



KNOWLEDGE AND AWARENESS OF HEARING AIDS IN URBAN AREA

Satish Kumaraswamy and Aswathy KP

ARTICLE INFO

Article History:

Received 10th April, 2022

Received in revised form 2nd

May, 2022

Accepted 26th June, 2022

Published online 28th July, 2022

Keywords:

Aids

ABSTRACT

Hearing is the ability to detect vibrations in the ear and hence perceive sound. Hearing aids are routinely used to help people regain their hearing and speech comprehension when hearing loss results from damage to the tiny sensory cells in the inner ear known as hair cells. This study helps to understand the knowledge and awareness of hearing aid among adult population in urban areas. The study was conducted by providing 12 closed set of questionnaire to closely evaluate the awareness on hearing aid. Based on the statistical analysis, results demonstrates moderate level of awareness on hearing aids in urban areas which indicates that more knowledge and awareness is required among urban areas howbeit, people has got high facility technology and still lack in knowledge and awareness on hearing aids.

Copyright©2022 Satish Kumaraswamy and Aswathy KP. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Hearing is the ability to perceive auditory stimuli that are understood through vibrations, variations in pressure, and time in the surrounding medium, as well as with the organ ear. Hearing loss is a condition in which a person has difficulty perceiving certain auditory stimuli. When a person's ability to perceive speech sounds on specific frequencies is impaired, they are referred to as hearing impaired or hard of hearing.

Hearing aids are routinely used to help people regain their hearing and speech comprehension when hearing loss results from damage to the tiny sensory cells in the inner ear known as hair cells. Sensorineural hearing loss is the name for this type of hearing loss. Disease, ageing, noise-related traumas, and the use of particular medicines can all cause damage. A hearing aid is a small electronic device used to enhance hearing that is worn in or behind the ear. A person with hearing loss can listen, talk, and fully engage in daily activities thanks to the way some sounds are enhanced. In both quiet and busy environments, a hearing aid can help someone hear better.

The waves of sound entering the ear are amplified by a hearing aid. The greater vibrations are detected by surviving hair cells, which are converted into neural impulses and sent to the brain. The more damage to a person's hair cells, the more severe the hearing loss will be, and the more hearing aid amplification will be required to compensate. However, the amount of amplification a hearing aid can deliver has practical limits. Furthermore, even large vibrations will not be turned into cerebral impulses if the inner ear is excessively injured. A hearing aid would be useless in this case.

Successful usage of hearing aids needs time and patience. It will be easier for you to acclimatise to your aids if you use them on a daily basis. Learn everything there is to know about your hearing aid. Put the aid in and out, clean it, identify right and left aids, and replace the batteries with your audiologist present. Inquire about how to put it to the test in situations where you have hearing issues. Learn how to change the volume of your hearing aid and how to programme it to respond to sounds that are too loud or too soft. Work with your audiologist until you're happy.

Reese and Chisolm (2005) analysed the Recognition of Hearing Aid Orientation Content by First-Time Users and found that recognition of HAO content improved when tested at 1 month, suggesting audiologists may expect their patients to be aware of a majority of hearing aid use and care information following the hearing aid trial period.

Muñoz, Preston and Hicke (2014) studied on paediatric Hearing Aid Usage and found that Hearing aid use increased with communication about data logging for some, but not all, parents.

Zhao, Manchaiah, Claire, Danermark, Jones and Brandreth (2015) studied on Exploring the influence of culture on hearing help-seeking and hearing-aid uptake and found that, only a small number of those with hearing impairment seek professional help and take up appropriate rehabilitation.

Bennett, Meyer, Eikelboom and Atlas(2018) investigated the Knowledge, Skills, and Tasks Required for Hearing Aid Management: Perspectives of Clinicians and Hearing Aid Owners. And found that results highlight the magnitude of information and skill required to optimally manage hearing

*Corresponding author: **Satish Kumaraswamy**

aids. Clinical recommendations are made to improve hearing aid handling education and skill acquisition.

Narayansamy, Ramkumar and Nagarajan(2014) investigated the Knowledge and Beliefs about Ear and Hearing Health Among Mothers of Young Children in a Rural Community in South India and found that Mothers in this rural community had information about some aspects of ear and hearing healthcare. They were aware that use of hairpins and safety-pins to clean ears was harmful and they were knowledgeable about ways to identify hearing ability. However, misconceptions also existed.

Powell, Jacobs, Noble, Bush & Rood (2019) studied on Rural Adult Perspectives on Impact of Hearing Loss and Barriers to Care and found that they indicated a lack of confidence in discussing follow-up procedures and intervention needs and Several important gaps in knowledge were identified.

Wong, Mukari, Harithasan and Mazlan(2019) analysed the Knowledge and attitude on childhood hearing loss among mothers and mothers-to-be in urban and rural areas in Malaysia and found that the majority of mothers had a moderate level of knowledge and positive attitude towards childhood hearing loss. Urban mothers had a significantly higher knowledge than those of the rural area.

Alnuman and Ghnimat (2019) created Awareness of Noise-Induced Hearing Loss and Use of Hearing Protection among Young Adults in Jordan and found that There is a clear lack of knowledge about the importance of using earplugs and hearing protection. This study indicated potential for education within the young adult segment of the population.

Gomez & Ferguson (2019) Improved the self-efficacy for hearing aid self-management: the early delivery of a multimedia-based education programme in first-time hearing aid users. And found that greater improvement in self-efficacy and knowledge of hearing aids than the control group.

Gotowiec, Larsson and Wolters (2020) reported on Understanding patient empowerment along the hearing health journey and found that study conceptualises empowerment along the hearing health journey as the process through which individuals with hearing-related challenges acquire and use knowledge, skills, and strategies, and increase self-efficacy, participation, and the feeling of control of their hearing health care, hearing solutions, and everyday lives.

Sang Cho, Kim, Choi, Baek, Lim, Park and Moon(2021) explained the Factors Influencing Hearing Aid Adoption in Patients With Hearing Loss in Korea and found that educational level, household income, hearing loss period, place of HA purchase, and government HA assistance program status as factors influencing HA adoption and third party reimbursement was the most important factor affecting HA purchase intent.

Heselton, Bennett, Manchaiah and Swanepoel (2022) did Online Reviews of Hearing Aid Acquisition and Use: A Qualitative Thematic Analysis and found that Hearing aid users described a range of positive, negative, and neutral descriptions online about their hearing aid user experience and gave advice to fellow hearing aid users helping clinicians improve their hearing aid fitting skills in practice.

METHODOLOGY

Aim of the study

The aim of the present study was to find out the knowledge and awareness of hearing aid in adult population.

The study was carried out in two phase:

Phase 1: Preparation Of Questionnaire

A total of 12closed set of questions were prepared in order to assess the knowledge and awareness of hearing aid among adults in urban area. All these questions were validated and corrected by ten Audiologist.

Appendix I

1. Are you aware about Hearing Aids?
2. Do you have an idea about when to start the use of Hearing Aid?
3. Are you aware about the different types of Hearing Aid?
4. If you have hearing loss, would you like to use Hearing Aid?
5. Are you aware about the hearing aid that cannot be easily noticed?
6. Do you think that Hearing Aid is only for people with Hard of Hearing?
7. Do you have any misconception about Hearing Aid?
8. (Eg: Some people think that hearing aid causes damage to brain)
9. Have you ever felt disagreeable with an individual wearing the Hearing Aid?
10. Have you seen any Hearing Aid Trial done for any of your family members?
11. If any of your relatives / friends have hearing loss, would you like to recommend them for Hearing Aid?
12. Do you think that Hearing Aid can return your hearing to normal?
13. Do you think people around see an individual with hearing aid in a positive attitude?

Phase 2: Participants with Inclusive and Exclusive Criteria

The participants included individuals within the age range of 25- 45years who were Malayalam speakers from Kerala. The participants selected with no history of hearing aid usage and no communication problem.

Stimulus used

A closed set of Questioner was prepared for the collection of data.

Procedure

A valid list of questions will be distributed to adult population. The participants task is to read and understand the questions related to hearing aid and analyse their knowledge and awareness about Hearing Aid.

Analysis

The adult individuals within the urban area was administered with 12set of question air and the responses were collected accurately by providing score of 1 for the response "YES" and zero for the response "NO". The collected data were further put through for statistical analysis and the results are discussed.

RESULTS AND DISCUSSION

The aim of the study was to understand the knowledge and awareness of hearing aid in urban area and the results obtained from the study are discussed below.

Awareness

Table 1 shows the responses regarding their awareness about hearing aid (in %).

	0		1		Total	
	Count	Row N %	Count	Row N %	Count	Row N %
q1	11	26.2%	31	73.8%	42	100.0%
q3	28	66.7%	14	33.3%	42	100.0%
q5	20	47.6%	22	52.4%	42	100.0%

Based on the 1st question, majority of the individuals were aware about hearing aid i.e 73.8% had knowledge where as 22.6% were less knowledgeable regarding the hearing aid. Awareness on different types of hearing aid, according to question no: 3, was less mastered among 66.7% of individuals and was highly mastered for 33.3% of individuals. Question 5 was regarding the awareness of hearing aid which are not visible. About 52.4% of individuals were aware about the non visible hearing aids and 47.6% of individual among urban area was not aware about hearing aids that were not visible.

Table 2 shows the level of awareness of hearing aid in urban population

	Frequency	Percent
High	5	11.9
Low	17	40.5
Moderate	20	47.6
Total	42	100.0

The overall awareness on hearing aid can be concluded in which there was about moderate level of awareness was visible among individuals.

Knowledge

Table 3 shows the responses regarding their knowledge about hearing aid (in %).

	0		1		Total	
	Count	Row N %	Count	Row N %	Count	Row N %
q2	22	52.4%	20	47.6%	42	100.0%
q4	14	33.3%	28	66.7%	42	100.0%
q6	19	45.2%	23	54.8%	42	100.0%
q7	35	83.3%	7	16.7%	42	100.0%
q8	35	83.3%	7	16.7%	42	100.0%
q9	29	69.0%	13	31.0%	42	100.0%
q10	6	14.3%	36	85.7%	42	100.0%
q11	5	11.9%	37	88.1%	42	100.0%
q12	16	38.1%	26	61.9%	42	100.0%

Question no 2 is regarding the knowledge on when to start the use of hearing aid. It was found that 52.4% of individuals had less knowledge while 47.6% of them had sufficient knowledge. Only 33.3% of individuals lack interest in using hearing aid whereas 66.7% had the interest of using hearing aid in case of hearing loss based on the response of question no 4. It clearly shows that 54.8% of individuals believe that they require hearing aid only when it is hard of hearing. While 45.2% of individuals didn't much knowledge on it, these were the responses obtained from Question no: 6. The response from the question no:7, shows that 16.7% of individuals from the urban area had misconception on hearing aid, whereas majority of individuals i.e, 83.3% of them were against it.

The response from the participants on question no:8, shows that 83.3% of individuals didn't have any disagreement on wearing the hearing aid and 16.7% had a small disagreement on it.

With respect to question no:9, 69% of them had no exposure perceiving hearing aid trail among family members and 31.01% have got good knowledge on it.

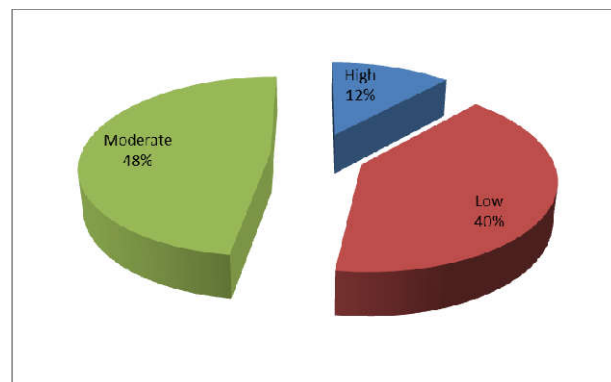
Question no:10 was concerning on recommendation of hearing aids for family members in case. the response to this question conveyed that 85.5% of them recommend and 14.3% were not interested in recommending hearing aid.

Question no:11 explained the response on returning of hearing to normal with use of hearing aid. The response shows that 11.9% of people from urban area were not positive on returning of hearing to normal, whereas 88.1% had a hope on returning hearing to normal. Question no 12 was about the attitude of people towards a hearing aid person. The response suggests that 38.1% of the people had a negative attitude and 61.9% had positive attitude toward them.

Table 4 shows the level of knowledge about Hearing aid in urban population.

	Frequency	Percent
High	4	9.5
Low	4	9.5
Moderate	34	81.0
Total	42	100.0

The overall knowledge on hearing aid can be concluded in which there was about moderate level of knowledge was visible among individuals.



The above figure, explains that the knowledge and awareness of hearing aid was in moderate level among adults in urban population. The response of urban population gave an insight on less enlightenment regarding the hearing aid. The response from the reality shows that the peoples ideology on a person with hearing aid seems to be quiet below.

DISCUSSION

The sound in the environment is transferred into your ear and make them louder, all hearing aids use the same fundamental pieces. The majority of hearing aids are digital, and they all use either a regular hearing aid battery or a rechargeable hearing aid battery to operate. Starting with the tiniest and least noticeable in the ear, below are the several types of hearing aids available. Hearing aid makers continue to reduce the size of hearing aids in order to suit the need for a discreet hearing device.

A Study conducted explained on the survey of providing hearing aids among elderly in urban area showed that the elderly people who are about 80 years of age had a mind set of deterioration of hearing problem in presence of hearing aids 62% of these elderly people recommended for hearing aid that are invisible. This study reveals that Most of the elderly people considered hearing aid as an old age device (Christensen and Sorensen, 2009).

Hearing aid plays an important role in quality of life. Elderly people in urban areas would be keen interested in using hearing aid in case of hearing problems. Majority of the adults prefer to use hearing aids rather than being dwell over with hearing problem. Studies have shown that there is improvement in Quality of Life among older people with hearing-aids which helps them to communicate or gather around in a group (Changa, Wanga and Willsb, 2020). Recently all the appointments to visit in hospitals has made easier for elderly people which helps them to easily access with their need of hearing aids that are in need.

An audiologist is a hearing health specialist who diagnoses and measures hearing loss and conducts a hearing test to determine the kind and severity of the problem. If significantly more people are to discover the joys of better hearing, the hearing healthcare is one among the service that provide the right information in front of you. Audiologists as in health care provides a complete totality in providing hearing services including hearing aids with customer satisfaction. Younger or elder is not a matter for an audiologist in providing the best hearing aid that is suitable for them. Audiologists easily helps in access of hearing aids further more in children's that are in need.

SUMMARY AND CONCLUSION

This study provides preliminary evidence on the exact knowledge and awareness on hearing aid among adults in urban areas. This study has brought up with conclusion that even among the adults in urban areas, the knowledge and awareness on hearing care or use of hearing aids are less for a typical adult staying in urban areas. It's important that adults in these areas require a summarised knowledge on hearing aid usage for adult population. Hearing aid technology has advanced significantly in recent years, and this has expanded the opportunities for hearing rehabilitation. Presently in this ultramodern era, information regarding all different technology is near hand. It is essential to provide adequate hearing aid training for adults to let know the use of hearing even among adult population. It is predominant to remember that device-related hearing care will never be a replacement, Actually it should no longer happen that ENT specialist tell their hearing impaired patients that they needed no hearing aid or were too young or old to use. As the technology increases day by day, the knowledge on the use of hearing aid is not up to the mark. Therefore, significant guidelines are needed to be given for the adults in urban areas. This helps in altering the negative mind-set of the adults on hearing aid and help them to communicate in a group set up accordingly.

References

Basics of Audiology :from vibrations to sounds- Cranford, Jerry Lynn

- Judith L and Chisolm (2005) Recognition of Hearing Aid Orientation Content by First-Time Users- American Journal of Audiology -Volume 14, Issue 1-2005
- Karen, Preston, Sydney (2014) Pediatric Hearing Aid Use: How Can Audiologists Support Parents to Increase Consistency- American Academy of Audiology- vol. 25 no: 04
- Fei, Vinaya, Lindsay, Berth, Lesley and Marian (2015) - Exploring the influence of culture on hearing help-seeking and hearing-aid uptake American Journal of Audiology- Vol. 54, Issue 7- 2015
- Rebecca, Meyer, Eikelboom and Marcus D. (2018) - Investigating the Knowledge, Skills, and Tasks Required for Hearing Aid Management: Perspectives of Clinicians and Hearing Aid Owners-American Journal of Audiology- Vol. 27, Issue 1- 2018
- Meivizhi, Vidya, Roopa (2014) investigated the Knowledge and Beliefs about Ear and Hearing Health Among Mothers of Young Children in a Rural Community in South-Disability, CBR & Inclusive Development- Vol. 25, No.4 (2014)
- Whitney, Julie A., Wayne, Matthew L. & Claire Snell (2019) studied on Rural Adult Perspectives on Impact of Hearing Loss and Barriers to Care- Journal of Community Health volume 44.
- Yun Ai, SitiZamratol, Deepashini, Rafidah (2019) - Knowledge and attitude on childhood hearing loss among mothers and mothers-to-be in urban and rural areas in Malaysia-*International Journal of Pediatric Otorhinolaryngology*- Volume 124,
- Nasim and Talha(2019) Awareness of Noise-Induced Hearing Loss and Use of Hearing Protection among Young Adults in Jordan- *International Journal of Environmental Research and Public Health* vol.16, no.16
- Rachel &Melanie (2019)-Improving self-efficacy for hearing aid self-management: the early delivery of a multimedia-based education programme in first-time hearing aid users. *International Journal of Audiology*-vol.59, issue 4 -2020
- Sarah, Josefina, Paola, Taegan, Karolina, Florian (2020) studied on Understanding patient empowerment along the hearing health journey- *International Journal of Audiology*- vol.61, issue 2 -2022
- Young Sang, Ga-Young, Jae Hyuk, Sin Sung, Hye Yoon, Jihyun, Jin Gyun, Joon (2021) Factors Influencing Hearing Aid Adoption in Patients With Hearing Loss in Korea- *Journal of Korean Medical Science* vol.37 issue2- 2021
- Tayla, Rebecca J, Vinaya and De Wet (2022) Online Reviews of Hearing Aid Acquisition and Use: A Qualitative Thematic Analysis- *American Journal of Audiology*- vol. 31, Issue 2- 2022.
- Victor, Yuanyuan, Gary Wi (2020) Research investigation on the use or non-use of hearing aids in the smart cities- *Technological Forecasting and Social Change*. Volume 153- 2020
- Kochkin, Sergei (2007) Obstacles to adult non-user adoption of hearing aids - *The Hearing Journal*-Volume 60- Issue 4 -2007
