

Compare the Level of Satisfaction Among Smart Phone and Traditional Hearing Aids Users

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Abstract

Hearing is crucial for human life, it undertakes a important job in dissertation and linguistic development, which is the fundamental device for the advancement of human correspondence. People with hearing impedance may endure extreme misfortune in their social, mental and proficient lives, dread, misery, disengagement and further more family strains as a result of the absence of consideration influencing those with hearing disorders. **Objective:** To compare the level of Satisfaction between smart phone hearing aids and traditional hearing aids users. **Methods:** Cross-sectional study was conducted among Hearing aids users with smart phone hearing aids and traditional hearing aids using purposive sampling technique .SADL (Satisfaction with amplification in daily life) was used to measure the satisfaction level between smart phone hearing aids users and traditional hearing aids users. 100 applicants by moderate to severe sensorineural hearing loss of age range from 18 years to 35 years recommended for hearing aids fitting were included in this research by their consent. Data for this research was collected from Sialkot, Lahore, Narowal, Gujranwala, Pakistan. The data of 100 participants were analyzed through SPSS version 25.0 and P-value less than 0.05 was considered significant. **Results:** A total number of 100 participants were included under which there were 50 males and 50 females.. Out of 100, 53(53%) participants belong to age group of (26+35) years and 47(47%) participants belong to age group of (18+26) years. The participants who were using traditional hearing aids, there the level of satisfaction was 48.0 ± 3.915 and the level of satisfaction in the participants who were using smart phone hearing aids was 53.95 ± 4.17 . Smart phone hearing aids users were more satisfied than traditional hearing aids users. **Conclusion:** It was concluded that smart phone hearing aids users have more satisfaction level as compare to traditional hearing aids users.

Keywords: Audiologist, Audible range, Hearing loss, Smart phone Hearing aids, Traditional hearing aids.

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Introduction:

Audiology is the profession of specialists in hearing assessment and non-medical management of persons with hearing loss¹. Hearing loss is the greatest prevalent sensual loss in old people². Here are three types of hearing loss which are as, sensorineural hearing loss, conductive hearing loss and mixed hearing loss³. Conventionally, inner ear deformities are supposed to be related with sensorineural hearing loss⁴. Hearing loss can be reduced by using hearing aids⁵. Hearing aid is a stratagem planned to recover hearing by manufacturing sound perceptible to a person with hearing loss⁶. There stay different types of hearing aids⁷. Smart phone hearing aids are those hearing aids in which a app is used to control the volume and other features of the hearing aids according to condition. Smart phone based hearing aids have more benefits in improving speech as compared to traditional hearing aids users⁸. Gradation of hearing loss dealings and expresses round the particular strictness of the complaint. An individual can be exaggerated in mild hearing loss, moderate, severe and profound levels. Mild hearing loss frequently unspoken allowed but when it arises to moderate level, severe protections are undertaken⁹. Around 5.3% of the world's population is hearing impaired¹⁰. Conferring to Pakistan's National Policy for Persons with Disabilities, out of 2.49% disable population, 7.40% are deaf¹¹. Hearing allow us to part, connect, prepare doings and knowledge the world through listening¹². Hearing impairment is often related with injury to hair cells in cochlea¹³. To reduce hearing impairment different kinds of hearing aids are used. The different kinds of hearing aids greatest fitting for an individual rest on on the degree and type of magnification required, ear canal size and form, the structures required¹⁴. Digital hearing aids are more beneficial as compare to analog hearing aids¹⁵. Advance technology are smart phone hearing aids which are more useful as compare analog or digital hearing aids¹⁶. Conductive hearing loss happens when there is a issue shifting sound waves anyplace sideways the trail over outer ear, tympanic membrane or ossicles¹⁷. Causes of conductive hearing loss are middle ear lesions¹⁸. If a conductive hearing loss happens in coincidence by a sensorineural hearing loss, it is mentioned to as a mixed hearing loss¹⁹. Hearing empowers us and assistances us lead our normal exists without limitations²⁰.

Methods

100 applicants with moderate to severe sensorineural hearing loss suggested for hearing aids fitting were include in this research by their consent. These applicants was divided into two groups with equal distribution as: Group

A: were fitted with smart phone hearing aids through which the wearer can control volume and other features. Group B: were fitted with traditional hearing aids. Both groups given the time of two months to use hearing aids. After two months uses a questionnaire SADL (Satisfaction with amplification in daily life) in both groups to find out satisfaction level between smart phone hearing aids users and traditional hearing aids users. After collecting data it was analyzed through SPSS version 25.0. Descriptive statistics were used to analyze variables. Demographics (age , gender) and to compare the level of satisfaction among smart phone hearing aids users and traditional hearing aids users were analyzed using frequencies, percentage and independent t-test.

Results:

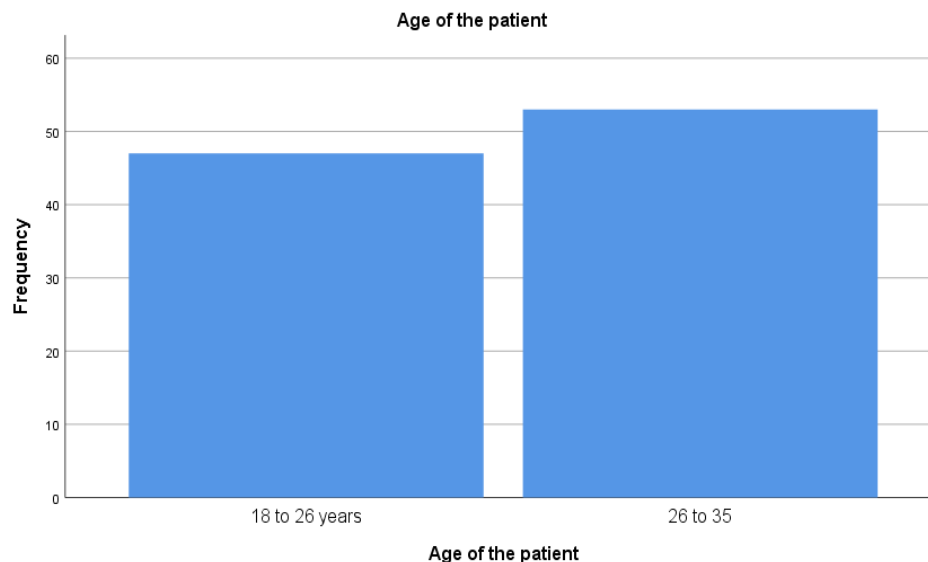


Table 1: Descriptive statistics of gender

A total number of 100 participants were included under which there were 50 males and 50 females. Participants were divided into two groups on the base of age .Out of 100 participants, 53(53%) participants belong to age group of (26+35) years and 47(47%) participants belong to age group of (18+26) years.

group statistics				P-value
	Category	Mean ± S.D	Std. Error mean	0.001
Total	traditional hearing aids users	48.00	3.91	
	smart phone hearing aids users	53.95	4.17	

Table 2: Descriptive statistics of groups

The participants who were using traditional hearing aids there the level of satisfaction was 48.0±3.91 and the level of satisfaction in the participants who were using smart phone hearing aids was 53.95±4.17. There was significance difference between the traditional hearing aids users and smart phone hearing aids users. Smart phone hearing aids users were more satisfied than traditional hearing aids users. Finding indicates that the level of satisfaction in smart phone hearing aids users were more as compared to the level of satisfaction in traditional hearing aids users.

Discussion

The aim of study was to equate the level of satisfaction between smart phone hearing aids users and traditional hearing aids users. This study was carried out in Narowal, Gujranwala, Lahore, Sialkot, Pakistan which includes the participants who were the candidates of hearing aids fitting. In this study 100 applicants with moderate to severe sensorineural hearing loss suggested for hearing aids fitting were include in this research by their consent. These applicants were divided into two groups with equal distribution as: Group A: were fitted with smart phone hearing aids through which the wearer can control volume and other features. Group B: were fitted with traditional hearing aid. Both groups given the time of two months to use hearing aids. After two months uses a questionnaire SADL (Satisfaction with amplification in daily life) in both groups to find out satisfaction level between smart phone hearing aids users and traditional hearing aids users. Out of 100 participants, 53(53%) participants belong to age group of (26+35) years and 47(47%) participants belong to age group of (18+26) years. The level of satisfaction in smart phone hearing aids users was 53.95±4.17 and the level of satisfaction in traditional hearing aids users was 48.0±3.915. The conclusion specifies that satisfaction levels in contributors using smart phone

hearing aids were extremely significant as compared to the participants using traditional hearing aids. While the majority reported in previous researches shows that the satisfaction with the hearing aids increased when it provides smart phone hearing aids to the participants using hearing aids²¹. SADL (Satisfaction with Amplification in Daily Life) a standard questionnaire which was used to compare the satisfaction level between the smart phone hearing aids users and traditional hearing aids users²². A study was conducted by AM Amlani, B Taylor, C Levy as Utility of smartphone-based hearing aid applications as a substitute to traditional hearing aids and there results indicates that the satisfaction level in smart phone hearing aids users was more than traditional hearing aids users²³. Similarly, in our study the level of satisfaction among smart phone hearing aids users was more as compared to traditional hearing aids users. A study was conducted in January 2010 by Kochkin, Sergei as Marke Trak VIII Consumer satisfaction with hearing aids is slowly increasing²⁴. Digital and smart phone hearing aids have more benefits according to satisfaction level²⁵.

Conclusion

This study concluded that there was more satisfaction level in smart phone hearing aids users as compared to the level of satisfaction in traditional hearing aids users. Our research results indicated that smart phone hearing aids technology are most advanced technology and hearing aids users gives more preference to smart phone hearing aids technology as compared to traditional hearing aids technology. Smart phone hearing aids has more benefits as compared to traditional hearing aids.

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