

Importance of Accompanying Information on Hearing Handicap



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Abstract

Hearing loss affects not only the person with hearing loss but everything that surrounds it, especially your partner communication. This study aims to contribute to the validation of the questionnaire of rehabilitation for Partners Goal Sharing Strategy (GPS) for European Portuguese that this questionnaire is more a tool for assessing and monitoring hearing loss and its effects on quality of life of people with loss and the people around her. There were three translations of this scale until we get a version that was presented to two experts who found the cultural equivalence. Then checked the version already been presented to 5-pairs test to analyze the difficulties experienced by the sample and if necessary, to change the scale. Finally, given the difficulties, we created a scale that is proposed in this study for further validation in future studies. How proposes future studies to validate the proposed scale in young and elderly Portuguese.

Keywords: Auditory rehabilitation; Hearing loss; Partner; Effects of hearing loss; Communication

Introduction

Hearing is an important sense of the human being, it is the main channel through which language and speech are developed, fundamental for verbal communication in a society. It also helps human beings to react to mechanical pressures and to defend themselves in the environment, since even with their eyes closed, we can know the conditions of the environment [1]. The auditory system consists of the outer, middle, inner ear and central auditory system. The external and middle ear have the main function of transmitting sound to the inner ear, where the organ of Corti is found, considered the organ of hearing. The tympanic membrane separates the outer ear from the middle ear and the Eustachian tube allows contact between the middle ear and the pharynx [2]. The perception of sound stimuli in the environment depends on the integrity of the entire auditory system [3].

The World Health Organization (WHO) considers hearing loss as a complete or partial loss of the ability to obtain auditory information, from one or both ears, which causes restriction or inability to perform activities that involve hearing [4]. Hearing deprivation is always experienced with enormous anxiety, which

requires a correct diagnosis and medical-surgical treatment or, when this is not possible, applying a hearing aid to allow a return to a socio-family life without exclusion [5,6].

Hearing Loss and Handicap

The auditory system is subject to changes, where the intensity and type of symptoms vary with the location and severity of the injury. The identification, measurement and classification of hearing loss are fundamental for the formulation of a diagnosis hypothesis and a therapeutic plan [3]. Hearing loss assessment begins with a detailed anamnesis that allows us to perceive the beginning of the hearing loss and how it was installed (sudden or progressive), habits, health conditions and other relevant information. After this, it is necessary to perform audiological tests such as audiometry, impedancimetry and speech discrimination, when it is difficult to determine a diagnosis, it is essential to apply more specific tests [3].

Hearing loss can be transmission, sensorineural, mixed, or central. In transmission hearing loss (or conduction) we can say

that there is a block in the transmission of sound, which may be due to anatomical problems of the structures, changes in the mobility of the ossicles, infection in the middle ear, perforation of the membrane. Sensorineural losses are due to changes in the Cortic Organ and / or cochlear nerve and brainstem auditory nuclei, which are often associated with aging, but can also be the cause of viral or bacterial infections, ototoxicity, Ménière's

disease, exposure noise, among others. In mixed losses there are transmission and sensorineural components. Central losses are due to changes in central auditory processing [3]. Losses can still be classified according to their degree, in light (21-40dB), medium (41-70dB), severe (71-90dB), deep (91-119dB) and cofose (120DB) [7].

Auditory handicap, also known as hearing impairment, is related to non-auditory skills, resulting from hearing impairment or impairment that limit or prevent the individual from carrying out their normal day-to-day tasks and still compromise their relationship with the child. family, work, and society, that is, it represents the social expression of the disability or incapacity and reflects its consequences at the cultural, social, economic, and environmental level [4, 8]. When there is hearing deprivation, the impact on the individual is enormous, not only due to the loss of ability to understand sounds, but also due to the way in which they relate to their environment and culture. There are also biological, psychological, and social consequences. Hearing Rehabilitation is an important way to reduce the impact of hearing loss on the individual and improve their quality of life [1].

Hearing Rehabilitation

Hearing Rehabilitation aims to minimize the consequences of hearing loss. Before the hypothesis of a hearing aid or listening support system is posed, it is necessary to exclude the possibility of resolution by medical-surgical methods [9]. The hearing aid is considered a fundamental part in the process of rehabilitation, however it is only one of the components in this process, the role of health professionals, such as the Audiologist and Otorhinolaryngologist, is extremely important in the choice of help equipment. and monitoring the person with hearing loss [3,10].

The choice of prosthesis is a multi-stage process. First, it is necessary to collect the individual's clinical history, his audiological data, the difficulties felt due to his hearing loss and how this hearing loss interferes with his personal, social, and professional life. Then, the choice of the technical solution to be used, the hearing aids and / or listening support systems, which best suits the hearing loss in question, providing an adequate amplification of intelligibility and speech with good sound quality and at a level comfortable amplification. For the prosthetic adaptation to be successful, it is essential to use all means of monitoring, including the Auditory Rehabilitation Questionnaire that make it possible to respond to the individual's needs according to their progress and difficulties experienced [9].

Auditory Rehabilitation Questionnaire

The benefit of using the prosthesis can be defined by the advantages or gains or even by the benefits that the individual obtained with its use. This benefit can be positive, negative, or neutral depending on the dependence of the effect that the prosthesis has on the individual's performance, which can be related to the relief of hearing loss or to the improvement in the performance of day-to-day tasks. This benefit varies from individual to individual, mainly with the motivation to use the prosthesis, making a subjective clinical assessment of the patient regarding his perception of hearing loss extremely important, that is, the impact that deprivation has on his daily life (handicap) [10].

In Audiology, this benefit can be calculated through tests that measure the difference between using and not using the device in certain situations, such as functional gain and speech recognition tests, which are objective assessments. However, the Audiologist can make a subjective assessment, that is, the patient is evaluated using a questionnaire of auditory rehabilitation that intends to know how the individual considers the use or non-use of hearing aids in daily tasks. These two assessments are very important together, since a functional gain may not correspond to a benefit for the individual daily and an insufficient functional gain may correspond to a benefit for the individual [4,10].

The APHAB (Abbreviated Profile of Hearing aid benefit) questionnaire is a self- assessment questionnaire in which the individual quantifies his / her difficulties in different communication situations daily, it is considered a questionnaire of disadvantage, allows to assess the handicap. The HHIE scale

(Hearing Handicap Inventory for the Elderly - Auditory Handicap Scale for the Elderly) also allows the assessment of handicap but assesses the auditory and non-auditory (psychosocial) effects in the elderly [10]. Among other scales, we can list the MUSS and MAIS that are intended for the development of the child's speech and the use of the hearing aid, SADL that assesses the individual's satisfaction with the hearing aid and the COSI that allows identifying the greatest difficulties experienced by the individual [10].

The Goal Sharing for Partners Strategy (GPS) questionnaire differs from the afore mentioned scales, since this scale seeks to assess the handicap felt by people around the individual with

hearing loss and himself. The family, especially the partner (wife or husband), is a good tool in detaining difficulties, such as the individual's limitations in certain activities, communicative difficulties, and emotional consequences, as the problem affects the relationship and social life and the routines of their day-to-day [11]. There are several studies, indicated by Scarinci, et al. [8], that show the positive impact that the family has on the support of the person with hearing loss and how it can be positive for the relationship of sharing responsibilities, since the Audiologist does not need direct all information and responsibility to the person with hearing loss, but to the couple. As a limit of these studies was the impact of hearing loss on the couple, a study by Armero (2001), cited by Scarinci, et al. [8], who used an open-ended questionnaire to investigate the difficulties experienced by the couple, where he found feelings of frustration and anxiety motivated by hearing loss, in which both often consider poor adaptation. It is recognized, then, the importance of the couple's feelings and not only of the person with hearing loss, as well as the importance of the partner in Hearing Rehabilitation.

consultations. Other studies were carried out and showed the difficulties and stress felt in several situations with hearing loss and the improvement of these feelings after prosthetic adaptation. A study was attempted by Stark and Hickson (2004), cited by Scarinci [8], with a closed questionnaire, however the participants reported that it was not possible to explore all the feelings experienced by them, prevailing the open answer questionnaire. Scarinci [8] cites another study by Anderson and Noble (2005) in which they state that wives are more concerned with the partner than the husband with the partner, with the wives an element of great responsibility in communication and accommodation in the partner with loss hearing loss, which explains the care in monitoring the partner's problem.

The relationship between the couple strengthens when the partner realizes that the hearing loss is more severe than the partner made it seem and they realize that the recognition and acceptance of the responsibilities involved with hearing rehabilitation will improve the relationship. The validation of the GPS scale is an extension of these studies, it allows to perceive the effect of hearing loss on the partners through the description, from the partner's perspective, of the experiences between the partner with loss and other people with hearing loss; description of the effect of hearing loss on the couple, communication, and relationship; and to identify the strategies adopted to deal with the partner Scarinci [8]. The original GPS scale is validated for elderly couples, and Scarinci refers the validity for young couples as a future study [11].

The GPS scale helps to understand which are the main difficulties for the individual and for the individuals who relate to him, allowing the Audiologist a more accurate assessment of the handicap and the adaptation of new strategies in the rehabilitation process [11]. The aim of this study is to contribute to the validation

of the Goal Sharing for Partners Strategy (GPS) handicap scale for European Portuguese and in the future, this will be introduced in Hearing Rehabilitation consultations.

Materials and Methods

Descriptive and exploratory study, cross-sectional cohort. Population of individuals over 18 years of age with hearing loss and hearing handicap who go to Hearing Rehabilitation appointments with a companion for the first appointment or delivery of the hearing aid. Only a pre-test was carried out on 5 couples at the GAES Coimbra and WIDEX Coimbra Hearing Centers. The independent variable is individuals with hearing loss and their accompanying person, and the dependent variable is the validity of the GPS scale translated into European Portuguese. The hypothesis formulated is: "Is the GPS scale translated into European Portuguese valid?". The original GPS scale was used in the European Portuguese translation and was later adapted to the Portuguese population. The instrument used to collect data consists of the GPS scale translated into European Portuguese.

As it is the translation and contribution to the validation of a scale into European Portuguese, it was necessary to first ask for authorization from the scale's author. The methodology used begins with the translation of the original GPS scale into European Portuguese through an English teacher who agreed to participate in the translation, the second step was the translation of this version of the GPS scale in European Portuguese back to English through a participant with the Proficiency course, corresponding to the maximum level of European English, and finally this version was translated back to European Portuguese through a participant who attended compulsory schooling in English. The translations were compared, and a new version of the GPS scale was created in European Portuguese. This version was presented to 2 specialists, Vasco Oliveira, graduated in Audiology and Psychology, and Graça Caldeira, Master in Audiology. Depending on the opinions of these specialists, a new version in European Portuguese was carried out, which presented itself to 5 'test couples' where the difficulties experienced on the scale were announced.

Results

Our sample contains 10 individuals who agreed to participate in the pre-test of the Portuguese version of the GPS Scale. Of these 10 individuals, 3 were male (30%) and 7 females (70%), of whom 6 were husbands or wives, 2 sons or daughters and 2 father or mother. The ages varied between 18 years and 90 years, in which 1 participant was between 18-30 years old, 4 participants between 31 and 50 years old, 2 participants between 51 and 70 and 3 participants over 70 years old. In the sample collected, 4 people (40%) had normal hearing, 3 (30%) suffered from medium hearing loss and 3 (30%) had severe hearing loss. Of these, only one was a hearing aid user, 90% of our sample had no hearing aid.

The success of communications between the person with hearing loss and others depends on the environment in which they relate, on the personal factors of each one and especially on social support, such as family, friends, neighbors, and co-workers (Montano, 2010). Our study, by identifying difficulties and establishing goals to be achieved during adaptation, aims to help understand and improve communications between the person with hearing loss and those around them. The study started with the translations of the original scale that respected translation standards, however it was noticeable that the translations were not well executed, the content in the questions of the original version were not exactly coincident with the final Portuguese version, it was necessary to readjust the version to the content intended by the original GPS.

The sample used for the pre-test consisted of 5 couples, in which one of the members of the couple had hearing loss and the other member could be husband / wife, son, friend, co-worker, if it was one of their usual partners. Communication. The sample collection was carried out in two Hearing Rehabilitation Centers, where the couple proceeded to the normal 'first time' consultation or hearing aid delivery and then was interviewed by the researcher. In the study carried out by Scarinci et al. [8], the pre-test was carried out with 5 elderly couples (5 of the female participants and 5 of the male participants) in which they were first approached by telephone in order to explain what if they intended and wanted to participate in the study, a demographic survey and an assessment of the couple's hearing was then carried out to determine their inclusion in the study.

In our study, the interview consisted of questioning the couple simultaneously in the Hearing Rehabilitation Center office, with the questions to be asked as they are formulated on the GPS scale and then starting an informal conversation between the stakeholders. Scarinci [8] before starting the interview with the couple, sent a summary of what would be covered in the interview so that the couple was prepared and could also talk to each other about the topics covered. After this, Scarinci [8] starts the interview at the couple's home, with one member at a time, in which the discussion is held based on the topics present in the scale and the person speaks openly and freely and the interviewer notes all concepts and expressions used, at the end a small summary was elaborated and the aspects that were discussed were presented and if everything agrees with what the person feels. In this study it was not always possible to conduct the interview separately, due to organizational issues at the Hearing Rehabilitation Center, in which it was only possible to conduct 2 interviews with the separated couple.

The interviews of this pre-test lasted about 1 hour, Scarinci [8] conducted interviews from 1 hour to 2 hours and 30 minutes where they explored the experiences lived by the couple. Scarinci [8], in the analysis of the interview, in which the general impressions of the lived experiences and quotes of the couple are observed, which were highlighted and classified in 4 areas: 1 - varied effects

of hearing loss on the spouses; 2 - Spouses' needs to constantly adapt to their partners with hearing loss; 3 - effect of the spouse's acceptance; 4 - impact on aging and retirement. In our study, we cannot relate the issues with aging, since our sample was not restricted to elderly couples, but to communication partners, that is, people who daily communicate with the person with hearing loss. However, we can evaluate responses in 3 categories:

- a. varied effects of hearing loss in both
- b. need to adapt to the partner with hearing loss and
- c. effect of acceptance of the partner.

In category 1, varied effects of hearing loss in both, what is most evident in all participants is the need to ask the partner to repeat what is said. This request gives rise to feelings of irritation on the part of the partner without hearing loss because he is constantly repeating what he says and on the part of the partner with hearing loss besides the irritation also goes through revolt and sadness for not being able to follow a conversation and even shame for being always asking the partner to repeat. From these feelings emerges social isolation and sometimes even family in which there is a lack of interest in talking, avoiding conversation as can be seen in the quote of this participant, for example: "... I run away from the conversations or simply ask to 'go ahead' so as not to always asking to repeat.

There are participants who report that the partner with hearing loss sometimes appears to be suspicious of his family because he does not understand what they are talking about and thinks they are talking against him or hiding something from him. Finally, we find that there are difficulties in listening to television and talking on the phone, in these cases the person with hearing loss asks to repeat both on television and on the phone, but in telephone situations there are participants who avoid talking on the phone and say they 'make excuses 'not to talk, like "I'm leaving, call later" or "I'm going to give it to my colleague". In the study by Scarinci [8] we can verify most of the complaints that are presented in this study, such as the need to ask to repeat, isolation and the feelings experienced.

In category 2, the need to adapt to the partner with hearing loss, there is a need to create strategies for conversation, such as talking face-to-face and without background noise. The partner without hearing loss assists his partner in conversations and listening to television, repeating what he does not perceive, however sometimes the person with hearing loss does not like it and is ashamed that in social situations the partner is always repeating. The partner without hearing loss always tries to speak in a pleasant tone of voice for the partner and to speak slowly. When the person with hearing loss feels uncomfortable in social events, their partner tries to support them in the events or also refuses to go to certain places where there is a lot of difficulty in talking. Scarinci [8] also observed these needs in their study and the need for protection that the partner without hearing loss has with his partner, protecting him from 'unpleasant' situations.

In category 3, partner acceptance, the partners reveal acceptance of the hearing loss and recognize the difficulty felt, the individual without hearing loss tries to help to reduce the handicap felt by his partner. They also indicate the need to use the hearing aid to improve the quality of life so that the partner with hearing loss is more participant in social and family life, feeling more useful and less isolated from what he likes or liked to do. Scarinci [8] also reveal in their study that the partner mentions that when his partner accepts hearing loss, adaptation becomes easier. Our study and the study by Scarinci [8] were based on the same scale, however the sample of the two studies was not the same which did not allow the same line of study, there was only one elderly couple in our sample who demonstrated a lot of understanding between both and several strategies, since the two members of the couple had hearing loss, but only one used a hearing aid.

Conclusion

The proposed study consisted of validating the GPS scale, the first translation was carried out on time, but difficulties arose in finding two other translators available and who met the standards imposed within the period foreseen to participate in the translation of the GPS scale into European Portuguese, which led to the modification of the study objective to contribute to the validation of the GPS scale. The translations performed were analyzed by the researcher and the study supervisor and it was found that the Portuguese translation does not correspond to the intended European Portuguese. The translation of the scale was reformulated through the researcher, the supervisor and with the support of Professor Anabela Martins of the Physiotherapy Department of the School of Health Technology of Coimbra to make European Portuguese used in the scale suitable for Auditory Rehabilitation. After this reformulation, the scale was sent to some experts, with a view to assessing cultural equivalence and approving the scale and then being applied in a pre-test to 5 test couples.

In the pre-test some difficulties arose in finding available couples in the desired period, however it was possible to collect the small sample. Difficulties were felt in presenting the scale to elderly people who did not understand well what was intended in the questionnaire. Another difficulty felt was in people with low education who understood communication problems as family conflicts, referring to situations of family conflict and not situations of good or bad communication with their communication partner. It was necessary to reformulate the questions verbally into a Portuguese more accessible to this type of population in order to understand what was intended and to obtain results. The reformulation had as main orientation the expressions used by the participants, such as 'difficulties felt due to hearing loss' as a

reformulation of 'problems felt / going through...' and using the word 'conversation' instead of 'communication' [12].

Due to the need to reformulate the questions/topics during the interview, a reformulation of the European Portuguese version GPS scale was elaborated to minimize the difficulties experienced by some participants in interpreting what was said. Thus, on the home page of the Portuguese GPS scale, several changes were made, such as replacing "What are the communication situations that work well for both? Where do you have successful communication?" by "What are the situations in which the conversation works well for both? Where do you have a successful conversation?", Because some participants showed some difficulty in understanding what was intended with communication, sometimes talking about aspects that were not relevant for the part of the hearing. Another modification made was to replace "What are the problems that each of you are experiencing because of your hearing loss?" for "What are the difficulties that each of you go through due to hearing loss" due to the confusion that some participants expressed with the word 'problem' that they considered family conflict, addressing only family conflicts that were experienced or not without giving relevance to the problems experienced by hearing loss [13].

This change was made in the 'For PC' box since the question is very similar and created confusion, being necessary through the expressions used in the answer to reformulate the question. In the last two squares' For PPA and PC 'it was also necessary to change the word' problem 'for' difficulty and the word 'communication' for 'conversation', although in these last two squares the participants already understand a little better what is intended, some difficulty of understanding with the words used still manifested, being necessary to resort to reformulation to pass the correct information of what was intended [14]. In the remaining scale, nothing was changed, since from the initial topics it is possible to remove a lot of information for the rest of the filling and the fact that the participants are involved in the scale, they can understand what is intended in the remaining topics. The study had as limitations the delays in its development, which implied a reformulation of the study objective to contribute to the validation, and the need to create standard responses for the validation of the scale, since this is formed by answer questions open. As future studies, it is proposed to continue the validation of the scale, using the scale proposed in this work, in a young population and in an elderly Portuguese population.

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