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Knowledge Regarding Ear Phone Hazards among Boys and Girls at Higher Secondary Level

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ABSTRACT

In the new era of urbanization and westernization people are highly fascinated by the latest technologies. The busy life style and technologies enhance adolescents to spend more time on music with earphone as it is one of the stress busters in the modern world and they are unaware of the health hazards. Irrespective of gender difference many students are addicted to their earphones or head phones and it became a part of their life style. This study was conducted to compare the knowledge on hazards of ear phone usage among boys and girls at higher secondary level.

Keyword: knowledge, ear phone, higher secondary.

Introduction

Technology is the most necessary evil of our times and people cannot imagine there life without using this technology and one such necessity is that of earphones or headphones. Throughout the day we can encounter several people using this device while travelling in a bus, in an early morning walk, crossing the street, sipping coffee, listening music and for talking in phone. According to The World Health Organization (WHO) around a billion young people across the globe could be at the risk of hearing loss because of the unsafe listening habits, they practice through earphones. As a recreational hobby listening of music with ear phone is growing among adolescents. Even young people use this hearing device to hear audio-books, online videos, online educational programs, to avoid the background noise in the bed at night or in train and bus systems. With regard to the increased use of portable music players and entertaining devices like cell phones, hearing loss and hearing disorders, particularly among teens and young adults, are a matter of concern. It has been reported that 1.7% of the world's population is suffering from noise-induced hearing loss, and the number of adolescents with this condition is increasing worldwide

Earphones are a pair of small listening devices that are designed to be worn on or around the head over a user's ears. It produce sound waves that reach our ears, making the eardrum vibrate. This vibration spreads to the inner ear via the small bones and reaches the cochlea which is a chamber in the inner ear that is filled with a fluid and consists of thousands of small' hairs'. When this vibration reaches the cochlea, the fluid vibrates making the hairs also move. The louder the sound, the stronger the vibrations and the more the hairs move. The continuous and long-term exposure to loud music makes the hair cells eventually lose their sensitivity to vibration. Sometimes the loud music also results in the cells bending or folding over which leads to the sensation of temporary hearing loss. WHO (2019) suggested that for adolescents and young individuals it is better to safeguard their hearing by maintaining the volume down on personal audio systems, they can also restrict the amount of time invested in loud devices by taking brief hearing breaks and limiting the daily use of personal audio devices to less than an hour.

Noise-induced hearing loss is a very important issue in health science because it affects quality of life. Permanent hearing loss in adolescence can be an obstacle for choosing a career and can decrease quality of life in various ways, such as difficulties with learning, problem in social interaction, achieving their life goals etc…. It is also highly possible that in future elderly populations will suffer from greater hearing loss than they do today if the current adolescents who are at a high risk of noise-induced hearing loss continue with their current behaviors. Few studies suggest that listening music during strenuous exercise increase the risk for temporary hearing damage. Passive noise canceling earphones can be considered dangerous because of a lack of awareness the listener may have to their environment. When a person is on noise cancelling earphone he or she may not be able to hear surrounding traffic and people around them.

Knowledge about hearing loss may encourage students to develop a positive attitude toward reasonable restriction of ear phone use. Health professionals can educate adolescents in detail about harmful effect of ear phone and early signs of ear damage so most of the youngsters can avoid serious hearing problem and its risk and maintain a judicious attitude toward their own conservation.

Objectives

To assess the knowledge of boys and girls on ear phone hazards.

To compare the knowledge of boys and girls regarding ear phone hazards.

To associate the findings with selected demographic variables.

Hypothesis

H1: There will be a significant difference between the knowledge of girls and boys regarding ear phone hazards.

H2: There will be a significant associations between the knowledge of girls and boys regarding ear phone hazards and selected demographic variables.

Methodology

Research Design: Comparative survey design

Sampling technique: Purposive sampling technique.

Sample: sample size was 160 higher secondary students of which 80 where girls and 80 where boys.

Variable:

Study variable: knowledge regarding ear phone hazards.

Demographic variables: age, religion, place of residence, type of family, mother's education, father's education, frequency of using ear phone, purpose of using ear phone, volume used in ear phone, source of information.

Setting

The present study has conducted in selected higher secondary school.

Data collection technique

Section A- It deals with socio demographic proforma which include age, religion, place of residence, type of family, mother's education, father's education, frequency of using ear phone, purpose of using ear phone, volume used in ear phone, source of information.

Section B- structured knowledge questionnaire was prepared to assess the knowledge on ear phone hazards among girls and boys in higher secondary school.

Based on the percentage gained by the Nursing Students, the knowledge of the respondent was arbitrarily categorized in the following groups.

1. Poor: 0-8
2. Average: 9-17
3. Good: 18-25

Result

SECTION: 1

Description of demographic variables under study.

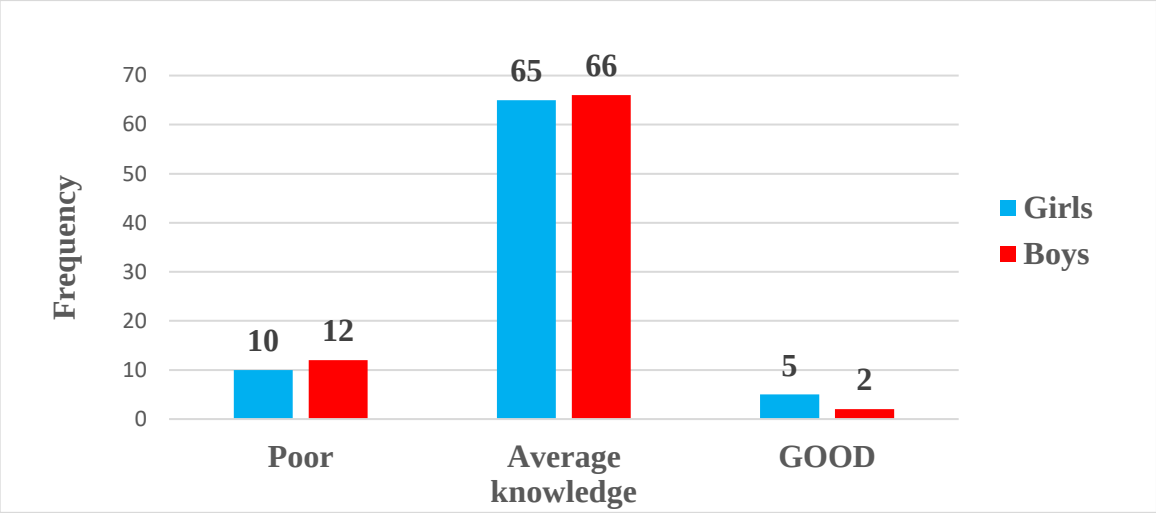
TABLE: 1 Frequency and percentage distribution of girls and boys according to demographic variables.

N= 160

SL.NO	Demographic variables	Girls		Boys	
		Frequency	**Percentage**	**Frequency**	**Percentage**
1	Age				
	a) 16-17	40	50	39	48.8
	b) 18-19	40	50	41	51.2
2	Religion of family	72	90	71	88.8
	a) Hindu	4	5	5	6.2
	b) Christian	4	5	4	5.0
	c) Muslim				
3	Place of residence				
	a) Own house	26	32.5	41	51.2
	b) Hostel	44	55.0	32	40.0
	c) Paying gust	10	12.5	7	8.8
4	Type of family				
	a) Nuclear	46	57.5	47	58.8
	b) Joint	27	33.8	27	33.8
	c) Extended	5	6.2	4	5.0
	d) Single parent	2	2.5	2	2.4
5	Mother's education				
	a) No formal education.	5	6.3	5	6.2
	b) Primary education	21	26.2	28	35.0
	c) High school	46	57.5	36	45.0
	d) Graduate	8	10.0	11	13.8
6	Father's education				
	a) No formal education.	4	5.0	5	6.2
	b) Primary education	21	26.2	21	26.2
	c) High school	40	50.0	43	53.8
	d) Graduate	15	18.8	11	13.8
7	Frequency of using ear phone				
	a) 1-3 hrs	41	51.2	26	32.5
	b) 4-6 hrs	20	25.0	47	58.8
	c) Occasionally	19	23.8	7	8.8
8	Purpose of using ear phone				
	a) Watching videos	16	20.0	20	25.0
	b) Talking in phone	19	23.8	8	10.0
	c) Listening music	42	52.5	49	61.2
	d) Academic purpose	3	3.7	3	3.8
9	Volume used in ear phone			21	
	a) Low	16	20.0	37	26.2
	b) High	47	58.8	22	46.3
	c) Medium	17	21.2		27.5
10	Source of information				
	a) Health personals	5	6.2	4	5.0
	b) Friends	13	16.3	12	15.0
	c) Parents	16	20.0	21	26.2
	d) Media	46	57.5	43	53.8

Section 2

Figure 1: Description of samples according to their level of knowledge. N=160



Section 3: Comparison of the knowledge level of Girls and Boys

Table 2: Mean, median, standard deviation and t value N=160

Course	N	Mean	Median	Range	St deviation	t	Sig. (2-tailed)
Girls	80	12.7	13	5-19	3.1	2.05	0.04 **S***
Boys	80	11.7	12	4-19	3.2		

S* Significant.

Section 4: Association between levels of knowledge regarding ear phone hazards with their selected demographic variables.

Demographic variables	Girls			Boys		
	Below Median	Median $ above	Chi-Square $ P value	Below Median	Median $ above	Chi Square $ P value
Age						
a) 16-17	20	20	0.20	18	21	0.04
b) 18-19	18	22	0.65(NS)	18	23	0.84 (NS)
Religion of family						
a) Hindu	33	39	1.30	31	40	0.54
b) Christian	3	1	0.52(NS)	3	2	0.76 (NS)
c) Muslim	2	2		2	2	
Place of residence						
a) Own house	10	16	2.83	21	20	3.32
b) Hostel	21	23	0.23(NS)	14	18	0.18 (NS)
c) Paying gust	7	3		1	6	
Type of family						
a) Nuclear	18	28	5.11	20	27	0.28
b) Joint	16	11	0.16(NS)	13	14	0.96(NS)
c) Extended	2	3		2	2	
d) Single parent	2	0		1	1	
Mother's education						
a) No formal education.	3	2	4.55	1	4	2.52
b) Primary education	11	10	0.20(NS)	12	16	0.47(NS)
c) High school	23	23		19	17	
d) Graduate	1	7		4	7	
Father's education						
a) No formal education.	2	2	0.01	2	3	0.85
b) Primary education	10	11	1.00(NS)	11	10	0.83(NS)
c) High school	19	21		19	24	

d) Graduate	7	8		4	7	
Frequency of using ear phone						
a) 1-3 hrs	17	24	5.25	14	12	2.09
b) 4-6 hrs	14	6	0.06(NS)	18	29	0.35(NS)
c) Occasionally	7	12		4	3	
Purpose of using ear phone						
a) Watching videos	7	9	3.11	8	12	3.72
b) Talking in phone	10	9	0.37(NS)	5	3	0.29(NS)
c) Listening music	21	21		23	26	
d) Academic purpose	0	3		0	3	
Volume used in ear phone						
a) Low	6	10	0.88	10	11	0.22
b) High	24	23	0.64(NS)	17	20	0.89(NS)
c) Medium	8	9		9	13	

NS: Not Significant

Discussion

The present study reveals that majority 81.2% of the girls and 82.5 % of the boys had average knowledge while 6.2% of girls and 2.5 % of boys had good knowledge and 12.2% of girls and 15% of boys had poor knowledge regarding hazards of ear phone usage. The mean knowledge score of girls were found to be 12.7 with standard deviation 3.12 and mean knowledge of boys were found to be 11.7 with standard deviation 3.18. The selected personal variables such as age, religion, place of residence, type of family, mother's education, father's education, frequency of using ear phone, purpose of using ear phone, volume used in ear phone, source of information found to be not significant with the knowledge score at 0.05 level. These findings are similar to the study which conducted in Mangalore among 100 high school students.

The total difference in the mean of overall knowledge score was 1 with the 't' value of 2.05 and found to be significant at the level of $p<0.05$. Hence it indicated that there was a significant difference in the knowledge level of Girls and Boys.

A study conducted in china shows that high frequency hearing loss was significantly higher in males and boys reported more use of personal music device and they listen at higher volume than girls.

Conclusion

Teenagers are more prone for nice induced hearing loss because of excessive listening to personal music players through ear phones. Usage of ear phones for long period of time at high intensity are sociated with several auditory symptoms such as tinnitus, noise sensitivity and distortion which eventually lead to permanent hearing loss. Awareness should be increased among adolescents in order to prevent addictive use of ear phones through various programs.

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