

THE IMPORTANCE OF AUDITORY HEALTH TRAINING: AN INTEGRATIVE REVIEW

A importância da capacitação em saúde auditiva: uma revisão integrativa

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ABSTRACT

This study aimed to verify the scientific production on auditory health training in the last five years. This is an exploratory research on the following databases: MEDLINE, SciELO, LILACS. We performed an integrative review of the published literature from 2007 to 2011, using the keywords: Hearing, Hearing Impairment, Hypoacusis and Hearing loss. People with Hearing Loss, Hearing Impaired People, combined with: Training, Training Services, Family Health Program, Human Resources Training in Health. It was found 31 articles, five were selected, which contemplated the topic researched. Of these, three were directed to the Community Health Workers who work at the Family Health Teams, the aim of these articles were verify the effectiveness of training in relation to the children's auditory health, and two were directed to company workers, whose goal was to raise awareness among the professionals about prevention of the hearing impairment in professional activities. One of the studies with Community Health Agents used video conference and classroom training simultaneously and the other only classroom training. It was observed that video conference is one of ways that can provide knowledge dissemination; however it must be used in a complementary manner. In studies with workers were found that the training must be permanent and focus the use, handling and maintenance of hearing protectors. The publications confirm the effectiveness of training; however, there are few studies in this area which reinforces the importance of new researches focusing auditory health education.

KEYWORDS: Hearing; Training; Health Education; Hearing Loss; Health Promotion

■ INTRODUCTION

A person's health is directly associated not only to his/her biopsychosocial welfare, but also to the absence of diseases. An important aspect to be taken into account when maintaining the population's health is the person's capacity to communicate and interact with the environment he/she lives, in order to further the quality of life¹.

Communication is key to ensure the socialization of the person, and promotes the acquisition of new experiences, as well as the production of active activities with the society and his/her family. The reduction of this communicative process may contribute to the patient's social withdrawal, thus resulting in frustration, isolation and depression^{2,3}. Therefore, we observe that preventing auditory problems is critical.

In 2004 the Ministry of Health, by means of Directive GM/MS no. 2073, established the Brazilian National Policy on Auditory Health, which enabled a breakthrough in the activities related to auditory health as regards the *Sistema Único de Saúde* (Unified Health System, SUS) This health care program to assist patients with auditory disability comprises not only diagnosis, treatment and

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rehabilitation actions, but also health care promotion and protection⁴.

Even with the presence of a substantiated concept of health care promotion and protection, the activities of the professionals are still limited to curative measures; therefore, ongoing educational policies, as well as changes in the professional training processes are required⁵.

The Ministry of Health proposed the *Política Nacional de Educação Permanente em Saúde* (Brazilian National Policy on Permanent Health Care Education) with a view to developing professional skills in order to improve the activities within the *Estratégia Saúde da Família* (Brazil's National Family Health Strategy, FHS), bearing in mind that, for efficient results in promotion and rehabilitation, the presence of well-prepared professionals according to an integral healthcare perspective is required, with actions that may envisage a multiprofessional and multidisciplinary practice⁶.

The health care practices require proper decision-making processes and occur from the moment the persons must obtain, process and understand health care information. That process is part of the health care literacy, which influences the ways of thinking, thus generating values, helping to change attitudes and beliefs, enabling the acquisition of competences and promoting changes of behavior and lifestyles⁷.

Any significant learning opportunity must be led by discoveries and appreciation of the learning process – the contents must be worked out in a problem-solving manner, in a context where the relevant relationships are analyzed and interpreted, and knowledge is established and reestablished on a dialogical basis, through a back-and-forth movement between prior knowledge and current experience⁸.

Bearing in mind the difficulties related to hearing loss, mainly as regards the persons' communication and socialization aspects, as well as the need to use the competencies taught and learned, this study aimed at checking the scientific production related to auditory health training in the past five years, as scientific evidence to support these actions are required.

■ METHODS

This is an integrative scientific literature review study on the training of health care professionals and companies' workers regarding auditory health. In order to achieve the goal, a search was carried out on the following main electronic bases of periodicals: *Medline*, *Lilacs* and Scientific Electronic Library Online (*SciELO*), using the descriptors below: Hearing, Auditory Disability, Hypoacusis, Hearing Loss, Loss of Hearing, Loss of Auditory Capacity, People with Auditory Disability, Persons with Auditory Disability, Persons with Auditory Failure, Persons with Deafness, combined with the descriptors below: Training, On-the-Job Training, Family Health Program, Training of Health Care Human Resources.

The inclusion criteria comprised articles published in the past five years, corresponding to the years 2007 – 2011, in English or in Portuguese, and which were available for reading. The exclusion criteria took into account the articles that, after being identified by means of their titles and abstracts, did not fall under the core objective of the study. The articles comprising reviews, clinical trials, case reports, editorials, letters and comments were also excluded. The analysis of the material selected was carried out by means of critical and qualitative reading, which allowed the identification of convergences, enabling the following classification into two thematic axes: auditory health training practices and the outcomes reached with the auditory health trainings.

During the search, 31 articles were found using all descriptors selected. Nine studies were discarded in accordance with the exclusion criteria, one of which being a comment, six clinical trials, one case report and one systematic review. After reading the 22 remaining articles, 17 publications were excluded for being in disagreement with the topic of the study: auditory health training. One out of the five articles selected was found exclusively in the *Lilacs* database, one in the *Medline*, two exclusively in the *SciELO* and one reference was found both in the *Lilacs* and in the *SciELO* databases (Figure 1). As regards the languages of the articles selected, one was written in English and four were in Portuguese. None of the articles specified which professionals carried out the auditory health trainings.

TITLE	AUTHOR	PUBLISHED AT	YEAR	OBJECTIVE
<i>Proposta para capacitação de agentes comunitários de saúde em saúde auditiva</i> (Proposal for the training of community health workers on auditory health)	Alvarenga <i>et al.</i>	<i>Pró-fono</i> revista de Atualização Científica	2008	To check the effectiveness of a children's auditory health training program carried out as a multicenter research trial with 106 ACS from Basic Health Care Units in two municipalities in the State of Sao Paulo.
<i>Capacitação de Agentes Comunitários de Saúde em saúde auditiva: efetividade da videoconferência</i> (Training of community Health Workers on auditory health: effectiveness of videoconferencing)	Melo <i>et al.</i>	<i>Pró-fono</i> revista de Atualização Científica	2010	To analyze the effectiveness of videoconferencing as a teaching-learning method for ACS in the children's auditory health area. Video conference and on-site training methods were used on simultaneous basis to two random groups.
<i>Opinião dos Agentes Comunitários de Saúde sobre o uso da videoconferência na capacitação em saúde auditiva infantil</i> (Opinion of Community Health Workers on the use of videoconferencing in the children's auditory health training)	Melo <i>et al.</i>	Rev. CEFAC	2011	To analyze videoconferencing as a teaching tool in the training of ACS, in the children's auditory health area, taking the opinion of those professionals into account. Simultaneous training using videoconferencing and on-site methods was carried out.
<i>Ações educativas com enfoque positivo em programa de conservação auditiva e sua avaliação</i> (Educational actions with positive focus on hearing conservation program and its assessment)	Bramatti <i>et al.</i>	Rev. CEFAC	2008	To analyze the knowledge acquired by workers from a meatpacking company after an educational intervention on auditory protection. The sample comprised 61 workers that were randomly divided into two groups, and only one of which attended the training.
Hearing loss prevention for carpenters: part2 – demonstration projects using individualized and group training.	Stephenson <i>et al.</i>	Noise Health	2011	To analyze the effectiveness of one-year training on auditory health in the occupational environment, attended by 103 students from a trainee carpenter training center.

Key: ACS = *Agentes Comunitários de Saúde* (Community Healthcare Workers)

Figure 1 – Publications selected

■ LITERATURE REVIEW

Auditory health training practice

The term 'training' is used similarly to the terms development and formation. It is used to mean a process to prepare and train persons with a view to improving the quality of their performance of their duties⁹.

The trainings within both the SUS' and the companies' environments strengthen the importance of preventing and promoting auditory health. The concept of health care prevention is present when the person is held responsible for his/her own health status, without regard to the environment he/she lives in, and it occurs with a view to seeking answers for the health-disease process. The health care promotion must break out of the vertical integration of knowledge between users and professionals, as it values the interpersonal exchanges. In this new model of health care education, the person becomes the bearer of knowledge oriented to the health-disease-care process¹⁰.

The trainings mentioned in the articles selected in three studies^{6,11,12} were intended for the ACS (*Agentes Comunitários de Saúde*, Community Health Care Workers) and none of them had participated in any previous training, as far as hearing is concerned. In two studies^{6,12} the training was carried out with 50 ACS from health care units. A third article¹¹ dealt with a multicenter research trial, with the training of 31 ACS from three Family Health Strategy (EFS) units in the city of Bauru, Sao Paulo, and 75 ACS from four units in Sorocaba, also in Sao Paulo. Two studies were related to companies' workers, with focus on the topic occupational auditory health^{13,14}. In one of them, the training was carried out with 61 workers from a meatpacking company, approaching the beliefs and attitudes concerning hearing conservation¹². In another one, a one-year training program was carried out with 103 trainee carpenters, approaching the attitudes and beliefs related the prevention of hearing losses. The attendees were randomly split in two groups, and half of them received guidance on a collective basis, and the other half received guidance in an individual manner¹⁴.

Some studies collected data by applying a protocol before and after the training of all attendees of the sample, aiming at checking its effectiveness¹²⁻¹⁴. In one of the studies, the protocol was applied to half of the attendees before and after the training. Only one protocol was applied to the other half, and they did not participate in the training¹³. In the study involving the carpenters, they answered the questionnaire proposed at four different instances: before and after the training, and in the beginning and at the end of

the following year¹⁴. In another study, a protocol was prepared and applied after the training, bearing in mind the attendees' opinion on the activity⁶. The protocols used in the studies selected aim at quantifying the outcomes, thus showing the importance of auditory health prevention-oriented activities.

Protocols are instruments that draw the users' attention to health care, showing features oriented to preventive, promotional and educational actions. Their use is critical to the organization of the services, and they are directly related to the attention model and the construction of the work process intended for implementation¹⁵. Therefore, they are important guiding instruments, as they help qualify the needs and proper guidance.

As regards the objectives, two studies addressed the need to raise the professionals' awareness on the importance of preventing hearing capacity changes during the performance of the professional activities. The trainings were preceded by hearing tests^{13,14}. In the other three studies, the aim was to check the effectiveness of the trainings on children's auditory health, intended to ACS^{6,11}.

The Brazilian National Policy on Permanent Health Care Education envisages a transformation in the healthcare sector work with a view to a critical, reflexive, committed and technically competent action¹⁶.

The health care trainings – both within the public healthcare and the corporate environments – need to take into account the development of competencies, using student-centered, critical, innovative and reflexive teaching-learning methodologies, whose core objective is the transformation of patients and active subjects¹⁷.

The Ministry of Health is concerned about training professionals from several health care sectors. A broad family health care coverage represents an impact on the Auditory Health Care Network and, upon the training of professionals, the latter will participate directly in auditory health promotion action with the community in all life cycles. The general agreement is that the training of health care professionals in auditory health brings considerable benefits for the population, changing the behavior of professionals and public administrators, not only on the knowledge about the topic, but also on the access of the hearing impaired to health care services¹⁸.

As for the logistic structure, three studies did not report the location and the structure of the rooms used to hold the trainings^{6,12,13}, another one reported the location the room in only one of the centers integrated to the study (the amphitheater of a city hospital), but there are no reports on its physical structure¹⁹. In one of the articles, the trainings

were held at college premises, with adequate room containing video conference facilities and another room for on-site training¹². In another study where videoconferencing was also used during the trainings, the structure of the rooms was adequate for such activities; however, the venue is not mentioned, and there are no details about their physical structure⁶.

As regards the venues where the activities were held, we observed that they were well structured. A survey undertaken with users, in order to understand the perspective about Health Care Education, presented some reports from these persons, thus showing that the local reality must be taken into account, as well as its needs – for example, the flexibility of the hours. The logistics within a health care education activity must be not only related to the conditions required by the professionals, but must also consider the attendees' daily routine²⁰.

About the teaching methodology, two studies carried out with ACS^{6,12} used videoconferencing the on-site training, so the two groups of attendees were divided on a random basis. A tutor was present in the video conference room, in order to manage the questions and provide monitoring/feedback on the audio and video used, as well on the content proposed. In both studies, the training manual prepared by the World Health Organization (WHO) – Primary Ear and Hearing Care Training Resource – basic, intermediate and advanced levels was used, after being adapted and validated to Portuguese. In another study carried out with ACS, audiovisual aids were used as methodology to follow up the trainings. As it is a multicenter research trial, in only one of the centers an adaptation of the material proposed by the WHO – Primary Ear and Hearing Care Training Resource – basic, intermediate and advanced levels was used, with a view to checking the contribution and influence of this material in the training¹¹.

A study on Traditional Education Models and Dialogical Models applied to health care education showed that, in the dialogical education model, the teacher and the student play an active role in the learning process. It is a methodology that proposes the building of knowledge, stimulates the exchange of experiences and provides people with a critical-reflexive view of the reality. However, its application has been a challenge, as the professionals are still unaware of that methodology. The authors emphasize the need for professional training programs by means of Permanent Education, for the performance of educational activities²¹.

In the survey with workers, it is possible to observe a lack of knowledge by them on the effects of noise on the human body, the implementation

of training programs on the correct use of ear protectors becomes fundamental²². In one of the studies with workers, the following were used as training instruments: multimedia projectors, slides with images and written content, songs and daily situations experienced by the workers¹³. In another one, a 30-minute interactive discussion led by an instructor took place, using audiovisual material. Then, a 45-minute hands-on training was carried out¹⁴. The use of motivating teaching methodologies for the trainings' attendees was crucial, as they ensured a consolidation of the topic and the performance of a more efficient preventive work.

The objective of the health care education is to prevent diseases and promote health, by means of duly guided knowledge, where the scientific knowledge produced must reach the people's daily lives. It must establish favorable circumstances to reflections on a person's health oriented to health care practices, changes in potentially harmful behaviors, the acquisition of habits favorable to the common good and the individual health²³.

The teaching-learning process must produce a reflection on the student, where he/she is capable of provoking changes in his/her social reality, thus allowing the integration of the person as subject, transforming the world and establishing relationships with other persons and the environment⁸.

Consequently, the learning process stimulates the discussion, enables the acknowledgment of knowledge and the appreciation of the community's realities and needs, turning the learning environment into a democratic one, and appreciating the student's prior knowledge, thus strengthening the teaching-learning process¹¹.

The outcomes reached with the auditory health trainings

The study with ACS proved the efficiency of the use of aids to ensure a more interactive work, with the participation of the subjects and their experiences during the trainings¹¹. In two studies with activities carried out through videoconferencing, we may conclude that such resources are still very seldom used for the process of training professionals in the SUS environment. Videoconferencing is a means that may provide the dissemination of knowledge in all regions of the Brazilian territory and improve the performance of the ACS and other professionals. Despite being an effective Health Care Education tool, it must be used on a supplemental basis^{6,12}.

In the work carried out with employees from a meatpacking company, we observed that the use, handling and conservation of ear protectors need to be more focused, as it will reflect upon the reduction of health hazards. It mentions the importance

of ongoing training to ensure gains not only for the worker, but also for the company and for the society¹³. In the study carried out with carpenters, we observed that the trainings are capable of leveling the workers' knowledge both in group and in individual trainings, on the attitudes, beliefs and behavioral intentions regarding the correct use of ear protectors¹⁴.

As regards the benefits achieved, the contribution of one of the studies was to show, before and after the training, the behavior and the attitudes of the workers in relation to hearing loss, thus favoring a training oriented to the areas where there is higher deficit. The male workers and recently-hired employees proved to have the least knowledge on the issue¹³.

In one of the studies with video conference, the conclusion was that it is an effective training methodology and it was accepted well by the ACS⁶. And in another study, also using videoconferencing, there was significant improvement in the performance of the two groups, those who attended the training on-site and the other by means of video conference; however, the latter was less significant, thus showing the importance of the on-site training¹². One of the studies with ACS proved the effectiveness of training program when using an interactive approach and specific didactic material¹¹.

The training of the health care professional on auditory health is presented as an effective methodology, as it helps the early identification of hearing pathologies. That occurs from the moment professionals begin to obtain the knowledge on the topic and try to send their patients to SUS' referral systems¹⁸.

A survey with companies' workers showed that the training is efficient for its positive influence on the use of ear protectors in a noisy working environment. During the training, the trainees showed their intention and awareness towards the use of the protection¹¹. Therefore, we observe that the auditory health trainings are an effective instrument to prevent hearing losses.

The publications selected confirmed the importance and the need for auditory health trainings^{6,11-14}. One of the studies emphasized that the topic rehabilitation must be included, and the importance of using the Hearing Aid so the ACS may offer support to the families both in the hearing diagnosis and in the adaptation processes¹¹.

The training of the ACS, as well as the Family Health Teams, contributes effectively for the identification of the auditory disability, as it increases

the knowledge of these professionals, who may properly send their patients to the referral systems. Therefore, the training of the basic health care teams will strengthen the Auditory Health Care Network¹⁸.

Every efficient training process must be based mainly upon practical experiences, thus ensuring and allowing a critical reflection of the real-life situations, as the learning process is not only based on the theoretical reproduction of knowledge, but also on strategies where the active participation and integration between theory and practice take place¹⁷.

The education work to promote health care is an important tool to reduce the comorbidities and early identification of speech articulation disorders, and contributes to expand the dissemination of data and information in relation to the rights and duties of the user at SUS, thus co-operation with the assistance, once it prioritizes the health care promotion to the detriment of the treatment¹.

■ CONCLUSION

Five articles published in the past five years (2007 a 2011) on the training of health care professionals and companies' workers about auditory health were selected, according to the descriptors and synonyms for Hearing, Hearing Loss, People with Auditory Disability combined with the descriptors Training, On-the-Job Training, Family Health Program, Training of Health Care Human Resources.

The auditory health trainings are necessary both within the FHS and in the work environments, since the auditory health is important for the people's communicative and social process. However, the activities oriented to the promotion and prevention of changes in that area are still very limited.

The trainings and guidance to professionals within the public health level and in companies are necessary, since the teaching-learning process requires activities that emphasize the importance of detecting and preventing hearing changes.

For the teaching-learning process, motivating, reflexive and critical methodologies are required, so the students become active subjects. It is important to establish such favorable circumstances to ensure the consolidation of the topic and a more effective preventive work.

After the assessment and analysis of the articles included in this study, we concluded that few works emphasized the importance of auditory health trainings, and it is necessary to include new studies that might show the effectiveness of the educational activity for the hearing impairment prevention.

RESUMO

A presente pesquisa teve como objetivo verificar a produção científica, sobre capacitação em saúde auditiva nos últimos cinco anos. Trata-se de uma pesquisa exploratória nas bases de dados: MEDLINE, SciELO, LILACS. Foi realizada uma revisão integrativa da literatura publicada no período de 2007 a 2011, utilizando os descritores: Audição, Deficiência Auditiva, Hipoacusia, Perda Auditiva, Perda da Audição, Perda da Capacidade Auditiva, Pessoas com Deficiência Auditiva, Portadores de Deficiência Auditiva, Portadores de Insuficiência Auditiva, Portadores de Surdez, combinadas com: Capacitação, Capacitação em Serviço, Programa Saúde da Família, Capacitação de Recursos Humanos em Saúde. Foram encontrados 31 artigos e selecionados cinco, que contemplavam a temática pesquisada. Destes, três eram direcionados aos Agentes Comunitários de Saúde que atuavam em Equipes de Saúde da Família, para verificar a efetividade das capacitações em relação à saúde auditiva infantil, e dois trabalhadores de empresas, para sensibilizar os profissionais sobre a prevenção das alterações auditivas nas atividades profissionais. Dois estudos com os Agentes Comunitários de Saúde utilizaram a videoconferência e a capacitação presencial simultaneamente e outro somente presencial. Observou-se que a videoconferência é um meio que pode proporcionar a disseminação do conhecimento, no entanto deve ser utilizada de uma forma complementar. Nos estudos com trabalhadores verificou-se que as capacitações devem ser permanentes e focar mais o uso, manuseio e conservação dos protetores auditivos. As publicações confirmam a efetividade das capacitações, porém, há poucos trabalhos nesta área, o que vem reforçar a importância de novas pesquisas com enfoque na educação em saúde auditiva.

DESCRIPTORIOS: Audição; Capacitação; Educação em Saúde; Perda Auditiva; Promoção da Saúde

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