ISSN: 2688-8238
DOI: 10.33552/OJOR.2022.05.000612
Online Journal of Otolaryngology and Rhinology
Iris Publishers

Research Article

Audiological Behavior of the Population that Attends the Clinic of Diagnosis of Hospital Angeles Del Pedegal

Iveth M Montoya Aranda*

Hospital Angeles del Pedregal Neurophysiology Service, Mexico

***Corresponding author:** Iveth M Montoya Aranda, Hospital Angeles del Pedregal Neurophysiology Service, Mexico.

Received Date: February 21, 2022

Published Date: March 10, 2022

Introduction

The detection of hearing loss has been widely studied in newborns, with new technology and study methods, however in adults there are no well-established protocols for the detection of this condition, which is of utmost importance due to the investment of the population pyramid [1-3]. Hearing loss leading to hearing impairment is understood as hearing loss greater than 40 dB in the ear with better hearing in adults and greater than 30 dB for children, so that the present study proposes is to avoid reaching the hearing disability, through the realization of an easy and fast study such as conventional tonal audiometry.

Over the years the number of people with hearing impairment has been increasing, so the prevention of hearing loss lies in reducing and/or avoiding as much as possible the presence of the risk factors that originate it. Perform early detection and mechanisms for adaptation and treatment [4, 5].

Within the labor field, hearing loss is of special interest, acoustic risk prevention measures through regulations controlling the exposure to noise of the time of workers in factories, airports, construction personnel, musicians..., in addition to the use of hearing protection elements [6, 7, 8].

In the domestic sphere for proper hearing hygiene, exposure to music devices through headphones should be avoided at high volume, excessively noisy environments, etc. [9, 10, 3].

Ototoxic drugs (anti-inflammatories, antibiotics, diuretics, etc.) should be evaluated for administration especially to people with hearing disorders, especially elderly [11].

The above are some scenarios in which the Diagnostic Clinic by means of a conventional tonal audiometry can determine the degree of hearing in a timely manner [1, 2, 3], since currently, 80% of the population with hearing impairment belongs to developing countries. Hearing loss represents a real challenge for public health, It is the most frequent sensory deficit in human populations [9, 8, 12].

The quality of life is seriously affected in people suffering from hearing loss, psychological, social and emotional alterations are seriously affected [1, 13]. Among the alterations in mood that is most often associated with hearing loss are depression, loneliness, anxiety, somatization and poor social functioning [9], depression being the psychiatric illness most frequently related to hearing loss in adults 14. Other alterations that significantly degenerate the quality of life are the decrease in cognitive functions, such as memory and attention [14]. Early detection in patients with hearing loss may improve social and emotional function, communication, cognitive functioning and depression [8].

The use of hearing devices adapted properly by a professional has shown very significant improvement in quality of life, specifically communication, emotional stability, functioning of higher mental processes, as well as decreasing the presence of major depressive disorder [9].

The use of "quality of life" refers to general aspects of the well-being of individuals. In hearing loss, quality of life occurs at the level of emotional reactions (loneliness, isolation, frustration, depression, anxiety, and shame, among others), behavioral reactions

(abandonment of activities, increased dependence), and cognitive reactions (confusion, difficulty in concentration, distractibility and low self-esteem) [14].

For the above and because it does not exist for the above and because there is no formal research study that has determined the real incidence and level of hearing loss in the population that goes to the clinic of diagnosis. We are convinced that this work will help us formulate prevention programs for hearing loss and hearing health. As well as to achieve an adequate assessment of the evolution of the existing cases [14, 10, 15].

General Objective

The objective of this work is to know the incidence and levels of hearing loss, as well as the differences and behavior of this condition that exist between the female sex and men in an open population who come to the Diagnostic Clinic of the Angeles del Pedregal Hospital for evaluation.

Patients and Methods

We conducted a retrospective study of all patients who came to the diagnostic clinic of the Angeles del Pedregal Hospital for assessment.

During the realization of Chek-Up, in which conventional tonal audiometry was performed (AT-10 Interacustic equipment), during the period between January and December 2018. We study the variables of age, sex, and symptomatology of patients. Collecting the results of the audiometry and classification, which was carried out according to the classification of hearing disorders of the World Health Organization that classifies them in:

Normal hearing >20 to 26dB

Mild hearing loss 27 to 40dB

Moderate hearing loss 41 to 55dB

Mild hearing loss 56 to 70dB

Severe hearing loss 71 to 90dB

Profound hearing loss < 90dB

Subsequently, the results were captured and analyzed.

Results

During the period from January to December 2018, 2312 patients were reviewed by the Neurophysiology Service of the Angeles del Pedregal Hospital.

The age range of the patients ranged from 16 to 86 years, of which 60% were male and 40% were female. In which 1114 (48%) of the patients studied, some degree of hearing impairment was found by performing audiometry (Table 1).

Table 1

Age Ranges in years	Men	%	Women	%
Under 20	3	0.217	1	0.107
20-29	45	3.259	45	4.834
30-39	286	20.71	228	24.49
40-49	477	34.54	303	32.546
50-59	379	27.444	225	24.168
60-69	145	10.5	99	10.634
70-79	41	2.969	25	2.685
80-89	5	0.362	5	0.537
	Total 1381	100	931	100

Of the total number of patients studied, 2240 patients (97%) reported no hearing impairments.

Normal hearing was found in 1191 patients of which 619 were men with an average age of 41 years and 572 were women with an average age of 42 years (Table 2).

Table 2

Gender	Men	Gender	Women	Total
January	150	January	107	257
February	172	February	81	253
March	189	March	97	286
April	53	April	37	90
May	69	May	41	110
June	88	June	55	143
July	72	July	86	158

August	88	August	69	157
September	103	September	79	182
October	125	October	100	225
November	118	November	86	204
December	154	December	93	247
Total	1381	Total	931	2312
P T	59.73	P T	40.27	100

Age distribution

PT: percentage of total patients

In patients who manifested normal hearing, it was found that 738 patients (33%) presented alterations in the audiometry study as we will describe below:

695 patients presented selective falls, being 476 men, with an age range ranging from 27 to 80 years and 219 women with an age range ranging from 32 to 75 years and with an average of age of 50 years for both cases (Table 3).

Table 1,2,3: Data of the total number of patients studied.

Table 3

A	Men	% G	% T	P E	Women	% G	% T	P E
A Normal	620	44.82	26.77	41	578	62.43	24.74	42
C Selective	476	34.46	20.58	50	219	23.52	9.47	50
H superficial	243	17.49	10.51	56	111	11.92	4.8	57
H media	25	1.81	1.08	59	18	1.93	0.77	65
H Severe	15	1.08	0.64	58	5	0.53	0.21	63
H Profound	2	0.14	0.08	61	0	0	0	0
Total	1381				931			

Audiometric results

A: hearing, C: falls, H: hearing loss, PE: average by age, %G: percentage by gender, %T: percentage of total patients

Of the total population studied, 354 patients (15%) presented superficial hearing loss, being 243 men, with an age range ranging from 30 to 84 years of age and 111 women, with an age range that oscillates between 18 and 81 years, with an average age for both cases of 56 years (Table 4). In this group of superficial hearing loss 160 patients presented it bilaterally, 110 men and 50 women and the rest of the patients 194 patients presented unilateral hearing loss with the left side being the one with the highest frequency by 60%.

Table 4: Bilateral and unilateral hearing loss predominantly in the ear.

Hearing loss type	Superficial	Media	Severe	Profound	Total Percentage
Unilateral	194	31	18	1	58%*
Percentage	55	72	90	50	
Right ear	78	9	6	0	38%**
Left ear	116	22	12	1	62%**
Bilateral	160	12	2	1	41%*
Percentage	45	28	10	50	

*Percentage of all patients with hearing loss, **Percentage of unilateral hearing loss

Of the total population, 43 patients (1.8%) presented medium hearing loss, with 25 men with an age range ranging from 42 to 85 years of age and 18 women with an age range ranging from 41 to 88 years of age and with an average age of 59 and 65 years respectively. In this group 12 patients had mean hearing loss of

Bilateral form and of the rest of the patients of this group, 22 patients presented unilateral mean hearing loss in the left ear, this being again the predominant one for unilateral hearing loss.

Of the total population, 20 patients (0.86%) presented severe hearing loss, being 15 men with an age range ranging from 46 to 78 years of age and 5 women with an age range ranging from 42 to 78 years of age, with an average age of 58 and 63 years of age respectively.

In this group only 2 patients presented bilateral severe hearing loss, the rest of the patients were unilateral, with the left ear being predominant with 13 patients.

Of the total population 2 presented profound hearing loss, both cases were men aged 67 and 56 years, the first bilaterally the second unilaterally affecting the left ear.

The incidence of hearing loss found in our sample was 18.12%.

Discussion

According to information from the WHO, it is estimated that globally 413 million people suffer a slight loss, 187 million have a moderate loss and 46 million a severe to profound loss [16].

Some studies carried out in the United Kingdom report that 20% of adults have a hearing problem that affects their lives making it difficult for them to communicate. In our sample the incidence was higher, 33% of the population presents some alteration, being 41% of people with unilateral hearing loss and 32% bilateral. By obtaining these results we are faced with the need to implement diagnostic tools that allow us to quickly and effectively identify the population that is potentially affected, underdiagnosed leading to a delay of about ten years in the indication of a treatment, which may become increasingly less effective [17].

The differences between female and male sex were also similar in our study as in the study conducted by Sharashenidze et al. with 224 patients, reports that the men have age-related hearing loss at younger ages than women and their loss progresses more rapidly than in women. They mention that in all the decades studied women have better hearing than men and that these differences may reflect different dynamics in the establishment of related hearing loss. with age.

In a study conducted by Gates et al., [3] for the detection of hearing loss, they report that men had hearing loss in 35% and women in 22% In our study, men had hearing loss in 33% compared to 16% of women.

The trend of greater affectation in the male sex is maintained in our study; in all tests men had a higher prevalence of hearing loss.

Age also an important factor in our study, revealed patients from 16 years to 88 years which allows us to observe that what was previously considered as an alteration, which affected mainly after the fourth decade of life every day occurs at younger ages.

Conclusion

According to the results obtained in this study, we recommend the performance of a conventional tonal audiometry, as a method to determine the auditory threshold and determine whether or not it exists. hearing loss one see per year.

We found in our study a higher prevalence of hearing loss than reported in the literature.

Men had a higher frequency of hearing loss, taking into account.

Early identification of hearing loss is important to maintain and improve patients' quality of life.

It is necessary to implement in our hospital programs of protection and prevention of hearing loss by means of a tool that can be considered easy, fast, reliable and cheap, as it is tonal audiometry to identify people with hearing loss.

Acknowledgement

None.

Conflict of interest

The authors declare that they have no conflict of interest.

References

1. J Moore (2005) The Human Brainstem Auditory System In: Neurotology 45-51.
2. MM Popelka, KJ Cruickshanks, TL Wiley, TS Tweed, BE Klein, et al. (1998) Low prevalence of hearing aid use among older adults with hearing loss: the Epidemiology of Hearing Loss Study. J Am Gerhart Soc 46: 1075-1078.
3. G Gates, J Mills (2005) Presbycusis. Lancet 366: 1111-1120.
4. C Mulrow, C Aguilar, J Endicott, M Tooley, R Velez, et al. (1990) Quality of life changes and hearing impairment. A randomized trial. Ann Intern Med 113: 188-194.
5. I Mackenzie, A Smith (2009) Deafness--the neglected and hidden disability. Ann Trop Med Parasitol 103(7): 565-571.
6. Primary ear and hearing care training resource: Advanced. In: Organization WH, ed. Ginebra, Suiza.
7. C Mulrow, M Lichtenstein (1991) Screening for hearing impairment in the elderly: rationale and strategy. J Gen Intern Med 6: 249-258.
8. MT Puig Reixach, A Munich, MC Medà (2010) WITHDRAWN Universal neonatal hearing screening versus selective screening as part of the management of childhood deafness Cochrane Database Syst Rev 1: CD003731.
9. D Monzani, GM Galeazzi, E Genovese, A Marrara, A Martini (2008) Psychological profile and social behaviour of working adults with mild or moderate hearing loss Acta Otorhinolaryngol Ital 28: 61-66.
10. D Felce, J Perry (1995) Quality of life: its definition and measurement. Res Dev Disabil 16: 51-74.
11. (2011) World Health Organization. Millions of people in the world have hearing loss that can be treated or prevented.
12. B Yueh, N Shapiro, C MacLean (2003) Screening and management of adult hearing loss in primary care: scientific review. JAMA 289: 1976-1985.
13. W McBride, C Mulrow, C Aguilar (1994) Methods for screening for hearing loss in older adults. Am J Med Sci 307: 40-42.
14. RJBL Dunlop, KC Dennis, SA Gonzenbach, HB Abrams, JT Berardino, et al. (2006) Support personnel in VA audiology. Audiology Today 18(1): 24-25.
15. E Daniel (2007) Noise and hearing loss: a review. J Sch Health 77(5): 225-231.
16. (1997) WHO: Report of the First Informal Consultation on Future Programme Developments for the Prevention of Deafness and Hearing Impairment. World Health Organization, Geneva.
17. TN Roth, D Hanebuth, R Probst (2011) Prevalence of age-related hearing loss in Europe: a review. Eur Arch Otorhinolaryngol 268: 1101-1107.