

RESEARCH ARTICLE

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EFFECTIVE TECHNIQUES FOR HEALTH CARE FOR PATIENTS WITH HEARING DISABILITIES

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ABSTRACT

The difficulty of communication between the deaf patient and the health professional interferes in the health care process of these patients. Objective: To know the reality of patient care with deafness by health professionals and to analyze scientific studies that suggest the use of Assistive Technologies (AT) that can facilitate the health care process of these patients. Method: Integrative Review of articles published between the years 2008 to 2018. Data collection was performed in the databases of great relevance for the research subject, being: Latin American and Caribbean Literature on Health Sciences (LILACS), Directory of Open Access Journals (DOAJ), PubMed and Web Of Science. To search in English, we used exact descriptors of Medical Subjects Headings (MeSH): "Assistance", "Health" and "Deafness" and in Portuguese, the descriptors in Health Sciences (DeCS): "Assistência", "Saúde" e "surdez". Results: Communication between deaf patients and health professionals is not effective. The qualification and preparation of these professionals should be better with the insertion of the area of assistive technologies in the graduations. The Brazilian Sign Language (LIBRAS) is the best technology indicated for being the first language of deaf people.

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INTRODUCTION

Decree number 5.296 of 2004 defines hearing impairment as bilateral, partial or total loss of 41 dB or more of hearing. There are several types and levels of hearing impairment, people with mild and moderate hearing loss are called hearing impaired, while those with severe losses (between 70 and 90 dB) and deep (above 90 dB) are considered deaf (Brazil, 2004). According to the last census of Brazilian Institute of Geography and Statistics (IBGE), in the year 2010, considering the population Brazilian residing in the country, 23.9% had at least one of these deficiencies: visual, auditory, motor and mental or intellectual. Of these, 9.7 million reported hearing impairment (5.1%), being: 2.1 million of people with severe hearing impairment; 344.200 people with deafness and 1.7 million of people with great difficulty hearing. The Brazilian Sign Language (LIBRAS) is the first language of the

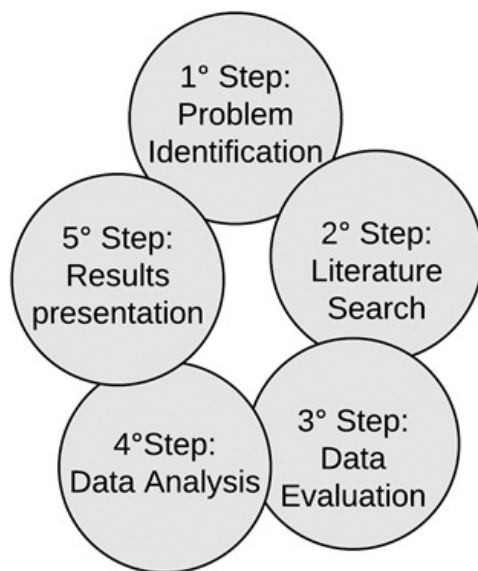
deaf population, who often do not have knowledge of the language, since many are born with deafness and for these Brazilians is regarded as a second language, therefore learning is difficult for verbal and written communication (SOUZA *et al.*, 2017). Health care to patients who do not have hearing impairment is usually established by the oral communication, a mechanism usually not used by deaf patients and the Brazilian Sign Language (LIBRAS) is most often not understood by Health Professionals making attendance to these deaf subjects, in the health units, a challenge (CHAVEIRO; PORTO and BARBOSA, 2009; SOUZA *et al.*, 2017). The general norms and basic criteria for promoting the accessibility of people with disabilities provides for the provision of care to deaf or hearing impaired people in the network of SUS services by professionals trained for the use of Libras or for its translation and interpretation (CHAVEIRO; PORTO and BARBOSA, 2009). There is a need to understand the process of also the health of these patients, their difficulties as well as to know existing methods and assistive technologies, already studied and tested that are effective in the health care process of them.

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This work aims to know the reality of patient care with deafness by health professionals and to analyze scientific studies that suggest the use of Assistive technologies that can facilitate the health care process of these Patients. Considering the difficulties encountered by Brazilian health professionals who treat the hearing impaired, this research proposed effective techniques for the care of patients with visual impairment.

MATERIALS AND METHODS

The integrative review is a specific review method that synthesizes studies already published on a specific subject in order to favor a greater understanding of a given subject. This integrative review used the five stages proposed by Whittemore and Knafl (2005), identified in Figure a.



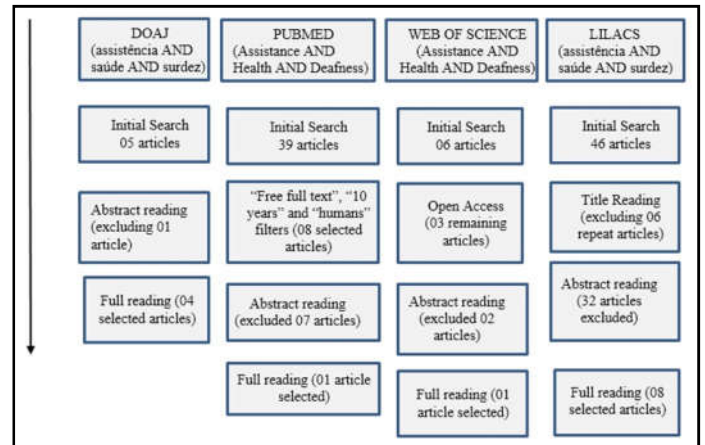
Source: Prepared by the author

Figure a: Steps of an integrative review according to the second Whittemore and Knafl (2005)

Step 1 - Problem identification: The problem was identified through the guiding question "What is the reality of patient care with deafness by health professionals and what possible technologies can be used in health care for these patients?"

Step 2 - Literature Search: To search the literature, exact descriptors of Medical Subjects Headings (MeSH) were defined for the English search, and the following descriptors were defined: "Assistance", "Health" and "Deafness", while for the Portuguese search the exact descriptors were used. in Health Sciences (DeCS): "Assistência", "Saúde" e "surdez". Boolean operators AND and OR were associated with the descriptors. The databases used were the most significant for the subject: Latin American and Caribbean Health Sciences Literature (Lilacs), Directory of Open Access Journals (DOAJ), PubMed and Web Of Science. The search in Lilacs and DOAJ bases was through the terms ((assistência AND saúde AND surdez) and in Pubmed and Web Of Science with the terms (Assistance AND Health AND Deafness). Articles with full text available online, in Portuguese, English and Spanish, published between 2008 and 2018 that addressed the subject in question were included. Studies published outside the stipulated period and those written in languages other than English, Portuguese and Spanish, as well as studies that did

not answer the guiding question and those found repeatedly were excluded. From the articles found through the descriptors in the databases, the title, abstract and keywords were read for pre-selection of the studies. The pre-selected were read in full, of these, who answered the guiding question composed the final sample of this study in a total of 14 articles. See the figure b below for the specification of the database search.



Source: Prepared by the author

Figure b. Search steps in selected databases

Step 3 - Data Evaluation: For this step we used a data collection instrument formulated by the authors, containing the following variables: database, title, year of publication, objectives, type of study and main results.

Step 4: Data Analysis: This step resulted in the following categorizations: Evaluation of articles; Health as everyone's right; Communication as a decisive factor in the quality of care; Assistive technologies for communication; Communication through the Brazilian Sign Language (Libras); Use of interpreters; Use of computer technologies; Professional unpreparedness in deaf patient care.

Step 5: Presentation of Results: It resulted in the elaboration of this article, which clearly and concretely presents the integrative review, putting all the elaborated stages, results and conclusions.

RESULTS

Evaluation of articles: The 14 articles that made up this integrative review were evaluated according to the following variables: database, title, year of publication, objectives, type of study and main results. This analysis is described in Figure c.

DISCUSSION

Health as everyone's right: Of the selected articles, 78.6% (n = 11) cited health as everyone's right and the state's obligation, guaranteed through social and economic policies aimed at reducing the risk of other diseases and rightuniversal and equal access to actions. and services for its promotion, protection and recovery (BRAZIL, 1988). With regard to the disabled, Ordinance 793 of 24 April 2012 established the Disability Care Network (RCPD), which aims to provide humanized, comprehensive health care focused on the needs of people with disabilities. Disability (CHAVEIRO; PORTO and BARBOSA, 2009).

Figure c. Evaluation of articles according to selected variables

BASE	Article title	Year	Objectives	Type of study	Main results
DOAJ	Literature review on deaf patient care by health professionals.	2008	Analyze and identify communication between the deaf patient and the healthcare professional, as well as investigate the assistance offered	Literature review.	There are communication barriers between the deaf patient and the healthcare professional.
DOAJ	Dynamic and interdisciplinary assessment of hearing impairment in a public outpatient clinic: case report.	2009	Discover more appropriate forms of communication.	Case study.	The practice of orofacial reading provided conditions for the patient to improve her communication.
DOAJ	Main difficulties and obstacles faced by the deaf community in access to health: an integrative literature review.	2017	Identify the main obstacles and difficulties faced by deaf people regarding access to health.	Integrative review.	The main problem identified is the communication and lack of knowledge of Brazilian Sign Language (LIBRAS) by most health professionals.
DOAJ	Relationship of the deaf patient to the doctor.	2009	To analyze the legal and sociocultural aspects of the relationship between the deaf patient and the doctor.	Literature review.	Communicative barriers compromise the bond and the care provided to the patient and may interfere with the diagnosis and treatment.
PUBMED	Virtual environment: assistance in nursing care for the deaf based on the protocol of primary care	2014	The objective of this study was to develop a Virtual Environment (AV) in Libras, called AVPASAB (Virtual Environment of Deaf Emergency Care in Primary Care).	Experimental Study	The Environment obtained excellent acceptance by patients and nurses, allowing great interaction between them, even without interpreter.
WEB OF SCIENCE	Welcome and listen to the silence: nursing care from the perspective of deaf woman during pregnancy, child birth and post partum	2018	Identify the perception of deaf women regarding nursing care during pregnancy, childbirth and the puerperium.	Qualitative descriptive study.	The communication barrier is verified in the interaction between deaf and health professionals, making it essential that both find ways to interact to ensure better quality care.
LILACS	How do I talk to you? the nurse's communication with the deaf user.	2018	Describe the knowledge and practices of primary care nurses in the care of the deaf user.	Descriptive exploratory study with a qualitative approach.	100% of the surveyed nurses (n = 20) could not communicate through the Brazilian Sign Language
LILACS	A study of the content validity of signs, symptoms and health disorders expressed in LIBRAS.	2015	Validate the content of signs, symptoms and health conditions / disorders expressed in LIBRAS by deaf people.	Descriptive study.	The signs, symptoms and diseases / health problems expressed in LIBRAS are valid in the study region for health professionals, especially nurses, for use in the clinical history of the nursing consultation.
LILACS	Deafness and health care: challenges to the implementation of the care network for the disabled.	2017	Know the health care provided to deaf people, users of the Brazilian Sign Language (Libras).	Study Qualitative.	Communication difficulties and need for strategies were identified.
LILACS	Difficulties of professionals in the health care of people with severe deafness.	2016	Investigate the difficulties of health professionals for the consultation with the person with severe deafness.	Cross-sectional, descriptive and qualitative study	Impaired communication, deficit in human resources training consultation and recognition of health needs, inadequate reception infrastructure and deaf care, uncertainty regarding the health care prescribed in the consultation and impairment of autonomy of the patient.
ONEFILE	Nursing consultation for deaf people: a contextual analysis.	2014	Critically analyze the contextual aspects that influence the performance of the nursing consultation to people deaf.	Literature review study.	The consultation of Nursing for Deaf Patients Does Not Occur Satisfactorily due to unpreparedness of professionals in the academic field.
LILCAS 6	Communication as an essential tool for deaf health care.	2014	Reveal How the Deaf perceive communication with health professionals understanding the meaning of the presence of an oralized companion as interlocutor, during care at the public health service network.	Study Qualitative.	Communication strategies with deaf users adopted by health professionals were inefficient and even the presence of the companion as an interlocutor was not enough to guarantee quality the deaf were passive subjects in their own health-disease process.
LILCAS	Communication with the hearing impaired: an integrative review.	2014	Identify in the literature how communication occurs between health professionals and patients with hearing impairment.	Integrative Review	Each deaf person has specific communication needs, and the nurse has the choice, along with the deaf, of the best communication strategy, respecting their limitations.
LILCAS	Perception of deaf people about health care in a medium-sized municipality: a descriptive-exploratory study.	2011	Know the perception of deaf people about the health care offered in health services, as well as the difficulties / facilities found in seeking care.	Descriptive exploratory study, qualitative	Need for training of professionals and organization of services for deaf health care, promoting autonomy and ensuring adequate care in the local service network.

Source: Prepared by the author

Communication as a decisive factor in the quality of care:

Of the articles 100% (n = 14) cited communication proper as a major factor of importance and for effective care to patients in general, including the deaf patient. The word communication comes from the Latin *communicare*, which means "to put in common" (CHAVEIRO; PORTO e BARBOSA, 2009). Communication favors the understanding of the user's health professionals as a holistic being, the perception of their worldview and their needs, thus favoring adequate care (BRITTO; SAMPERIZ, 2010). Communication is an important skill in health, especially in assisting any deficient, and the actions of professionals are guided by communication, regardless of their academic background (CHAVEIRO; PORTO and BARBOSA, 2009). The difficult communication causes the exclusion of the population that suffers marginalization in the society and also in access to health services (SOUZA *et al.*, 2017). The communication helps the patient in coping with the disease and also about the treatment to be accomplished. The communication ineffective generating fear and misunderstanding in the patient, therefore, effective communication between patient and health professional is essential for assistance. (CHAVEIRO; PORTO and BARBOSA, 2009). Healthcare providers should consider that patients do not always understand medical terms. In addition, it should be considered that for quality care, communication with patients must take into account their beliefs, personal values and sociocultural context (OLIVEIRA; CELINO and COSTA, 2015). The main factor responsible for inadequate assistance to the deaf is the difficulties in communication in health services, where they end up depending on family members to establish effective communication. This fact is further aggravated by the general difficulties present in the health system itself and the lack of training of professionals (BENTES; VIDAL E MAIA, 2011).

Assistive Technologies for Communication: Oral and written communication are forms of verbal communication that can be used by deaf people, it occurs through reading the lips or through an interlocutor, currently the meeting of a deaf patient with the health professional, in most cases, if language verbal, either in its oral form (trying to make the deaf user able to read the lips or with the dependence of a companion translator) often associated with the use of gestures to facilitate understanding (SOARES *et al.*, 2018). This form of communication is most effective in people who have become deaf throughout their lives, as demonstrated by in a case study conducted in an outpatient clinic with or ofacial reading training with a patient with sudden deafness, at the age of 26, and family members who were psychologically more self-confident and the patient more aware of their physical conditions (Gomes-Machado *et al.*, 2009). However, this form of communication is not indicated for hearing impaired patients or deaf people who became deaf before oral language acquisition and learned Libras as their first language. For these people, Portuguese is a second language, and like any foreign language, its learning is difficult (CHAVEIRO; PORTO and BARBOSA, 2009). Libras was cited by 92.8% (13) articles as the most effective means of communicating with the deaf community and was officially recognized in the Brazil as a legal means of communication and expression of deaf people since 2002, through Law number 10.436 (BRAZIL, 2002). Also, it is a natural language used by the deaf, visual-spatial community, articulated through hands, body and facial expressions (QUADROS, 2004). Sign languages are as complex as spoken languages, have a structured linguistic

system, and are neurologically articulated in the same areas of the brain as spoken languages. They have space-visual modality, whose shared signals are received through the eyes, and their chiro-articulation is performed in space (MIRANDA; SCHUBERT and MACHADO, 2014). Health professionals have a legal and ethical responsibility to receive patients in health services regardless of who the patient is, so the use of sign language is necessary for effective communication (SOARES *et al.*, 2018).

Use of interpreters: Of the articles, 85.7 (n = 12) described the use of interpreters by the deaf population in health services. The presence of the sign language interpreter in public health care services is legally guaranteed in our country by Law No. 10,436, of April 24, 2002. According to its Article 3, public health care institutions must ensure care and treatment to the deaf patient (BRAZIL, 2002). Some health professionals require the presence of a companion with the deaf patient to facilitate communication, but their presence, even being family member, during care may cause embarrassment, jeopardize the right of confidentiality and privacy, as well as impair the quality of information passed on by the patient. Moreover, the involvement of interpreters limits the establishment of the professional-patient bond and, under these conditions, it is understood that it is difficult to establish assistance and, particularly, an appropriate consultation (ARAÚJO *et al.*, 2015).

Use of computer technologies: 14.3% (n = 2) cited the use of computer-based media research for communication with the deaf. With the advent of smart phones and their popularization, various programs or applications have been developed in order to favor communication by people with hearing or speech disabilities being the disadvantage is the cost of these media (MIRANDA; SCHUBERT and MACHADO, 2014). In Spain, some hospitals have computers to access a program of pictograms and icons representing certain concepts. These media often use programs with images, words, full sentences, alphabet, and combinations that help people with hearing loss, especially when they are in a hospital setting unable to use their hands to generate signals (MIRANDA; SCHUBERT and MACHADO, 2014).

Professional unpreparedness in deaf patient care: Of the selected articles, 78.6 (n = 11) cited the unpreparedness of professionals in the care of deaf patients. Health professionals have a view of deafness as if it were a pathological condition and do not understand the deaf population as being unique as their own language and specificities (CHAVEIRO; BARBOSA and PORTO, 2007). The lack of preparation of health professionals can cause impairment in the care of the deaf patient, including embarrassment, incorrect diagnosis, difficulty in properly preparing the medical record and inadequate treatment (SOARES, *et al.*, 2018). Thus also professionals are not trained for the Libras, hindering the health care of this population (CHAVEIRO; BARBOSA and PORTO, 2007). Libras is not usually used in health care, and studies show the inadequacy of language teaching in Higher Education Institutions (HEIs). Although Decree No. 5,626 of December 22, 2005 states that Libras should be included as a curricular subject in higher education courses (NOBREGA; MUNGUBA and PONTES, 2017). A study that conducted interviews with nursing professionals pointed to more than one possibility of communication strategy used to assist deaf users. All responded using mime during the sessions; 94% reported

lip reading; 65%, the help of the companion, and 42%, the writing; and only 1% communicated through Libras as a communication strategy (BRITTO; SAMPERIZ, 2010). Another study showed in a survey of 20 nurses who all did not know the Libras and all claimed to have assisted hearing-impaired patients during their working lives. This brings the need to include in the curriculum of universities, especially in health courses, the discipline of Libras. Another issue is to insert training courses for workers in this area who are already in the service and may have direct contact with the specified public (SOARES, *et al.*, 2018). Due to this inefficiency in communication, many deaf patients feel discriminated not only for their physical condition, but for not receiving adequate care, as guaranteed by the laws in force in Brazil. They feel discriminated against waiting too long in line to be answered, since they do not hear their names being called (GOMES-MACHADO; SOARES and CHIARI, 2009).

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