



## Analyzing Factors Responsible For Non- Acceptance of Hearing Aids

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### ABSTRACT

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Hearing loss relates to missing certain sounds. The problem is certain sounds in the hearing nerve in our brain do not get enough stimulation. The nerves need stimulation. When it is not stimulated, the nerve stops working. When the nerve stops working, there arises complexity in our hearing nerves, which processes sounds that we hear. Similar to exercising which we do to keep your body healthy, our ears also need to hear sounds and recognize them to function at its best. So, the longer waiting time prior to hearing aids purchase, or to wear them, the less stimulation the brain and hearing nerves get. The speech recognition becomes worse. Studies by WHO shows that nearly 40% of the age group in between age group 55-74 yrs (McCormack A. & Fortnum H., May2013) suffers from this type of problem. If we compare with vision impairment Hearing Impairment users do not take this matter quite seriously. The problem of Hearing Loss is not only restricted to senior citizens but all age groups. Once the nerve is affected, there is no way to reverse the damage. There are also other side effects of not wearing Hearing aids. These include higher risk of cognitive decline, forgetfulness, depression, low performance at work leading to income, less productivity and the list goes on. The factors which responsible for non-acceptance are not single but rather they are multi faced. Starting from financial problems, Physical looks, Perception, discomfort, are some of the few reasons. In this paper has tried to identify the factors which are responsible for this challenge. There needs to be further research and findings which can provide more factors responsible. Major studies in this field in the near future can identify many other factors which are even date beyond our knowledge.



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## **INTRODUCTION**

Hearing problem is an important public health problem; nearly 40% of the age group in between age group 55-74 yrs (McCormack A. & Fortnum H., May2013) does suffer from Hearing Loss. Compared to vision impairment People suffering Hearing Impairment do take this issue seriously until the point it is really alarming. The problem of Hearing Loss is not only restricted to senior citizens but it is all age group. But Obviously Age related Hearing Loss is one of the most common forms of Senso-neural Hearing Loss (Grattan & Vazquez, 2003). Senior Citizen generally tends to hearing deafness due to nerve response decoration. The feature is quite common but the acceptance is not.

If the challenge of Hearing Loss is generally associated with poor Quality of Life among older people (Chiaetal, 2007, Heine & Browning 2004). This challenge if not addressed at the proper time with preventive solution then this disorder might lead to Depression and Anxiety (Gopinath et al, 2009).In words of Tedros Adhanom Ghebreyesus, WHO Director-General, the ability to hear is precious. Untreated hearing loss can cause devastating impact on people's ability to communicate, to study and to earn a living. It further creates impact on people's mental health complicates relationships. WHO estimates in India, approximately 63 million people do suffer from significant auditory impairment. As per NSSO survey, currently there are 291 persons per one lakh population suffering from acute level of Hearing Loss (NSSO, 2001). The most alarming is the fact that large percentage is children between the ages of 0 to 14 years.

As we see on one side a fair portion of the population suffers from this disease. There is a huge portion of the population who do not accept Hearing Aid as a solution. There is a strange perception that Hearing Aid is used by Deaf people. There is also another though that Hearing Aid usage can deteriorate the residual Hearing. There is no scientific backup for these myths. If we screen and research we will not find any documentary evidence with this view point. But these stigmas are inculcated in the minds of the people. The ideas are shared from people to people, area to area and generation to generation. In this study we would like to identify the reasons which do prevent people from Hearing Aid Use.

### **Preliminary Findings of the Literature Review**

The success of Hearing Aid Usage is reflected from the fact the number of people using the Hearing aid vies-avis the number of people suffering from Hearing Loss. As the main treatment for hearing loss is hearing aids as well as Cochlear Implant. Obviously the success of Implant is more restricted to age level and it is much costlier. In case of Hearing Aids, only about 25% of the persons who could get benefitted use its (e.g., Kochkin, 2000; Meister, et al., 2008).Though this figure might be much more lower if we compare the figures of the developing countries and underdeveloped ones.

Several investigators have indicated the barriers which might prevent choosing to purchase and use hearing aids (e.g., Meister, et al., 2008). Among some of the barriers to hearing aid use are stigmatization, underestimation of hearing loss, attitude, coping strategies, care & maintenance of Hearing Aid, hearing aid benefit not very clear, cognitive and functional restrictions, cost, expectations too high (Meister, et al., 2008), and last but not least communication styles (Helvik, et al., 2008).

There is a dearth of empirical data focused on HA non-use. This might be contributing to professionals' lack of understanding regarding poor HA use. This is clearly problematic considering HA users generally doesn't require the professional, emotional, as well as educational support from hearing healthcare providers compared to those who dismiss the recommendation and prescription for Has. An evidenced in their qualitative study (Linssen et.al, May 2020) tried to explore the older, Dutch individuals' beliefs and feelings toward their HL and HA non-use through semi-structured interviews. The findings offered insight into individuals' perceptions of their HL and HAs, the results was limited and in many ways lacked specificity.

Factors which positively influence older adults least try hearing aids are generally perceived hearing difficulties, aging, positivity towards hearing aids as well as support from significant others which does help being the most impactful factors for uptake (Hickson et al., 2014; Knudsen et al., 2010; Laplante-Levesque et al., 2012; Meyer & Hickson, 2012; Pronk et al., 2017, 2019; Ratanjee-Vanmali et al., 2019; Ridgway et al., 2016; Sawyer, Armitage, et al., 2019; Simpson et al., 2019; Tahden et al., 2018). Stigma and false beliefs associated with hearing impairment and the physical looks have also been shown to influence hearing-aid uptake (Southall et al., 2010; Wallhagen, 2010).

People who do not take up hearing aids, are generally 15% return them after 1 to 1.5 month trial period in the United States while the remaining 85% generally accept (e.g., Kochkin, 2000). However, there are a large group who use it for a very small period of time. They might be using less than 1hour a day (Aazh et al., 2015). These findings have been confirmed in MarkeTrak 10 (Powers & Rogin, 2020). The report indicated that around 23% of prior hearing-aid owners were not current owners.

The study further revealed that about one third of the individuals rejecting hearing aids after a trial. In addition, of the 77% who were current hearing-aid owners had wide ranges of usage. Around, 72% of the current hearing-aid owners reported daily usage, 17% weekly, while there was around 2.7% who reported never using them. Based on the Literature review we had identified the major factors which work as barriers. The barriers which prevent from Hearing Aid Usage is mentioned in the diagrammatic view

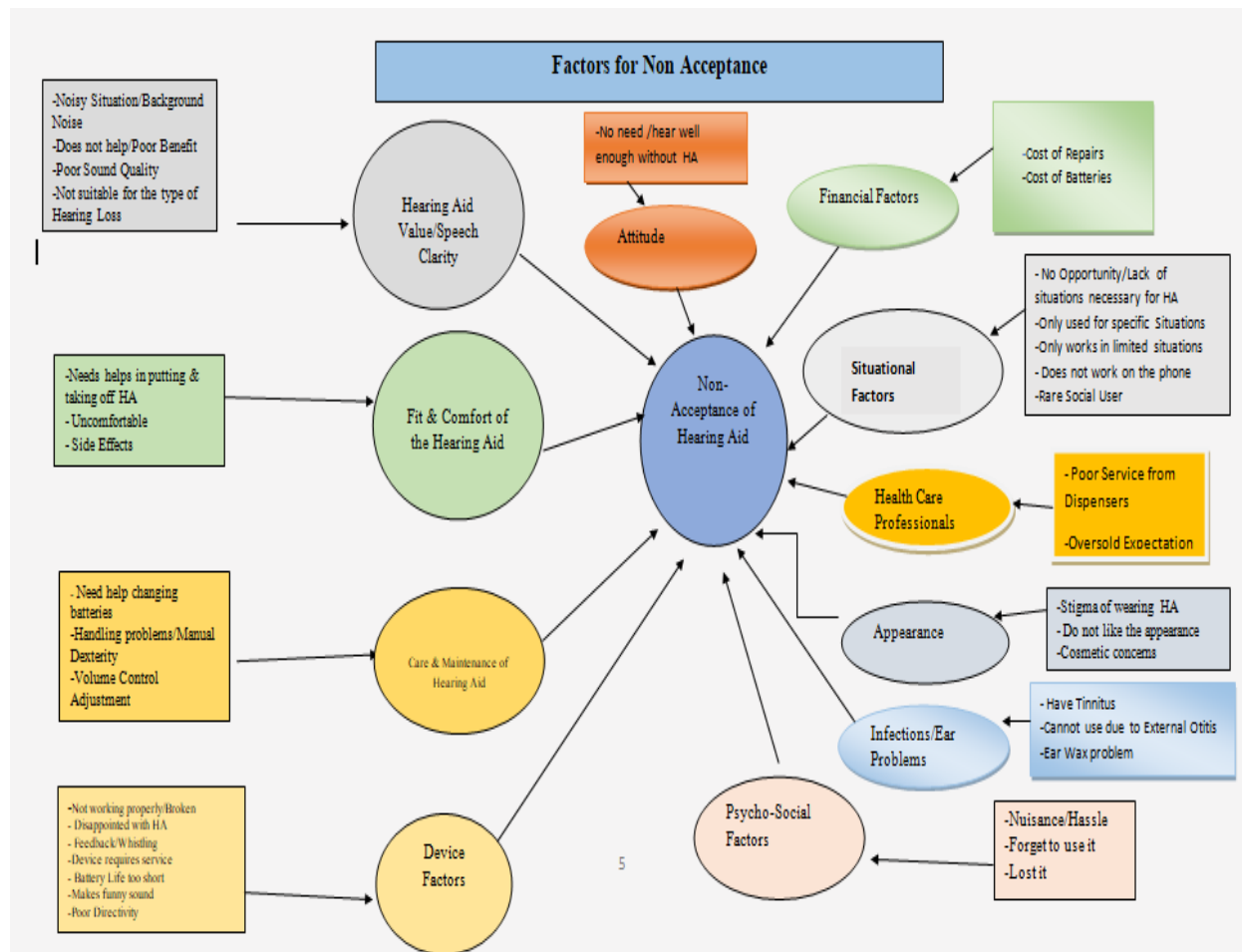


Figure: Conceptual model

## Research Gaps Identified

In our Literature Review, we have identified there needs to be a holistic study on the needs for the factors responsible for non-acceptance of Hearing Aid. There are Medical reasons as well as there are inherent reasons starting from socio-economic barriers, Societal Norms and Economic condition. Based on the review of the Literature we have identified the following barriers which we would discuss. The Gap arises from the fact every researcher have identified one perspective or the other. But generally there are multiple factors which act as a pivotal tool in this blockage. A detailed statistical tool application using research methodology would provide us the indicators which are more aggravating the problem compared to others. Obviously we would consider this in a future paper.

## Hearing Aid Value/Speech Clarity

People use Hearing Aid to communicate better. They do have expectations from it. But once a person is fitted with the hearing Aid. The user gets lots of noise which are quite normal in nature but are amplified. The sounds received includes background noise for example sound of

ceiling fan, Air conditioner, horn and sounds of vehicles and all other noises which are there in the room. But since the user did not hear this noise for a pretty long time this becomes too terrible to accept. Further, People complain that the speech reception is poor. Even after using it they could hardly make up what is being spoken. Obviously in case when hearing deficiency is on the higher category speech clarity remains an uncaptured area.

### **Fit & Comfort of the Hearing Aid**

There are people who have multiple problems. Hearing Problem is just one of them. People suffering from nerve disease and vision problem do find difficulty to wear and take off the hearing aid. They have to rely on somebody to do this job. But on a regular basis they do get that support. Further, even after wearing the HA the user might face some level of uncomfortable. People do complain of itching, generally people having dry skin does face this challenge. They might require some volume adjustment through the volume knob in the HA. The fitting might not be proper which results in buzzing noise, unfitness and below par hearing.

### **Care & Maintenance of Hearing Aid**

Compared to Specs hearing Aids needs much care and maintenance. The Instruments needs to be switched off when not in use. The batteries need to be changed on a regular interval. The tips which are inserted into the ear canal needs to be cleaned. If they are dirty brown then they hold wax which causes low hearing or no hearing at all. In case of sophisticated instruments such as RIC, Custom Model weather protection guard needs to be replaced. In case of extreme cold and heat they do get bigger in size thereby restricting the sound inflow. Further, care needs to be taken to safeguard from water, moisture, sweat, oil and any other form of liquid contact. This is not always possible for the HA user. People do find these problems a challenge which is quite burdensome. They expect some form of HA which will be hassle free to use and will have the minimum maintenance issue.

### **Attitude**

There are certain complex and weird ideas generated. People do have the opinion that there hearing is quite sound and are able to hear what is being spoken. Even if they find difficulty in hearing they manage by putting hands on the ear or by nearing the distance. Many a times they make awkward gestures and ask to repeat. But they do perceive a strong believe that they have still good hearing. If they get use HA there residual hearing will be damaged. Further, they would be completely dependent on the HA. The idea does get much popularity when he gets some support of his peers who do share same opinion. Though there is no scientific logic to prove but people and very resistant to accept.

### **Device Factors**

There are certain expectations when one use the Hearing Aid. Obviously, the damaged that has occurred is permanent in nature. Hearing Aid does not restore the Hairs cells nor does any form of anatomical restructuring to make the ear normal. It is only meant as an amplification device which helps the impaired person to hear the sound. The sounds generally sounds like a tone received from a microphone which is very artificial and much different compared to normal hearing. It does take time to adjust with this new normal. Only regular usage as par advice of the Hearing Care professional does acclimatizes the user.

People complain that they are receiving funny sounds from the Hearing Aid. There is whistling and feedback from the Hearing Aid. They get disappointed with the performance. The level excitement comes down and with low motivation they avoid using it. Further, the complexity of use and maintenance mentioned earlier also complicates the matter.

### **Situational Factors**

People use Hearing Aid on a selective basis. Often they mention that since they do not have much to say and remain alone they do not use the Hearing Aid. Time specific use, such Social gathering, Phone communication, Television viewing, listening music are some of the rare period they adopt hearing aid. The adaptation of the Hearing Aid is one of the prime requirements for clear hearing. It takes time to get used to this amplified artificial environment which is quite different from normal.

Further, when the Hearing deafness is on the higher side people do not get to hear even if they are in a gathering or while communicating in phone. There are many users who use the Hearing Aid one in one ear even though they have issues in both ears. Strong counselling needs to be provided to make them understand that they need to adopt the hearing aid rather than rejecting it. Once in a while on a specific situational requirement HA would provide the solution.

### **Financial Factors**

Hearing Aid is commercially quite expensive compared to specs. Obviously there are Government aids and grants but the quality of those are quite poor. Further, not many people do get that benefit. There are regular expenses which are recurring in nature such as cost of batteries, repairs etc. People having limited income and pension based survival does find it a big challenge. They generally compromise in many cases due to this financial challenge. This ultimately leads to unproductive hearing, Non Usage of Hearing Aid. The perception about Hearing Aid also becomes negative.

### **Psycho-Social Factors**

There are certain Psycho-Social Factors as well which does works as a hindrance. People tend to forget to use the Hearing Aid. They might have developed dementia starting from week to strong form which increases their forgetfulness. There remain high chances of losing it as well. The nuisance sound and uncomfortable creates a sense of rejection. If friends, relatives, spouse takes little cares in this many a times this challenge can be overcome. But the problem is not for a day but a regular one. SO, people who really cares and able to divest there time can provide a fruitful work. The mental perception of negativity would change if the support is there.

### **Health Care Professionals**

Hearing Aid is not just a product. In requires a great deal of service and care. Many a time's dispensers do not provide the information with detailed explanation. It needs to be noted that Hearing Impaired persons will not be able to understand all the information at one go. There needs to be constant connection between the service provider and user. If regular checkups are not conducted. Further, non information and explanation of the service provider can be fatal and works inversely on the Hearing Aid Usage.

Further, the expectations of users needs to clearly deliberated. There remain certain false myths and high level expectations. The reality check needs to be mirrored to the user.

### **Appearance**

The looks of the Hearing Aid does have an impact on the acceptance of the Hearing Aid. Generally during the early days people do not accept the Hearing Aid. They people they will somehow mange without the Hearing Aid. As the Hearing loss increases the challenges of communication increase. They tend to accept to purchase Hearing Aid. Many a times the Budget and High degree of Hearing Loss tend to make them accept Hearing aids which are much bigger in size. They do not like to reveal their hearing loss to others. The physical looks do make them avoid this device. Further, they might have purchased the Hearing aid. But they tend to avoid using when they are in gatherings and communicating with outsiders and large number of people. This increases the challenge and the sense of discomfort.

### **CONCLUSION**

Hearing Aid is one of the solutions to the impairment problem. Though Hearing Aid do not come up readymade solution. But if people use it as prescribed by the professional then this discomfort can be overcome. Further, Hearing does makes an impact on the quality of life. The resistance and avoidance to public gathering, socialization tends to eroded if Hearing Aid is used on a regular interval. Proper Hearing Aid needs to selected and purchased. Many a time people do selection without much knowledge and information. Though they purchase the aid they do not derive the benefits of use.

The factors responsible for non acceptance are not single point. But there might be multiple reasons for non acceptance. Starting from financial implications, looks and appearance, attitude issues, discomfort, feedback and noise irruption are some of the few reasons. The list is a long one and never ending. In this paper effort has been taken to pen down most of the factors which are responsible for this challenge. But we can't say it's a holistic one. There needs to be further research and findings which can provide more factors responsible. Statistical application with research methodology can provide the results as to which factors are more likely to have a major role in this problem.

The challenges of the non acceptance do a long way. Family intervention, role of children, spouse, relatives, and friends does have a major role in acceptance. The Role of the clinician in Hearing Aid selection and information sharing is not lighter either. They also need to incorporate the best practices and proper counseling considering psycho-social factors and the myths all around. Proper information backed by due care does goes a long way in resolving the problem. The acceptability of the people varies. There are various reasons for non acceptance. Further, the development of Medical Science and modern day's technology People have shown intent for acceptance. Social Media namely Facebook, Instagram, Twitter, Koo etc. plays an important role in motivating people. The positivity and negativity of this information impacts the user to come up with their decision. Further, the myths are many times addressed when long term user's shares there quality of hearing and how it has changed their social association. The success rate depends from choosing the hearing aid to the point of post-sale hearing management. The new digitization of technology will obviously play its part such as Artificial Intelligence, Cloud Computing etc.

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