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Effectiveness of Structure Teaching Programme on Knowledge Regarding Hazards of Earphone Usage among Adolescents in Selected PU Colleges.

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Abstract
In this modern era of technology, it is common to see adolescents and young adults exposing themselves to loud noise or music through the use of earphones for a long period of time . Now a days individuals use headphones additionally for wiping out the surrounding noise in bed to sleep at night or in transportation frameworks such as bus and metro train. To prevent the future complication of ear phone usage adolescents should be educated about its hazards and the right way of using it. A study was conducted to evaluate the effectiveness of structure teaching program on knowledge regarding hazards of earphone usage among adolescents in selected PU colleges. A quasi-experimental design was used and 60 PU college students were selected using non-probability convenience sampling method both in experimental and control group. Results shows that the obtained posttest mean value in experimental group (18.2) was higher than posttest mean value in control group (11.0) and calculated t value (10.35) is found to be more than't' table value (2.043). within the limitation of the present study can be concluded that STP was effective among adolescents for increasing the knowledge regarding hazards of earphone usage.

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I. Introduction

Listening to music, videos and playing games on personal players via the ear/headphones has become a common practice amongst the youth though seemingly switching over to adults and even some elderly people[1]. Due to the incremental scope of using earphones, in today's world youngsters are susceptible to loud sounds or prolong sounds that may cause negative consequences to them in the later run[2].. It is important to give some rest to ears in between while listening to music for a longer duration. However many people leave the earphones in their ears during sleep and left it overnight[3]. Earphones are a pair of small listening devices that are designed to be worn on or around the head over a user's ears[1] .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[4]. The risky patterns of exposure to loud noise through ear phone if are not being monitored by themselves to the proper extent may lead to noised induced hearing loss in the latter part of their life. According to study by Hossein Ansari et al risky patterns of usages of earphones and music player devices among adolescents were observed. It is important to make people, especially the adolescents aware of its consequences and also make them aware of the early signs of ear damages[6].

NEED FOR THE STUDY

Hearing impairment is the most frequent sensory impairment with significant social and psychosocial implications. About 200 children are born deaf or with severe hearing loss every year. Listening to music louder than 91 dB (safe norm 85 Db) in more than 2 hours exceeds the set limit with following risks for developing a noise-induced hearing loss[8]. Earpiece noise induced hearing loss is one of the problems that all the countries are suffering with. Indian council medical research (ICMR) reported that 10.7% of hearing impairment is because of earphone usage. A study conducted among Delhi high school students found that 8% of the students have high-frequency hearing loss[3]. Few problems cause by using ear phones are hearing complications, ear infections, numbness of the ears, sensation of pain in ears, harmful effects on the brain, life threatening accidents etc.[6] Noise-induced hearing loss is caused by long-term exposure to sounds that are either too loud or last too long. This kind of noise exposure can damage the sensory hair cells in the ear that allow us to hear[7]. To prevent hair cell damage in-ears adolescents have to be educated regarding the hazards of earphone usage[3]. A survey was conducted by Adaobi Olivia Okekeetc all recommended that government through its health agencies map out a

serious sensitization and campaign strategy towards creating awareness for the youths on the health implications of frequent earpiece usage[9].

OBJECTIVES

To assess the preexisting knowledge regarding hazards of earphone usage
To evaluate the effectiveness of structure teaching program on hazards of earphone usage.
To compare the pre-test and post- test knowledge score of adolescents in control group.
To compare the posttest level of knowledge score of adolescents in experimental group with the control group.
To find the association between knowledge score regarding hazards of earphone usage among adolescents with their selected personal variables in experimental and control group.

HYPOTHESES

H1: There will be significant different between the mean pretest and posttest knowledge level among adolescents in experimental group.
H2: There will be significant different between the mean pretest and posttest knowledge level among adolescents in control group.
H3: There is a significant difference between the posttest knowledge level among adolescents in experimental and control group.
H4: There is significant association between the knowledge level and selected demographic variable among adolescents in experimental and control group.

CONCEPTUAL FRAME WORK

The conceptual framework of this study was based on the general systems theory developed by Ludwig Von Bertalanffy.

II. REVIEW OF LITERATURE

Review of literature for the present study is organized under following headings
Studies related prevalence and hazards of earphone usage.
Studies related to knowledge regarding hazards of earphone usage among adolescents.
Studies related to effectiveness of structured teaching program on hazards of earphone usage among adolescents.

III. METHODOLOGY

Research design

Quasi experimental nonrandomized control group design.
VARIABLES OF THE STUDY
Dependent variable
Knowledge of adolescents regarding hazards of earphone usage.
Independent variable
Structure teaching program on hazards of earphone usage.
Demographic variables
Age, religion, gender, residence type, type of family, income of family,, languages known, frequency of earphone usage, purpose of earphone usage, volume used while using earphone
SETTING OF THE STUDY
The present study was conducted in selected PU colleges in Mysuru
POPULATION
Adolescent in PU colleges of Mysuru.
SAMPLE AND SAMPLING
The sample in this study comprised of 60 adolescent in selected PU colleges at Mysuru.
Non-probability convenience sampling technique is used to select samples.
SAMPLING CRITERIA
Inclusion criteria:
Adolescents in selected PU colleges at Mysuru.
Adolescents willing to participate in study.
Those who are presents at the time of data collection.
Exclusion criteria:
Those who are not available during the period of study.
Adolescents students who not willing to participate.
Adolescents who participated in the same teaching program before.

DATA COLLECTION TECHNIQUE AND INSTRUMENTS

1. Proforma for selected variables
2. Structured knowledge questionnaires to assess the knowledge regarding hazards of ear phone usage.

In the present study the structured knowledge questionnaire was used to assess the level of knowledge of adolescents regarding hazards of ear phone usages. For each questionnaire, four options were given and for each correct answer, the score given was one and for wrong answer the score given was zero, the highest score was 25. Based on the percentage gained by the adolescents, the knowledge of the respondent was arbitrarily categorized in the following groups.

1. Inadequate knowledge : below 33% (0-8)
2. Moderately adequate knowledge : 33%-66% (9-18)
3. Adequate knowledge : Above 66% (19-25)

DATA COLLECTION PROCEDURE

Formal administrative permission was obtained from the Principals of PUC Colleges, Mysuru.. To obtain a free and true response, the respondents were explained about the purpose and usefulness of the study .Confidentiality was assured. An informed consent was obtained from each sample indicating their willingness to participate in the study .Using convenience sampling technique, 60 adolescents were selected, 30 in control group and 30 in experimental group. Knowledge regarding hazards of ear phone usage was assessed using structured knowledge questionnaire. Each respondent took approximately 20-30 minutes to complete the questionnaire. Post test was conducted to both the groups on the 7th day by administering the same structured knowledge questionnaire.

IV. RESULTS

SECTION 1

Table no: 1 Description of the demographic variables of PU college students in both experimental and control group. N=60

SL NO	DEMOGRAPHIC VARIBLES	CONTROL GROUP F	%	EXPERIMENTAL GROUP F	%
1	Age				
	a. 16-17yrs	17	56.6	14	46.6
	b. 18-19yrs	13	43.4	16	53.4
2	Gender				
	a. Male	17	56.6	16	53.4
	b. Female	13	43.4	14	46.6
3	Religion				
	a. Hindu	21	70	11	36.6
	b. Muslim	3	10	11	36.6
	c. Christian	6	20	8	26.8
	d. Others	00	00	00	00
4	Present residence type	26	86.8	13	43.3
	a. Own house	2	6.6	10	33.3
	b. Self-boarding	2	6.6	7	23.4
	c. Relatives				
5	Type of Family	18	60	15	50
	a. Nuclear	00	00	00	00
	b. Joint family	00	00	00	00
	c. Extended family	12	40	15	50
	d. Single parent				
6	Monthly Income of the family				
	a. <5000	00	00	00	00
	b. Rs 5001-10000	7	23.3	4	13.4
	c. Rs10001—15000	9	30	11	36.6
	d. More then 150001	14	46.7	15	50
7	Language which Capable of speaking				
	a. Kannada	16	53.4	20	66.6
	b. English	14	46.6	10	33.4
	c. Hindi	00	00	00	00
	d. Others	00	00	00	00
8	Frequency of earphone usage				
	a. 5-6hrs per day	17	56	17	56.6

	b. 2-3hrs per day c. Occasionally	11 2	36.6 6.4	13 00	43.4 00
9	Purpose of using earphone a. Watching video b. Talking in mobile c. Listening music	 13 7 10	 43.3 23.3 33.4	 11 9 10	 36.6 30 33.4
10	Volume used in earphone a. Low b. High c. Medium	 14 8 8	 46.8 26.6 26.6	 3 18 9	 10 60 30
11	Training program attended on hazards of earphone usage a. yes b. no	 00 30	 00 100	 00 30	 00 100

SECTION II
FINDINGS ON KNOWLEDGE REGARDING HAZARDS OF EAR PHONE USAGE AMONG ADOLESCENTS

Table-2: Frequency and percentage distribution of pre-test and post-test level of knowledge of adolescents N=60

Level of knowledge	Experimental group		Control group	
	Pre -test	Post-test	Pre-test	Post-test
	F	F	F	F
Inadequate knowledge	17	00	16	17
Moderately adequate knowledge	13	23	14	13
Adequate knowledge	00	07	00	00

SECTION III
EFFECTIVENESS OF STP ON KNOWLEDGE REGARDING HAZARDS OF EAR PHONE USAGE AMONG ADOLESCENT IN EXPERIMENTAL GROUP

Table 3 Mean, Median, Mode, Standard deviation of pre-test and posttest knowledge scores of adolescent in experimental N=30

Overall pre-test and post-test knowledge score	Pre-test		Post-test		Mean difference	Paired 't' test
	Mean	SD	Mean	SD		
	13.3	1.7	18.2	1.8	4.1	t_c=10.12*

S*: Significant , df = 29, t table value =2.05.

SECTION IV
DATA ON COMPARISON OF POST-TEST KNOWLEDGE SCORE BETWEEN ADOLESCENTS IN EXPERIMENTAL AND CONTROL GROUP

Table 4: Mean, mean difference, SD, SD difference, and independent t-test of posttest knowledge scores of adolescent in experimental and control group N=60

Groups	Mean	Mean difference	SD	SD difference	Unpaired t-value
Experimental group	18.2	7.20	1.77	0.67	t_c=10.35 *S
Control group	11.0		3.2		

S*: Significant, df = 58 , t table value =2.00

SECTION V
ASSOCIATION BETWEEN PRETEST LEVELS OF KNOWLEDGE WITH SELECTED DEMOGRAPHIC VARIABLES IN EXPERIMENTAL AND CONTROL GROUP

In experimental group and control group no association found between knowledge scores and selected demographic variables of adolescents. It is inferred that knowledge of adolescents regarding hazards of ear phone usage is not influenced by their selected personal variable. Here hypothesis H4 rejected and accepted null hypothesis.

IMPLICATION

Nursing Practice

The present study revealed that, with education programs adolescents we can improve the knowledge on hazards of earphone usage. Nurses can make themselves the part of structured teaching program and health campaigns which spreads healthy messages on hazards of ear phone usage. Hence, it is important for the nurses to update their knowledge regarding the current trends.

Nursing Education:

Integration of theory and practice is vital need and it is important in PU students. Therefore nurse educator can use the result of the study as information to the nurses and student nurses. The nurse educators have the responsibility to educate and guide the students to improve and update their knowledge regarding hazards of earphone usage. The findings of the study can help the PU students and to enhance the knowledge on particular area

Nursing administration:

The administrator should be able to motivate and initiate the educational program on PU college student that would improve knowledge, attitude and practice. The findings of the study depicted that structured teaching program improved the knowledge of adolescents regarding hazards of ear phone usage. Therefore, it is the duty of nurse administrator to plan and organize for health campaigns, mobile health clinics and CNE for community level health personnel and structured teaching programs for parents, school teachers, etc…to bring out adolescents from the hazard of ear phone usage.

Nursing research:

This study has great importance in the present scenario. Research can be continued on awareness about hazards of ear phone usage in order to prevent health damage of publics. By further research researcher can explore the proper way of using ear phone without damaging physical and mental health of adolescents. The study finding can help to expand the scientific body of knowledge upon which further researches can be conducted. Large scale studies can be conducted by adopting various methods of research.

V. LIMITATIONS:

The study was limited to only adolescent.
The study was limited to particular geographic area.
The study conducted only on the PU College students.
The intervention was administered for one time a day.

VI. RECOMMENDATIONS:

A similar study can be taken up on larger sample to draw the generalization.
A comparative study can be done among adolescent boys and girls
Similar study can be done by adopting true experimental design.
A comparative study can be done among other PU college students in urban and rural area

VII. CONCLUSION

Using earphone has a tendency to distance those around the individual which cause psychological separation from others. Adolescents should be well educated about hazards of dependence on earphones, its psychological impact on individuals and health issues people experienced after using ear phones. The aim of the study was to assess the effectiveness of STP on knowledge regarding hazards of ear phone usage. Most of the adolescent had inadequate knowledge regarding hazards of ear phone usage before giving STP. When the post test scores of experimental and control group are compared there was great difference in knowledge regarding hazards of ear phone usage among adolescents girls in the experimental group and proved that STP have great influence on improving knowledge regarding hazards of ear phone usage.

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