(e) ISSN Online: 2321-9599

(p) ISSN Print: 2348-6805

# ORIGINAL ARTICLE

# Comparison of different hearing aids in patients with hearing loss

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***ABSTRACT:***

**Background:** The term "hearing loss" (HL) refers to the total or partial loss of the capacity to hear and comprehend information, which limits or restricts a person's capacity to engage in activities connected to hearing. The present study assessed efficacy of two different hearing aids in patients with hearing loss. **Materials & Methods:** 102 patients with hearing loss of both genderswere split up into two groups of 51 each. The channels in Group I varied from 1 to 16. The frequency ranged from 100 to 240 Hz at the lowest and from 4,000 to 7,100 Hz at the highest. The number of channels in Group II varied between two and sixteen. The frequency ranged from 5,800 to 7,600 Hz at the highest and from 100 to 160 Hz at the lowest. The International Outcome Inventory for Hearing Aids, Turkish Edition (IOI-HA-TR) was used to record patient satisfaction levels. Additionally, scores for total individual subjective satisfaction (TISS) were noted. **Results:** Group I had 27 males and 24 females and group II had 29 males and 22 females. The mean TISS score at 1 month in group I was 49 and in group II was 65, at 6 months was 55 and in group II was 70 and at 12 months in group I was 64 and 79 in group II. The difference was significant (P< 0.05). **Conclusion:** Devices with good technological features, including more channels and a lower minimum frequency, improved hearing.

**Keywords:** children, frequency, Hearing

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**This article may be cited as:** Yadav KS, Kumar L. Comparison of different hearing aids in patients with hearing loss. J Adv Med Dent Scie Res 2014;2(4):291-293.

## INTRODUCTION

The term "hearing loss" (HL) refers to the total or partial loss of the capacity to hear and comprehend information, which limits or restricts a person's capacity to engage in activities connected to hearing.[1] Non-auditory abilities are also impacted by hearing impairments; these people are less able to carry out daily tasks, which has an impact on their relationships with family, coworkers, and the community. Doctors and other professionals advise hearing-impaired people to wear a hearing aid (HA) in order to reduce this stigma and enable a higher quality of life.[2]

It is now feasible to detect hearing loss (HL) from birth and offer early care to children with mild HL thanks to the implementation of universal newborn hearing screening (NHS) programs. However, because the screen is not sensitive enough to consistently detect HL in this range without an unacceptable drop in specificity, these children are more likely to be overlooked on the NHS. Children with moderate HL may not receive early attention or have their HL confirmed in a timely manner, even if the NHS has detected them. Additionally, there is uncertainty about the best clinical treatments for kids with mild HL, especially when it comes to the requirement for audiological control.[3]

Hearing aids (HA) users benefit from better communication in everyday life, which lowers disability and handicap.[4] However, the benefits of improved hearing ability go far beyond these benefits; satisfaction is a more accurate indicator of positive outcomes because it takes into account a variety of dynamic factors and is reliant on user perception and attitudes in many areas, including those that are unrelated to HA performance.[5]The present study assessed efficacy of two different hearing aids in patients with hearing loss.

## MATERIALS & METHODS

The present study comprised of 102 patients with hearing loss of both genders. All were informed and their written consent was obtained.

Data such as name, age and gender etc. was recorded. They were split up into two groups of 51 each. The channels in Group I varied from 1 to 16. The frequency ranged from 100 to 240 Hz at the lowest and from 4,000 to 7,100 Hz at the highest. The number of channels in Group II varied between two and sixteen. The frequency ranged from 5,800 to 7,600 Hz at the highest and from 100 to 160 Hz at the lowest. The International Outcome Inventory for Hearing Aids, Turkish Edition (IOI-HA-TR) was used to record patient satisfaction levels. Additionally, scores for total individual subjective satisfaction (TISS) were noted. Results were analysed statistically. P value less than 0.05 was considered significant.

## RESULTS

**Table I Distribution of patients**

| Gender | Group I (51) | Group II(51) |
|---|---|---|
| Male | 27 | 29 |
| Female | 24 | 22 |

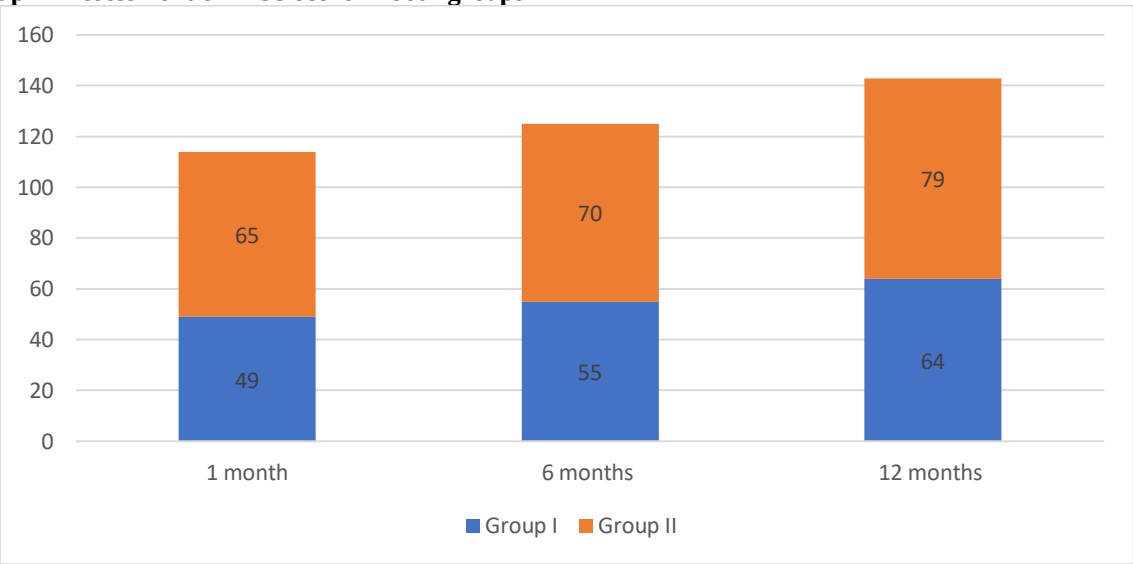
Table I shows that group I had 27 males and 24 females and group II had 29 males and 22 females.

**Table II Assessment of TISS score in both groups**

| Duration | Group I | Group II | P value |
|---|---|---|---|
| 1 month | 49 | 65 | 0.04 |
| 6 months | 55 | 70 | 0.02 |
| 12 months | 64 | 79 | 0.01 |
| P value | 0.04 | 0.05 | |

Table II, graph I shows that mean TISS score at 1 month in group I was 49 and in group II was 65, at 6 months was 55 and in group II was 70 and at 12 months in group I was 64 and 79 in group II. The difference was significant (P< 0.05).

**Graph I Assessment of TISS score in both groups**




## DISCUSSION

In addition to impairing a person's ability to perceive sounds, hearing loss also results in psychological constraints.[6] People's quality of life can be significantly impacted by these sacrifices since they may keep them from engaging in active social activities and leading healthy social lives.[7] The choice of HA should be based on both physical and audiological variables, including the user's manual dexterity, medical contraindications for occlusion of the external auditory canal, and the degree and configuration of HL.[8] Ten HA users have identified a number of factors that are crucial to the adaption process, including comfort, the mold or fit, technical assistance, ease of cleaning, operating, and inserting the HA, sound quality, conversability in noisy surroundings, and hearing ability in calm environments.[9]The present study assessed efficacy of two different hearing aids in patients with hearing loss.

We found that group I had 27 males and 24 females and group II had 29 males and 22 females. According to Novaes et al[10], family involvement, the level of parental participation in the intervention program, and future aspirations are all significant factors in determining a child's capacity to cope with their loss when they are diagnosed with hearing loss within the first three years of life. When evaluating the efficacy of therapies for newborns with hearing loss, these characteristics can help researchers and therapists. The purpose of the current study was to evaluate the effectiveness of two distinct hearing aids in individuals who suffer from hearing loss.

We found that mean TISS score at 1 month in group I was 49 and in group II was 65, at 6 months was 55 and in group II was 70 and at 12 months in group I was 64 and 79 in group II. Aurélio et al[11]found no relationship between age and happiness with the use of hearing aids.

The level of satisfaction among adult and senior hearing aid (HA) users who received care from a public hearing health service was described by Mondelli et al[12], along with the correlation between satisfaction and the following variables: gender, age,

type of HA, and degree of HL. 110 patients who were 18 years of age or older and had been using HAs for more than three months were given the Satisfaction with Amplification in Daily Life (SADL) questionnaire as part of the clinical and experimental investigation. The average age of the test subjects was 67 years, and they were sex-balanced (48% female). Device B was the most often utilized HA type (48%), and a comparatively high incidence of sensorineural mild HL was found in the study participants (66%). There were no discernible variations in sex and HA satisfaction. Age groups differed in how much weight was given to personal appearance and services/costs. There was a clear correlation between amplification and user pleasure at every level. People with severe and/or deep HL showed lower levels of enjoyment. The favorable effects referred to varied statistically significantly depending on the type of HA administered.

The limitation of the study is small sample size.

## CONCLUSION

Authors found thatdevices with good technological features, including more channels and a lower minimum frequency, improved hearing.

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