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Impact of Amplifications on Hearing Aid User among Middle Adulthood

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Abstract:-
Background: Around the word hearing loss is became a concern topic. To overcome from this science introduce multiple hearing aid categories with a lots of benefit. With the increase hear loss, amplifications play a significant role for the users. The purpose of the study is to find out the satisfaction level of clients who use amplifications in their routine life, Also effect of different amplification among different individual. These hearing aids are envisioned to help user with perceived mild to moderate hearing loss. Hearing aids are available from a hearing health professional that will program according to unit of hearing loss. Method: The cross sectional study conducted to justify the research by using (SADL) satisfaction with amplification in daily life questionnaire. Sample of 100 populations male and female were selected of around middle age "40-60". Data were collected from different private hospitals and clinics from different cities "Bahawalpur, Multan and Lahore. Descriptive Statistics, Pearson Product Moment Correlation, Independent Sample t-test and Linear Multiple analysis were used to analyse the data. Results: Result revealed a positive correlated significant value among different category of amplifications. Among all hearing types, the people using BTE (Behind the Ear) were mostly satisfied with their devices. Age also revealed a significant relationship, people aged 40-45 were mostly satisfied with every category of hearing aid. Hearing aid type ITC "In the canal" revealed a negative significance correlation. Conclusion: hearing aid can improve the quality of life for hearing aid user and satisfaction level increases among hearing aid users with the passage of time.

Keywords:- *Hearing Aid, Amplification, Satisfaction with Amplification in Daily Life.*

I. INTRODUCTION

(1)Hearing impairment is a major concern around the world. Hearing impairment to almost any extent can be improved with a hearing aid. Evidence highlights the importance of hearing aids to improve the quality of daily life of the person. Hearing loss is a disorder that affects cognitive, behavioral, and social functions. The use of hearing aids in such individuals improves the general quality of life.

(2)Disabling Hearing Loss is defined as hearing loss of more than 40 dB in the better auditory ear in adults (15 years old or above =) and children (0-14 years) and the prevalence of hearing loss in the world is (WHO) 56% in males and 44 in females.

(6)Humans have a fairly small range of hearing compared to other species; the frequencies that we can hear are between 20 Hz and 20,000 Hz, this is known as the audio or sonic range. The frequencies above that range are known as ultrasonic and those below are known as infrasonic. The auditory system serves functions other than speech listening, such as tracking sounds. There are three types of hearing loss. Conductive hearing loss, sensorineural hearing loss, and mixed hearing loss. (4)The most common categories of hearing loss classification are mild, moderately severe, severe, and profound hearing loss.

If one has a mild HL, the quietest sounds individual can hear with our best hearing are between 25 and 40 dB with a moderate HL, the quietest sounds one can hear with our best ear are between 41 and 55dB. If one has a severe moderate HL, the quietest sounds an individual can hear with the ear are between 56 and 90 dB, and with SHL; the quietest sounds one can hear are between 71 and 90 dB and more, and above 91 dB is profound HL.

(7)Many factors will interfere with patient satisfaction and benefit from an earpiece, Lack of incentives, the fear of stigmatization, low expectations of benefits, or failure to accept are barriers that remain. Medical professionals need to demonstrate to both the communities' resource provider, the service that they offer, the client's functional status, and quality of Life. In the setting of sound rehabilitation, the result measure emerged as effective in this method, specific interventions such as hearing aids work to get positive results for the client. The client's information about the benefit of interventions and techniques promotes the decision- making based on data. (5) (6)

Hearing aids help to communicate with other clients, regular daily activities, and decrease in psychosocial society effects of hearing loss. This aid partially overcomes the defects associated with hearing loss.

II. METHOD

The study was conducted from December 2021 to July 2022 after taking permission from relevant department. It was Descriptive cross sectional research design and a non-probability purposively sampling technique used to recruit

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data. The sample size was calculated through G-Power analysis with 95% confidence interval, error of margin 5% and 50% response distribution. Calculated sample size was 100. Age range of middle adulthood was 40-60. Male and female were equally selected for research. "Satisfaction with amplification in daily life (SADL) scale was used for this study. It consists on 15 items divided into 4 subscales. It is a 7-point Likert scale and the value choose for each scale was "A for never, B for somewhat frequent, C for frequent, D for always and so on" the internal consistency was found α=.80 and in this study was α=.90. Data were analyzed through SPSS-21. Descriptive statistic was used to study the demographic characteristics of the sample. Pearson product movement correlation was used to study the effect and relationship of variable.

III. RESULT

The purpose of present study is to find the Level of satisfaction of hearingaid users with amplification in daily life. Total number of patients were n= 100. The study comprised 62% males and 38% percent females around the middle age and the mean age of participant is 47**%.** Result reveals the positive correlated significant value at the 0.01 level (2-tailed).

Table I: Gender type of Hearing Aid Usage

Gender	Behind the ear HA	In the ear HA	In the canal HA	Completely in canal HA
Males (62)	32	13	11	06
Females (38)	16	03	13	06

Table I Shows the gender types of hearing aid usage n=100males patients were using behind the ear HA (32), in the canal HA (13) and completely in canal HA (06) n=100 females (38) patients were using behind the ear (16), in the canal HA (03), in the canal (13) and completely in the canal HA (06).

Table II: Duration of HA usages

Time	Frequency	Percentage	Cumulative percentage
0-3 months	29	29%	29.0
3-6 months	12	12%	41.0
1-2 years	40	40%	81.0
2-5 years	19	19%	100.0

Table II Shows the patients n=100 HA usage among 0-3 months users was 29%, among 3-6 months users was 12%, among 1-2 years users was 40% and among 2-5 years users was 19%.

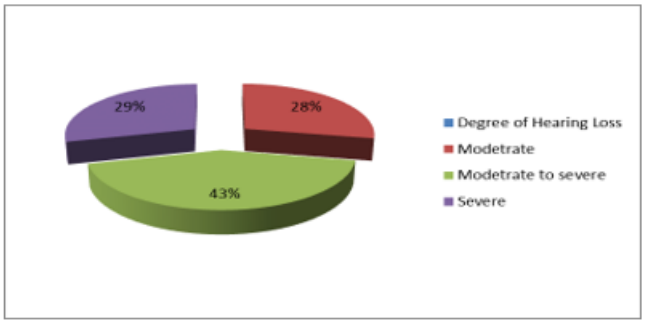

Fig 1 Degree of hearing loss

Figure 1 shows the degree of hearing loss. Pie chart shows the degree of hearing loss found as 28% moderate level of hearing loss, 43% was moderate to severe hearing loss and 29% was severe degree of hearing loss**.**

Table III Correlation

PersonalImage	**Pearson CorrelationSig. (2-tailed)**	**.027** **.791**	**.404**** **.000**	**.462**** **.000**	**1**	**.332**** **.001**
	N	100	100	100	100	100
Global Score	Pearson Correlation	.355**	.726**	.481**	.332**	1

	Sig. (2-tailed)	.000	.000	.000	.001	
	N	100	100	100	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

Table IV-7 Correlations

		positive Effect	service and cost	Negative Factors	Personal Image	Global Score
PositiveEffect	Pearson Correlation	1	.544**	.006	.027	.355**
	Sig. (2-tailed)		.000	.953		.000
	N	100	100	100	.79 1 100	100
Service andCost	Pearson Correlation	.544**	1	.271**	.404**	.726**
	Sig. (2-tailed)	.000		.006		.000
	N	100	100	100	.00 100	100
NegativeFactors	Pearson Correlation	.006	.271**	1	.462**	.481**
	Sig. (2-tailed)	.953	.006			.000
	N	100	100	100	.000 100	100

IV. DISCUSSION

The present study aimed to find the amplifications on hearing aid users among middle adulthood aged 40-60. The SADL tool has 15 questions and divided into four subscales Positive Effects, Services and Costs, Negative Factors and Personal Image. (8)Prior study shows that the data is very important to follow the auditory rehabilitation program including home listening, guidance and counselling so that the patient can have realistic expectations beyond the selection of the most technically relevant hearing aids· (9)Many authors suggest that it is a determinant of satisfaction of hearing aid users it is closelyrelated to recognition of product performance· Evidence shows that shortterm benefits of hearing aids is most prominent in the handicap person with disabilities and increasing attention well life.

The result shows that males have severe hearing loss. (12)A study has conducted in Australia and show differences in male and females hearing loss.Numbers of males facing hearing problems are greater than females. The present result shows that hearing loss is increasing with age. A similarstudy shows that people are suffering from different diseases such as stress, psychological disorder, diabetes, mellitus, high protection etc. which are contributing factors of hearing loss.

The current study shows the satisfaction of the HA users. (16) A similar study shows factors associated with high level of satisfaction whose temporality wasnot achieved and perceptive patients were in a good general health status. Evidence shows that implementing a worldwide rehabilitation program that support adults with hearing disabilities and their families, tackle disadvantages and obstacles due to defects recognized as lacking in hearing aids. An integralpart of the problem is to prevent social isolation to the patient for verbal communication of the world. (18)Literatures show that its effect typically appears after one year or several years use of monaural HA in children and adults. The hearing level and degree of asymmetry are big problems; significantly big benefits were obtained from binaural amplification. This was deemed to be due to central aggregation. It has been concluded that amplification of both ears should be attempted in both ears, of subjects with severe hearing impairment.

V. CONCLUSION

Hearing aid can improve the quality of life for hearing aid user and satisfaction level increases among hearing aid users with the passage of time. Due to the findings of the current research, degree of hearing loss, age and type of hearing aid has shown positive influence on the usage, the satisfaction and the quality of life for people with hearing problems. In addition, degree of subjective awareness of disability caused by hearing loss meaningfully affects the use of a hearing aid and satisfaction of patients.

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