



EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE REGARDING HAZARDS OF EARPHONE AMONG ADOLESCENTS IN SELECTED SCHOOLS: A QUASI EXPERIMENTAL STUDY

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ABSTRACT

Introduction: Headphones Earphones and headsets have been around for a very long time and have evolved significantly since the early days of radio. There are multiple negative consequences of using headphones which include hearing loss nearly all headphones expose ears to loud sound waves, which can seriously harm ears and result in irreversible hearing loss, Clogged airway. **Methodology:** The study evaluated the effectiveness of self-instructional module regarding hazards of earphone among adolescents using quasi experimental one group pretest post design. Conducted at schools with 75 adolescents, the employed a quantitative approach. Participants included all the adolescents between age group of 14 to 17 years. Data collection involved a semi structured questionnaire for demographics, a self - structured knowledge questionnaire for knowledge assessment. Reliability of the tools was confirmed with Karl Pearson correlation coefficient t for the questionnaire (0.9863) which exceeding the acceptable threshold of 0.8. **Result:** The study assessed effectiveness of self-instructional module regarding hazards of earphone among adolescents in selected schools by comparing pre -test and post -test knowledge score. The pretest means score 13.56 (SD 3.54) mean percentage of knowledge score in pretest was 54.24 ± 14.29 and in posttest Mean knowledge score in posttest was 20.44 SD (1.53) and mean percentage of knowledge score in posttest was 81.76 SD (6.14) the comparison of pretest and posttest knowledge scores of adolescents regarding hazards of earphone in selected school. Mean standard deviation and mean difference values are compared and student's paired 't' test is applied at 5% level of significance. The tabulated value for $n=75$ i.e. 74 degrees of freedom was 1.98. The calculated 't' value i.e. 15.48 are much higher than the tabulated value at 5% level of significance for overall knowledge score of adolescents in selected school which is statistically acceptable level of significance. It is statistically interpreted that the Self- Instructional Module on knowledge regarding hazards of earphone among adolescents in selected school was effective. **Conclusion:** The intervention significantly improved knowledge among adolescents regarding hazards of earphone with the experiment showing marked gain in knowledge score statistical analysis confirmed the effectiveness of self-instructional module.

KEYWORDS : Self-instructional Module, Adolescents, Hazards of earphone.

INTRODUCTION

Adolescence is the phase of life between childhood and adulthood, from ages 10 to 19. It is a unique stage of human development and an important time for laying the foundations of good health. During this phase, adolescents establish patterns of behavior for instance, related to diet, physical activity, substance use, and sexual activity that can protect their health and the health of others around them, or put their health at risk now and in the future.

Significant changes in society have resulted from technological breakthroughs. The earliest known technology is the stone tool, which was utilized in prehistoric times. Later, fire control was discovered and used, which helped the human brain grow and language develop throughout that era. While technology boosts human prosperity and economic progress, it can also have unfavorable effects like pollution and resource depletion, as well as societal negatives like technical unemployment brought on by automation.

Headphones Earphones and headsets have been around for a very long time and have evolved significantly since the early days of radio. Today's market offers a vast array of headphones, earbuds, and headsets, suitable for various purposes and accommodating a wide range of preferences. There are many different types of headphones and earbuds for different audio-visual situations, such as listening to music at home, taking it with you on the go, editing audio and video, being used by receptionists and other individuals who require a microphone, and many more.

There are multiple negative consequences of using

headphones which include hearing loss nearly all headphones expose ears to loud sound waves, which can seriously harm ears and result in irreversible hearing loss, Clogged airway. The majority of today's high-end headphones require that you insert them into the ear canal, which is very close to the eardrum. The airflow in the ear canal is restricted when these earbuds are worn for long periods of time, increasing the risk of ear infections, Ear infections which passing around earbuds could result in unpleasant infections, Ear numbness which extended periods of earphone music listening can potentially cause ear numbness. It may cause ear numbness in addition to hearing loss.

Background Of Study.

Young people today are more susceptible to loud sounds or prolonged sounds that could have detrimental long-term effects on them due to the expanding scope of utilizing headphones. Earbuds are becoming more and more popular among people of all ages as technology advances. They restrict and isolate the external ear canal's communication with the outside world as they are put into it. Therefore, the amount of environmental changes in the external ear canal (EEC) are determined by the time spent using the earbuds as well as the user's attitude towards keeping the earpieces clean.

Need Of The Study

Today's adolescents are susceptible to loud sounds of prolonged sounds that may cause negative consequences to them in the later run. Permanent hearing loss in adolescence can be an obstacle for choosing a career and can decrease quality of life in various ways, such as causing difficulties with learning. It is

also highly possible that 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. Therefore, the researcher felt the need to provide a self-instructional module related to hazards of earphone usage among adolescents a step to minimize, the future consequences.

Studying the hazards of earphone usage is essential due to the potential risks associated with prolonged and excessive exposure to loud sound. These risks include permanent hearing loss, tinnitus, and noise-induced hearing loss (NIHL), which can significantly impact individuals' quality of life. Furthermore, safety concerns arise as earphones may obstruct external sounds, leading to accidents or injuries, particularly during activities like walking or cycling. Psychological effects such as social isolation and discomfort in the ears are also observed with prolonged use. Given the prevalence of earphone use, especially among children and adolescents, understanding these hazards is crucial for implementing appropriate regulations, developing interventions to promote safe listening practices, and raising awareness among the general public

Problem Statement :-

A Quasi-experimental study to assess the effectiveness of self-instructional module regarding hazards of earphone among adolescents in selected schools.

Objective of the study

Primary objective:

To assess the effectiveness of self-Instructional module regarding hazards of earphone among adolescents in selected School.

Secondary Objectives:

1. To assess the pretest knowledge regarding hazards of earphone among adolescents in selected school.
2. To assess the posttest knowledge regarding hazards of earphone among adolescents in selected school.
3. To evaluate the effectiveness of self-instructional module regarding hazards of earphone among adolescents in selected school.
4. To associate post-test knowledge score regarding hazards of earphone among adolescents in selected school with selected demographic variables.

Conceptual Framework

The study was based on Panders' health promotion model (1996)

Methodology

Research Approach – quantitative research approach

Research design – Quasi experimental one group pretest post research design

Sample – adolescents 14 to 17 age group

Sample size – 75 adolescents

Sample technique – non probability convenient sampling technique.

Tool

Section I Semi structured questionnaire on demographic variable

Section II Self structured knowledge questionnaire

RESULT AND DISCUSSION

Table No 1. Table Showing Assessment With The Level Of Pretest Knowledge Score N= 75

Level of pretest knowledge	Score Range	Level of Pretest Knowledge Score	
		Frequency (f)	Percentage
Poor	0-5(0-20%)	1	1.33
Average	6-10(21-40%)	16	21.33
Good	11-15(41-60%)	33	44
Very Good	16-20(61-80%)	24	32
Excellent	21-25(81-100%)	1	1.33
Minimum score	5		
Maximum score	21		
Mean knowledge score	13.56 ± 3.54		
Mean % Knowledge Score	54.24 ± 14.29		

Table No 2. Table Showing Assessment With Level Of Posttest Knowledge Score N= 75

Level of posttest knowledge	Score Range	Level of Post test Knowledge Score	
		Frequency (f)	Percentage
Poor	0-5(0-20%)	0	0
Average	6-10(21-40%)	0	0
Good	11-15(41-60%)	0	0
Very Good	16-20(61-80%)	43	57.33
Excellent	21-25(81-100%)	32	42.67
Minimum score	17		
Maximum score	24		
Mean knowledge score	20.44 ± 1.53		
Mean % Knowledge Score	81.76 ± 6.14		

Table 3. Table Showing The Significance Of The Difference Between Knowledge Score In Pretest And Posttest Of Adolescents Score N= 75

Test	Mean	SD	df	Mean Difference	Calculate d t – value	t- value	p-value
Pre-Test	13.56	3.57	74	6.88±3.84	15.48	1.98	0.0001 S , p<0.05
Post - Test	20.44	1.53					

Table IV 4: Table Showing Overall Association Of Post-test Knowledge Score Regarding Hazards Of Earphone Among Adolescent In Relation To Demographic Variables N= 75

Demographic variable	Calculated value			df	Table value	Level of significance < 0.05	Signification
	T- value	F- value	p- value				
Age		15.86	0.0001	2,72	3.07	p<0.05	S
Gender	1.51		0.13	73	1.98	p>0.05	NS
Monthly family income		13.68	0.0001	3,71	2.68	P<0.05	S
Type of family		1.91	0.15	2,72	3.07	p> 0.05	NS
Area of residence		0.60	0.55	2,72	3.07	p> 0.05	NS
Birth order		1.70	0.17	3,71	2.68	p>0.05	NS
Type of earphone used		4.19	0.019	2,72	3.07	P<0.05	S
Time spends with earphone daily		0.53	0.58	2,72	3.07	p>0.05	NS

Purpose of using earphone		2.35	0.079	3,71	2.68	p>0.05	NS
Volume of earphone like to listen		0.59	0.55	2,72	3.07	p>0.05	NS

Majority of the subject 44.0% of adolescents were in the age group of 15 years, 33.3% is of 14 years and 22.70% of adolescents were of 16 years of age. 40% of adolescents were males and 60% of them were females. 36% of adolescents had monthly family income of 10000 Rs- 20000 Rs 32% of them had below 10001 Rs 21.3% of them had between Rs 30001 and above 10.7% of adolescents had monthly family income of Rs 20001 – 30000 60% of adolescents were from nuclear families, 37.3% of them were from joint families and 2.70% of adolescents were from extended families. 68.0% of adolescents were from urban area, 18.7% of them were from semi urban area and 13.3% of them were from Rural area. 30% of adolescents was second child, 40% and of them were first birth order, 16.0% only child and 2.7% were third and above. Majority of the subject 64% of adolescents used in-ear headphones, 21.30% on-ear-headphones and 14.70% of adolescents used over the ear headphones. 89.30% of adolescents spends less than 2 hours with earphone daily, 9.30% spent 2-4 hours and 1.30% of adolescents spent 4-6 hours with earphone daily. 66.7% of adolescents using ear phone for listening to music and 21.3% of adolescents using earphone for games, 6.7 % of adolescents using earphone for other purpose and 5.3 of adolescents using earphone for watching movies and series. 66.7% of adolescents like to listen medium volume of earphone, 22.7 % low and 10.70% like to listen high volume of earphone.

Table no 1. table convey that each 1.33% of adolescents had excellent and poor level of knowledge score, 21.33% had average, 44% had good and 32% of adolescent have very good level of knowledge score. Minimum knowledge score in pretest was 5 and maximum knowledge score in pretest was 21. Mean knowledge score in pretest was 13.56 ± 3.54 and mean percentage of knowledge score in pretest was 54.24 ± 14.29

Table no 2 table shows that 57.33% of adolescents had very good level of knowledge score and 42.67% of them had excellent level of knowledge score. Minimum knowledge score in posttest was 17 and maximum knowledge score in posttest was 24. Mean knowledge score in posttest was 20.44 ± 1.53 and mean percentage of knowledge score in posttest was 81.76 ± 6.14

Table 3. This table showing the comparison of pretest and posttest knowledge scores of adolescents regarding hazards of earphone in selected school. Revels that post test knowledge score was higher 20.44 with an SD of 1.53 when compared with the pre test knowledge score 13.56 with an SD of 3.57. the calculated t- value 15.48 is greater than the table value 1.98 at 0.05 level of significance. Thus, the H1 is accepted and H0 is rejected.

Table 4. display that there is association of knowledge between age, monthly family income, type of earphone used and there is no association of knowledge score with any other demographic variable of adolescents.

CONCLUSION

This study concludes that after thorough analysis that mean pretest knowledge score was 13.56 and mean posttest knowledge score was 20.44 the calculated t value 15.48 is greater than the t value 1.98 at a 0.05 level of significance. Hence the it is statistically interpreted that self- instructional module regarding hazards of earphone among adolescents was effective. Thus, the H1 is accepted and H0 is rejected. The

analysis also reveals that there is an association of knowledge score with age, monthly family income, type of earphone used. while none of the other demographic variable were associated with knowledge score.

Hence bases on the cited findings it was undoubtedly concluded that the educational intervention by the investigator in self-instructional module helped the adolescents increase their knowledge regarding hazards of earphone.

Recommendation

- Similar study can be conducted to assess the effectiveness of planned teaching program on knowledge hazards and prevention of earphone usage
- Follow-up studies could be conducted to evaluate utility and effectiveness of the guide sheet on the harmful effects effect of earphone use among adolescents in selected schools of the city.
- A comparative study can be done to assess the knowledge regarding the hazards of earphone usage among urban and rural adolescents.

Authors Contribution

The author carries out tasks from data collection, data analysis making discussions to making manuscripts

Source Of Funding

The research was not funded, all the expenses were carried out by the researcher.

Conflict Of Interest: The author declares no conflict of interest

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