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Research Article

A STUDY TO ASSES THE KNOWLEDGE REGARDING HAZARDS OF EAR PHONE USAGE AMONG HIGH SCHOOL STUDENTS OF MANGALURU

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ABSTRACT

Technology is improving day by day, but the advancement is leaving many of us trapped in the comforts and luxuries, imposing multiple side effects on our health. Earphones are very small gadgets, but there is a huge list of side effects using them and the list is increasing every day. We see many people walking around with earphones, including us. Earphones not only affect the user but also the surroundings. This is hard to believe, but it's true.

Objective: The aim of the study is to assess the knowledge regarding hazards of earphone usage among high school student of Mangaluru.

Method: A descriptive design and non-probability purposive sampling was used to collect the data. Self-structured knowledge questionnaire was used to collect the data from 100 samples.

Result: The finding of the study revealed that 47% of the study sample had good knowledge and had the average knowledge and 6% of students had poor knowledge regarding hazards of earphone usage. The data also showed that there was no significant association between knowledge score of students regarding hazards of earphone usage and the selected demographic variables.

Conclusion: Within in the limitations of the present study can be concluded that the knowledge of the high school students regarding the hazards of earphone usage was good.

INTRODUCTION

In the new era of urbanization and westernization of lifestyle in our hour is faster. Busy lifestyle influences the adolescents in hearing the music. It is one of the stress busters in the modern world. Adolescents are spending more time for music with earphone and they are unaware of the health hazards.

Earphones (or ear buds in the early days of telephony) are a pair of small listening devices that are designed to be worn on or around the head over a user's ears. Earphones are very small that are fitted directly in the outer ear, but not inserted in the ear canal. Earphones are portable and convenient. They are electro acoustic transducers, which convert an electrical signal to a corresponding sound in the user's ear. Earphones are designed to allow a single user to listen to an audio source privately, in contrast to a loudspeakers, which emits sound into the open air, allowing anyone nearby to listen. Earphones either connect directly to a signal source such as an audio amplifier, radio, CD player, portable media player, mobile phone, video game consoles, electronic musical instrument, or use wireless technology such as Bluetooth or FM radio, (Ballou, 2013)

Earphone usage at a sufficiently high volume level may cause temporary or permanent hearing impairment or deafness. The earphone volume often has to compete with the background noise, especially in loud places such as subway stations, aircraft, and large crowds. Extended periods of exposure to high sound pressure levels created by earphones at high volume settings may be damaging; however, one hearing expert found that "fewer than 5% of users select volume levels and listen frequently enough to risk hearing loss, (Talbot, Smith, Michael, 2013)

Some studies have found somewhat increased risks for temporary hearing damage from listening to music during strenuous exercise, compared to when listening to rest. A Finnish study recommended that exercisers should set their earphone volumes to half of their normal loudness and only use them for half an hour (Ballou, 2013)

Passive noise canceling earphones can be considered dangerous because of a lack of awareness the listener may have to their environment. Noise cancelling earphones are so effective that a person may not be able to hear oncoming traffic or pay attention to people around them. There is also a general danger that music in earphones can distract the listener and lead to dangerous situations, (Talbot, Smith, Michael, 2013)

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A retrospective case series was conducted in US between 2004 and 2011 of pedestrian injuries or fatalities from crashes involving trains or motor vehicles. Cases involving earphones were extracted and summarised. There were 116 reports of death or injury of pedestrians wearing earphones. The majority of victims were male (68%) and under the age of 20 (67%). The majority of vehicles involved in the crashes were trained (55%), and 89% of cases occurred in urban counties. 74% of case reports stated that the victim was wearing earphones at the time of the crash. Many cases (29%) mentioned that a warning was sounded before the crash, (Richard L. Daniel CS. Jordan LA. Laurel AM.2012)

A study was conducted at the USA in 2011 to examine the sound level and duration of use of personal listening devices (PLDs) by 189 college students. It reported the type of PLD and earphones used, and duration per day and days per week they used their PLD. The result was per day 58.2% of participants exceeded 85 dB A-weighted 8-hr equivalent sound levels (L(Aeq)), and per week 51.9% exceeded 85 dB A-weighted 40-hr equivalent continuous sound levels (L(Awkn)). The majority of PLD users exceeded recommended sound exposure limits, suggesting that they were at increased risk for noise-induced hearing loss, (Levey S *et.al*, 2011)

A study was conducted in America in the year 2010 to survey listening habits and attitudes of typical college students who use MP3 players and to investigate possible safety issues related to MP3 player listening. College students who were frequent MP3 player users (N = 428) filled out a 30-item online survey. The majority of listeners wore MP3 players for less than 2 hr daily at safe volume levels. About one-third of respondents reported being distracted while wearing an MP3 player, and more than one-third of listeners experienced soreness in their ears after a listening session. The study found concerns regarding the occasional use of MP3 players at full volume and reduced environmental awareness among some college student users, (Hoover A, Krishnamurti S, 2010)

Although earphones are more ergonomically correct than holding a phone up to our ear, they must be fitted properly. For instance, if a headset fits too tightly, might experience headaches and soreness. Other symptoms, such as ear irritation, may occur regardless of how the headset is fitted. (Marzlan R, 2014)

MATERIALS AND METHODS

A survey approach was used to assess the knowledge regarding hazards of earphone usage among high school students and descriptive design was used in the study. The study was conducted in selected high schools of Mangaluru. Non-probability sampling technique was used to select the respondents. The content validity was obtained. The reliability of the tool was obtained by the split half method and was 0.9 which indicated that tool was reliable.

Description of the final tool

The final tool was developed to assess the knowledge regarding hazards of earphone usage among high school students consists of two sections.

Section 1: Demographic Proforma of students consists of age in year, Gender, Class of the study, Type of family, Occupation status of parents, earphone usage, duration of earphone usage in a day, Source of information on hazards of earphone usage.

Section 2: Self-structured knowledge questionnaire on hazards of earphone usage among high school students consists of 27 items. The scoring of the knowledge level is described in the table:

Table 1 Knowledge scoring

Sl. No.	Knowledge score	Grading
1.	1 – 9	Poor
2.	10-18	Average
3.	19-27	Good

Procedure of data collection

Data collection was done from 9/6/16 to 21/7/16
To conduct the research study in selected high school students of Mangaluru,

- Formal written permission was obtained from the consent authority.
- Subjects were selected based on selection criteria.
- Informed consent from the sample was obtained.
- Data was collected by self-structured knowledge questionnaire.

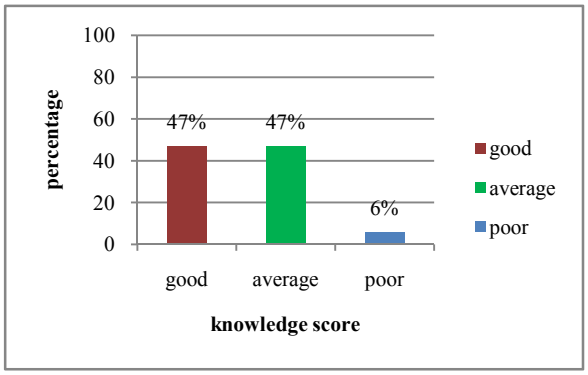
The collected data was analysed by using descriptive and inferential statistics.

RESULT

Section 1 Distribution of the sample

Sl No	Variables	Frequency	Percentage
	Age in years		
1	12	13	13%
	13	75	75%
	14	12	12%
	Gender		
2	Male	45	45%
	Female	55	55%
	Class of study		
3	8	100	100%
4	**Type of family**		
	Nuclear	68	68%
	Joint	27	27%
	Extended	5	5%
	Occupation status of Father		
5	Unemployed	2	2%
	Government employee	8	8%
	Private employee	9	9%
	Business	62	62%
	Any other	19	19%
	Occupation status of Mother Unemployed	28	28%
	Government employee	1	1%
6	Private employee	7	7%
	Business	0	0%
	Any other	64	64%
7	**Earphone usage**		
	Yes	100	100%
	No	0	0%
	Duration		
8	1-2 hour	81	81%
	3-4 hour	17	17%
	5-6 hour	1	1%
	More than 6 hours	1	1%
	Source of information		
	Health talk in hospital	6	6%
9	Friends /neighbour	55	55%
	Media(radio/Tv)	34	34%
	Publication/journal	5	5%

The table 1 shows that majority (75%) of students belongs to the age group of 13 years and 55% of students are females, all of the students belongs to 8 standards, 68% of them belongs to nuclear family, 62% of students father's occupation is business, 64% of students mother's are housewives, 81% of students are using earphone for 1-2 hours, 55% of source of information from friends/neighbours.



Section 2 Frequency and percentage distribution of level of knowledge regarding hazards of earphone usage. **n = 100**

The subject data presented in figure 1 shows that 47% of the students (47%) had good knowledge, followed by average knowledge for 47%, 6% of students had poor knowledge.

Section 3 Association of knowledge score of high school students with demographic variables.

Sl N0	Demographic value	df	X^2 value	Table value	Inference
	Age				
1	Gender	1	0.12	3.84	NS
2	Class of study	1	0.36	3.84	NS
3	Type of family	1	0.30	3.84	NS
4	Occupation of parents	3	0.92	7.82	NS
5					
	• Father	4	0.96	9.49	NS
	• Mother	3	0.45	0.97	NS
6	Duration	3	0.97	7.82	NS
7	Source of information	3	0.58	0.97	NS

NS- Non significance

The data presented in table 2 shows that there was no significant association between knowledge score of the students regarding hazards of earphone usage and the selected demographic variables Hence the null hypothesis was accepted for these variable at 0.05 level of significance.

DISCUSSION

Determine the level of the knowledge of high school students

The present study reveals that 6% of students had poor knowledge, 47% has the average knowledge and 47% has good knowledge regarding hazards of earphone usage.

The findings of the study are consistent with a study which was conducted to reveal the impact of health education among college students shows in general college students lacked knowledge about earphone usage. (Shivakumara J)

Association between level of knowledge and selected demographic variables

Findings of the study revealed that there is no significant association between knowledge score and demographic variables such as age, gender, class of study, type of family, occupation status of parents, earphone usage, duration of earphone usage, the source of information.

The findings are similar to the study which was conducted in Malaysia among 136 customer service representatives and the result showed there was no significant association between earphone usage, duration o earphone usage, and demographic variable. (Mazlaw 2002)

CONCLUSION

Within in the limitations of the present study it can be concluded that the knowledge of the high school students regarding the hazards of earphone usage is good.

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