existing guidelines, the lack of accessibility on the web is a barrier to accessing information and limits the interaction of certain groups of people with the available content (Oliveira; Silva Neto, 2019). Among the reasons cited for the maintenance of these barriers are a) the lack of knowledge of existing guidelines among developers (Oliveira; Silva, 2011), and b) the creation of websites without considering the possible disabilities or barriers of users (Macakoglu; Peker, 2022). This problem is also identified in portals and scientific journals that do not implement the accessibility guidelines and resources available on their platforms (Rodrigues; Souza, 2020).

In addition to the existence of accessibility standards for the creation of web pages and content, in the field of scientific information there is an undeniable relationship with the purpose of the Open Access movement. In this context, the issue is part of the scientific communication studies in the field of Information Science (IS), which represents a growing demand and concern so that access to scientific information can be promoted without any barriers (Hallo; Hallo; Luján-Mora, 2017). Therefore, identifying and analyzing the publications that relate

open access in scientific journals to web accessibility helps to understand in which areas and aspects the topic has been discussed by researchers.

In this context, the aim of this study is to analyze the approaches, resources, and tools used to promote accessibility for people with disabilities (PwD) in scientific journals.

2 METHODOLOGY

In terms of objectives, this study is characterized as descriptive, since it describes the data identified (Sampieri-Hernández; Collado-Fernández; Lucio, 2013). In terms of technical procedures, it is a bibliographic survey, and in terms of data analysis, the mixed method was adopted, using both qualitative and quantitative analyses (Sampieri-Hernández; Collado-Fernández; Lucio, 2013).

The bibliographical survey, aimed at obtaining as many publications on the subject as possible, consisted of a search in the title, abstract, and keywords fields, without limiting the time or type of document, using the following terms: (Accessibilidade OR Accessibility OR Accesibilidad) AND ("Periódico Científico" OR "Scientific Journal" OR "Academic Journal" OR "Revista Científica"), in multidisciplinary and specialized databases in the field of information science, national and international, as shown in Table 1.

Table 1. Results obtained from the search in the selected databases

Databases	Retrieved documents
Information Science Database (Base de Dados em Ciência da Informação - BRAPCI)	6
Brazilian Digital Library of Theses and Dissertations (Biblioteca Digital Brasileira de Teses e Dissertações -BDTD)	18
Information Science and Technology Abstracts (LISTA)	9
Brazilian portal for scientific publications and data in open access (Portal brasileiro de publicações e dados científicos em acesso aberto -Oasisbr)	3
CAPES Journal Portal	37
Scientific Electronic Library Online (SCIELO)	4
Scopus	196
Web Of Science (WoS)	15
Total	288

Source: survey data (2024)

Explanatory note: To operationalize the search in the databases, it was necessary to vary the search strategy according to the resources available in the databases. In BRAPCI, three separate searches were carried out, one for each of the languages of the selected terms (Portuguese, English, and Spanish), due to the limitations of the advanced search. In BDTD, the search was expanded to all fields in order to obtain more results. In LISTA, to combine the title, abstract, and keywords fields, 3 searches were carried out with all the terms, but in different fields: a) SU Subject Terms, b) AB Abstract or Author-Supplied Abstract, and b) KW Author-Supplied Keywords. In OasisBr, only the title and subject fields were used because the search in the abstract field returns a quantity of more than 1,000 documents, making it impossible to carry out a thematic analysis of the studies. In the CAPES Journal Portal, there is no abstract field in the search, so only the title and subject fields were used. In Scopus, the title, abstract, and keywords fields were used. In addition, in Scielo, by searching the collection within WoS, and in WoS itself, the Topic (TS) field was used, which brings together the title, abstract, and keywords fields.

The search returned 288 documents organized in a Microsoft Excel spreadsheet. Of these, thirty-two (32) were duplicates. After reading the abstracts of the documents, it was determined that 176 documents did not deal with accessibility for people with disabilities, but rather the association and use of the term accessibility as a synonym for access and/or access facilities; another 70 documents did not relate to publications on accessibility in scientific journals. After these exclusions, the research universe consists of ten (10) documents.

The production was characterized by collecting the variables title, authorship, year, language, and publication medium, field of publication, institutional affiliation, and nationality of the authors. In order to analyze the field, it was decided to identify the main areas.

In order to identify the approach taken to the subject in the publications, the documents were read in full, and it was identified whether the studies were applied, i.e., whether they evaluated accessibility in journals and, in this case, data were collected on a) the type of evaluation carried out, b) the tools used, c) the corpus of the evaluation and d) whether there was an emphasis on a specific disability.

4 RESULTS

Scientific production on accessibility in scientific journals is not only limited, but also scarce. The documents identified were published between 2000 and 2023. The initial concentration of these publications in the 2000s may be related to the popularization of the internet during this period (Jesus; Rufino; Silva, 2014). Only in 2018 was there more than one publication on this subject (Table 2).

TablE 2. Year and language of publications

Years	Languages							
	Spanish		Inglês		Spanish		Total	
	N	%	N	%	N	%	N	%
2000	1	10%	-	-	-	-	1	10%
2014	-	-	-	-	1	10%	1	10%
2015	-	-	-	-	1	10%	1	10%
2017	1	10%	-	-	-	-	1	10%
2018	-	-	2	20%	1	10%	3	
2020	-	-	1	10%	-	-	1	10%
2021	-	-	-	-	1	10%	1	10%
2023	-	-	-	-	1	10%	1	10%
Total	2	20%	3	30%	5	50%	10	100%

Fonte: dados da pesquisa (2024).

Regarding the language of publication, the majority of documents were published in Portuguese (50%), followed by English (30%) and Spanish (20%) (see Table 2).

As for the types of documents, four (4) articles in scientific journals were identified (Germain, 2000; Silva *et al.*, 2018; Sedghi *et al.*, 2018; Navarro-Molina et al., 2018), three (3) dissertations defended in Brazilian postgraduate programs (Lara, 2014; Silva Filho, 2022; Silva, 2015), two (2) papers presented at conferences (Arias-Flores *et al.*, 2020; Hallo; Hallo; Luján-Mora, 2017), and one (1) editorial (Almeida; Alves, 2023) (Table 3).

Table 3. Type of document by area of knowledge

Area	Type of document									
	Articles		Dissertações		Articles		Editoriais		Articles	
	N	%	N	%	N	%	N	%	N	%

Information science	4	-	-	-	-	-	-	-	4	40%
Computer science	-	-	1	10%	2	20%	-	-	3	30%
Design	-	-	1	10%	-		-	-	1	10%
Education	-	-	1	10%	-		-	-	1	10%
Health	-	-	-	-	-		1	10%	1	10%
Total	**4**	**40%**	**3**	**30%**	**2**	**20%**	**1**	**10%**	**10**	**100%**

Source: survey data (2024).

The area with the most evidence in the studies is information science (40%), a field that directly studies issues related to access to scientific information (Araújo, 2014), and computer science (30%), justified by the fact that web accessibility is related to the development, standardization and construction of accessible systems, applications and websites (W3C, [2023?]). This is followed by the fields of design (10%), with topics related to the ergonomics of portals and journals, health (10%) and education (10%), when journals are considered as information spaces that require accessibility to promote scientific education (Table 3).

It can be observed that, in the case of articles in journals, titles in the field of CI predominate, while articles in events are concentrated in events in the field of computer science, while research at the postgraduate level is more fragmented (Table 4).

Table 4. Publication vehicles: journals, events and PPGs

Publication vehicles	Editor	Country	Total documents
Information Science	Instituto Brasileiro de Informação em Ciência e Tecnologia	Brazil	1
College & Research Libraries	The Association of College and Research Libraries	United States	1
Library Philosophy and Practice	University of Nebraska - Lincoln	United States	1
Online Brazilian Journal of Nursing	Universidade Federal Fluminense	Brazil	1
Online Information Review	Esmerald	United Kingdom	1
Parcial: Total de publicações em periódicos			5
PPG	**Universities**	**Country**	**Total documents**
Postgraduate Program in Education	UFGD	Brasil	1
Postgraduate Program in Design	UFRGS	Brasil	1
Postgraduate Program in Technology	UTFPR	Brasil	1
Partial: Total theses/dissertations			3
Event	**Organizer**	**Country**	**Total documents**

Iberian Conference on Information Systems and Technologies	Institute of Electrical and Electronics Engineers (IEEE)	United States	1
Advances in Intelligent Systems and Computing	Springer	Switzerland	1
Partial: Total number of works at events			2
Total			**10**

Source: survey data (2024).

Explanatory note: The articles and the only editorial identified were organized in the same column, since they were both published in journals.

As for authorship, 26 authors were identified for the 10 documents analyzed (Table 5), an average of 2.6% authors per publication. Each of them published only one paper on the subject, so it was not possible to identify a core of specialized authors. Combined with the limited number of publications on the subject, this is an indication of how scarce and recent the relationship between accessibility and scientific journals is.

Table 5. Authors of the documents and their affiliations

Authors	Affiliated institution	Country	Total documents
Alves, R. L	Universidade Federal Fluminense	Brazil	1
Aleixandre-Benavent, R	*Universitat Politècnica de València*	Espanha	1
Almeida, Y. S. de	Universidade Federal Fluminense	Brazil	1
Andreis, G.da S. L	Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Sul	Brazil	1
Arcaro, K.	Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Sul	Brazil	1
Arias-Flores, H	*Universidad Tecnológica Indoamérica*	Ecuador	1
Calle-Jimenez, T	*Escuela Politécnica Nacional*	Ecuador	1
Fuchs, H. L.	Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Sul	Brazil	1
Germain, C.	*University at Albany*	United States	1
Hallo, F.	*Escuela Politécnica Nacional*	Ecuador	1
Hallo, M.	*Escuela Politécnica Nacional*	Ecuador	1
Haseli, M.	*University of Medical Sciences*	Iran	1
Lara, F. A. de	Universidade Tecnológica Federal do Paraná	Brazil	1
López-Gil, J	*University of the Basque Country*	Spain	1
Lujan-Mora, S.	*Universidad de Alicante*	Ecuador	1
Navarro-Molina, C	*Universitat de València*	Spain	1
Nunes, Isabel L	*UNIDEMI*	Portugal	1
Roudbari, M.	*University of Medical Sciences*	Iran	1
Sanchez-Gordon, S.	*University of Lisbon*	Portugal	1
Sedghi, S.	*University of Medical Sciences*	Iran	1

Silva Filho, G. R. da	Universidade Federal da Grande Dourado	Brazil	1
Silva, I. J.C. da	Universidade Federal do Rio Grande do Sul	Brazil	1
Silva, L. H. R. da	Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Sul	Brazil	1
Silva, R. S.da	Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Sul	Brazil	1
Tahamtan, I.	*The University of Tennessee*	United States	1
Valderrama-Zurián, JC	*Universidad Católica de Valencia*	Spain	1
	Total		26

Source: survey data (2024).

Ecuadorian (5), Spanish (4), Iranian (3), American (2) and Portuguese (2) institutions. Among the institutions identified, only four are linked to more than one author, two of them Brazilian: Federal Institute of Education, Science and Technology of Rio Grande do Sul (IFRS) (5 authors), University of Medical Sciences (3 authors), Federal University of Fluminense (2 authors), National Polytechnic School (3 authors), according to the data in Table 5.

In Brazil, the Federal Institutes and Higher Education Institutions (HEIs) have specialized departments for inclusion and promotion of accessibility for students, according to Law No. 13.146/2015 (Andrade; Monte, 2020). The IFRS has an Accessibility Technology Center (CTA) that develops projects and partnerships with a focus on digital accessibility (IFRS, 2021).

3.1 Accessibility in scientific journals: methodological analysis of studies

The studies that address accessibility tend to be applied (80%), with data on how accessibility assessments are conducted, such as the type of assessment performed and the tools used (Table 1). In the documents analyzed, most are not limited to a single disability, suggesting a broader approach to existing disabilities. However, this approach is one of the limitations of these studies, since they do not analyze the specificities of individuals and the accessibility associated with them. The studies that deal with specific disabilities focus on the visually impaired (3) and the deaf (1).

Chart 1. Evaluation and focus of studies on accessibility in journals

Author	Type of study	Type of evaluation	Resource used	Journals analyzed	Handicap
Almeida & Alves (ano)	Not applied	-	-	-	-
Arias-Flores et al.	Applied	Mixed	*Jaws*	1	Visual
Germain, C	Applied	Manual	Not used	Not specified	Not specified
Hallo et al.	Applied	Automatic	*eXaminator*	101	Not specified
Lara	Applied	Manual	Not used	1	Deaf
Navarro-Molina	Applied	Mixed	*W3C Markup Validator Service; W3C CSS Validator*	233	Not specified
Sedghi et al.	Applied	Manual	Not used	21	Not specified

Silva Filho	Applied	Mixed	Not used	Not specified	Visual
Silva	Applied	Manual	Not used	Not specified	Not specified
Silva et al.	Not applied	-	-	-	-

Fonte: dados da pesquisa (2024).

Explanatory note: Although Jaws is a screen reader, in this analysis it was considered a support tool, used by the researchers to identify errors based on the information presented by the reader.

Two (2) studies did not perform accessibility evaluations, in the case of publications that presented practices included in a specific journal (Silva et al., 2018) and an editorial that committed to include assistive technology resources in the journal (Almeida; Alves, 2023).

In the area of accessibility assessment in journals, four (4) studies performed manual analysis, three (3) used a mixed approach combining automatic and manual methods, and one (1) used only automatic assessment (Figure 1). Automatic accessibility tools are notable for facilitating the identification of errors on pages and, in some cases, for generating reports for correction. Despite some limitations, they are still useful resources, especially for more complex sites. Studies such as Campoverde-Molina, Luján-Mora and García (2020) highlight the widespread use of this resource, since they identified the use of automatic tools in 20 of the 25 productions analyzed. Similarly, this study found that at least four (4) studies used some type of tool. In order to obtain a more complete diagnosis, a combination of automatic and manual tests has been suggested (Mascaraque *et al*., 2010; Balsells *et al*., 2017).

As for the resources used to perform the accessibility analysis, 3 tools were identified: a) the web accessibility evaluator: eXaminator (1), and b) the document markup validation and CSS stylesheet resources: W3C Markup Validator Service and c) W3C CSS Validator. Also, noteworthy is the use of the Jaws screen reader, which, although not an evaluation tool per se, was used in one study to identify errors.

Regarding the subjects of the studies, the majority (5) analyzed more than one journal, in different domains, as in the study by Navarro-Molina et al. (2018), or within the same domain, as in Silva (2015).

Of the applied studies, four report-specific experiences: Lara (2014), with the participation of 4 deaf people and 1 hearing person, reports on the issues needed to improve the accessibility of the Scielo database; Silva et al. (2018) report on the applications carried out in the Electronic Journal of Mathematics (REMAT), including the development of an accessible template; Arias-Flores *et al*. (2020) discuss accessibility for the blind in a journal using the Open Journal System (Arias-Flores *et al*., 2020); and Silva Filho (2022) developed a prototype to promote the accessibility of scientific articles using accessible videos.

3.2 Approaches to studies on accessibility in scientific journals

Studies that focus on web accessibility tend to promote discussion on the topic, identify possible barriers for users with disabilities, discuss their disadvantages, and propose strategies to make environments more accessible (Matos; Souza, 2020). Morais *et al.* (2023) allude to the fact that there is little literature on the accessibility of journals and repositories. This shows that while the importance of scholarly production is evident, there is little discussion about the spaces that make these studies available. More attention is therefore needed to promote more inclusive environments that do not restrict access to the scientific information available.

In publications on accessibility in scientific journals, when a disability is specified, the emphasis is on visual impairments (Arias-Flores *et al*., 2020; Silva Filho, 2022), highlighting the use of screen readers (Arias-Flores *et al*., 2020), although they warn of the existence of other disabilities that should be studied to minimize barriers (Guimarães; Araújo; Sousa, 2020).

Regarding the accessibility of websites of scientific journals on specific disabilities, Lara (2014), in relation to deaf people, points out that knowledge is not only inaccessible, but also exclusionary, since it does not provide alternatives to Brazilian Sign Language (LIBRAS). In this way, deaf people are unable to take advantage of the available information (Lara, 2014). Arias-Flores *et al*. (2020) identify the challenges faced by blind people in the editorial process of scientific journals on the OJS platform, such as layout, interface controls, HTML versions, and website configuration. As a result, they point out some resources that could be implemented, such as presentation of articles in MP3, HTML publications with navigation levels, and video resources.

Regarding journal websites, Hallo; Hallo; Luján-Mora (2017) analyzed 101 Latin American open access journal websites using the eXaminator evaluation tool, which adopts WCAG criteria, and found that most of the analyzed homepages did not follow the standard in terms of accessibility features. Navarro-Molina et al. (2018) analyzed a set of electronic journals using automated evaluators such as Markup Validator Service, CSS Validator, AChecker, Total Validator, and AInspector in combination with manual testing. The results indicated that the platforms had no accessibility errors in only 10 of the 38 success criteria established. Silva *et al*. (2018) describe the actions applied to build an accessible and inclusive journal, such as structuring text to make it easier for screen readers to handle PDF files and developing an accessible template.

Regarding the articles published in the journals, Germain (2000) analyzed the URLs of the articles and discussed the maintenance of links to identify and access the cited documents, noting that 50% of the URLs could not be accessed, which is an obstacle to the accessibility of the content of the articles. Sedghi *et al*. (2018) also analyzed the relationship between the URLs of an Iranian biomedical journal and the accessibility of online information sources.

Silva (2015) analyzed the formats for making articles available in journals in the field of architecture and urbanism with Qualis A1, using an instrument based on functional and administrative principles of information design, web standards, and W3C recommendations, which allows verifying the adoption of web standards, noting that there is a movement towards the adoption of standards, especially improved HTML. Silva Filho (2022) developed a technical-educational-social product to promote accessibility for the visually impaired in scientific journals, based on the adaptation of articles that list specific accessibility features, including font magnification, image fixation, audio reading, and text reading interaction. The BOCA-Pub prototype provides a freely accessible version of scientific articles on online platforms by converting them to video format with textual elements such as enlarged fonts and audio with human intonation (Silva Filho, 2022).

Almeida and Alves (2023), in an editorial on Open Access, Open Science, and Accessibility, highlight inclusion as a criterion for promoting access for all, pointing to the inclusion strategies adopted by the Brazilian Online Journal of Nursing (2022), which include audio description of abstracts and a commitment to expand assistive technology resources on the journal's website.

In the publications that address accessibility in scientific journals, there is an emphasis on accessibility for a specific type of disability, as in the case of the deaf by Lara (2014) and the blind by Silva *et al*. (2018), Arias-Flores *et al*. (2020) and Silva Filho (2022); the case study of a specific journal, such as Lara (2014), Arias-Flores et al. (2020) and Silva *et al*. (2018); or comparative analyses of accessibility between the titles and groups evaluated, such as Germain (2000), Silva (2015), Hallo; Hallo; Luján-Mora, (2017), Navarro-Molina *et al*. (2018) and Silva Filho (2022); and mostly using tools developed for this purpose to evaluate accessibility - Hallo; Hallo; Luján-Mora, (2017) use eXaminator, Navarro-Molina *et al*. (2018) use AChecker, Total Validator and AInspector.

6 CONCLUSION

When considering journals as channels for the communication and dissemination of scientific information, it is important to consider that the information is available to all users. The bibliographic survey on the subject revealed a considerable number of studies that use the term "accessibility" in the context of Open Access, referring to the free availability of articles. However, the concept of accessibility tends to be associated with people with disabilities and is used to define the conditions that allow access to products, spaces, and information by people with disabilities.

Most of the documents on the subject are related to specific issues: such as applied studies, accessibility evaluations, and/or reports on practices and/or strategies adopted to improve the accessibility of the title, such as the availability of audio content and the use of accessible templates. Thus, mainly technical contributions, which are still needed, should include web accessibility as part of the agenda for access to scientific information, including web accessibility standards and criteria as a requirement of scientific publishing systems and training of editorial staff, institutionalizing it as a commitment to promote access to scientific information.

The limited number of contributions and their scope reinforce the need for further studies on the subject and for including web accessibility in the Open Access discussion agenda, given the compatibility of the concepts in promoting barrier-free access to scientific information.

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