

Tips for Creating a Better Awareness in Hearing Health Care

Adriana Nora Habbaby*

Private Office, Pergamino, Centro de Audiología y Audifonos, Buenos Aires, Argentina

***Corresponding Author:** Adriana Nora Habbaby, Private Office, Pergamino, Centro de Audiología y Audifonos, Buenos Aires, Argentina.

Received: September 08, 2021

Published: September 27, 2021

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Abstract

Hearing problems worldwide constitute a serious problem in people's health. These are increasing year by year, affecting the hearing capacity to communicate, producing social isolation and difficulties in interpersonal relationships with the environment. October is one month dedicated to safeguarding hearing and encouraging the population to include a study of hearing levels in the annual check-up. Promote audiology to advance the profession by increasing public awareness of the importance of hearing protection. It is time to start taking adequate measures to solve this great problem that affects the population without respecting age or sex. For this reason, early detection plays a decisive role in curbing this evil that began in the era of industrialization. This article provides information on how to prevent hearing damage from exposure to loud noise.

Keywords: Hearing Health Care; People's Health; Loud Noise

Introduction

Many of the disabling hearing problems could be prevented if we act with preventive health measures. Every year, in October, various institutions dedicated to hearing health launch prevention campaigns to evaluate, detect or rule out previously undetected hearing losses.

To understand this problem that affects us, it is necessary to understand some concepts that are expressed below.

Noise and sound are not the same thing. Noise is something that is annoying, unpleasant for the listener. It is perceived as con-

suming, useless, unwanted and acts as a great obstacle playing an important role in people's daily lives at the moment. It is in this context where signal-noise conflict, especially in people with hearing loss, making it difficult to discriminate the spoken word when the noise level exceeds the signal level (from 6 db in more).

The sound, on the other hand, is an auditory sensation produced by an acoustic wave that propagates in an elastic medium which produces or not an audible sensation to the human ear, it is not unpleasant like noise.

Figure 1

Exposure to continuous, intermittent, variable or impulse noise of noises exceeding 85 dB or more will be considered harmful noise to the human ear.

Both noises and sounds have an amplitude, frequency and intensity. The amplitude corresponds to the acoustic pressure, the frequency determines the tone of the sounds (low-medium-high; the human ear is capable of perceiving between 20 to 20,000 Hz.) - The intensity corresponds to the strength of the vibration. The human ear is capable of perceiving from 0 dB/auditory threshold to 140 dB (the latter produces pain threshold from 110 dB or earlier).

Statistics

According to data provided by the World Health Organization (WHO), more than 5% of the world's population (466 million people today) suffer from hearing loss.

It is estimated that in 30 years (2050) this figure will double and mark an even greater incidence, that is, 1 in 4 will suffer a disabling hearing loss.

Faced with this situation, it is necessary to make the population aware of the importance of paying attention to the sense of hearing and preventing possible hearing disorders through periodic controls.

Another significant figure according to the O.M.S 78% of low-income countries have less than one otolaryngologist for every mil-

lion inhabitants; 93% have less than one audiologist for every million people; only 17% have one or more speech therapists for every million, and only 50% have at least one teacher for the deaf for every million inhabitants. According to the report, these deficiencies can be solved by integrating ear and hearing care in primary care, using training and task distribution systems. From this arises the urgent need to incorporate into the health systems a greater number of professionals trained in these areas of public Health.

Etiology

The main cause of this progressive increase in world statistics on the increase in people suffering from hearing loss is attributed to what is known as noise pollution. Defined as excess sound or noise that alters the normal conditions of an environment. The great challenge is how to detect and prevent it.

Noise pollution produces physiological, psychological, social, economic, legal and labor repercussions in individuals who are in contact with environments or places with excess noise levels that are not tolerated by the human ear.

Therefore prolonged exposure to sounds or noise above 85 dB causes gradual hearing loss; and to 110 db in more although it is exposed a minute it can cause a permanent hearing damage.

B. Andrade-Méndez et al, In a research work it was observed that The presence of alarm fatigue was evident; with predominance of clinical relevance in the middle and low ranges. The health personnel responded within the time established for timely attention to the non-fatigued alarms.

For Jiang Z, Wang J, Feng Y et al. It is important to determine which frequencies and measures of auditory perception are the most sensitive early indicators of noise-induced hearing impairment.

According to research in addition to using conventional audiometry To measure hearing thresholds, extended high frequency (EHF) audiometry is a tool that should not be overlooked when conducting a routine clinical evaluation as it serves to early identify hearing loss due to ototoxic drugs and exposure to noise.

Repercussion

Below is a graph that shows at what levels noise pollution affects-After it, the reasons for each of the conditions and how the affect are explained.

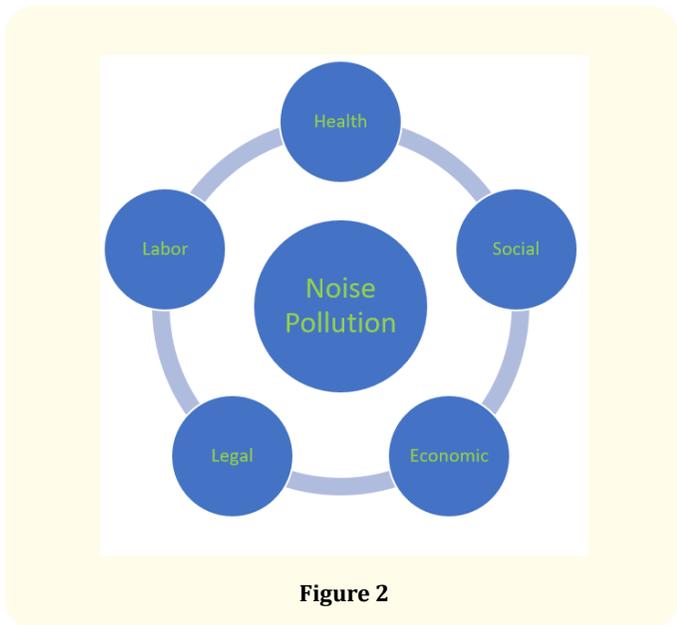


Figure 2

On a health level, some of the symptoms that exposure to high sound levels or noises can cause can cause: tinnitus, balance disturbances, disturbances in heart rhythm (tachycardia), stress, high blood pressure, increased respiratory rate, mood disturbances, gastric and intestinal alterations, sleep disorders, visual acuity alterations among others.

At the social level, it produces communication problems such as avoidance behaviors such as stopping going to meetings and parties, which leads to progressive isolation and the path of depression.

At an economic level, it entails spending on public, occupational and personal health to carry out preventive plans, controls through audiological studies, purchase of material to soundproof environments, purchase of disposable hearing protectors or goblet headphones under ISO safety standards, ANSI among others that guarantee an effective use of such protectors.

At the legal level, each government creates its laws and decrees to ensure the right of citizens, which include annoying noises at certain times of the day, controls of places that use music such as gyms, bars, dance venues, etc.

At the labor level, labor laws protect workers who must work in factories or activities with noisy engines or tools by requiring

employers to provide elements of hearing protection and at the same time controlling and demanding its use to avoid lawsuits for compensation for hearing damage due to exposure to noise in the workplace.

Another important component to consider is hearing health in times of pandemic. The use of long working hours during teleworking, long-hour teleconferences, exposure to high intensity music are causes of damage to the auditory system, so you should take into account counts when regulating teleworking for better hearing care.

Prevention

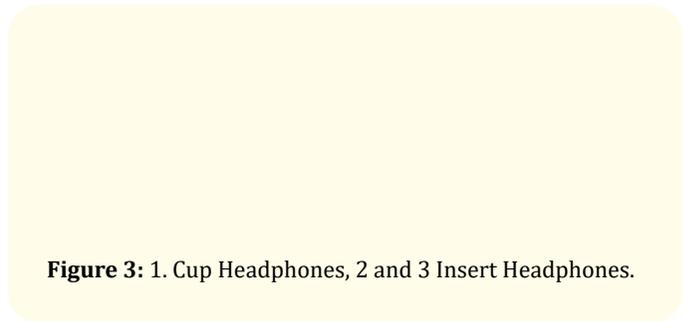


Figure 3: 1. Cup Headphones, 2 and 3 Insert Headphones.

Noisy Planet and the National Institute on Deafness and Other Communication Disorders (NIDCD) It is one of the many Institutes that deals with prevention through free resources to know how to use hearing protectors to prevent hearing loss due to noise.

Advice

Here are tips for caring for your hearing

-Step far enough away from loud sounds or wear hearing protectors. For this, there are two types: insertion plugs and protective earmuffs whose function is to prevent hearing damage-These serve the function of limiting the sound level although they do not block noise. The insert plugs must fit directly into the ear canal. Protective ear muffs cover the pinna thereby protecting the ears from entry at high sound pressures:

- Decrease the volume of any device that generates a high intensity output for the ears (music players, televisions, 3 MP headphones, etc.)
- Make hearing rest if you have worked for many hours with exposure to loud noises while still wearing hearing protection. Hearing fatigue is the first sign that precedes injury.

- Control hearing from birth through hearing prevention programs in neonates through the OEA Otoacoustic Emissions tests
- Perform periodic (annual) audiometric controls in adults and children at different stages of development and growth, mainly upon entering school.
- The use of hearing protection in noisy work environments is essential.
- A professional audiologist is indicated to carry out the corresponding auditory control studies.
- Noise in schools is an issue that should be addressed in less developed countries by improving construction materials taking into account the acoustics of the classrooms, especially middle-level schools with industrial technical training, should provide protection for students and teachers adequate hearing.
- Respect the use of hearing protectors in work environments, following the hearing prevention programs that are required by labor law.
- In everyday life the use of hammers and power tools should be used with hearing protection.
- The kitchen of a house or in restaurants or culinary places the use of mixers, blenders and other devices such as vacuum cleaners have a high noise level so hearing protectors should also be used.

Solutions

Hearing problems that affect a percentage of the population, as indicated above, have to be resolved once detected and produced. Millions of people need access to one or two hearing devices, be it cochlear implants, osseointegrated implants or hearing aids. However, the economic factor prevents this scope in many underdeveloped countries or with an inefficient health system so not everyone has the privilege of have them even if the possibility exists [1-8].

Conclusion

It is easier to protect your ears from high noise levels than it is to stop environmental noise pollution. It is the work of each and every one of the organizations, professionals and teams that are dedicated to hearing health care. Global and local campaigns each year contribute and collaborate in stopping this environmental problem that affects the hearing health of the population. Budgets are high

to find the solution through hearing devices that exist today, so it is also an economic problem to solve that guarantees the quality of life of all people who suffer from hearing loss. Finally, it should be taken into account now in more preventive measures for hearing health related to teleworking.

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