

Educational Technologies in Health for Deaf People: Integrative Review

Tecnologias Educativas em Saúde para as Pessoas Surdas: Revisão Integrativa
Tecnologías Educativas en Salud para Personas Sordas: Revisión Integradora

RESUMO

Objetivo: mapear as principais tecnologias educativas em saúde para as pessoas surdas. **Método:** Trata-se de uma revisão integrativa da literatura. A seleção dos estudos ocorreu no mês de agosto de 2025, nas bases de dados PubMed, Scientific Electronic Library Online, Web of Science, Scopus e Biblioteca Virtual em Saúde, além da literatura cinzenta. Os critérios de inclusão contemplaram estudos que respondessem à pergunta norteadora, disponíveis na íntegra, publicados nos idiomas português, inglês ou espanhol, e com recorte temporal dos últimos cinco anos. **Resultados:** A busca inicial identificou 26 artigos potencialmente relevantes e após utilização dos filtros e leitura, selecionaram-se 8 estudos. A caracterização dos estudos incluídos evidencia que as tecnologias assistivas voltadas à educação em saúde para pessoas surdas concentram-se em recursos audiovisuais. **Conclusão:** O presente estudo permitiu mapear as principais tecnologias educativas em saúde voltadas às pessoas surdas, atendendo ao objetivo proposto.

DESCRIPTORES: Pessoas surdas; Tecnologias assistivas; Educação em saúde

ABSTRACT

Objective: To map the main educational technologies in health for deaf people. **Method:** This is an integrative literature review. The selection of studies took place in August 2025, in the PubMed, Scientific Electronic Library Online, Web of Science, Scopus and Virtual Health Library databases, in addition to grey literature. The inclusion criteria included studies that answered the guiding question, available in full, published in Portuguese, English or Spanish, and with a time frame of the last five years. **Results:** The initial search identified 26 potentially relevant articles and after applying filters and reading, 8 studies were selected. The characterization of the included studies shows that assistive technologies aimed at health education for deaf people are concentrated in audiovisual resources. **Conclusion:** This study allowed us to map the main educational technologies in health aimed at deaf people, meeting the proposed objective.

DESCRIPTORS: Deafness; Assistive Technologies; Health Education

RESUMEN

Objetivo: Mapear las principales tecnologías educativas en salud para personas sordas. **Método:** Se trata de una revisión integradora de la literatura. La selección de estudios se llevó a cabo en agosto de 2025, en las bases de datos PubMed, Scientific Electronic Library Online, Web of Science, Scopus y Virtual Health Library, además de literatura gris. Los criterios de inclusión incluyeron estudios que respondieran a la pregunta guía, disponibles en su totalidad, publicados en portugués, inglés o español, y con un marco temporal de los últimos cinco años. **Resultados:** La búsqueda inicial identificó 26 artículos potencialmente relevantes y después de aplicar filtros y lectura, se seleccionaron 8 estudios. La caracterización de los estudios incluidos muestra que las tecnologías de asistencia dirigidas a la educación en salud para personas sordas se concentran en recursos audiovisuales. **Conclusión:** Este estudio nos permitió mapear las principales tecnologías educativas en salud dirigidas a personas sordas, cumpliendo el objetivo propuesto.

DESCRIPTORES: Personas sordas; Tecnologías de asistencia; Educación para la salud

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INTRODUCTION

Deaf people face significant barriers in accessing and remaining in health services, mainly due to the limited communication skills of professionals in the use of Brazilian Sign Language (Libras). As a result, there is a reduction in the search for and continuity of health care by this population, increasing their vulnerability to preventable diseases^(1,2).

This disparity often leads to medical errors, delays in treatment, and health inequalities for deaf people who communicate primarily through Libras. Compounding this problem, many health professionals do not prioritize learning sign language or using available technological resources, which further exacerbates communication gaps and reduces patient autonomy during consultations⁽³⁾.

To mitigate this problem, it is essential to invest in training healthcare

teams in effective communication strategies, including training in Libras and the adoption of institutional policies that guarantee accessible and qualified communication processes. In this sense, professionals involved in caring for the deaf population should incorporate health education strategies mediated by different educational technologies.

These technologies demonstrate the potential to improve health service outcomes by promoting greater interactivity, expanding access to information, and encouraging the sharing of knowledge and practices between professionals and users⁽⁵⁾. However, studies on the subject are still scarce, especially those focused on the Brazilian population⁽⁶⁾. Thus, the question arises: what educational technologies have been used for deaf people?

The objective is therefore to map the main educational technologies in

health for deaf people.

METHOD

This is an integrative literature review, conducted in a systematic and rigorous manner, following the classic steps recommended in the methodological literature⁽⁷⁾, observing the criteria of transparency and reproducibility recommended by the PRISMA guidelines for conducting and reporting literature reviews.

The integrative review was guided by the following guiding question: what assistive technologies have been used in health education for deaf people? The PICo strategy was adopted, defined as: P (population) = deaf people; I (intervention) = assistive technologies; and Co (context) = health education, which allowed for greater clarity in defining the object of study and conducting the subsequent stages of the review.

After defining the guiding question, searches were conducted in August 2025 of studies in the previously selected databases, using com-

binations of controlled descriptors identified from the Health Sciences Descriptors (DeCS) and Medical Subject Headings (MeSH) thesauri,

combined using the Boolean operators *AND* and *OR*, as shown in Table 1⁽⁸⁾.

Table 1. Database search strategy. Floriano, Piauí, Brazil, 2025

What assistive technologies are used in health education for deaf people?			
Step	P	I	Co
Extraction	Deaf people	Assistive technologies	Health education
Conversion	Deafness	Assistive technologies	Health Education
Combination	Persons With Hearing Impairments Deafness	Assistive technologies, Technology, Teaching Materials	Health Education, Education of Hearing Disabled, Health Communication
Construction	(Persons With Hearing OR Impairments Deafness)	(Assistive technologies OR Technology OR Teaching Materials)	(Health Education OR Education of Hearing Disabled OR Health Communication)
Use	(Persons With Hearing OR Impairments Deafness) AND (Assistive Technologies OR Technology OR Teaching Materials) AND (Health Education OR Education of Hearing Disabled OR Health Communication)		

Source: Araújo, 2020 (Adapted).

After defining the search strategy, the studies were selected in August 2025 from the PubMed, Scientific Electronic Library Online, Web of Science, Scopus, and Virtual Health Library databases. Access to the databases was provided by the Federated Academic Community (CAFe), via the Journal Portal of the Coordination for the Improvement of Higher

Education Personnel (CAPES). In order to broaden the scope of the search and reduce the risk of publication bias, a search of the gray literature was also conducted.

The inclusion criteria were studies that answered the guiding question, available in full in the selected databases, published in Portuguese, English, or Spanish, and covering the last five years. Dissertations, theses,

case reports, letters to the editor, reviews, and critiques were excluded. Initially, the titles and abstracts were read as a first screening step to identify potentially eligible studies aligned with the research question. This step constituted the first filter in the selection process and is detailed in Table 2.

Table 2. Database search results by search strategy. Floriano, Piauí, Brazil, 2025

Database search strategy		
Database	Search strategy	Articles retrieved
Pubmed	((("self help devices"[MeSH Terms] OR ("self help"[All Fields] AND "devices"[All Fields]) OR "self help devices"[All Fields] OR ("assistive"[All Fields] AND "technologies"[All Fields]) OR "assistive technologies"[All Fields] OR ("technology"[MeSH Terms] OR "technology"[All Fields] OR "technologies"[All Fields] OR "technology s"[All Fields]) OR ("teaching materials"[MeSH Terms] OR ("teaching"[All Fields] AND "materials"[All Fields]) OR "teaching materials"[All Fields])) AND (((("person s"[All Fields] OR "personable"[All Fields] OR "personableness"[All Fields] OR "personal"[All Fields] OR "personalisation"[All Fields] OR "personalise"[All Fields] OR "personalised"[All Fields] OR "personalising"[All Fields] OR "personality"[MeSH Terms] OR "personality"[All Fields] OR "personalities"[All Fields] OR "personality s"[All Fields] OR "personalization"[All Fields] OR "personalize"[All Fields] OR "personalized"[All Fields] OR "personalizes"[All Fields] OR "personalizing"[All Fields] OR "personally"[All Fields] OR "personals"[All Fields] OR "persons"[MeSH Terms] OR "persons"[All Fields] OR "person"[All Fields]) AND ("hearing"[MeSH Terms] OR "hearing"[All Fields] OR "hearings"[All Fields]) AND "or"[All Fields] AND ("impair"[All Fields] OR "impaired"[All Fields] OR "impairment"[All Fields] OR "impairments"[All Fields] OR "impairing"[All Fields] OR "impairment"[All Fields] OR "impairments"[All Fields] OR "impairs"[All Fields])) OR ("deafness"[MeSH Terms] OR "deafness"[All Fields] OR "deafnesses"[All Fields])) AND ("health education"[MeSH Terms] OR ("health"[All Fields] AND "education"[All Fields]) OR "health education"[All Fields] OR "education of persons with hearing disabilities"[MeSH Terms] OR ("education"[All Fields] AND "persons"[All Fields] AND "hearing"[All Fields] AND "disabilities"[All Fields]) OR "education of persons with hearing disabilities"[All Fields] OR ("education"[All Fields] AND "hearing"[All Fields] AND "disabled"[All Fields]) OR ("health communication"[MeSH Terms] OR ("health"[All Fields] AND "communication"[All Fields]) OR "health communication"[All Fields])) AND ((y_5[Filter] AND ffrft[Filter] AND (adaptiveclinicaltrial[Filter] OR booksdocs[Filter] OR casereports[Filter] OR clinicalconference[Filter] OR clinicalstudy[Filter] OR clinicaltrial[Filter] OR meta-analysis[Filter] OR observationalstudy[Filter] OR randomizedcontrolledtrial[Filter]))	18

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BVS	("Deafness") AND ("Assistive technologies" OR "Technology" OR "Teaching Materials") AND ("Health Education") AND type_of_study:("diagnostic_studies" OR "evaluation_studies" OR "screening_studies" OR "clinical_trials" OR "observational_studies") AND la:("en" OR "pt") AND (year_cluster:[2020 TO 2025]) AND instance:"regional"	2
Web of science	((TS=("Persons With Hearing Or Impairments OR Deafness")) AND TS=("Assistive technologies OR Technology OR Teaching Materials")) AND TS=("Health Education OR Education of Hearing Disabled OR Health Communication")	0
Embase	'persons with hearing or impairments or deafness' AND 'assistive technologies or technology or teaching materials' AND 'health education or education of hearing disabled or health communication' AND [2020-2025]/py	0
Scopus	(TITLE-ABS-KEY (deafness) AND TITLE-ABS-KEY (assistive AND technologies OR technology OR teaching AND materials) AND TITLE-ABS-KEY (health AND education)) AND PUBYEAR = 2020 - 2025	0

Source: Prepared by the authors (2025).

The extraction and selection of studies were performed by two independent reviewers, with the aim of increasing the reliability of the process and minimizing selection biases. The Rayyan®+ platform was used to manage references, organize studies, and conduct screening steps. In cases of disagreement, these were resolved by consensus among the reviewers.

Data from the included studies were extracted in a standardized manner using a previously developed instrument, covering the following variables: author and year of publication, study title, language, country of origin, methodological design, sample, area of concentration, type of educational/assistive technology used, and main results. This information supported the descriptive analysis and synthesis of the findings included in the review. No quantitative assessment of methodological quality was performed, considering the heterogeneity of the designs included, with priority given to the critical and descriptive analysis of the studies.

The data synthesis was performed descriptively and analytically, grouping the studies according to the type of technology used, area of concentration, and main contributions to the health education of deaf people.

RESULTS

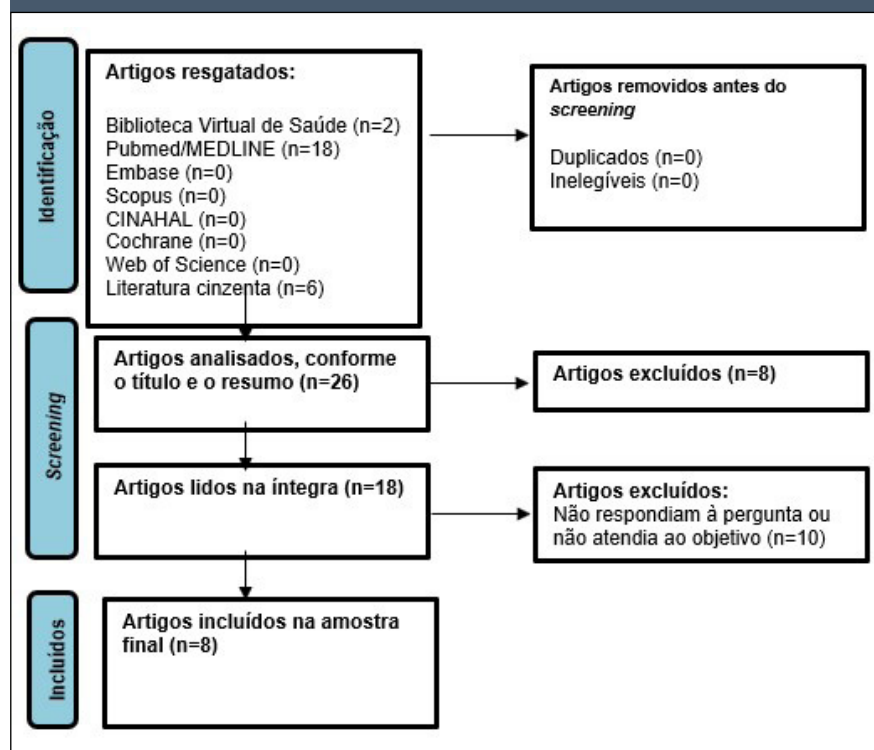
The initial search identified 26 potential articles. Considering that no duplicates were found, all identified studies underwent initial screening by reading titles and abstracts, at which

stage eight articles were excluded for not meeting the previously established criteria.

In the subsequent stage, 18 studies were evaluated in full, resulting in the exclusion of 10. Thus, the final sample consisted of eight studies, as

shown in the selection flowchart (Figure 1), prepared in accordance with the recommendations of *the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)*, as guided by *the EQUATOR Network*.

Figure 1. PRISMA flowchart showing the selection of articles that comprised the review. Floriano, Piauí, Brazil, 2025



Source: prepared by the authors (2025).

The included studies were published between 2020 and 2025, with a higher concentration in 2024 and 2025, indicating that this is an emerging field. Regarding the country of origin, research conducted in the United States and Brazil predominat-

ed, followed by the United Kingdom, showing that initiatives in assistive technologies for health education for deaf people are still concentrated in a few geographical contexts.

The characterization of the included studies shows that assistive technologies (AT) aimed at health educa-

tion for deaf people focus on the use of audiovisual resources, especially educational videos in sign language. Among the eight studies analyzed, it was observed that most adopted a methodological design focused on the development, validation, and evaluation of accessible educational materials, demonstrating a recurring concern with the construction of technologies that are culturally and linguistically appropriate to the reality of the deaf community.

In terms of areas of concentration, studies related to diabetes were the most frequent, followed by topics related to sexual and reproductive health and health communication. This finding suggests that chronic conditions and sensitive topics, in which clear and accessible communi-

cation is essential for autonomy and decision-making, have received greater attention in the development of assistive technologies. Studies focused on diabetes, for example, prioritized the production of educational video series in Brazilian Sign Language (Libras), often created with the active participation of deaf people, ensuring cultural, linguistic, and technical appropriateness.

In terms of the type of technology, videos predominated, either in Libras or American Sign Language (ASL). These materials have been shown to favor access to information, in addition to allowing its dissemination in virtual environments. Other types of technologies were also identified, such as digital platforms, sound amplification devices, and communica-

tion applications, indicating an incipient diversification of technological strategies, especially in more recent studies.

Regarding the study design, although methodological research predominated, randomized clinical trials, evaluative studies, and cross-sectional studies were also included. The clinical trials focused mainly on assessing the impact of communication technologies and devices on communication function and user perception, while the cross-sectional studies explored the adherence of deaf people to health services mediated by the use of communication applications. The data from the studies found that are relevant to the research question are shown in Table 3.

Table 3. Characterization of the studies captured

Author (year)	Title	Language	Country	Design	Sample	Area of concentration	Type of technology	Key findings
Michelle L. Litchman et al. (2025)	Development of a Diabetes Education Video Series in American Sign Language for Deaf and Hard of Hearing Populations	English	United States	Methodological study	N=26	Diabetes Mellitus	Audiovisual technology in sign language (video)	Twenty educational videos on diabetes were designed to prioritize ASL and deaf and hearing-impaired culture while also being inclusive for hearing family members who may not know ASL. The videos met WebAIM guidelines for accessibility and were positively evaluated by the Community Advisory Board (CAB).
Luciane Rangel Rodrigues; Luciane Cruz Silveira; Andrea Carolina Bernal Mazacotte (2021)	Deaf Diabetics and linguistic access in the health field	Portuguese	Brazil	Methodological study	203 deaf people	Diabetes Mellitus	Audiovisual technology in sign language (video)	Expanding access to health information for deaf people through social networks and digital platforms (Facebook, WhatsApp, and Skype), evidenced by high engagement and volume of online interactions.
Minerva Rivas Velarde et al. (2024)	Video Remote Sign Language Interpreting in Health Communication for Deaf People: Protocol for a Randomized Controlled Trial	English	United States	Randomized clinical trial	216 participants	Health communication	Audiovisual technology in sign language (video)	Enabled the testing of an inclusive assessment tool for people with disabilities, which evaluates the quality of health communication, in addition to Enabling evidence-based recommendations for the implementation of the Convention on the Rights of Persons with Disabilities (CRPD) in mobile health contexts.

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Carrie L Nieman et al. (2024)	Effect of a Community Health Worker-Delivered Personal Sound Amplification Device on Self-Perceived Communication Function in Older Adults With Hearing Loss: A Randomized Clinical Trial	English	United States	Open-label randomized clinical trial	151 participants aged 60 years or older with hearing loss were randomized	Self-perceived communication	Clinical communication support technologies (sound amplification device)	Improvement in self-perceived communication function after 3 months of device use.
Giorgos Dritsakakis et al. (2020)	Public health policy-making for hearing loss: stakeholders' evaluation of a novel eHealth tool.	English	United Kingdom	Evaluative study	N= 23	Public health	Interactive digital technologies (digital platform)	There was consensus that the platform, with its advanced technology and the quantity and variety of data it can collect, has enormous potential to inform health decisions and regulations and impact health as a whole.
Vera Lucia Messias Fialho Capellini et al. (2025)	Video in Brazilian Sign Language for deaf women: accessible information on sexual and reproductive health	Portuguese	Brazil	Methodological study	Eight deaf women	Women's Health	Audiovisual technology in sign language (video)	Development of the videos "Women's Intimate Health" and "Understanding Sexually Transmitted Infections," validated by experts and the target population, filling a gap in assistive technology for deaf women and providing access to knowledge about promoting their sexual and reproductive health.
Aline Cruz Esmeraldo Áfio et al. (2021)	Creation of a video on condom use for deaf and hearing people	Portuguese	Brazil	Methodological study	---	Sexual and reproductive health	Audiovisual technology in sign language (video)	Production of the video "Condoms: learn how to use them correctly," lasting nine minutes and 25 seconds, discusses the correct use, benefits, and precautions for using condoms.
Hellen Silva Pereira et al. (2025)	Adherence of deaf individuals to health services: Exploring the use of communication applications	Portuguese	Brazil	Cross-sectional study	26 deaf individuals	Health communication	Interactive digital technologies (App)	Six communication applications were presented, with the Icom application being the most notable.

Source: prepared by the authors (2025)

DISCUSSION

The results show that the production of accessible educational materials, especially those developed in light of the linguistic and cultural specificities of the deaf community, has proven effective in disseminating health information and developing health promotion and education actions. In addition, these technologies contribute to strengthening communication accessibility, expanding the reach of information across different dissemination channels, and reinforcing the social role of health services in ensuring

equitable and inclusive care⁽⁹⁾.

Regarding the type of technology used, digital platforms and applications were identified, which offer a large amount of free *software* that can be used as health education tools. However, they also highlight the difficulty of accessing and understanding existing *software*, emphasizing the importance of adapting it to the demands of the target audience⁽¹⁰⁾.

It was also identified that one of the most widely used types of software is applications, mainly due to their ease of access on mobile devices, as they can be obtained from app stores such as *the Apple Store* or *Play*

Store⁽¹⁰⁾. It was noted that this type of AT is widespread among deaf people because it facilitates access to health services, with *ICOM*, *Hand Talk*, and *CIL* being the main facilitators of communication with health professionals, in addition to *LuizIA*, *Central de Libras*, and *WhatsApp*.⁽¹¹⁾

Next, we highlight the use of amplification devices as an AT that has been addressed to improve communication between deaf people and healthcare professionals, facilitating the process of information transmission and proving to be efficient alternatives with satisfactory results⁽¹²⁾. A change in these people's self-perceived

communication was identified with the use of the device, with significant improvement.

It was found that the integration of sound amplification devices led to greater acceptance due to their low cost and ease of use. This fact contradicts research that highlights numerous challenges to the use of such devices by deaf people and their families, such as device failures, difficulty in accessing parts and replacement through the Brazilian Unified Health System (SUS), and misuse. It should be noted, however, that this counterpoint can be attributed to regional differences between studies⁽¹⁴⁾.

The use of sound amplification devices by deaf people is, however, treated controversially in the literature. Studies affirm that, even with the possibility of using an assistive hearing device, communication through sign language is still the most accepted modality by deaf people who access the healthcare system, as well as among those who use electronic devices to communicate in environments that promote healthcare services, thus reflecting the need to develop technologies that meet this demand⁽¹⁵⁾.

Consequently, most of the AT for health education for deaf people found to be effective in the literature were in video format, representing an accessible means of acquiring information through the dissemination of social networks and the internet⁽¹¹⁾. Thus, videos represent an effective mechanism for promoting accessibility in scientific dissemination⁽¹⁶⁾.

The videos were created as AT for deaf people in stages, relying on the expertise of bilingual people fluent in Libras, with the aim of ensuring inclusion and producing materials that meet the needs of the community⁽¹⁰⁾. To enable the translation of videos that seek to promote health education, it is necessary to strictly follow the linguistic action stage, integrating

translators and sign language interpreters to establish the basic parameters of production⁽¹⁷⁾.

In addition to accurate translation, the literature highlights the importance of creating a script that is easy for deaf people to understand, as well as constructing a scenario and/or image that also facilitates the access experience⁽¹⁸⁾. It is evident that the effective development of AT for health education for deaf people should prioritize the usefulness and ease of understanding of information⁽¹⁹⁾.

Thus, meticulousness was also observed in the sign language translation stage, which should be carried out in consultation with deaf people, including them in the development process. The translation proved to be effective, beginning with a first draft, which is reviewed by a bilingual interpreter and then translated. Subsequently, a new language review is carried out, with translation of the final draft and review for approval⁽²⁰⁾.

The methodological production of videos for the health education of deaf people should also have a central focus on the patient, covering all ethnic and cultural issues in a clear and accurate manner and avoiding exceptions to technical terms, ensuring that communication is compatible with the understanding of the deaf community⁽²¹⁾.

The need for validation of the videos by deaf people was also emphasized. The studies highlighted that the validation stage by deaf people is essential to ensure the viability of the material being produced, in line with research that states that materials produced for deaf people in sign language must be validated by them in order to ensure the reliability of what is being produced⁽¹⁹⁾.

It was also evident that the production of these visual materials must follow strict methodological steps⁽²²⁾. The development of a script compatible with the subject matter, as well

as the projection of visual resources, translation, and approval of scripts, are essential steps for the subsequent success in recording and editing videos, ensuring scientific accuracy and accessibility⁽²³⁾.

In terms of content, materials aimed at health education for deaf people should take a broad approach, with the main content covering the topic being addressed⁽²²⁾. Health education for deaf people should focus on lifestyle care, in addition to clarifying to deaf people that their health conditions should be monitored by the entire health team⁽²³⁾.

An essential component of the videos is the *design* and creation of the images, as well as the image quality and visual effects, which are fundamental components for the clarity and understanding of the content presented⁽²²⁾. Thus, visual resources proved to be important components for content approval, with the suggestion of including animation in more complex topics, such as the pathophysiology of diseases⁽²³⁾.

It was then possible to identify the effectiveness of using AT in health education processes for deaf people, in order to facilitate communication between professionals, patients, and support networks, as well as providing incentives for new successful research in the search for new technologies that add to the process of communication and functional health literacy for deaf people⁽²⁰⁾.

The small number of studies found reveals a critical scenario for public health in Brazil, based on the development of policies, strategies, and communication standards that target the hearing population, segregating issues of inclusion and accessibility.

This overview can be attributed to the absence of Brazilian Sign Language as a mandatory subject in the curriculum of undergraduate health courses, training professionals with little knowledge of sign language, in

addition to the few studies that raise awareness about the topic of inclusion and accessibility⁽²⁴⁾.

Research focused on accessibility and inclusion is essential for promoting solid knowledge for deaf people, especially in the digital environment, which is widely disseminated today. Thus, it is noteworthy that the number of studies found reflects the need for new research that seeks to integrate AT into health actions and services, as well as the development of new studies that bring about the development of more bilingual materials that promote health education for deaf people⁽²⁵⁾.

CONCLUSION

This study mapped the main educational health technologies aimed at deaf people, in line with the proposed objective. The findings showed the predominance of audiovisual technologies, especially educational videos in sign language, followed by software, applications, and interactive digital platforms, in addition to technologies that support clinical communication, such as sound amplification devices. These technologies stand out for promoting access to information, understanding of health content, and the autonomy of deaf people.

However, the results also indicate

that educational technologies aimed at health education for deaf people are still addressed in a limited way in the literature, with a predominance of methodological studies and a scarcity of investigations that evaluate their effectiveness and implementation in health service practice. This scenario reinforces the need to expand research that not only deepens theoretical reflection on the topic but also supports the development, validation, and incorporation of new accessible educational technologies, contributing to the promotion of equity, inclusion, and accessibility for the deaf population in the context of health services.

REFERENCES

1. Pereira AAG, Passarin NP, Nishida FS, Garcez VF. "Meu sonho é ser compreendido": uma análise da interação médico-paciente surdo durante assistência à saúde. *Rev Bras Educ Med*. 2020;44(4):1-9.
2. Correia LPF, Ferreira MA. O cuidado ao surdo no serviço de saúde: um clamor silenciado. *Cad Saude Publica*. 2025;41(1):1-12.
3. Hall S, Ballard ME. Deaf patients' preferred communication in clinical settings: implications for healthcare providers. *J Deaf Stud Deaf Educ*. 2023;29(2):170.
4. Paraguassu LB. Linguagem simples na saúde: contribuições dos estudos da linguagem para o tratamento em saúde no Brasil [tese]. Porto Alegre: Universidade Federal do Rio Grande do Sul; 2024.
5. Backes DS, et al. Pré-natal coletivo mediado por tecnologia educativa: percepção de gestantes. *Cien Saude Colet*. 2024;29(1):e00392023.
6. Moraes RR, Pereira LSS, Francisco PMSB, Pico GA, Vianna NG. Surdos que se comunicam por meio da língua de sinais: a complexidade do acesso aos serviços de saúde. *Cad Saude Publica*. 2025;41(9):e0000211524. doi:10.1590/0102-311XPT00211524
7. Nações Unidas. Objetivos de desenvolvimento sustentável. Brasília: Nações Unidas no Brasil; 2025.
8. Dantas MJP, Figueiredo MHJ, Guedes V. Intervenções do enfermeiro de família na consulta de vigilância da diabetes. *Rev Enferm Ref*. 2022;6(1):e21084.
9. Latorraca COC, et al. Busca em bases de dados eletrônicas da área da saúde: por onde começar. *Diagn Tratamento*. 2019;24(2):59-63.
10. Ischkanian SHD, et al. Educação, tecnologias e inclusão: valorização do aluno e trabalho pedagógico. Itapiranga: Schreiber; 2023.
11. Litchman ML, et al. Development of a diabetes education video series in American Sign Language for deaf and hard of hearing populations. *Sci Diabetes Self Manag Care*. 2025;51(2):203-212.

12. Fernandes LSC, Rocha JAP. Proposta para organização e classificação de softwares de tecnologia assistiva em repositórios digitais. *Rev Bras Bibliotecon Doc.* 2023;19:1-26.
13. Pereira HS, et al. Adesão de indivíduos surdos aos serviços de saúde: explorando o uso de aplicativos de comunicação. *Res Soc Dev.* 2025;14(3):1-10.
14. Evangelista BP, Stocco LR, Sablon VIB. Dispositivo para auxílio a pessoas com deficiência auditiva.
15. Nieman CL, et al. Effect of a community health worker-delivered personal sound amplification device on self-perceived communication function in older adults with hearing loss: a randomized clinical trial. *JAMA.* 2022;328(23):2324-2333.
16. Silva SO, Moreira ACA, Schimith MD. Consulta de enfermagem e diabetes: processo educativo e transformador para os cuidados primários de saúde. *Rev Lat Am Enfermagem.* 2025;33:e4465. doi:10.1590/1518-8345.7546.4465
17. Clark EF, et al. Use of hearing devices and fluency in Brazilian Sign Language and oral language in deaf students. *Rev CEFAC.* 2022;24(4):e3322.
18. Pereira GWT, Costa CDM. Ferramentas digitais como meio inclusivo na educação em saúde para surdos. *Terra de Pretos Rev Multidiscip.* 2021;1(2):73-87.
19. Galasso BJB, et al. Processo de produção de materiais didáticos bilíngues do Instituto Nacional de Educação de Surdos. *Rev Bras Educ Espec.* 2018;24(1):59-72.
20. Capellini VLMMF, et al. Vídeo em Libras para mulheres surdas: informações acessíveis sobre saúde sexual e reprodutiva. *Cad Pedagog.* 2025;22(7):1-20.
21. Tavares VS. Avaliação da aceitabilidade de vídeos educativos sobre prevenção de câncer para pessoas surdas: um estudo piloto [dissertação]. 2022.
22. Yahiro D, et al. Abordagens inovadoras na educação em saúde cardiovascular. *Rev Praxis.* 2024;16(30):1-10. doi:10.47385/praxis.v16.n30.4953
23. Gomes JDP. Desenvolvimento de vídeo educativo sobre prevenção e rastreamento do câncer de mama para surdas [dissertação]. Redenção: UNILAB; 2021.
24. Áfio ACE, et al. Construção de vídeo sobre uso dos preservativos para surdos e ouvintes. *Rev Rene.* 2021;22:e62438.
25. Rodrigues LR, Silveira LC, Mazacotte ACB. Surdos diabéticos e acesso linguístico na área de saúde. *Rev Est Libras Ling Sinais.* 2021;1(1):1-19.
26. Pimentel KS, et al. Produção e avaliação de vídeos em Libras para educação em saúde. *Rev Educ Espec.* 2018;31(60):181-196.