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"Effectiveness of Video Assisted Teaching on Adverse Effects of using Headphones among B.Sc (N) Students at Private College Puducherry -14 "

Rajalakshmi. R,
M.Sc.(N) Assistant Professor,
Dept of Medical Surgical Nursing
College of Nursing, Pondicherry Institute
of Medical Sciences, Puducherry.

Dr. Malarvizhi. S,
M.Sc. (N), Ph.D Assistant Registrar,
Professor and Head, Dept. of Medical Surgical Nursing,
College of Nursing, Pondicherry Institute
of Medical Sciences, Puducherry

Divyalakshmi.N,
VII semester College
of Nursing,
PIMS

Dr. K. Ravichandran, Ph.D,
Lecturer, Biostatistician,
Pondicherry Institute
of Medical Sciences, Puducherry

Co Authors: Abirajan.P, Ms. Agnes Jessica Sharon, Ms. Agnes Victoria.P, Ms. Alekhya Vincent, Ms. Anagha, Ms. Ashwini, Ms. Athirasaji, Mr. Buvaneswar.V, Ms. Dhivyabharathi. B Ms. Harini.R, Ms. Hema Merlin.K

Abstract:- A experimental study was done to assess the effectiveness of video assisted teaching on adverse effects of using headphones among BSc Nursing students at college of nursing, Pondicherry institute of Medical Sciences, Puducherry.103 Participants were selected by convenient sampling. Structured knowledge questions were considered to be the most appropriate instrument to elicit responses from the participants. The structured knowledge questionnaires regarding adverse effects of using headphones. The pre-test and post-test level of knowledge it shows that pre-test level of knowledge mean were 7.54 and SD 2.4. Post–test level of knowledge mean was 12.35 and SD 3.186. mean difference between the pretest and post-test were 4.81 and show that the level of knowledge was improved in the post- test after the video assisted teaching with significant p value .000.

I. INTRODUCTION

Head phones are small listening devices designed to be worn around the head & hear with the ears. Ear phones are fitted directly in outer ear but not inserted into ear canal. Head phones are portable & convenient as they are having an electro acoustic transducer which actually converts electrical signals into corresponding sound in user's ear.[1]

Hearing loss due to high volume music or by the high sound pressure levels are similar characteristics to the hearing loss caused due to the occupational exposure towards noise, having slow onset, progressive or irreversible or sensorineural in nature [1] Bilateral hearing loss mostly affects high frequencies initially and then the other frequencies. This loss may develop into the major social & public health problem because the growing number of adults have similar symptoms related to exposure such as intolerance to loud sounds, distortion, earache, tinnitus, dizziness, difficulty in understanding (or) hearing words, and alteration in the auditory threshold level.[2]

The problem may also cause an extra-auditory damage such as cardiovascular disorders, sleep disorders, stress, tension, fatigue, inattention, irritability, nervousness, tiredness, systemic hypertension and headache. As per the American Speech Language Hearing Association, around 61% of teenagers in America have personal stereos, while the 51% of American high school students have the symptoms of hearing loss. Main crux of this study was, fact that most students prefer to use high volume, as the adults mostly use moderate volumes.[3]

II. NEED FOR THE STUDY

Hearing loss is very common problem now a days. In the adult population, hearing loss becomes the most common chronic medical conditions, which ranks third after the hypertension and arthritis. As per the United States Health Dept. & Human Service, National Institute on Deafness & Communication Disorders states that, 18% of adult population between the ages group of 45 and 64, & 30% of adults between ages of 65 and 75, have the hearing loss.[5]

Data obtained from research work done in middle & high-income countries analyzed by World Health Organization indicates that, among the teenage group and young adults aged between the 12-35 years, around 50% were exposed to unsafe levels of sound due to the use of personal audio devices and nearly 40% were exposed to the potentially damaging levels of sound at entertainment. Using the unsafe levels of sounds i.e., an exposure to raised levels of 85 decibels for more than the eight hours (or) 100dB for more than 15 minutes.[6]

All ages are affected by the Noise induced Hearing Loss, the young adults are at the high risk for the noise Induced Hearing Loss because of the use of Personal Listening Devices and ear buds. In studies investigating the use of Personal Listening Devices and ear buds, 94% of

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college students own such devices & 75% use them several times a week or daily d[7]

III. STATEMENT OF THE PROBLEM:

"A study to Assess the Effectiveness of Video Assisted Programme on Adverse Effects of using Headphones among B.Sc (N) students in private college, Puducherry.

A. *OBJECTIVES:*

- To assess the level of knowledge on adverse effects of using headphones before Video Assisted Programme among B.Sc (N)students.
- To assess the level of knowledge on adverse effects of using headphones after Video Assisted Programme among B.Sc (N) students.
- To compare the pretest and post test level of knowledge on adverse effects of using headphones after Video Assisted Programme among B.Sc (N) students.
- To associate the post test level of knowledge on selected socio demographic variables among B. Sc (N) students.

B. *HYPOTHESIS:*

- **H_1**: There will be significant difference between pre test and post test knowledge scores on adverse effects of using headphones.
- **H_2**: There will be significant association between the post test level of knowledge with selected demographic variables.

C. *OPERATIONAL DEFINITION*

- **Headphones :** It is a pair of earphones which has been joined by the band placed over head, used for the listening to audio signals such as music or speech
- **Knowledge on Adverse effect:** It includes the information regarding meaning, signs & symptoms, complication and preventive measures of using headphones.
- **B.Sc Nursing Students:** It refers to the male and female students who are studying B.Sc (N) in PIMS ,Puducherry..
- **Video Assisted Teaching:** It refers to planned teaching programme on meaning, signs & symptoms, complication and preventive measures of using headphones and assisted by an audio-visual aid such as Liquid Crystal Display projector in delivering lecture in their class room.

D. *DELIMITATION:*

The study is delimited to the data collection period of one week.

IV. METHODOLOGY

- **RESEARCH APPROACH:** Evaluative Research Approach
- **RESEARCH DESIGN:** Pre experimental one group pre test- post test Research Design.
- **SETTING OF THE STUDY:** Setting includes Pondicherry Institute of Medical Sciences, Puducherry.
- **POPULATION:** In this study population comprises of B.Sc (N) students, College of Nursing, Pondicherry Institute of Medical Sciences, Pondicherry.
- **SAMPLE:** I year and II year B.Sc (N) students at College of Nursing, Pondicherry Institute of Medical Sciences, Pondicherry.
- **SAMPLING TECHNIQUE:** Convenient Sampling Technique was used for the study.
- **SAMPLE SZE:** 47% good knowledge increased to 80% with power 80%, significant level is 5%. Sample size required for this study is 103 participants who fulfilled the inclusion criteria were included in the study.

V. SAMPLING CRITERIA

- **Inclusion criteria**
  - Both Male and Female of B.Sc (N) students .
  - I year and II year B.Sc (N) students.
  - Those who are present during data collection.
  - Those who are willing to participate.

- **Exclusion criteria**
  - Those who don't use headphones.
  - Those who have previous knowledge of adverse use of headphone

VI. TOOLS AND INSTRUMENTS

TOOL CONSISTS OF TWO SECTION

Section-I : It consists of 9 Socio Demographic Variables, which includes Name, Age, Gender Course- Year of students , Place of Residency, type of headphones used , Source of previous information regarding adverse effects of using headphones ,Duration of headphone usage,Total number of years using headphones.

Section-II: Self administered questions, which include 17 structured questions to Assess the Level on Knowledge on Adverse Effect on using Headphone among B.Sc (N) students. Scoring ranges from 0 - 1 for each question.

The total score was categorized into three levels as below:

- Adequate : 13-17
- Moderately Adequate : 7-12
- Inadequate : 0- 6

VII. INSTRUMENTS

VIDEO ASSISTED PROGRAMME:

It includes the normal hearing range, unusual high decibels that damage hearing, adverse effect of using headphones for long duration, side effects and complication of using headphones.

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n=103

S.No	Demographic variables		Frequency	Percentage
1	Age in years	17-18	52	50.5
		19-20	51	49.5
2	Gender	Female	85	82.5
		Male	18	17.5
3	Year of students	B.Sc (N) 1st year	56	54.4
		B.Sc (N) 2nd year	47	45.6
4	Place of Residency	Home	66	64.1
		Hostel	37	35.9
5	Type of headphones used	In the ear headphones	73	70.9
		Bluetooth	16	15.5
		Noise cancelling headphones	7	6.8
		Over the ear headphones	4	3.9
		Earbuds	3	2.9
6	Source of previous information regarding adverse effects of using headphones	Media	44	42.7
		Friends or colleagues	27	26.2
		Textbook or journals	9	8.7
		Nil	23	22.3
7	Duration of headphone use per day	30 minutes	25	24.3
		1 hour	38	36.9
		More than one hour	40	38.8
8	Total number of years using headphones	Less than one year	47	45.6
		1- 3 years	45	43.7
		4 - 6 years	8	7.8
		7 – 8 years	3	2.9

Table 1: Distribution of socio demographic variables of B. Sc (N) students

Distribution of level of knowledge on adverse effects of using headphones before video assisted programme among B. Sc (N) students.

n=103

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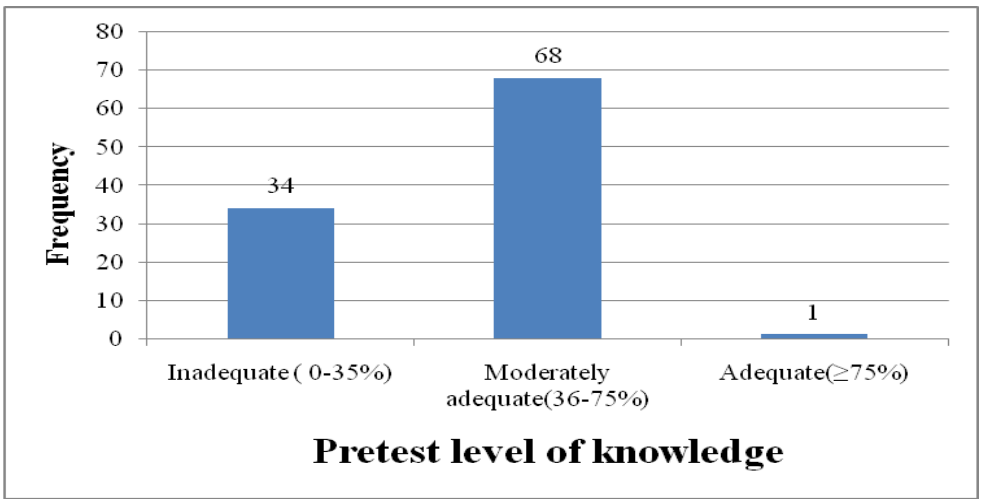

Fig. 1 : Pretest level of knowledge on adverse effects of using headphones

Figure 1 shows that the level of knowledge in the pretest on adverse effects of using headphones among B.Sc (N) students. 34 (33.0%) has inadequate knowledge, 68(66.0%) has moderately adequate knowledge and 1(1.0%) has adequate knowledge.

Distribution of level of knowledge on adverse effects of using headphones after video assisted programme among B.Sc (N) students.

n=103

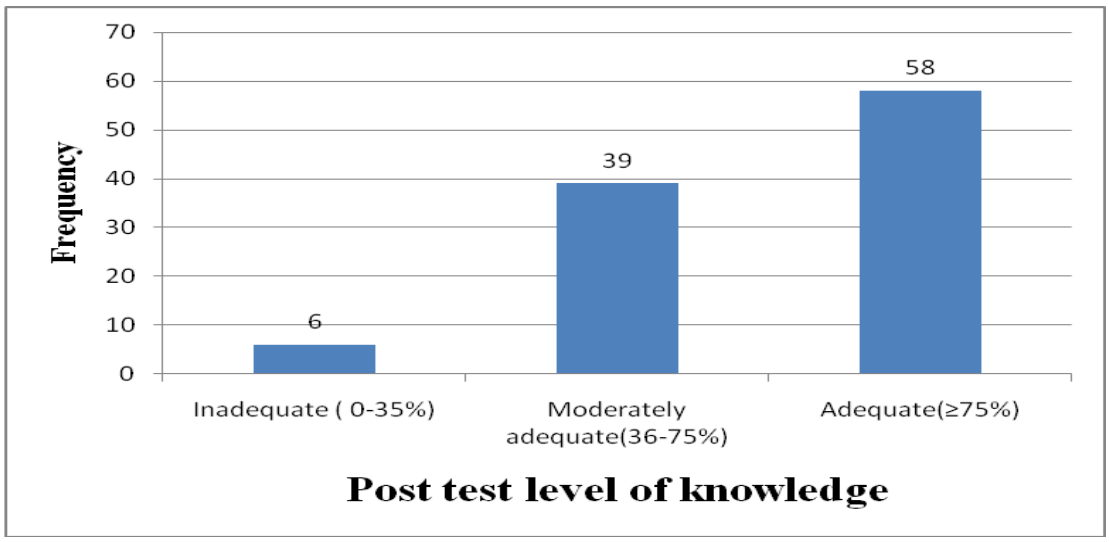

Fig. 2: Post test level of knowledge on adverse effects of using headphones.

n=103

Time of knowledge assessment	Mean	Standard Deviation	Median	Mean Difference	IQR	Z value	p value
Pre-test	7.5	2.4	8.0	4.9	6.0 – 9.0	-8.060	<0.001
Post-test	12.4	3.2	13.0		10.0 - 15.0		

Table 2: Comparison between pretest and post test level of knowledge on adverse effects of using headphones among B. Sc (N) students

p< 0.001 statistically highly significant

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Table 2 shows that pretest knowledge median was 8.0, IQR was 3.0. Post test level median was 13.0, IQR was 5.0. The Z value was -8.060. Median difference between the pretest and post test level of knowledge shows that level of knowledge was improved in posttest after the video assisted teaching with significant p value <0.001 using Wilcoxon signed rank test.

Section 5: Association between post test knowledge regarding adverse effects of using headphones with selected socio demographic variables among B. Sc (N) students.

n=103

S.no	Socio Demographic Variables		Inadequate Knowledge (0-35%)		Moderately Adequate Knowledge (36-75%)		Adequate Knowledge (≥75%)		p value *
			F	%	F	%	F	%	
1	Age in years	17-18	2	3.8	21	40.4	29	55.8	0.695
		19-20	4	7.8	18	35.3	29	56.9	
2	Gender	Female	6	7.1	28	32.9	51	60.0	0.082
		Male	0	-	11	61.1	7	38.9	
3	Year of student	B.Sc (N) 1st year	1	1.8	27	48.2	28	50.0	0.022
		B.Sc (N) 2nd year	5	10.6	12	25.5	30	63.8	
4	Place of Residency	Home	2	3.0	25	37.9	39	59.1	0.305
		Hostel	4	10.8	14	37.8	19	51.4	
5	Type of headphones used	In the ear headphones	3	4.1	26	35.6	44	60.3	0.442
		Bluetooth	2	12.5	8	50.0	6	37.5	
		Noise cancelling headphones	0	-	3	42.9	4	57.1	
		Over the ear headphones	1	25.0	1	25.0	2	50.0	
		Earbuds	0	-	1	33.3	2	66.7	
6	Source of previous information regarding adverse effects of using headphones	Media	2	4.5	20	45.5	22	50.0	0.265
		Friends or colleagues	1	3.7	8	29.6	18	66.7	
		Textbook or journals	2	22.2	4	44.4	3	33.3	
		Nil	1	4.3	7	30.4	15	65.2	
7	Duration of headphone use per day	30 minutes	2	8.0	9	36.0	14	56.0	0.329
		1 hour	0	-	14	36.8	24	63.2	
		More than one hour	4	10.0	16	40.0	20	50.0	
8	Total number of years using headphones	Less than one year	1	2.1	19	40.4	27	57.4	0.326
		1 – 3 years	5	11.1	18	40.0	22	48.9	
		4 - 6 years	0	-	1	12.5	7	87.5	
		7 - 8 years	0	-	1	33.3	2	66.7	

Table 3: Association between post test level of knowledge regarding adverse effects of using headphones with selected socio demographic variables among B. Sc (N) students.

*Fisher's Exact Test

Table 3 shows there was no significant association between level of knowledge with age, gender, place of residency, source of place of previous information regarding adverse effect of using headphones, types of headphones used, duration of headphone use per day and total number of years using headphones.

There was significant association between level of knowledge and year of student studying.

VIII. CONCLUSION

The study was done to assess the effectiveness of video assisted teaching programme on adverse effects of using headphones among B.Sc (N) Students in PIMS, Pondicherry. The results revealed that the level of knowledge has improved with the mean difference of 4.8 ± SD 0.73 after Video Assisted Programme.

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