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ACCESSIBILITY APP: FACILITATING COMMUNICATION BETWEEN HEALTHCARE PROFESSIONALS AND THOSE WITH HEARING IMPAIRMENT AND DEAFNESS

APLICATIVO DE ACESSIBILIDADE: FACILITANDO A COMUNICAÇÃO DOS PROFISSIONAIS DE SAÚDE FRENTE À DEFICIÊNCIA AUDITIVA E SURDEZ

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Abstract. Since communication is the main means of interaction in health care, it is essential to establish quality in the dialogue between professionals and their clients, especially if this communication is with the deaf. Considering that the communication barrier hinders interaction between professional-client, the present study aimed to develop an accessibility application, in order to facilitate communication between professionals of basic health units and the hearing impairment and deaf. Methodological exploratory research with quantitative approach. Held in Family Health Units of The Sanitary District III of João Pessoa - PB, with sample composed of 72 participants from a population of 255 health professionals, CAAE 13034819.0.00005179. Having as instrument a semi-structured questionnaire about the knowledge of hearing impairment and deafness, the difficulty, and communications strategies of professionals to this public, the observation of biopsychosocial aspects, the need to use the Libras interpreter during care, the importance of creating a technological instrument to facilitate communication. Analysis through statistical calculations discussed and correlated with the available literature. Verifying that the professionals are not prepared to perform these services. It was found that 88% of professionals do not receive guidance to attend deaf or hearing impaired, and that 96% of these professionals consider it important to use a technological instrument that facilitates communication in care with the Deaf and 94% with hearing impaired clients. Therefore, the application and the printed version (booklet) were created, greatly contributing so that health professionals could, thus, fully realize their most welcoming and effective care strategies. The booklet arose from the need not to interrupt or minimize the quality of service, in case there was interruption of the Internet. It is observed that, due to the lack of preparation of most professionals in relation to the inclusion process, the creation of the application and the booklet are tools that will contribute to the improvement of the client-professional relationship and, consequently, a greater effectiveness in the quality of health promotion services.

Keywords: Hearing deficiency; Communication; Deafness; Healthcare Professional.

Resumo. Sendo a comunicação o principal meio de interação nos atendimentos de saúde, é essencial estabelecer qualidade no diálogo entre os profissionais e seus clientes. Considerando que a barreira de comunicação dificulta a interação profissional-cliente, o presente estudo, objetivou desenvolver um aplicativo para facilitar a comunicação entre os profissionais das Unidades Básicas de Saúde e os deficientes auditivos e surdos. Trata-se de uma pesquisa exploratória metodológica com abordagem quantitativa. Realizada em 13 Unidades de Saúde da Família do Distrito Sanitário III de João Pessoa-PB, com amostra composta por 72 participantes de uma população de 255 profissionais em saúde, CAAE 13034819.0.00005179. Critério inclusivo: toda equipe multiprofissional em atuação, nas unidades com usuários deficientes auditivos e surdos. Teve-se como instrumento, um questionário semiestruturado acerca do conhecimento da deficiência auditiva e surdez, da dificuldade e das estratégias de comunicações dos profissionais para com o referido público, da observação dos aspectos biopsicossociais, da necessidade do uso de intérprete de Libras durante o atendimento, da importância de criação de um instrumento tecnológico para facilitar a comunicação. Os dados serviram como diagnóstico situacional para construção do aplicativo. Análise realizada através de cálculos estatísticos, discutidos e correlacionados com a literatura disponível. Verificou-se que 88% dos profissionais não recebem orientações para atender surdos ou deficientes auditivos, e que 96% destes profissionais consideram importante a utilização de um instrumento tecnológico que facilite a comunicação nos atendimentos com surdos e 94% com clientes deficientes auditivos. Diante disso, criou-se o aplicativo e a versão impressa (cartilha), para auxiliar os profissionais nas estratégias de atendimento mais acolhedor e eficaz. Observa-se que, em decorrência da falta do preparo da maioria dos profissionais em relação ao processo de inclusão, a criação do aplicativo e da cartilha, são ferramentas que contribuirão para a melhoria da comunicação cliente-profissional, gerando maior eficácia na qualidade dos serviços de saúde.

Palavras-chave: DeÞência Auditiva; Comunicação; Surdez; ProÞssional de Saúde.

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INTRODUCTION

In the global population, hearing loss is one of the most prominent causes of sensory loss, and in Brazil, according to 2010 data from the Demographic Census, 9.8 million inhabitants have some kind of hearing loss[1]. This data is worrying since, according to Silva[2], hearing loss has major consequences for activities of daily living, including limitations in activities related to the lack of ability to perceive speech in noisy environments and restrictions in social activities.

With the National Health Policy for People with Disabilities advocating the inclusion of this public in the entire care network of the Unified Health System (SUS), in order to increase their autonomy, this professional must be receptive to assisting clients with some kind of hearing impairment, using strategies that facilitate and allow harmony in the dialog. Health professionals know about the intimate and inseparable relationship between them and their clients. Therefore, it is a matter of daring, observing, and motivating the team of health professionals to present attitudinal actions that provide better accessibility for the Deaf[2] and hearing-impaired[3].

The aim was to develop an accessibility app and its printed version (booklet) in order to facilitate communication between professionals at Family Health Units (USF) and the deaf and hard of hearing.

This study set out to answer the following guiding question: What communication strategies can basic health unit professionals use in the face of hearing impairment and deafness? Based on this question, and given the importance of health care, which aims to give attention to human beings, treat them, respect them, and welcome them, the study was born with this perspective of inserting accessibility of care for the hearing impaired and the deaf.

Technology added to Primary Health Care facilitates communication between professionals and the deaf and hard of hearing. This data corroborated the creation of both an app and a booklet, the result of the master's degree work.

Both the app and the booklet tend to consolidate and provide opportunities to observe and actively participate in communicative situations, reproducing information in the most illustrated and authentic way possible, enabling professionals and clients to be encouraged to communicate in a more natural and enjoyable way. Learning this experience and having the motivation and attitude to do so are actions that need to be absolutely conscious, since, in other words, it is a question of drawing up and implementing a plan that includes a willingness to "read" everything that is said in this language at every stage of reception. It's also about daring to speak to people who don't know how to communicate, which inevitably leads to an interaction between the client and the professional. This relationship needs to be understood in terms of all their needs so that when they seek out the Family Health Units (USF), they can effectively respond to them through their services.

Enabling conditions that determine the autonomy of health professionals in their care of the deaf and hard of hearing is a resource that technology provides to everyone in real time. This is achieved through the technological tool: Inclusion of the Deaf and Hard of Hearing (IDAS) and the booklet, which makes it practical to use the resources and handle the information, as well as allowing professionals to be more confident in their conduct. The development of the application and the printed version (booklet) are the products of the master's dissertation, which will undoubtedly provide respectability, autonomy, and the satisfaction of the possibility of communication between professional and client in a unique way.

METHOD

This is an exploratory methodological study with a quantitative approach. The study was carried out in 13 Health Units belonging to Health District III in João Pessoa-PB. The sample size was calculated using the formula for the minimum sample size with an accuracy of 90%[4]. The study was assigned CAAE 13034819.0.00005179, under number 049596. Inclusion criteria: all participants in the multiprofessional team, regardless of their training, working in the USFs, whose clients included hearing-impaired and deaf users.

The instrument used was a semi-structured questionnaire about knowledge of hearing impairment and deafness, the difficulty and communication strategies of professionals with this audience, the observation of biopsychosocial aspects, the need to use a Libras interpreter during care, and the importance of creating a technological tool to facilitate communication. This data served as a situational diagnosis for building the IDAS application.

The IDAS technological tool provides guidance for health professionals on the use of communication strategies in the face of hearing loss and deafness, so the usefulness and applicability of the tool are essential for promoting proper communication and humanized care. The process of developing the application was based on the results of analyzing the data from the instrument applied (questionnaire).

The development of the technological tool went through important phases that helped guide the content to be inserted.

Phase 1: Name of the app: IDAS (Inclusion of Hearing Impaired and Deaf People).
After brainstorming, we tried to use an original, short, and easy-to-remember name in order to correlate the acronym with the product's objective of serving the target audience.

Phase 2: Insert information that differentiates between Hearing Impaired and Deaf.

Phase 3: Research was carried out into the main guidelines needed in communication for elderly hearing-impaired people.

Phase 4: We investigated some of the main signs in Libras related to technical health terms that could be used when dealing with Deaf clients.

Phase 5: Insert a typing translator to facilitate communication.

Phase 6: Presentation of credits: references of the material and presentation of the project participants.

RESULTS AND DISCUSSION

The health professionals interviewed at the 13 USFs in Health District III of João Pessoa - PB, were dentists, 18%[13] were nurses; 14%[10] doctors, 14% ACS[10], 11%[08] for ASB, 7%[5] nursing technicians, 7%[05] pharmacists, 1%[1] physical education professional and 1%[01] physiotherapist.

The obstacle to assisting the deaf in the USF is not only the communication barrier, which can be seen in the lack of preparation of health professionals and their knowledge of this public, but also in the way they behave in various situations, which undoubtedly make it difficult to interact with them. In addition to this, there is the linguistic challenge, and the Deaf still face another challenge: accessibility to health due to the lack of humanization in the professional-client relationship, their low knowledge of the health-disease process, and their difficult process of inclusion in society[5].

Communication with Deaf people requires an understanding of their culture. It is, therefore, important for health professionals to develop skills during their academic training in order to relate effectively[6].

The health professionals at the USFs in Health District III have a very representative demand for deaf people in the area covered by the health system.

Table 1 - Health professionals who treat Deaf people - João Pessoa, PB, Brazil, 2019.

Attend	No. of Health Professionals N=72	Percentage of health professionals
Yes	58	81%
No	14	19%
Total	**72**	**100%**

Source: Research data, 2019.

Table 1 shows that 81%[58] of the health professionals at the USFs in Health District III care for deaf people. This percentage is very representative. Only a small proportion of professionals, 19%[14], do not treat Deaf people.

In view of the above, it is clear that there is a need for very significant care coverage, which requires professionals at these USFs to have knowledge and training in order to gain a better understanding of the health problems faced by the Deaf community. The fact is that the unpreparedness of health professionals leads to a distancing between the client and the professional due to the lack of understanding between them, so the Deaf community is unable to receive equal care and is thus marginalized both in society and in health services[7].
There is also a high demand for services for the hearing impaired.

Table 2 - Health professionals who treat the hearing impaired - João Pessoa, PB, Brazil, 2019.

Attend	No. of Health Professionals N=72	Percentage of Health Professionals
Yes	59	82%
No	13	18%
Total	**72**	**100%**

Source: Research data, 2019.

The data shown in Table 2 represents 82% [59] of health professionals who attend to the hearing impaired, while 18%[13] reported not attending to the hearing impaired. These figures show a very significant percentage of this public, which reinforces the urgent need for adequate reception.

Considering that communication is undoubtedly the biggest obstacle in care for the hearing impaired and that communication is a fundamental tool for health care, its failure greatly damages the professional-client relationship. Recognizing communication deficiencies in health care leads professionals to reflect on how to improve the services they provide[8].

Thus, observing how deaf and hard of hearing people interact at different times and how they relate at the USF when making requests and expressing their symptoms are actions that can be considered new client-professional communication strategies.

The vast majority of health professionals demonstrate the importance of having a technological tool that gives them better access to communication with this public.

Table 3 - Importance of the technological instrument for the hearing impaired - João Pessoa, PB, Brazil, 2019.

Importance of technological tools for the hearing impaired	No. of Health Professionals n=72	Percentage of Health Professionals
Yes	68	94%
No	4	6%
Total	**72**	**100%**

Source: Research data, 2019.

Regarding the importance of a technological tool to facilitate communication when dealing with hearing-impaired clients, 94% (68) said yes, and 6% (4) did not consider it important.

Access to quality care is essential for the hearing impaired, which demonstrates the need for health professionals to receive training and guidance to ensure qualified care.

Given the different degrees of difficulty faced by professionals who serve the Deaf community, the use of an instrument that can reduce these differences is of significant importance since it minimizes one of the biggest, if not the biggest, barriers to communication with the Deaf community, which is linguistic.

It's important that this tool has the functionality to serve you in the most diverse, most necessary, and most desirable communication situations, providing you with more vocabulary, more grammatical structures, and more communicative resourcefulness.

In view of the creation of a technological instrument that provides the main and correct guidelines for the use of communication strategies for this public, the innovative method serves as a basis for making the conduct of care more welcoming and also guarantees effective and excellent care. In addition to fostering a broader relationship, IDAS provides faster and better quality care since professionals/clients make themselves understood, thus creating a bond and security for both parties. This was the great challenge in building the IDAS technological tool. In addition, it benefits from the ease and possibility of use, since the vast majority of people have a smartphone and the internet, and in order to maintain the quality of the IDAS tool, a printed version was produced, a booklet, which makes it possible to maintain the same attributes of the application in the event of an internet outage.

As with the deaf and hard of hearing, the vast majority of health professionals also feel the need for a tool that enables better communication between the professional and the client.

Table 4 - Importance of the technological tool for the Deaf - João Pessoa, PB, Brazil, 2019.

The importance of technological tools for the deaf	No. of Health Professionals n=72	Percentage of Health Professionals
Yes	69	96%
No	**3**	4%
Total	**72**	**100%**

Source: Research data, 2019.

Considering the importance of a technological tool facilitating communication when dealing with Deaf clients, 96%[69] said it was important, while 4%[3] did not consider it important.

Often, unpreparedness to care for Deaf people causes frustration when health professionals strive to offer quality care, but the communication barrier is the biggest obstacle to providing them with autonomy and satisfaction.

The use of the technological tool, IDAS, helps to reduce a number of factors identified as difficulties in client-professional communication, including overcoming the absence of interpreters, who are often not part of the care team. The use of IDAS in Deaf care does not rule out the presence of an interpreter but makes it possible for the client to understand the professional without the interference of third parties, respecting the individual's particularities when seeking health services so that they feel comfortable expressing their real needs.

nals at USFs and the hearing impaired and Deaf, thus making care more humanized. The mobile application, which uses the Android operating system, provides important information for health professionals communicating with the hearing impaired, as well as helping communication with the Deaf community through typing. It is simple to use and will be downloaded from the Google Play Store. One of the principles in building this technological tool was undeniably to provide customers with simplified, operational, and functional handling.

In the app's main menu, the category "Orientations" will allow health professionals to view orientations about hearing loss and deafness in order to allow the client to learn about the terminology related to deafness and hearing loss and their differences. The category "Libras Translator (Typewritten)" allows simultaneous translation from Portuguese into the manual alphabet, typewritten, an innovative factor that sets it apart from other existing accessibility applications. It was found that this type of communication, typing, is not used as a communication strategy by health professionals, according to the results of the survey. This data shows that this would be one of the difficulties faced by professionals in providing care to the Deaf community, a difficulty that was abolished with the use of IDAS.

Thus, the use of the app will benefit the Deaf community with more humanized care, as well as enabling the Deaf person to use the app on their mobile device, since the translation also takes place from the manual alphabet to Portuguese. In this way, the power of technology favors the interweaving of communicative ties in care between Deaf people and health professionals at USFs.

The information needed to build the technology was initially researched in the literature, which was to be inserted and presented in the application's guidelines, which were referenced according to the literature in the development of the research. The technological product was chosen because of the growth of information technology. In addition, access to the application on the cell phone is easy as it is available anywhere and at any time. A number of transformations in the health area have arisen with the advancement of technology and technological innovations, requiring knowledge to come into play. Thus, creating a final product in the form of a technological application was the method that proved to be most effective and easily accessible.

The "Credits" category presents the author of the application, along with the people involved in the development of the technological tool and their respective references.

Based on the use of health technologies, which enables the use of various methodologies, the application entitled IDAS is supported by the National Humanization Policy. Its development was guided by the importance of care, which aims to give attention to the human being, treat them, respect and welcome them and, based on this principle, insert accessibility into care for the hearing impaired and Deaf, since the results of the research showed that professionals are not prepared to serve these audiences. And it sparked the preparation of the master's work. With the construction of IDAS and its possible application in the different sectors and by different classes of professionals who serve the hearing-impaired and Deaf public, the improvement in the quality of service is unmistakable, as is the lightness provided to these professionals and clients, who are then able to communicate their real needs without the constant interference of third parties to make them understand. The tools (app and booklet) are undoubtedly instruments that improve personalized and humanized service communication.

CONCLUSION

The technological tool, IDAS (app/booklet), which emerged from the research work carried out in the master's program, is now available on the Play Store for use. It is a product that is extremely easy to use and meets the needs of both the client and the health professionals, contributing greatly to more effective care. So, it can be seen that its tools will help communication in a more comprehensive way, enabling understanding between the parties in a more humanized way.

The mobile app and booklet facilitate communication between health professionals at USFs and the deaf and hard of hearing, providing more humanized care and minimizing one of the main problems identified in the research: client-professional communication.

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