

**A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO TEACHING  
ON KNOWLEDGE REGARDING HEALTH HAZARDS OF  
ELECTRONIC DEVICES AMONG ADOLESCENCE IN  
CHRISTHUCOIL LMS HIGHER SECONDARY  
SCHOOL, PALLIYADI AT  
KANYAKUMARI  
DISTRICT**



**A DISSERTATION SUBMITTED TO THE TAMILNADU  
DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI  
IN PARTIAL FULFILLMENT FOR THE  
DEGREE OF MASTER OF SCIENCE  
IN NURSING**

**APRIL 2016**

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**INTERNAL EXAMINER**

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**EXTERNAL EXAMINER**

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SCHOOL, PALLIYADI AT  
KANYAKUMARI  
DISTRICT**

Approved by the Dissertation Committee on: .....

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Principal,  
Thasiah College of Nursing, Marthandam,  
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Paediatrician,  
PPK Hospital,  
Marthandam,  
Kanyakumari District:.....

**A DISSERTATION SUBMITTED TO THE TAMILNADU  
DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI  
IN PARTIAL FULFILLMENT FOR THE  
DEGREE OF MASTER OF SCIENCE  
IN NURSING  
APRIL 2016**

## **CERTIFICATE**

This is to certify that this is a bonafide work of..... II year M.Sc. Nursing, Thasiah College of Nursing, Marthandam, in Partial fulfillment of the requirement, for the Degree of Master of Science in Nursing.

Place: Marthandam

**Principal**

Date:

## ACKNOWLEDGEMENT

I wish to acknowledge my heartfelt gratitude to the **Lord Almighty** for all the wisdom, knowledge, guidance, strength, protection, shield and support offered me throughout his endeavour and given me courage to overcome the difficulties and thus complete this study successfully.

It is my honour to thank our beloved **Chairman Mr. C. Thasian (Germany)**, for providing entire facility and encouragement for conducting this study.

I consider myself to be privileged to express my honest and sincere gratitude to **Prof. Mrs. T. Violin Sheeba, M.Sc. (N), Ph.D., Principal and Head of the department of Child Health Nursing**, Thasiah College of Nursing, for her invaluable guidance, continuous support, promising, criticisms, suggestions and concern during the entire course of this dissertation.

My heartfelt thanks to **Mrs. G. Feby, M.Sc. (N), Vice Principal** for her encouragement and support given during this work.

I express my deepest thanks to **Mrs. S. Shalin, Reader** and **Mrs. G. Brindha Mary, M.Sc. (N), Lecturer Department of Child Health Nursing** for their guidance and suggestions for the completion of the study.

**I express my thanks to entire faculty of Thasiah College of Nursing, Marthandam**, for their co-operation and encouragement.

My sincere thanks and honour to **Mr. Antopaulin Brinto, M.Sc., M.Ed., M.Phil., PG., DBM.**, Professor of Bio statistics for extending his helping hands in the course of analysis and interpretation of the data.

I express my thanks to **Mrs. Kavitha, M.Phil., Librarian** for her extending help in refer research material for the study.

I thank all the **office staff** for their help in taking photocopies of study reviews.

I express my deep sense of gratitude and heartfelt thanks to **experts** who have validated, edited my study, devoted their valuable hours in solving my doubts and in providing meticulous attention.

I would like to express my thanks to the **study participants** for their co-operation and participation, without whom this study would have been impossible.

I am pleased to convey my profound thanks to **the Headmaster of Christucoil LMS Higher Secondary School, Palliyadi** for giving valuable suggestion, guidance for data collection and also for giving permission to conduct the study in their respective school.

I express my heartfelt gratitude to my beloved **husband Mr. G. Renjesh**, my **parents Mr.M. Johnson, Mrs. Swarnabai**, also my dear **brother Mr. J. Arun Prasanth** for their love, support, encouragement and prayer throughout my study.

A word of thanks to **my colleagues** for their help and support throughout the course of this study.

Investigator

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## **ABSTRACT**

The study was undertaken to assess the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence in Christhucoil LMS Higher Secondary School, Palliyadi at Kanyakumari District.

### **Objectives**

The overall aim of the research was to assess the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence.

### **Research Methodology**

The Researcher adopted a quantitative approach with one group pre test post test design. 60 adolescence from 11<sup>th</sup> standard were selected by simple convenient sampling method include based on pretest video teaching on health hazards of electronic devices was given by investigator, after that post test was done after one week with the help of structured questionnaire. The collected data were analysed based on the above mentioned objective using the descriptive and inferential statistics.

### **Findings of the Study**

The study identified that the video teaching programme was effective after conducting knowledge regarding health hazards of electronic devices among adolescence. The paired 't' value was founded to be 9.304,  $df = 59$ ,  $P < 0.05$ .

### **Conclusion**

From the results of the study it is concluded that video teaching was effective in promoting knowledge regarding health hazards of electronic devices among adolescence.

## LETTER SEEKING PERMISSION TO CONDUCT THE STUDY



### THASIAH COLLEGE OF NURSING

(Approved by Govt. of Tamilnadu, TN-Nurses & Midwives Council  
Indian Nursing Council & Affiliated to Dr. M.G.R. Medical University)

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**Mr.C.Thasian**

Chairman

To

The Headmaster,  
Christhukoil LMS Hr.Sec.School,  
Palliyadi.

Respected Madam/Sir,

**Mrs.J.Indhuja** is a student of M.Sc (N) Programme from the clinical speciality Pediatric Nursing in our college. She is conducting a study on "A Study to assess the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence in christhukoil LMS Hr. Sec. School, Palliyadi at kanyakumari district".

This is for the research project to be submitted to the TamilNadu Dr.MGR Medical University in the partial fulfillment of university requirement for the award of M.Sc(N) degree and will be beneficial in understanding and improving the knowledge of the students.

The main study was planned to conduct on November. So permission may kindly be granted for her to conduct the study at your school. Kindly extend your co operation in this matter.

Thanking You,

Marthandam,  
16/11/2015.





Principal

**PRINCIPAL**  
**Thasiah College of Nursing**  
**Marthandam - 629 165**

## LETTER GRANTING PERMISSION TO CONDUCT STUDY

### TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mrs. Indhuja .J is a student of M.Sc. (N) program from Thasiah College of Nursing, Marthandam. She has conducted a study on "A study to assess the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence in Christucoil LMS Higher Secondary School, Palliyadi at Kanyakumari District".

As a part of her research study she has assessed the level of knowledge of students regarding health hazards of electronic devices through video teaching programme in an excellent manner with good dedication and in a pleasant way.

with good records

29.01.2016



Guide to

Headmaster



HEADMASTER  
CHRISTUCOIL L. M. S. Hr. Sec. SCHOOL  
PALLIADY - 629 169.

**CERTIFICATE OF ENGLISH EDITING****TO WHOM SO EVER IT MAY CONCERN**

This is to certify that the dissertation entitled "A study to assess the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence in Christhukoil L.M.S. Higher Secondary School at Palliyadi" by II year students Mrs. J. Indhuja, Thasiah College of Nursing has been checked for the accuracy and correctness of English Language usage and that the language used in presenting the paper is lucid, unambiguous or spelling errors and apt for purpose.



G. Robert Wickels  
P. G. Asst G

Christhukoil Nal

**CERTIFICATE OF TAMIL EDITING****TO WHOM SO EVER IT MAY CONCERN**

This is to certify that the dissertation entitled "A study to assess the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence in Christhukoil L.M.S. Higher Secondary School at Palliyadi" by II year students Mrs. J. Indhuja, Thasiah College of Nursing has been checked for the accuracy and correctness of Tamil Language usage and that the language used in presenting the paper is lucid, unambiguous or spelling errors and apt for purpose.

*Prathibha Mrs.*

(B.P. Asst.)

Govt. Hr.S.S. Nalloor



**LETTER SEEKING EXPERTS OPINION FOR THE VALIDITY  
OF THE TOOL**

From

Mrs. Indhuja . J,  
M.Sc. Nursing II Year,  
Thasiah College of Nursing,  
Marthandam.

To

Respected Sir / Madam,

Sub : Requisition to expert opinion and suggestion for the content validity.

I Indhuja .J, M.Sc. Nursing II year student of Thasiah College of Nursing, Marthandam have selected the following topic, “A study to assess the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence in Christhukoil LMS Hr.Sec.School,palliyadi at kanyakumari district”. For my dissertation to be submitted to TamilNadu Dr. M.G.R. Medical University in the partial fulfillment of the requirement for award of Master of Science in Nursing.

I request you to go through the items and give your valuable suggestions and opinions to develop the content validity of the tool. Kindly suggest modifications, addition and deletions if any in the remarks column.

Thanking you,

Place: Marthandam.

Yours sincerely,

Date :

Indhuja . J

**ENCLOSURE:**

1. Problem statement, objectives and hypothesis of the study.
2. Demographic profile
3. Questionnaire
4. Evaluation Performa

**LIST OF EXPERTS VALIDATED THE TOOL**

1. **Dr. Sheeban .R. MBBS., DCH.,**  
Paediatrician,  
PPK Hospital,  
Marthandam,  
Kanyakumari District.
  
2. **Dr. Rajendran .R, MBBS., DCH.,**  
Director, Rajendran Children Clinic,  
Marthandam,  
Kanyakumari District.
  
3. **Prof. Malchijah, M.Sc. (N),**  
HOD in Pediatric Nursing,  
Christian College of Nursing,  
Neyoor,  
Kanyakumari District.
  
4. **Mrs. Premalatha, M.Sc. (N)**  
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Christian College of Nursing,  
Neyoor,  
Kanyakumari District.
  
5. **Mrs. Bebiulah Sahaya Rani, M.Sc. (N),**  
Asst Professor,  
Annammal College of Nursing,  
Kuzhithurai,  
Kanyakumari District.

6. **Mrs. Vijila Berlin, M.Sc. (N)**  
Principal, HOD of Child Health Nursing,  
Global College of Nursing,  
Nattalam,  
Kanyakumari District.
  
7. **Mrs. Kavitha, M.Sc. (N)**  
Asst. Professor  
Global College of Nursing,  
Nattalam,  
Kanyakumari District.

## EVALUATION CRITERIA CHECK LIST FOR VALIDATION OF THE TOOL

### Instruction :

Kindly give your suggestions regarding the accuracy, relevance and appropriateness of the content. Kindly (✓) against specific columns.

### PART - I

#### Validation of Demographic Variables

Item	Very Relevant	Relevant	Need for Modification	Not Relevant	Remarks
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					

**PART - II :**  
**Validation of Research Tool**

<b>Item</b>	<b>Very Relevant</b>	<b>Relevant</b>	<b>Need for Modification</b>	<b>Not Relevant</b>	<b>Remarks</b>
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## EVALUATION CRITERIA CHECKLIST FOR VALIDATING THE TOOL

### Instructions:

The expert is requested to go through the following criteria for evaluation. Three columns are given for responses and a column for remarks. Kindly please tick mark in the appropriate columns and give remarks.

### Interpretation column:

**Column1:** meets Criteria, **Column 2:** partially meets criteria, **Column3:** does not meet the criteria

S.NO	CRITERIA	1	2	3	REMARKS
1.	Scoring – Adequacy – Clarity – Simplicity				
2.	Content – Logical sequence – Adequacy – Relevance				
3.	Language – Appropriate – Clarity – Simplicity				
4.	Practicability – Easy to score – Precise – Utility				

Signature :

Any other suggestion:

Name :

Designation :

Address :

## TOOL FOR DATA COLLECTION

### SECTION : A

#### Structure Questionnaire for the Demographic Variables Collection

Dear participants you are requested to answer all items. This information will be treated as confidential. Kindly put a (✓) mark to answer to which you respond in the specific column, provided in the right side of the questionnaire.

Sample No: \_\_\_\_\_

#### Demographic Data

- 1) Age in years
  - a) 14 – 15 years
  - b) 15 – 16 years
  - c) 16 – 17 years
  
- 2) Gender
  - a) Male
  - b) Female
  
- 3) Education of Father
  - a) Graduate
  - b) Higher Secondary
  - c) High School
  - d) Primary school
  - e) Illiterate
  
- 3) Education of Mother
  - a) Graduate
  - b) Higher Secondary
  - c) High School
  - d) Primary school
  - e) Illiterate
  
- 5) Occupation of Father
  - a) Government
  - b) Private
  - c) Farmer

- 6) Occupation of Mother
  - a) Government
  - b) Private
  - c) Farmer
  
- 7) Monthly income
  - a) Less than Rs. 5,000
  - b) Rs. 5,000 – 10,000
  - c) Above Rs. 10,000
  
- 8) Area of residency
  - a) Urban
  - b) Rural
  
- 9) Number of children
  - a) One
  - b) Two
  - c) More than two
  
- 10) Awareness of hazards of electronic devices
  - a) Yes
  - b) No
  
- 11) Do you have mobile phone
  - a) Yes
  - b) No
  
- 12) Type of electronic devices you are using
  - a) Television
  - b) Mobile phone
  - c) Video game
  - d) All the above
  
- 13) Daily usage of electronic devices
  - a) Less than 2 hours
  - b) 2 – 4 hours
  - c) 4 – 6 hours
  - d) More than 6



**RESEARCH TOOL**

- 1) Electronic device is a device capable of
  - a) Receiving sound and text
  - b) Transmitting sound and text
  - c) Creating sound and text
  - d) All the above
  
- 2) Adolescence spend for electronic devices is
  - a) Less than 2 hours / day
  - b) More than 6 hours / day
  - c) 2 – 4 hours / day
  - d) 4 – 6 hours / day
  
- 3) Electronic device such as
  - a) Computer
  - b) Television
  - c) Videogames
  - d) All the above
  
- 4) Adolescence joining social network website like
  - a) Video games
  - b) Messenger
  - c) Face book
  - d) Youtube
  
- 5) Computer devices that can be programmed to carry out a
  - a) Logical operation automatically
  - b) Changing dramatically
  - c) Printing
  - d) Accessing knowledge
  
- 6) Hazards of using computer is
  - a) Myocardial Infraction
  - b) Diabetes Mellitus

- c) Hypertension
  - d) Corpal tunnel syndrome
- 7) Reason for getting corpal tunnel syndrome injury is
- a) Long hours using keyboard
  - b) Long hours hearing music
  - c) Long hours seeing computer
  - d) Long hours browsing
- 8) Management for corpal tunnel syndrome is
- a) Exercise your body
  - b) Exercise your hand and arms
  - c) Using antibiotic
  - d) Doing surgery
- 9) Single target complaint of computer user is
- a) Breathing difficulty
  - b) Eye strain
  - c) Hearing Loss
  - d) Memory Loss
- 10) Reason for getting eye strain is
- a) Lack of circulation
  - b) Flickering or glare at the monitor
  - c) Inadequate food
  - d) Lack of vitamins
- 11) Social effect of video game is
- a) Skipping meals
  - b) Visual problems
  - c) Quiet response
  - d) Avoiding friends and family members
- 12) Excessive playing of video games will causes
- a) Fatigue

- b) Sleep disruptions
  - c) Pain
  - d) Weakness
- 13) Repeatedly pressing the buttons on a video game controller may cause
- a) Burning and tingling
  - b) Swelling of the thumb
  - c) Stress on the ligament
  - d) Pain
- 14) The psychological effect of video game addiction are
- a) Decreased sleep
  - b) Increased Violent behavior
  - c) Increased sleep pattern
  - d) Tendons
- 15) Mobile phones also support a variety of services such as
- a) Internet access
  - b) Gaming
  - c) Text messaging
  - d) All the above
- 16) The health hazards of using Mobile phones are
- a) Poor work performance
  - b) Electromagnetic hypersensitivity
  - c) Poor academic performance
  - d) Fatigue
- 17) Signs and symptoms of Electromagnetic Hypersensitivity are
- a) Depression
  - b) Stress
  - c) Burning and tingling sensation in the skin
  - d) Attention deficit

- 18) A man who routinely clipped and use cell phones to their belts will cause
- Increased Hip-bone Density
  - Decreased Hip-bone Density
  - Bone fracture
  - Swelling of the bone marrow
- 19) Preventing the health problems of excess use of cell phone are
- Away from the bed
  - Moves the phone away from you head
  - Use a headset or speaker phone mode
  - All the above
- 20) The health hazards of using Television is
- Malaise
  - Sleep disturbance
  - Drowsiness
  - Palpitation
- 21) Prolonged watching television by eating snacks may cause
- Obesity
  - Weight loss
  - Depression
  - Compulsive disorder
- 22) Reason for getting eye problem due to over use of television are
- Brightness
  - Radiation
  - Increased contrast
  - Decreased Brightness
- 23) A laptop is a device such as
- Immovable device
  - Portable personal computer
  - Pocket device
  - Desktop device

- 24) Laptops are commonly used by
- Education
  - Personal Multimedia
  - A and B
  - None of the above
- 25) Prolonged using of laptop will causes
- Injury to the neck or spine
  - Leg pain
  - Swelling of the hand
  - Shoulder pain
- 26) Health hazards of laptop using in makes
- Infertility
  - Decreased sperm count
  - Increase sperm count
  - Malaise
- 27) Management of health problems of using laptop is
- Maintaining time schedule
  - Limited distances
  - Don't use laptop on the bed
  - Healthy eating habits
- 28) The Ipad device is called by
- Minicomputer
  - Pocket computer
  - Laptop
  - Mini laptop
- 29) Reason for using Ipad by
- Listening Music
  - Chatting
  - Texting messages
  - Transmitting stills
- 30) Health hazards of Ipad are
- Eye damage
  - Hearing damage
  - Vision problem
  - Fatigue

## தனி நபர் தகவல் சேகரிப்பு கருவி

1. வயது
  - அ) 14 முதல் 15 வரை
  - ஆ) 15 முதல் 16 வரை
  - இ) 16 முதல் 17 வரை
  
- 2) பாலினம்
  - அ) ஆண்
  - ஆ) பெண்
  
- 3) தந்தையின் கல்வி தகுதி
  - அ) பட்டதாரி
  - ஆ) மேல்நிலைக்கல்வி
  - இ) உயர்நிலைக்கல்வி
  - ஈ) தொடக்கக்கல்வி
  - உ) படிக்காதவர்
  
- 4) தாயின் கல்வித்தகுதி
  - அ) பட்டதாரி
  - ஆ) மேல்நிலைக்கல்வி
  - இ) உயர்நிலைக்கல்வி
  - ஈ) தொடக்கக்கல்வி
  - உ) படிக்காதவர்
  
- 5) தந்தையின் தொழில்
  - அ) அரசு தொழில் செய்பவர்
  - ஆ) தனியார் நிறுவனத்தில் வேலை பார்ப்பவர்
  - இ) வியாபாரம் செய்பவர்
  
- 6) தாயின் தொழில்
  - அ) அரசு தொழில் செய்பவர்
  - ஆ) தனியார் நிறுவனத்தில் வேலை பார்ப்பவர்
  - இ) குடும்பத்தலைவி

- 7) மாத வருமானம்  
 அ) 5000-க்கும் குறைவாக  
 ஆ) 5000 – 10,000 வரை  
 இ) 10,000-க்கு மேல்
- 8) வசிக்கும் பகுதி  
 அ) நகரம்  
 ஆ) கிராமம்
- 9) குழந்தைகளின் எண்ணிக்கை  
 அ) ஒரு குழந்தைகள்  
 ஆ) இரண்டு குழந்தைகள்  
 இ) இரண்டிற்கும் மேல்
- 10) மின்னியக்க சாதனங்கள் ஆபத்தானவைகள் என அறிவீர்களா  
 அ) ஆம்  
 ஆ) இல்லை
- 11) உங்களிடம் கைபேசி இருக்கிறதா  
 அ) ஆம்  
 ஆ) இல்லை
- 12) எந்த மாதிரியான மின்னியக்க சாதனங்களை நீங்கள் உபயோகிக்கிறீர்கள்  
 அ) தொலைக்காட்சி  
 ஆ) கைப்பேசி  
 இ) வீடியோ கேம்  
 ஈ) இவை அனைத்தும்
- 13) நீங்கள் தினமும் எத்தனை மணிநேரம் மின்னியக்க சாதனங்களை உபயோகிக்கிறீர்கள்  
 அ) இரண்டு மணி நேரத்திற்கு குறைவாக  
 ஆ) இரண்டு முதல் நான்கு மணி நேரம் வரை  
 இ) நான்கு முதல் ஆறு மணி நேரம் வரை  
 ஈ) ஆறு மணி நேரத்திற்கும் அதிகமாக

## வினாக்கள்

1. மின்னியக்க சாதனம் என்பது எதற்கு பயன்படும்
  - அ) சத்தம் மற்றும் விளக்கம் தரும்
  - ஆ) சத்தம் மற்றும் விளக்கப் பரிமாற்றம்
  - இ) சத்தம் மற்றும் விளக்கத்தை உருவாக்கும்
  - ஈ) இவை அனைத்தும்
  
2. வளர் இளம் பருவத்தினர் மின்னியக்க சாதனங்களை செலவிடும் நேரம்
  - அ) ஒரு நாளைக்கு 2 மணி நேரத்திற்கும் குறைவாக
  - ஆ) ஒரு நாளைக்கு 6 மணி நேரத்திற்கும் அதிகமாக
  - இ) ஒரு நாளைக்கு 2 – 4 மணி நேரம்
  - ஈ) ஒரு நாளைக்கு 4 – 6 மணி நேரம்
  
3. மின்னியக்க சாதனம் எவை
  - அ) கம்பியூட்டர்
  - ஆ) தொலைக்காட்சி
  - இ) தொலைக்காட்சி விளையாட்டு
  - ஈ) இவை அனைத்தும்
  
4. வளர் இளம் பருவத்தினர் விரும்பும், சமூக ஊடகம்
  - அ) தொலைக்காட்சி விளையாட்டு
  - ஆ) பரிமாற்றம்
  - இ) முகநூல்
  - ஈ) யூடியூப்
  
5. கணினி சாதனங்கள் எந்த திட்டத்தை எடுத்து வெளியிடுகிறது
  - அ) தானே இயங்குகிற சீரான நடவடிக்கைகளை
  - ஆ) மாறிவரும் வியத்தகு மாற்றங்களை
  - இ) அச்சடிப்பு
  - ஈ) திறமையான அணுகுமுறை
  
6. கணினி உபயோகிப்பதால் ஏற்படும் இடையூறுகள்
  - அ) இதயநோய்
  - ஆ) சர்க்கரை வியாதி
  - இ) அதிக இரத்த அழுத்தம்
  - ஈ) மணிக்கட்டு சதை சிதைவு நோய்



7. எதனால் மணிக்கட்டு சதை சிதைவு நோய் வருகிறது  
 அ) அதிக நேரம் விசைபலகை உபயோகிப்பதனால்  
 ஆ) அதிக நேரம் இசை கேட்பதினால்  
 இ) அதிக நேரம் கணினி பார்ப்பதினால்  
 ஈ) அதிக நேரம் உரையாடுவதினால்
8. மணிக்கட்டு சதை சிதைவு நோயை எவ்வாறு கட்டுப்படுத்துவது  
 அ) உடலுக்கு உடற்பயிற்ச்சி  
 ஆ) கை மற்றும் தோள்பட்டைக்கும் உடற்பயிற்ச்சி கொடுப்பது  
 இ) நோய் எதிர்ப்பு சக்தி மருந்து உபயோகிப்பது  
 ஈ) அறுவை சிகிச்சை செய்வது
9. கணினி உபயோகிப்பதால் வரும் ஒற்றை குறியிலக்கு அறிகுறி  
 அ) மூச்சு விடுவதில் சிரமம்  
 ஆ) கண் அழுத்தம்  
 இ) காது கேட்காத தன்மை  
 ஈ) ஞாபக மறதி
10. கண் அழுத்தம் எதனால் வரும்  
 அ) இரத்த ஓட்டம் குறைதல்  
 ஆ) மின்னிவெட்டும் இயக்கவலை  
 இ) உணவு பற்றாக்குறை  
 ஈ) வைட்டமின் குறைபாடு
11. வீடியோ கேம் விளையாட்டினால் ஏற்படும் சமுதாயம் சார்ந்த விளைவு  
 அ) உணவை தவிர்ப்பது  
 ஆ) பார்வை குறைவு  
 இ) அமைதியாக இருத்தல்  
 ஈ) நண்பர்கள் மற்றும் உறவினர்களை தவிர்த்தல்
12. அதிகமாக வீடியோ கேம் விளையாடுவதினால் வரும் காரணம்  
 அ) சோர்வு  
 ஆ) உறக்கமின்மை  
 இ) வலி  
 ஈ) பலகீனம்
13. திரும்ப திரும்ப வீடியோ கேம் பொத்தானை அழுத்துவதினால் வரும் காரணம்  
 அ) எரிச்சல் மற்றும் கூச்ச உணர்வு

- ஆ) கட்டை விரல் வீக்கம்  
 இ) தவை அழுத்தம்  
 ஈ) வலி
14. வீடியோ கேம் விளையாட்டால் ஏற்படும் மனநிலை விளைவு  
 அ) குறைந்த அளவு தூக்கம்  
 ஆ) அதிக வன்முறையான குணம்  
 இ) அதிகமாக தூங்குதல்  
 ஈ) தசை நாண்கள்
15. கைப்பேசியில் எந்த வகையான வசதிகள் செய்யப்பட்டுள்ளது  
 அ) இணையதள வாய்ப்பு  
 ஆ) விளையாட்டு  
 இ) படிவ பரிமாற்றம்  
 ஈ) இவை அனைத்தும்
16. கைப்பேசி உபயோகிப்பதால் வரும் உடல்நிலை இடையூறுகள்  
 அ) போதாத வேலை செயல் நிறைவேற்றம்  
 ஆ) மின் காந்த ஆற்றல் எதிர்விளைவு  
 இ) படிப்பாற்றல் குறைதல்  
 ஈ) சோர்வு
17. மின்காந்த ஆற்றல் எதிர்விளைவின் அறிகுறிகள்  
 அ) மன அழுத்தம்  
 ஆ) கவலை  
 இ) எரிச்சல் மற்றும் தோல் கூச்ச உணர்வு  
 ஈ) கவனக்குறைவு
18. ஆண்கள் வழக்கமாக கைப்பேசியை தோள்பட்டடை வாரில் சொருகுவதால் ஏற்படும் காரணம்  
 அ) அதிகமான இடுப்பு எலும்பு தேய்மானம்  
 ஆ) குறைவான இடுப்பு எலும்பு தேய்மானம்  
 இ) எலும்பு முறிவு  
 ஈ) எலும்பு மஜ்ஜை வீக்கம்
19. அதிகமாக கைப்பேசி உபயோகிப்பதால் ஏற்படும் உடல்நிலை விளைவுகளில் இருந்து பாதுகாப்பது  
 அ) படுக்கையில் இருந்து தூரப்படுத்துவது

- ஆ) கைப்பேசியை தலைபக்கத்திலிருந்து தூரப்படுத்துவது  
 இ) கெட் செட் அல்லது ஸ்பீக்கர் முறை  
 ஈ) இவை அனைத்தும்
20. தொலைக்காட்சி உபயோகிப்பதால் வரும் உடல்நிலை இடையூறுகள்  
 அ) உடல் நல குறைபாடு  
 ஆ) தூக்கமின்மை  
 இ) சோம்பல்  
 ஈ) படபடப்பு
21. அதிக நேரம் சாப்பிட்டுக்கொண்டு தொலைக்காட்சி பார்ப்பதால் ஏற்படும் விளைவு  
 அ) உடல் பருமன்  
 ஆ) எடை குறைவு  
 இ) தாழ்வு மனப்பான்மை  
 ஈ) மன பித்து
22. அதிகமாக தொலைக்காட்சி பார்ப்பதனால் வரும் கண் குறைபாட்டின் காரணம்  
 அ) ஒளிபொலிவு  
 ஆ) கதிர்வீச்சு  
 இ) அதிகமான மாறுபட்ட தன்மை  
 ஈ) குறைவான ஒளி பொலிவு
23. மடிக்கணினி சாதனம் என்பது  
 அ) அசையா பொருள்  
 ஆ) எடுத்து செல்லத்தக்க பொருள்  
 இ) சட்டைப்பை சாதனம்  
 ஈ) எடை அதிகமானது
24. மடிக்கணினி பொதுவாக உபயோகிப்பது  
 அ) கல்வி பயிற்சி  
 ஆ) தனிப்பட்ட பல்லுடகம்  
 இ) அ மற்றும் ஆ  
 ஈ) இவை எதுவுமில்லை
25. அதிகநேரம் மடிக்கணினி உபயோகிப்பதால் என்ன வரும்  
 அ) கழுத்து மற்றும் முதுகெலும்பு காயம்  
 ஆ) கால் வலி

- இ) கை வீக்கம்  
ஈ) தோள் பட்டை வலி
26. ஆண்கள் மடிக்கணினி உபயோகிப்பதால் வரும் உடல் நல இடையூறுகள்  
அ) மலட்டுத்தன்மை  
ஆ) குறைவான விந்தணு எண்ணிக்கை  
இ) அதிகமான விந்தணு எண்ணிக்கை
27. மடிக்கணினி உபயோகிப்பதால் வரும் உடல்நிலை குறைபாடை எவ்வாறு சரிசெய்வது.  
அ) சரியான நேர அட்டவணை  
ஆ) வரையறுக்கப்பட்ட தொலைவு  
இ) படுக்கையில் உபயோகிக்கக்கூடாது  
ஈ) இவை அனைத்தும்
28. ஐபோர்டு சாதனம் என அழைக்கப்படுவது  
அ) குறுகிய கணினி  
ஆ) சட்டைப்பை கணினி  
இ) மடிக்கணினி  
ஈ) குறுகிய மடிக்கணினி
29. ஐபோர்டு ஏன் உபயோகப்படுத்துகிறார்கள்  
அ) பாட்டு கேட்பதற்கு  
ஆ) பரிமாற்றம் செய்வதற்கு  
இ) பாட பரிமாற்றம்  
ஈ) நிழற்படம் பரிமாற்றம்
30. ஐபோர்டு உபயோகிப்பதால் வரும் உடல்நல இடையூறுகள்  
அ) கண் குறைபாடு  
ஆ) காது கேளாமை  
இ) பார்வையின்மை  
ஈ) சோர்வு

**APPENDIX – II****SCORE KEY**

ITEMS NUMBER	OPTIONS			
	A	B	C	D
1	0	0	0	1
2	0	1	0	0
3	0	0	0	1
4	0	0	1	0
5	1	0	0	0
6	0	0	0	1
7	1	0	0	0
8	0	1	0	0
9	0	1	0	0
10	0	1	0	0
11	0	0	0	1
12	0	1	0	0
13	0	1	0	0
14	0	1	0	0
15	0	0	0	1
16	0	1	0	0
17	0	0	1	0
18	1	0	0	0
19	0	0	0	1
20	0	1	0	0
21	1	0	0	0
22	0	1	0	0
23	0	1	0	0
24	0	0	1	0
25	1	0	0	0
26	1	0	0	0
27	1	0	0	0
28	0	1	0	0
29	1	0	0	0
30	0	1	0	0

## RESEARCH CONTENT

### Introduction

Adolescence should become aware of positive influence healthy life style and mood. This effect would give them better results in studying by using computer. The number of adolescence joining social networking websites like facebook and whatsapp. Teens can download violent videos, sent sexual text messages or explicit self photographs to their friends.

Electronic devices have become one of the favorite activities of adolescents. The World of electronic devices, however in changing dramatically. Adolescents in particular, spend a significant amount of time viewing and interacting with electronic devices. Adolescence spend more than 6 hours per day using media use electronic devices to improve the efficiency and effectiveness of the knowledge and such as information about the adolescents.

### Definition

Electronic devices a device capable of making or transmitting still or moving photographs, video recordings, or images of any kind device capable of creating, transmitting or receiving text or data and any device capable of receiving, transmitting or recording sound.

### List of Electronic Devices

- ♣ Computer
- ♣ Video games
- ♣ Cell phones
- ♣ Television
- ♣ Laptop
- ♣ Ipods
- ♣ Tablet

## **Computer**

The word “Computer” comes from the word “compute” which means to calculate. Generally the word computer means commonly operated machine particularly used for training education and research.

Computer is a device that can be programmed to carry out a set of arithmetic or logical operation automatically. 75% of Indian computers users report pain / numbness over 30 young Indians IT professionals have lost their jobs because of advanced Repetitive Strain Injuries (RSI), 55% of Indian computer users got injured within a year of starting their first job.

### **Hazards of Using Computer**

- \* Carpal Tunnel Syndrome

It is caused when median nerves that controls the functioning of the hands and fingers become compressed inside a “tunnel” made up of the wrist bones or carpals.

### **Symptoms of CTS Injury**

- \* Pain and discomfort
- \* Numbness and coldness in the hands
- \* Loss of strength and or joint movement
- \* Swelling and stiffness in the hands
- \* The need to massage your hands wrists
- \* Heaviness and even disturbs sleep

### **Reason for Carpal Tunnel Syndrome Injury**

- Long hours in the keyboard, especially those the type more than four hours
- Lack of circulation in the muscles that prevents nutrients and oxygen to reach the tissues
- Inadequate rest and breaks
- Poor posture including the sitting, placement of hands on the keyboard and proper height of the keyboard.
- Poor diet (lack of vitamins)

### **Management for Carpal Tunnel Syndrome Injury**

- Rest and more rest
  - Lose of a wrist brace or splint
  - Take medication like ibuprofen
  - Take vitamins
  - Keep hands warm take breaks, exercise your hand and arms
  - Use your knowledge of ergonomics.
- \* **Eye Strains**
- Eye strains is the single target complaint of computer users causing soreness, irritation, blurred vision, redness and dryness of the eyes.

### **Reason for This Injury**

- ◆ Bad monitor resolution, flickering or glare at the monitor
- ◆ Poor lighting conditions in the computer room
- ◆ Distance between eye and screen readability of the screen
- ◆ Electro magnetic radiation emitted by the computer
- ◆ Starting at anything for a long period of time

### **Symptoms of Eye Strains**

- ◆ Impaired vision, double vision and blurred vision
- ◆ Difficulty in looking at one point for period of time
- ◆ Itchy dry eyes and discomfort while looking at the monitor
- ◆ Head aches
- ◆ Eye fatigue that can have serious causes of using computer

### **Impact takes in life**

- ◆ Watering and other sensations are eye problem associated with computer maneuverings

### **Management**

- ♣ Take breaks when you feel strained



- ♣ Use your laptop when possible because the monitor emits less radiation
- ♣ Use a monitor that holds a steady image without flickering
- ♣ Use the zooming function to improve readability
- ♣ The screen should be kept 18 – 30 inches from one's eyes or about an arm's length.

## **Video Games**

A video game is an electronic game that involves human interaction with a user interface to generate visual feedback on a video device.

### **Effects of Using Video Games**

- ♣ Significant weight gain or weight loss
- ♣ Sleep disruptions
- ♣ Mood changes
- ♣ Sleep deprivation
- ♣ Avoiding friends and family members
- ♣ Lying about the time spent playing video games
- ♣ Skipping meals
- ♣ Poor work performance
- ♣ Poor academic performance

### **Health Hazards of Video Games**

#### **Physical Effect**

The physical effects of too much of game play are well-documented. This addition also increases the risk for weight gain and compulsive eating risk of obesity by eating high-calorie snacks and drinking sodas while they play.

The more times someone spends participating in secondary activities, the fewer calories they burn. This can lead to the development of metabolic syndrome, a disorder characterized by excess fat around the waist. Metabolic syndrome increases the risk for hypertension, diabetes, and other serious medical problems. It may also cause hormonal changes in women, leading to the growth of facial hair and disruption of the menstrual cycle.

Obesity also increases the risk of type II diabetes, heart disease, high blood pressure and stroke.

Playing video games for long periods of the time can also increase the risk of thumb injury. Repeatedly pressing the buttons on a video game controller may cause swelling of the thumb and cause long term problems with the hands and arms. The various associated symptoms are

- Fatigue
- Pain
- Burning and tingling
- Weakness

Prolonged stress on the ligament, tendons, and nerves of the hands, wrists and arms may lead to tendonitis.

### **Psychological Effects**

The psychological effect of video game addition are just as harmful as the physical effects. One of the biggest debates in the gaming world is whether playing violent video games causes increased violent behavior, anxiety, aggression and other emotional changes.

Sleep deprivation has several psychological effects on compulsive games. Hormones help control the normal sleep awake cycle. One of the most important hormone responsible for normal sleep is melatonin. When a video games avoids sleep in order to play video games, the pineal gland does not produce melatonin at the right times. This can lead to significant disruptions in the normal sleep cycle.

Chronic sleep deprivation teats to decreased reaction times, difficulty paying attention, inability to concentrate, loss of motivation, symptoms of depression, mood swings, anxiety, irritability, forgetfulness, and poor judgement. Poor judgement and an inability to concentrate are a dangerous combination.

### **Social Effects**

Some video games avoid their friends and family members because they do not want them to near that they play video games too much. Poor work performance

and poor academic performance can further isolate compulsive gamers from their peers. While classmates are celebrating good grades, gaming addicts are thinking about the next time they can play video games.

### **Treatment and Rehabilitation**

Treatment for video game addiction is similar to the treatments used for other types of addiction. Counseling and behavior modification are two of the most important components of a compulsive gaming rehabilitation program. Individual counseling helps compulsive gamers address their behavior and motivates them to work toward reducing their compulsives to play. Some treatment centers include psycho-pharmacology in the treatment protocol for video game addiction.

### **Cell phone**

A mobile phone is a device which make and receive telephone calls over a radio link while moving around a wide geographic area. Modern mobile phones also support a wide variety of other services, such as text messaging, MMS, email, internet access, infrared, blue tooth, gaming and photography.

### **Electromagnetic Hypersensitivity**

After ranging from burning and tingling sensations in the skin of the head and extremities fatigue, sleep disturbances, dizziness, loss of mental attention reaction times and memory retentiveness headaches, malaise, tachycardia, to disturbances of the digestive system.

### **Decreased Hip-Bone Density**

Men who routinely use their cell phones clipped to their belts have a reduced bone mineral content and bone mineral density in the hip.

### **Management of health problem due to Cell Phone use**

- ☛ Use a headset or speakerphone mode that moves the phone away from your head.
- ☛ Consider reserving the use of mobile phones for shorter conversations or when a conventional phone is not available.

## **Television**

Watching television is a common problem of children in every home. Most of the children are habitual to watch TV as soon as they got time. Television is a most popular mean of communication.

Children today watch television for long hours may a time, they spend their evenings watching their favorite programs on Television.

### **Health Hazards of Television**

- ☛ Violent behavior
- ☛ Aggressive behavior
- ☛ Stress
- ☛ Sleep disturbance

### **Harmful Effects of Watching Television**

- ☛ Some time children are so habitual to watch television that they never do their routine work
- ☛ Low appetite in children is also a problem caused by watching television
- ☛ Most of the eye problems are caused by radiation released by television
- ☛ Some times children watch violent programs on television and become violent
- ☛ Obesity due to prolonged watching by eating snacks
- ☛ Headache
- ☛ Irritability
- ☛ Loss of attention
- ☛ Disturbances in digestive system

### **Management**

- Always try to make a limited distance with television
- Balancing diet and healthy eating habits
- Provide plenty of vegetables, fruits and whole grain products
- Help stay active
- Maintaining a time schedule

## **Laptop**

A Laptop is a portable personal computer with a clamshell form factor, suitable for mobile use. Laptops are commonly used in a variety of settings including at work in education and for personal multimedia.

A laptop is a portable, computer personal computer. Laptops are designed in an L-shape form and their screens can be lowered and closed to facilitate transportation. Generally laptops are smaller consume less power, weight less and have fewer components than desktop computers. These features make laptops appealing for students and professionals.

### **Health Hazards of Laptop**

- ☛ Fertility problems in males
- ☛ Burns due to excessive heat
- ☛ Pregnancy risks in womens
- ☛ Injury to the neck or spine

### **Management**

- Use it on a flat solid surface
- Keep liquids away from your laptop
- Keep food away from your laptop
- Do not use your computer in a room where animals are
- Always have clean hands when using your laptop
- Don't use your laptop on the bed.

## **Ipods**

The Ipod is a line of portable media players and multi purpose pocket computers.

### **Reason for Use**

While listening to music on Ipods allows us to relax and reduce stress to get good music effects easy to carry.

### **Health Hazards of Ipods**

It can causes hearing damage unless used properly, headache.

### **Tablet**

A tablet personal computer or tablet PC is a tablet sized computer that also has the key features of a full size personal computer. A tablet PC is essentially a small laptop computer, equipped with a rotatable touch screen as an additional input device and running a standard PC operating system. Today the term tablet is also used to refer to computer like devices operated primarily by touch screen but not intended to run general PC operating systems or applications.

### **Advantages of Tablet**

- ☛ Portable
- ☛ Great E-book reader
- ☛ Comfortable to use
- ☛ Very functional
- ☛ It uses a reliable OS
- ☛ Long battery instant
- ☛ Stylish look
- ☛ Powerful Social Networking tools

### **Health Hazards of Tablets**

- ☛ Tablets usage needs to be limited for the youngest of children, because too much screen time can slow language developments
- ☛ For older children, too much tablet use can slow social development
- ☛ The single most important thing for children is time with parents and care givers.

## மின்னியக்க சாதனங்கள்

### முன்னுரை

வளர் இளம் பருவத்தினருக்கு மின்னியக்க சாதனங்கள் ஒரு விருப்பமான நடவடிக்கைகளில் ஒன்றாகும். வளர் இளம் பருவத்தினர் தினமும் ஆறு மணி நேரத்திற்கு மேல் மின்னியக்க சாதனங்களை பயன்படுத்துகின்றனர். அதன் மூலம் அவர்கள் அறிவு ஆற்றல் திறனையும் வளர்த்துக் கொள்கிறார்கள்

வளர் இளம் பருவத்தினர் ஆரோக்கியமான வாழ்க்கை மற்றும் மனநிலைக்கு நேர்படியான மாறாத நிலைமாற்றம் உடையவர்கள். இந்த விளைவு அவர்களுக்கு நல்ல தீர்வை படிப்பிலும் கணினி உபயோகிப்பதிலும் கொடுக்கிறது. நிறைய இளம் பருவத்தினர் சமுதாயம் சார்ந்த இணையதள வலைபின்னல்களான முகநூல், வாட்சப் போன்றவற்றை விரும்புகிறார்கள். இளம் பருவத்தினர் ஆபாசமான வீடியோக்களை பதிவிறக்கம் செய்தல், பாலியல் பட செய்தி அனுப்புதல் அல்லது தெளிவான சொந்த நிழற்படங்கள் போன்றவற்றை நண்பர்களுக்கு அனுப்பி மகிழ்வார்கள்.

### வரையறை

மின்னியக்க சாதனங்கள் என்பது தனி ஆற்றல் உடைய சாதனங்களை உருவாக்குதல் அல்லது நிழற்பட பரிமாற்றம் அல்லது நகரும் நிழற்படம், வீடியோ ஒலிப்பதிவு செய்தல் அல்லது ஒளிபடம் போன்ற எதாவது வகை சாதனங்களை உருவாக்குதல். பரிமாற்றம் அல்லது செய்திகளை பெற்றுக்கொள்ளுதல், செய்தி குறிப்புகள் மற்றும் ஒலிப்பதிவு செய்தல் என்பதாகும்.

### மின்னியக்க சாதனங்களின் பட்டியல்

- கணினி
- வீடியோ விளையாட்டு
- கைப்பேசி
- தொலைக்காட்சி
- மடிக்கணினி
- ஐபோன்
- பட்டயத்தகடு கணினி

## கணினி

கம்பியூட்டர் என்ற வார்த்தை கம்பியூட் என்ற வார்த்தையில் இருந்து வந்தது. அதன் பொருள் கணக்கீடு என்பதாகும். கம்பியூட்டர் என்ற வார்த்தையின் பொருள் பொதுவாக இயக்கப்படும் இயந்திரம் என்பதாகும். குறிப்பாக இது கல்விபயிற்சி மற்றும் ஆராய்ச்சிக்கு உபயோகப்படுத்தப்படுகிறது.

கணினி சாதனம் என்பது திட்டமிடப்பட்ட கணக்குகளை சுமந்து செல்லும் அல்லது நம்பகத்தக்க தானே இயங்குகிற நடவடிக்கை கொண்டது. 75% இந்தியர்கள் கணினிகளை உபயோகிப்பதால் வலி, உணர்வின்மை ஏற்படுகிறது என நிரூபிக்கப்பட்டுள்ளது. 30 % இந்திய இளைஞர்கள் ஐடி பணியை விட்டு விலகுகின்றனர். ஏனென்றால் மீண்டும் மீண்டும் வரும் காய அழுத்தத்தை தவிர்ப்பதற்காக. 55 % இந்தியர்கள் கணினி உபயோகிப்பதால் வரும் தீங்கினால் ஆண்டுக்கு ஒருவர் பணியை விட்டு செல்கின்றனர்.

## கணினி உபயோகிப்பதால் ஏற்படும் பக்க விளைவுகள்

### மணிக்கட்டு சதைப்பிடிப்பு நோய்

கை மற்றும் விரல்களில் உள்ள நடு இரத்தக்குழாய் நரம்புகள் எப்போது அவைகளின் கட்டுபாடுகளை இழக்கிறதோ அப்போது சதைப் பகுதியின் உள்ளே உள்ள அழுத்தமும் மேலும் மணிக்கட்டு எலும்பில் உள்ள அழுத்தமும் அதிகமாகிறது. இதுவே இதன் காரணமாகும்.

### மணிக்கட்டு சதைப்பிடிப்பு நோயின் அறிகுறிகள்

- ❖ வலி மற்றும் உடல் நலமின்மை
- ❖ கைகளில் உணர்வின்மை மற்றும் வெதுவெதுப்பின்மை
- ❖ வலியின்மை அல்லது எலும்பு அசைவு
- ❖ கைகளில் வீக்கம் மற்றும் விறைப்பு
- ❖ கையையும் மணிக்கட்டையும் அழுக்கி விட வேண்டும்
- ❖ கனமான உணர்வு மற்றும் தூக்கமின்மை

### மணிக்கட்டு சதைப்பிடிப்பு நோய் வர காரணங்கள்

- ☛ அதிக நேரம் விசைபலகையை இயக்குவதால் குறிப்பாக 4 மணிநேரத்துக்கு மேலாக இந்த மாதிரி உபயோகப்படுத்துவதனால்
- ☛ சதைகளில் இரத்த சுழற்சி குறையும் போது அவற்றை பாதுகாக்க ஊட்டச்சத்து மற்றும் திசுக்களுக்கு ஆக்ஸிஜன் செலுத்த வேண்டும்.



- ☛ போதாத ஓய்வு மற்றும் இடைவேளை
- ☛ குறைவான மனநிலை பாங்குடன் இருத்தல், வேலை செய்யும் போது விசைபலகையை சரியான உயரத்தில் வைத்து செய்யாமை.
- ☛ உணவு பற்றாக்குறை

#### மணிக்கட்டு சதைப்பிடிப்பு நோயை கட்டுப்படுத்தும் முறை

- ☛ ஓய்வு மற்றும் மிகுதியான ஓய்வு
- ☛ மணிகட்டின் இறுக்கம் குறைவதற்கு கட்டுப்போடுதல்
- ☛ இடிப்பருவின் மருந்து எடுக்க வேண்டும்
- ☛ வைட்டமின்கள் எடுக்க வேண்டும்
- ☛ கைகள் வெதுவெதுப்பாக இருக்கும் போது ஓய்வு எடுத்துக்கொள்ள வேண்டும். கைகளுக்கும் புயங்களுக்கும் உடற்பயிற்சி கொடுக்க வேண்டும்
- ☛ வேலை செய்யும் போது உங்களுடைய அறிவுத்திறனை உபயோகிக்க வேண்டும்

#### கண் அழுத்தம்

கணினி உபயோகப்படுத்துவதால் வரும் ஒரு தனித்துவமான குறைபாட்டின் காரணம் கண் அழுத்தம், வேதனை, உறுத்தல், மங்கலான பார்வை, செந்நிறம், வறட்சியான கண்கள்

#### கண் அழுத்தம் வர காரணம்

- ☛ மோசமான கதிரியக்க விளைவு, ஒளிர்நதல் அல்லது பளபளக்கும் திரைகள்
- ☛ குறைவான வெளிச்சம் உள்ள கணினி உபயோகிக்கும் அறை
- ☛ படிப்பதற்கு ஏதுவாக கண் மற்றும் திரைகளுக்கு இடையில் இடைவெளி இருத்தல்
- ☛ மின் காந்த கதிரியக்கம் உமிழ்தல்
- ☛ எதையாவது நீண்ட நேரம் பார்த்துக் கொண்டு இருத்தல்

#### கண் அழுத்த நோயின் அறிகுறிகள்

- ♣ பார்வை பலவீனம், பார்வை இரண்டு ஆக தெரிதல் மற்றும் மங்கலான பார்வை
- ♣ ரொம்பநேரம் ஒரேஇடத்தை பார்க்கும் போது கஷ்டமாக இருப்பது
- ♣ வறண்ட கண்கள் மற்றும் சிறிது நேரம் பார்த்துக் கொண்டு இருந்தால் கஷ்டமாக இருத்தல்
- ♣ தலைவலி
- ♣ கண்சோர்வு

### கண்ணமுத்த நோயை கட்டுபடுத்தும் முறை

- ❖ எப்போது சோர்வு வருகிறதோ அப்போது இடைவெளி எடுத்துக்கொள்ள வேண்டும்
- ❖ எப்போது மடிக்கணினி உபயோகிக்கும் போதும் குறைவான கதிரியக்கம் இருக்க வேண்டும்
- ❖ திரைகளில் படங்களை பார்க்கும் போது நிலையானதும் ஒளிர்நதல் இல்லாமலும் இருக்க வேண்டும்
- ❖ படிக்கும் போது பெரிதாக்கி திருத்தமாக உபயோகிக்க வேண்டும்
- ❖ திரையானது மற்றும் தோள்பட்டைக்கு 18 – 30 அங்குலம் அகலத்திற்கு இருக்க வேண்டும்

### வீடியோ விளையாட்டு

வீடியோ விளையாட்டு ஒரு மின் இயக்க விளையாட்டு. அது உபயோகிக்கிற மனிதர்களிடையே நெருக்கத்தை பொதுவாக திருப்பத்தையும் உண்டாக்குகிறது இந்த வீடியோ விளையாட்டு.

### வீடியோ விளையாட்டினால் வரும் விளைவுகள்

- ❖ குறிப்பிடத்தக்க எடை அதிகரிப்பு அல்லது எடை குறைவு
- ❖ தூக்க மின்மை
- ❖ மனநிலை மாற்றங்கள்
- ❖ தூக்கத்தை இழத்தல்
- ❖ நண்பர்களையும், உறவினர்களையும் தவிர்த்தல்
- ❖ படுக்கையில் வீடியோ விளையாட்டுகளுக்கு நேரம் செலவிடுவது
- ❖ சாப்பாட்டை தவிர்ப்பது
- ❖ வேலைகளை மெதுவாக செய்து முடித்தல்
- ❖ அலுவலக வேலைகளை மெதுவாக செய்தல்

### வீடியோ விளையாட்டினால் வரும் உடல்நல இடையூறுகள்

#### உடல் சார்ந்த விளைவுகள்

உடல் சார்ந்த விளைவுகள் அதிகநேரம் வீடியோ விளையாட்டுகளை விளையாடுவதால் வருகிறது. இந்த விளையாட்டுக்கு அடிமையாவதால் வரும் தீங்கு எடை அதிகரிப்பு மற்றும் கட்டாயமாக உண்ணும் பழக்கத்தால் அதிக கலோரி உடைய

தின் பண்டங்கள் மற்றும் தொல்லை தரும் தண்ணீர் போன்றவற்றை விளையாடும் போது சாப்பிடுவதால் உடல் பருமன் ஏற்படுகிறது.

அதிய நேரங்களில் அவர்கள் ஒருசில குறைவான நடவடிக்கைகளில் பங்குபெறுவதில் நேரத்தை செலவிடுகிறார்கள். அதனால் அவர்களுடைய கலோரி குறைகிறது. இதனால் உயிர்பொருள் மாறுபாடு நோய்கள் உண்டாகிறது. இதன் தனித்தன்மை என்னவென்றால் அதிகமான கொழுப்பு சதை இடுக்குகளில் சுற்றியிருப்பதாகும். இந்த உயிர்பொருள் மாறுபாடு நோய் அதிகமானால் வரும் தீங்குகள் அதிக இரத்த அழுத்தம், சர்க்கரை நோய் மற்றும் வேறுசில மருத்துவ ரீதியிலான நோய்கள். இது ஒரு வேளை பெண்களுக்கு நாளமில்லா சுரப்பிகளில் வித்தியாசத்தை உண்டு பண்ணுதல், முகத்தில் அதிகமாக முடிகள் வளர்தல் மற்றும் மாதவிடாய் கோளாறுகள் போன்றவை வர வாய்ப்புள்ளது.

உடல் பருமன் அதிகரிப்பதால் வரும் தீங்குகள் வகை 2 சர்க்கரை நோய், இதய நோய், இரத்த அழுத்தம் மற்றும் பக்க வாதம்.

அதிக நேரம் வீடியோ விளையாட்டு விளையாடுவதால் பெருவிரல் காயம் ஏற்படுகிறது. திரும்ப திரும்ப வீடியோ விளையாட்டில் உள்ள பொத்தானை அழுத்துவதால் ஒருவேளை பெருவிரல் வீக்கம் மற்றும் கைகள், தோள்பட்டைகளில் வீக்கம் வரலாம்.

### வேறு சில அறிகுறிகள்

- ⇒ களைப்பு
- ⇒ வலி
- ⇒ எரிச்சல் மற்றும் கூச்ச உணர்வு
- ⇒ தளர்வு

அதிக நேரம் தொடர்ந்து அழுத்தம் கொடுப்பதால் தசை நார்கள், தசை நாண்களில் அழற்சி ஏற்படுகிறது. மேலும் கைகளில் உள்ள நரம்பு மற்றும் மணிகட்டுகள், தோள்பட்டையிலும் கூட உள்ள தசைநாண்களில் அழற்சி ஏற்படலாம்.

### மனநல ரீதியான விளைவுகள்

மனநல ரீதியான வீடியோ விளையாட்டுக்கு அடிமையாவது உடல்நலத்திற்கு தீங்கு விளைவிக்கிறது. விளையாட்டு உலகத்துக்கு ஒரு பெரிய சர்ச்சையான வன்முறையான வீடியோ விளையாட்டு அதிகரிப்பதால் வரும் காரணங்கள், வன்முறையான நடவடிக்கை , வேலை, சண்டைபோடுதல் மற்றும் உணர்ச்சி மாற்றங்கள்

தூக்கமின்மை பல மனநல ரீதியான விளைவுகளை ஏற்படுத்துகிறது. ஒழுங்கான தூக்கத்திற்கான சுழற்சிக்கு நாளமில்லா சுரப்பிகள் உதவி புரிகிறது. ஒரு முக்கியமான மெலடோனின் என்ற நாளமில்லா சுரப்பி தான் தூக்கத்திற்கு முக்கிய பொறுப்பு வகிக்கிறது. எப்போது நாம் தூக்கத்தை தவிர்த்து வீடியோ விளையாட்டு விளையாடுகிறோமோ அப்போது பிணையில் சுரப்பி மெலடோனின் சரியான நேரத்திற்கு சுரப்பதில்லை. இதனால் சரியான தூக்கம் சுழற்சியில் தடங்கல் ஏற்படுகிறது.

நீடித்த தூக்கம் இழத்தலால் குறைவான தூண்டுதல் நேரம், கவனக் குறைவு, ஊக்குவிப்பு இழப்பு, சோர்வான அறிகுறிகள், மன ஊசலாட்டம், கவலை, வெடுவெடுப்பு, மறத்தல் மற்றும் நிலையற்ற தீர்மானம் உருவாகிறது. நிறையற்ற தீர்மானம் ஒரு ஒன்றுசேர்ந்த கவனக்குறைவுக்கு ஆபத்தானதாகும்.

### **சமுதாயம் சார்ந்த விளைவுகள்**

சில வீடியோ விளையாட்டுகள் அதிகமாக விளையாடுவதால் நண்பர்கள் மற்றும் உறவினர்கள் கூட இருப்பதை தவிர்க்கிறார்கள். வேலையில் கவனக்குறைவு மற்றும் அலுவலக வேலைகளை மெதுவாக செய்தல், பிடித்தமானவர்களிடமிருந்து தனிமைப்படுத்தல், வகுப்பில் சக மாணவர்களுடன் தரங்களாக பிரிந்து கொள்ளுதல், இந்த விளையாட்டில் அடிமையானவர்கள் எப்போதும் அவர்கள் எந்நேரமும் விளையாடுவதிலே குறியாக இருக்கிறார்கள்.

### **சிகிச்சை மற்றும் மறு வாழ்வு (மறு சீரமைப்பு)**

வீடியோ விளையாட்டுக்கு அடிமைக்கான சிகிச்சையானது மற்ற வகை அடிமைக்கான சிகிச்சைக்கு உதவுகிறது. கலந்தாய்வு மற்றும் நடத்தை மாற்றியமைத்தல் இந்த இரண்டும் தான் இதில் மிகவும் முக்கியமான பங்குவகிக்கிறது. தனித்தனியான கலந்தாய்வு ஒருவருடைய நடவடிக்கை மற்றும் அணுகுமுறைகளையும் அவர்கள் செய்யும் வேலையின் துரிதத்தையும் கண்டறியப்பயன்படுகிறது. சில சிகிச்சை நிறுவனங்களில் மனநிலை மருத்துவம் அடங்கிய அட்டவணை சிகிச்சை முறை இந்த வீடியோ விளையாட்டுக்கு அடிமையானவர்களுக்கு செயல்படுத்தப்படுகிறது.

### **கைப்பேசி**

கைப்பேசி சாதனங்கள் தொலைப்பேசி மூலம் பேசவும் செய்தி அனுப்பவும் புவியியல் ரீதியாக நகரும் எல்லா பக்கங்களிலும் இணைந்துள்ளது. இன்றைய கைப்பேசிகள் பெரும்பாலும் அதிகமாக பல்வகை வேறுபட்ட வேறுசில சலுகைகளை கொண்டுள்ளது. அதாவது படிவச்செய்தி, எம்.எம்.எஸ், இயந்திர அஞ்சல், இணையம், பளுடுத், விளையாட்டு மற்றும் நிழற்படக்கலை.

### மின்காந்த அதிர்வலைகள்

எரிச்சல் மற்றும் கூச்ச உணர்வு போன்ற உணர்ச்சிகள் தலைபகுதியில் உள்ள தசை பகுதியில் தோன்றும் மற்றும் உடல் சோர்வு, தூக்கமின்மை, மயக்கம், கவனம் குறைதல், மறதி, தலைவலி, சோர்வு, அதிக இதயத்துடிப்பு, செரிமான பிரச்சனை போன்றவை உண்டாகிறது.

### குறைவான இடுப்பு எலும்பு செறிவு

எந்த ஆண் வழக்கமாக கைப்பேசியை தோல் பட்டைவாரில் சொருகி உபயோகப்படுத்துகிறார்களோ அவர்களுடைய எலும்பில் உள்ள தாது சத்து பொருள் குறையும் மற்றும் இடுப்பு எலும்பில் உள்ள தாதுசத்து செரிமானம் குறைந்து காணப்படும்

### கட்டுப்படுத்தும் முறைகள்

- ⇒ கைப்பேசியை தொலைவில் வைத்து உபயோகிக்க வேண்டும். அல்லது ஒலிப்பெருக்கி முறையை உபயோகப்படுத்தலாம்
- ⇒ கைப்பேசியை தலைப்பகுதியின் அருகில் வைத்து பேசுவதை தவிர்க்க வேண்டும்
- ⇒ கைப்பேசியில் உரையாடும் போது குறைந்த நேரம் உரையாடல் வேண்டும்
- ⇒ முடிந்த அளவு கைப்பேசியை குறைந்த நேரம் உபயோகிக்க வேண்டும்.

### தொலைக்காட்சி

தொலைக்காட்சி பார்ப்பது எல்லா வீடுகளிலும் ஒரு பொருவான பிரச்சனை ஆக உள்ளது. நிறைய குழந்தைகள் தொலைக்காட்சி முன் இருந்து பொழுது போக்குவதை வழக்கமாக கொண்டுள்ளனர். தொலைக்காட்சி பொதுமக்களிடையே ஒரு முக்கியமான இணைப்பு கால்வாய்யாய் உள்ளது. இன்றைய குழந்தைகள் அதிக நேரம் தொலைக்காட்சி பார்ப்பதில் நேரத்தை செலவிடுகிறார்கள். மாலை வேளைகளில் அவர்களுக்கு பிடித்தமான நிகழ்ச்சிகளை தொலைக்காட்சியில் பார்த்து மகிழ்கிறார்கள்

### தொலைக்காட்சி பார்ப்பதினால் வரும் உடல்நல குறைபாடுகள்

- ⇒ ஆவேசமான நடவடிக்கை
- ⇒ வன்முறையான நடவடிக்கை
- ⇒ மன அழுத்தம்
- ⇒ தூக்கமின்மை

### தொலைக்காட்சி பார்ப்பதினால் வரும் தீங்கான விளைவுகள்

- ◆ சிலசமயம் குழந்தைகள் தொலைக்காட்சி பார்ப்பதினால் அவர்களோட தினமும் உள்ள வேலைகளை செய்வதில்லை
- ◆ தொலைக்காட்சி பார்ப்பதினால் குழந்தைகளுக்கு பசியின்மை உண்டாகிறது
- ◆ பெரும்பாலான கண் பிரச்சனைகள் தொலைக்காட்சி பார்ப்பதினால் வருகிறது
- ◆ சில சமயம் குழந்தைகள் தொலைக்காட்சியில் ஆவேசமான நிகழ்ச்சிகளை பார்த்து அதுபோல் ஆவேசமாக நடந்துகொள்கிறார்கள்
- ◆ அதிகநேரம் தின்பண்டங்கள் சாப்பிட்டுக்கொண்டு தொலைக்காட்சி பார்ப்பதால் உடல் பருமன் உண்டாகிறது
- ◆ தலைவலி
- ◆ வெடுவெடுப்பு
- ◆ கவனக்குறைவு
- ◆ செரிமான பிரச்சனைகள்

### கட்டுப்படுத்தும் முறைகள்

- ❖ எப்பொழுதும் தொலைக்காட்சி பெட்டியை தொலைவில் வைத்து நிகழ்ச்சிகளை பார்த்துக்கொள்ள வேண்டும்
- ❖ சரியான உணவு முறை மற்றும் ஆரோக்கியமான உணவு உண்ணுதல் வேண்டும்
- ❖ நிறைய சத்தான காய்கறிகள், பழங்கள் மற்றும் எல்லா பயறுவகைகளையும் அவர்களுக்கு கொடுக்க வேண்டும்
- ❖ அவர்கள் சுறுசுறுப்பாக இருக்க உதவ வேண்டும்
- ❖ நேர அட்டவணை ஒழுங்குபடுத்த வேண்டும்

### மடிக்கணினி

மடிக்கணினி ஒரு உறைக்குள் வைத்து எடுத்துச்செல்லத்தக்க தனிப்பட்ட கணினியாகும். இதை கைப்பேசிக்கு இணையாகவும் இதை பயன்படுத்தலாம். மடிக்கணினிகள் பொதுவாக வெவ்வேறான அமைப்புகளை உள்ளடக்கியுள்ளது. இது வேலை செய்வதற்க்கும், கல்வியறிவுக்கும் மற்றும் தனிப்பட்ட பல்லுடகங்களுக்கு உதவுகிறது.

மடிக்கணினி ஒரு எடுத்து செல்லத்தக்க தனிப்பட்ட கணினியாகும். மடிக்கணினிகள் L வடிவில் வடிவமைக்கப்பட்டுள்ளது. அதன் திரைகள் தாழ்வாகவும் மற்றும் மூடும் செயல்திறன் உள்ள எடுத்துச்செல்லக்கூடியது. பொதுவாக மடிக்கணினிகள்

சிறியதாகவும் குறைந்த ஆற்றல் உடையதாகவும், எடை குறைவாகவும் மற்றும் குறைவான கூறுகளை கொண்டதாகவும் இந்த கணினி காணப்படுகிறது. மடிக்கணினியில் உள்ள இந்த தோற்றங்கள் மாணவர்களுக்கும் அலுவலர்களுக்கும் கவர்ச்சியூட்டுகிறதாக உள்ளது.

#### மடிக்கணினியினால் ஏற்படும் உடல்நல விளைவுகள்

- ❖ ஆண்களுக்கு மலட்டுத்தன்மை
- ❖ அதிகமாக சூடாவதால் தீ காயம் உண்டாகிறது
- ❖ பெண்களுக்கு குழந்தை பிறப்பதில் பிரச்சனை உண்டாகிறது
- ❖ கழுத்து மற்றும் முதுகெலும்பு காயம் ஏற்படுகிறது

#### கட்டுப்படுத்தும் முறை

- ❖ திடமான தரைமேற்பரப்பில் வைத்து உபயோகிக்க வேண்டும்
- ❖ மடிக்கணினியை திரவ பகுதியில் வைப்பதை தவிர்க்க வேண்டும்
- ❖ சாப்பாட்டின் முன்பு அமாந்து மடிக்கணினி உபயோகிக்கக்கூடாது
- ❖ கணினி உபயோகிக்கும் அறையில் செல்ல பிராணிகளை அனுமதிக்கக்கூடாது
- ❖ மடிக்கணினி உபயோகிக்கும் போது எப்போதும் கைகளை சுத்தமாக வைத்துக்கொள்ள வேண்டும்
- ❖ படுக்கையில் வைத்து மடிக்கணினி உபயோகிக்க கூடாது

#### ஐபோர்டு

ஐபோர்டு என்பது ஒரு எடுத்து செல்லத்தக்க மெல்லொலி இசைகள் உடைய மற்றும் பலவகையான உபயோகங்களை கொண்ட சட்டைப்பை கணினி ஆகும்.

#### ஏன் நாம் ஐபோர்டு உபயோகிக்கிறோம்

நல்ல பாடல்களை கேட்பதற்கும் மற்றும் நல்ல இசை கேட்பதால் மன அழுத்தத்தை குறைத்து நிம்மதியாக வைக்கவும் உதவுகிறது. மேலும் இதை எடுத்துச் செல்ல எளிதாகும்.

#### ஐபோர்டினால் ஏற்படும் உடல்நல குறைபாடுகள்

இதை சரியாக உபயோகிக்கவில்லை என்றால் காது கேளாத தன்மை மற்றும் தலைவலி உண்டாகிறது.

## பட்டயத்தகடு

பட்டயத்தகடு கணினி ஒரு தனிப்பட்ட கணினி ஆகும். இதன் அளவு கணினியை விட சிறியதாகவும் இதன் இயக்கங்கள் எல்லாம் ஒரு பெரிய அளவு கணினி போலவே இருக்கும். பட்டயத்தகடு மடிக்கணினி போல் இன்றியமையாதது. இதில் சுழற்றக்கூடிய தொடுதிரை மற்றும் கூடுதலான உள்ளடக்கி சாதனங்கள் மற்றும் உயர்தரத்திலான மென்பொருள் செயல்பாடுகளை உள்ளடக்கியது. இன்றைய காலகட்டத்தில் பட்டயத்தகடு என்ற வார்த்தை கணினி மாதிரி உபயோகப்படுத்த படுகிறது அதில் உள்ள தொடுதிரை. ஆனால் திட்டமிட்ட படி பொதுவான வேண்டுகோள்களை தரவில்லை.

## பட்டயத்தகட்டின் நன்மைகள்

- ☛ எடுத்துச் செல்லத்தக்க பொருள்
- ☛ நூலகங்களை இணையதளம்மூலம் வாசித்தல்
- ☛ வசதிக்கேற்ப உபயோகப்படுத்துதல்
- ☛ நல்ல இயக்கம்
- ☛ நிலையான மென்பொருள் உபயோகித்தல்
- ☛ நீடித்த மின்கலம் உள்ளது
- ☛ கவர்ச்சித் தோற்றமுடையது
- ☛ ஆற்றல்மிக்க சமுதாயம் சார்ந்த வலைபின்னல் உபகரணங்களை கொண்டது

## பட்டயத்தகடு உபயோகிப்பதால் வரும் உடல்நல தீங்குகள்

- இளம்பருவ குழந்தைகள் பட்டயத்தகட்டை குறைவாக உபயோகிக்க வேண்டும். ஏனென்றால் அதிக அளவு திரையை பார்ப்பதால் அவர்களுடைய பேச்சுத் திறமை தாதமாகிறது.
- பெரிய குழந்தைகள் அதிகமாக பட்டயத்தகடு உபயோகிப்பதால் அவர்களுடைய சமுதாயம் சார்ந்த வளர்ச்சி தாமதமாகிறது
- குழந்தைகள் அதிக நேரம் பெற்றோர்கள் மற்றும் காப்பாளர்களுடன் நேரத்தை செலவிடுவது நல்லது.







# CHAPTER - I

## INTRODUCTION

*“Any form of art is a form of power, it has impact, it can affect change-it can not only move us it makes us move”*

- Ossie Davis

### **Background of the Study**

Electronic devices is an integral part of adolescence's life in the twenty-first century. The world of electronic devices however is changing dramatically. Television which dominated the media world through the mid-1990s, now competes in an area crowded with cell phones, computers, iPods, video games, instant messaging, interactive multiplayer video games, virtual reality sites, Web social networks, and e-mail (**Gentile, et.al., 2004**).

The period between childhood and adulthood that is 12 – 19 years is known as adolescence. According to the census of 2010, out of the total world’s population, one in every five people is an adolescent. In India, the adolescent comprises of more than one fifth of the total population. This period is encompassed by alterations in physical, psychological, and social development. During this developmental stage, more time is spent with peers and adults to face the variant social environment where more conflicts arise. The psychosocial development of children and the youth today is embedded in a media society

Debates on the effects of new technology have recurred especially with regard to the effect on young people. Each new devices technology brought with it great promise for social and educational benefits, and great concern for adolescence exposure to inappropriate and harmful content or health hazards (**Ellen., 2000**).

Adolescents, in particular, spend a significant amount of time viewing and interacting with electronic devices in the form of TV, video games, music, and the Internet. Considering all of these sources together, adolescence spend more than 6 hours per day using media. Nearly half of that time is spent watching TV, playing, or studying with computer. The remainder of the time is spent using other electronic media alone or in combination with TV (**Gentile and Walsh., 2002**).

Internet is largely seen as one of the world's biggest technology platform. It is a source of knowledge, entertainment, brand building, commerce, education and much more. However, Internet, which has over the years changed the way we live, work and communicates. Internet addiction has been a headache for several Asian countries like South Korea and China – over the past decade. The South Korean government recently estimated that the country has over 2 million citizens addicted to the Internet. Nearly 50 percent of teenaged delinquents in south China's Guangdong province are said to be Internet-dependent. The use of Internet, especially online social networks, is fast rising in India.

Youth are creative in their uses of new technologies, and this creativity can lead to against for parents, teachers and health care providers. Teens can download violent videos, send sexual text messages or explicit self-photographs to their friends, but it is unclear whether or how electronic effects or how cognitive processing may be affected. Some neuroscientists worry about the impact of all of this new technology on the developing adolescent brain.

Mobile use and prevalence is extremely exploding throughout the developing world. India has the fastest growing mobile phone market in the world, with more than 170 million subscribers. Every month around seven million new subscribers are added to the list a large number of them are students. Mobile phones are used for a variety of purposes most probably making and receiving calls and text-messaging. Finally a significant positive relationship between the use of emails and text-messaging suggests that the mobile phone may supplement some of the pre-functions and internet.

The numbers of adolescence joining social networking websites like Face book and youtube grow daily. Technological convergence, a hallmark of electronic use today, enables youth to access the same source from different devices, often portable, media platforms (**Jeanne, and Elisabeth., 2008**).

Research has documented negative effects of video games on adolescence's physical health, including obesity, video-induced seizures and postural, muscular and skeletal disorders, such as tendonitis, nerve compression, and carpal tunnel syndrome as well as delayed school achievement. However, these effects are not likely to occur for most adolescence. The research to date suggests that parents should be most concerned about two things: the amount of time that adolescence play, and the content of the what to be play or watching (**Brad and Rowell., 2001**).

In addition, symptoms associated with using mobile phones most commonly include headaches, earache, warmth sensations and sometimes also perceived concentration difficulties as well as fatigue. However, over exposure to mobile phone use is not currently known to have major health effects. Another aspect of exposure is ergonomics. Musculoskeletal symptoms due to intensive texting on a mobile phone have been reported and techniques used for text entering have been studied in connection with developing musculoskeletal symptoms. The central factors appearing to explain high quantitative use were personal dependency, and demands for achievement and availability originating from domains of work (**Sara and Mates., 2011**).

To protect adolescence from harm, all health staff must have the competences to recognize adolescemal treatment and to take effective action as appropriate to their role. They must also clearly understand their responsibilities, and should be supported by their employing organization. In addition, Parents have no idea about electronic devices effects on adolescence. So, parents need to understand that electronic devices can have an impact on everything they concerned about with their adolescence's health and development, school performance, learning disabilities, sex, drugs, and aggressive behavior (**Jean and Elishabeth., 2008**).

Professionals are in an excellent position to advocate on behalf of adolescence and their careers to encourage them to take into consideration the rate of change of these

technologies. The core task of this statement is to highlight the underlying issues of how both current and future technologies, and the content they deliver, impact on their health and behaviors. So, nurses should be capable to fulfill their duties and examine links between use of electronic and its harmful effect (**Woodard and Gridina., 2000**).

### **Need for the Study**

Twenty first century has witnessed technological advancement and rapid changes in mass media. The traditional mass media like radio and print material etc are losing their importance. Nowadays, whereas the newer one such as computer, mobile phone, video games and television etc, are gaining more importance among teens and children. Children begin to learn computer even when they are very young as it is one of the subjects taught in many school even from first standard. Mass media are especially influential in imparting knowledge to the young people and socializing them to particular aspiration, values and attitudes. During the transition period from adolescence to young adults; youth learn how to behave from their peers and increasingly from the mass media. In today's world youth are mostly using internet as a media and mobile phone becomes essential part of their daily life and also they play an inevitable role today in the life of young children.

India is world's second largest market after China based on the mobile subscriber base. The growth rate of telecom industry in India is one of the highest compared to other telecom markets in the world. The mobile sector has grown more than tenfold from 2004 to around 392 million subscribers by mid-2009. India is among top 10 nations using smart phones offering mobile internet ideal for corporate and business professionals.

According to the Internet and Mobile Association of India (IAMAI) and International, mobile phone users in India have reached approximately 471 million in the month of September 2009, up from 392 million in March 2009 and internet users in India have reached 57 million in September 2008. Active Internet users (58%) have accessed through cyber cafes. This is followed by Internet access through office (37%), home (33%) and others. India is 3<sup>rd</sup> in Asia and 19-40 years age group is major section (85%) using internet in India. Majority 85% of internet users in India

are males, 15% older men, 14% school going kids and 21% college students use internet in India. Among this 2/3<sup>rd</sup> of users use internet 2-3 times week.

According to the survey done by Internet and Mobile Association of India (2005), in the 26 cities that covered 65,000 persons in 16,500 households, has shown 1.6 million school children use the internet for about 322 minutes a week and about 3.4 million college students use the internet about 433 minutes a week.

A study conducted in India in 2003 to investigate the extent of internet addiction in school children between the age group 16-18 years found that internet dependents delayed their work to spend time online, lost sleep due to late-night logons, and felt life would be boring without the internet. The hours spent on the internet by dependents were greater than those of the non-dependents. On the loneliness measure significant differences were found between the two groups, with the dependents scoring higher than the non-dependents.

A cross-sectional survey was conducted in Korea among 676 middle school students, to examine the levels of internet addiction and interpersonal problems, explore the relationship between the two, and identify the relevant factors. A Korean version of the internet addiction self-test scale and a Korean version of the Inventory of Interpersonal Problems were used. Among the participants, 547 (80.9%) were identified as general users, 108 (16%) were potential risk users, and 21 (3.1%) were high-risk users. There were statistically significant positive correlations between internet addiction and interpersonal problems ( $r = 0.425$ ). There were significant positive correlations between internet addiction and hours spent playing games. internet-addicted adolescents also had more interpersonal problems. Thus the study recommended that, it is important to raise awareness about internet addiction, and close attention must be paid not only to students at risk of internet addiction but also to students at low risk to prevent students from becoming addicted to the Internet.

A survey was conducted to find the prevalence and correlates of excessive internet use among 2735 youth in Singapore. Results showed that, 2735 adolescents who took part in the study, 1349 (49.3%) were male and 1383 (50.6%) were female. The mean age of the adolescents was 13.9 years. A quarter of the adolescents

surveyed (25%) reported that they did not access the internet everyday, while 17.1% of adolescents reported using it for more than 5 hours every day. Excessive internet use was associated with (i) no rules of Internet use at home ( $\chi^2 = 313.1$ ,  $P < 0.001$ ), (ii) less likelihood of having confidants ( $\chi^2 = 15.8$ ,  $P = 0.003$ ), (iii) feelings of sadness or depression ( $\chi^2 = 49.6$ ,  $P < 0.001$ ) and (iv) perceived poorer grade/school work ( $\chi^2 = 226.1$ ,  $P < 0.001$ ). Thus it concluded that, school counsellors and teachers need to be made aware of the prevalence of and problematic behaviours associated with excessive Internet use. Training and resources should also be made available to parents and caregivers so that they can play a greater role in setting boundaries and detecting early warning signs (**Murali V., 2007**).

The new generation adolescents are always with the rhythm of music and they are unaware about the hazardous effect of earphone usage. It damages the hair cells (stereo cilia) by the pure force of the loud sound vibrations. Recent studies, however, have found that exposure to loud noise triggers the formation of free radicals molecules that cause damage to cells and are known to kill hair cells." (National Institute on Deafness and Other Communication Disorders, 2006). To prevent hair cell damage adolescents has to be educated regarding hazards of earphone usage.

"Long or repeated exposure to sounds at or above 85 decibels can cause hearing loss. The louder the sound, the shorter the time period before Noise Induced Hearing Loss can occur." (National Institute on Deafness and Other Communication Disorders, 2007). The number of reported cases of Noise Induced Hearing Loss has doubled in the last 30 years. This number will increase in the future as the first generation with iPods begin to experience the early and irreversible signs of hearing damage as a result of their headphone habits. Listening to hazardously loud levels of sound for even short periods of time increases your chance of developing the irreversible effects of hearing loss.

Tinnitus is another common symptom of Noise Induced Hearing Loss that is often described as a ringing, buzzing, or whooshing sound in the ears that can occasionally or constantly. Acoustic Trauma is caused by impulse sounds and can result in immediate hearing loss. Impulse sounds are short loud blasts of hazardous



iPod volume. Studies shows that there is a significant relation between hearing loss and earphone usage.

**Vogells et.al., (2012)** a study was conducted at risky MP3-player listening behavior. 1687 adolescents (12-19 year old) of Dutch secondary schools were participated. Of all participants, 90% reported listening to music through earphones on MP3 players; 28.6% were categorized as listeners at risk for hearing loss due to estimated exposure of 89 decibel for >1 hour per day. It suggesting that needed to prevent MP3-induced hearing loss.

In the year 2003, 64% of adults in the U.S. used computer, and today the use is even more prevalent especially among younger people. In the same year, 99% of Australian children between the age groups of 11 and 14 used computer and children in the U.S. now spend more than one hour a day in front of computer. This recent surge in computer use has given rise to concern that time spent using a computer may adversely affect health and development in adolescents. Similar worries are arising in developing countries also. Around 40 million Indians surf the net and 90% of urban Indians use computers over 4 hours a day.

The increased use of computers has given rise to many health concerns often referred to as Computer-induced medical problems. It can be described as the various problems a computer user can develop from prolonged and incorrect computer use. These problems are mainly related to vision problems, RSI (Repetitive Strain Injuries), obesity, sleep disturbances and musculoskeletal pain.

Computer Vision Syndrome (CVS) is the main health problem faced by computer users. Headache or Eye strain, double vision, blurred vision, redness of eyes are caused after using the computer for long hours. CVS symptoms may affect 70% of all computer users. According to statistics from India Today Magazine, 98% of professionals in urban India show symptoms of CVS, 16 new patients are treated each month by Ophthalmologists.

Repetitive Strain Injuries (RSI) is another major problem which is also referred to as musculoskeletal disorders or cumulative trauma disorders which can

affect any part of the body, but common among computer users. RSIs usually occur in the fingers, hands, wrists, forearms, elbows, upper arms, shoulders, neck, or back.

Weight gain is another health problem which is caused due to inactivity. The reveals that computer use as one of the main causes of that inactivity. It is found that sitting in front of a computer monitor for more than two hours a day resulted in a higher risk of being overweight. In addition to this, mental symptoms such as lethargy, anxiety, as well as sleep-related problems including insomnia and fatigue, were more common among adolescents who spent more than 5 hours a day on their computers (**International Journal of Behavioural Nutrition and Physical Activity" in 2007**).

Musculoskeletal symptoms can be reduced through an ergonomics approach and through education. Frequent short breaks from computer work reduced musculoskeletal discomfort and other computer-related complaints among adolescents. Computer users need to know how to create good ergonomic arrangements for computer workstations, including placement of the screen, keyboard, mouse and lighting.

The above mentioned studies and incidences show that the problems related to use of electronic devices are increasing among adolescents. Health hazards of electronic devices is a conditions, that has to be prevented so that the incidence and prevalence can be reduced. Interventions like ergonomic instructions and education help to improve the health condition of adolescents. As adolescents are the most vulnerable population, the preventive aspect has to be taken into more consideration. Hence the investigator thought that imparting knowledge regarding preventive measures is very essential for Health hazards of electronic devices among adolescents to prevent complications and further progression of disease. So the investigator planned to prepare a video teaching on knowledge regarding health hazards of electronic devices among adolescents so that the impact can be reduced.

As prevention is better than cure, the hazards of the electronic devices can be prevented at an early period through the video teaching programme. Prevention of these problems is better than treating them so that the future complications and

morbidity associated with that can be reduced to a greater extent. Regular eye check-ups, special computer glasses, adequate lighting and the protection against glare also help to avoid visual problems that may result from computer use. It is advisable for computer users to spend less than 5 hours per day at the computer.

### **Statement of the Problem**

A study to assess the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence in Christhucoil LMS Higher Secondary School, Palliyadi at Kanyakumari District.

### **Objectives**

- To assess the level of knowledge of adolescence regarding health hazards of electronic devices before Video Teaching
- To assess the level of knowledge of adolescence regarding health hazards of electronic devices after video teaching
- To evaluate the effectiveness of video teaching on level of knowledge regarding health hazards of electronic devices
- To find out the association between the level of knowledge regarding health hazards of electronic devices and their selected demographic variables

### **Hypothesis**

**H<sub>1</sub>** → There will be a significant difference in the effectiveness of level of knowledge among adolescence regarding health hazards of electronic devices after giving video teaching.

**H<sub>2</sub>** → There will be a significant association between the post test level of knowledge regarding health hazards of electronic devices and their selected demographic variables.

**Operational Definition****Assess**

It refers to gathering information regarding health hazards of electronic devices among adolescence studying 11<sup>th</sup> std in Christhucoil L.M.S Higher Secondary School at Palliyadi.

**Effectiveness**

It refers to the extent to which the video teaching will be helpful in gaining the knowledge regarding health hazards of adolescence.

**Video Teaching**

It refers to importing knowledge to the adolescence about the health hazards of electronic devices by using LCD projector.

**Knowledge**

It refers to the response of adolescence regarding health hazards of electronic devices for the structured knowledge questionnaires.

**Health Hazards**

In this study it refers to the harmful effect which is happening by over use of the electronic devices among adolescence.

**Electronic Devices**

In this study electronic devices includes video games, mobile phone, computer, television, ipods, lap-tap and tablet used by adolescence.

**Adolescence**

Male and Female adolescence belongs to the age group of 15-17 age and studying 11<sup>th</sup>std at Christhucoil L.M.S Higher Secondary School at Palliyadi.

**Assumptions**

- Adolescence may not aware about health hazards of electronic devices.
- Adolescence those who are interested to know about health hazards of electronic devices.
- Proper knowledge towards the health hazards of electronic device will help to reduce the use for electronic devices in future.

**Delimitations**

- ♣ The study is limited to 60 samples
- ♣ Adolescents who are studying in Christhucoil L.M.S Higher Secondary School Palliyadi
- ♣ Study period is limited to 4 weeks
- ♣ Study is limited to the students those who studying in 11<sup>th</sup> std.

**Ethical Consideration**

The proposed study was conducted after the approval of the dissertation committee of Thasiah College of Nursing, Marthandam at Kanyakumari District, Tamilnadu. Assurance of confidentiality was given to the samples and consent was obtained from the sample.

## **Conceptual Framework**

The Conceptual framework adopted for the present study was based on

### **Von Bertalanffy System Model**

System theory was proposed in 1940 by the biologist Ludwig Von Bertalanffy. He wrote that a system is a complex of inter-related system. It consists of three components Input, Throughput and Output.

#### **Input**

Input is something put into a system or expanded in its operation to achieve a result. This component represent by observing the knowledge of group I adolescents with the help of questionnaire and implementing video teaching and teaching about definition, contents of electronic devices, health hazards, and prevention of electronic devices addiction.

#### **Throughput**

Throughput is the context of communication network. In this study, the transformation of knowledge regarding health hazards of electronic devices among adolescence through video teaching.

#### **Output**

Output is the results obtained after running an entire process. Here output deals with the outcome of knowledge gained among adolescence by implementing video teaching.

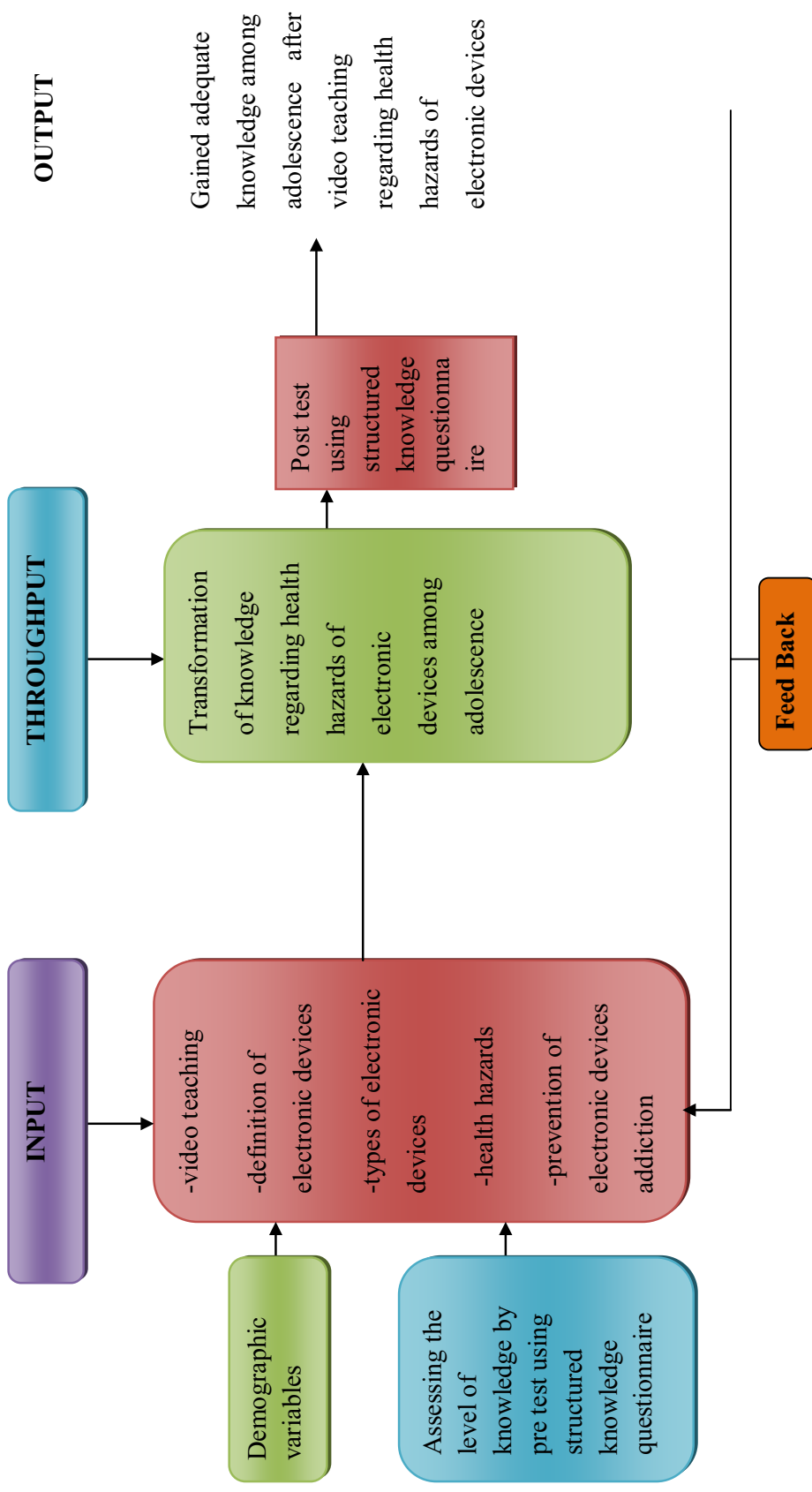


Fig :1 Conceptual Frame Work Based on Von Bertalanffy System Model

## CHAPTER - II

### REVIEW OF LITERATURE

Review of literature is a key step in research process. Review of literature refers to extensive, exhaustive and systematic examination of publications relevant to research project. It is the reading and organization of previously written materials relevant to the specific problems to be investigated; framework and methods appropriate to perform the study. Investigator has gathered the information from previous reviews and organized the review of literature under the following headings.

#### **Section: A**

Literature related to video teaching on health hazards of electronic devices among adolescence

#### **Section: B**

Literature related to health hazards of electronic devices among adolescence



**Section: A****Literature Related to Video Teaching on Health Hazards of Electronic Devices Among Adolescence**

**Andrea Donitta .G, (2011)** conducted a study to assess the effectiveness of video assisted teaching on knowledge regarding the ill effects of mobile phone usage among the adolescent and to educate the adolescents about the ill effects of mobile phone usage on health research design descriptive approach. Adolescents residing at Taramani in Chennai in 30 samples and non-probability convenient sampling technique structured interviewed guide was used to assess the knowledge regarding ill effects of mobile phone usage among adolescent. Result out of 30 samples 90.0% of the samples had inadequate knowledge 10.0% had moderate knowledge and no samples had adequate knowledge about the ill effects of mobile phone usage. The study concluded there is enormous increase in mobile phone usage throughout the world due to the advancement in technology. As technology advances the mortality and the morbidity rate also increases. As health care professionals, we play our own individual role in boosting the knowledge on ill effects of mobile phone usage and the adolescents need to be aware about the ill effects of mobile phone usage thus being responsible for their own health.

**Styne DM, (2011)** conducted a study to assess the effectiveness of video teaching on knowledge regarding overweight and obesity among 407 school-going children of Lucknow city. Data was collected by questionnaire. The study concluded, only 141 (34.64%) were normal, 246 (60.44%) were undernourished, 17 (4.17%) were overweight, and 3 (0.73%) were obese. The risk of overweight/obesity was significantly higher in children who played outdoor games for <30 min (OR13.97, 95% CI=1.96-2.83) and those who consumed fast foods (OR 9.17, 95% CI=1.28-1.86). In the present study, the important determinants of the overweight/obesity were father's education, father's occupation, class >8th standard, and outdoor playing <30 min, increased use of video/ or computer games.

**Amanda Gardener, (2011)** conducted a longitudinal study was conducted in effect of video teaching on dietary pattern and video game playing, in Guntur district among 324 children to evaluate the dietary pattern and video game playing. Data was

collected by self-reporting methods including 24-hour food recall, pen and paper and food records. The result obtained was range of body weight was from 14 to 68 kg and the body mass index (BMI) ranged from 9.8 to 29.8 kg/m<sup>2</sup>. Their ages ranged from 6 to 16 years and the children came from lower to middle socio-economic status households. Based on their BMI (41), 6.4% (n = 38) of the children were overweight. Our findings suggest that playing video game more frequently in adolescence or early adulthood is related to a faster BMI gain through to mid-adult life, particularly in females, and those more frequent playing video games in early adult life increases waist-hip ratio some years later.

**Jeff Anlinker, (2010)** conducted a longitudinal study to assess the effectiveness of video-assisted teaching programme on knowledge regarding under taken on “television and video game exposure and the development of attention problems” in US 2010 among 1323 middle childhood participants and another sample of 210 late adolescent/early adult participants provided self-reports of television exposure, video game exposure, and attention problems. Result concluded that Exposure to television and video games was associated with greater attention problems and viewing television and playing video games each are associated with increased subsequent attention problems in childhood. It seems that a similar association among television, video games, and attention problems exists in late adolescence and early adulthood.

**Kozier.N, (2009)** conducted a longitudinal study to measure the prevalence and length of problems of pathological video game use among youths in Singapore among 3034 children in grades 3 (*N* = 743), 4 (*N* = 711), 7 (*N* = 916), and 8 (*N* = 664), 2998 completed a survey at time 1 (2179 boys and 819 girls; 72.6% Chinese, 14.2% Malay, 8.8% Indian, and 4.3% other races, questionnaires were collected in years 2 and 3 respectively, The result that obtained was the average amount of time playing was 20.5 hours per week (SD: 25.8 hours per week) at time 1, 22.5 hours per week (SD: 24.2 hours per week) at time 2, and 20.9 hours per week (SD: 22.7 hours per week) at time 3. Boys played more at each wave. Greater amounts of gaming, lower social competence, and greater impulsivity seemed to act as risk factors for becoming pathological gamers.

**Craig A, (2009)** conducted a study to assess the effectiveness of video assisted teaching on knowledge regarding exercise prescription intervention for the control of

cervical spondylosis symptoms among 1500 graduates in China. Cervical spondylosis were diagnosed by 27.33% students. Exercise prescription intervention were made. The result showed that 81.76% of students have typical reduction in symptoms of cervical spondylosis. The study concluded that exercise therapy effectively control and prevent cervical disease, improve and enhance physical health.

**Hastings.EC, (2007)** conducted a cross sectional study to assess the effect of video teaching on knowledge regarding bed time and computer habits of primary school children in Germany, among 1933 children by questionnaire method. The result findings was over all, 28 % of the children reported going to bed after 9 pm on the week and 16% reported that playing computer and video games more than three hours daily 3.23; 95% CI 2.24-4.67) for more than three hours daily, owning a mobile phone. The study concluded that children does not obtain a sleep duration of 10 hours sufficient sleep and less television and computer leisure times should be assertively emphasized to parents and care givers of primary school students, in order to prevent the negative consequences of lack of sleep, such as diminished school performance.

**Edward L, (2006)** conducted a cross sectional study to assess the effectiveness of planned teaching programme on knowledge regarding adverse effects of television and video or computer game playing with fast food intake by preschool-age children in USA among 240 parents. The result was twenty-two percent of parents reported that their child ate at fast food restaurants at least once per week, for each 1-hour increase of TV/video or computer game watched per day, the odds ratio (OR) for consuming fast food  $> \text{ or } = 1$  time per week was 1.60 (95% confidence interval, 1.03 2.49). The findings raise the possibility that greater exposure to TV and video or computer game use may influence preschool children's consumption of unhealthy foods and cause health problems.

**Srivastava et.al, (2004)** conducted a cross sectional study to assess the effectiveness of video assisted teaching programme on electronic games and environmental factors associated with childhood obesity in Switzerland among 922 children. The data was collected by questionnaire to identify the environmental factors and behaviors associated with obesity. The results were use of electronic games [odds ratio (OR) = 2.03 per hour per day, 95% confidence interval (CI): 1.57 to 2.61,  $p < 0.001$ ], television or electronic games (OR = 2.83 per hour per day, 95% CI:

2.08 to 3.86,  $p < 0.001$ ), physical activity (OR = 0.80 per unit, 95% CI: 0.72 to 0.88,  $p < 0.001$ ), maternal work (OR = 1.93, 95% CI: 1.13 to 3.29,  $p = 0.02$ ), and paternal smoking (OR = 1.78, the use of electronic games was significantly associated with obesity, 95% CI: 1.07 to 2.96,  $p = 0.03$ ) were independently associated with obesity. The association of obesity with video or computer game use and lack of physical activity confirms results from other populations and points to potential strategies for obesity prevention.

## **Section : B**

### **Literature Related to Health Hazards of Electronic Devices Among Adolescence**

**Zein El Dein, (2013)** conducted a study were to assess the effects of electronic devices on the health of adolescence and to provide guideline to safeguard them from harmful effect on their health for parents and practitioners. A cross section study was utilized to collect data from a sample of 59 boys and 67 girls of adolescence students aged between 16-18 years using two tools. The 1st is -adapted Play and Technology Questionnaire for a older children and the 2nd is an interview questionnaire related to harmful effect of commonly used electronic devices on their health. It classified into mild, moderate and severe effects. Results presented an adolescence were expose moderate to severe hazards as backache, carpal tunnel syndrome, itchy eyes, and sleeping problems which lead to lack of concentration, which effect on their school performance. So, nurses should write guided instruction for parent and teachers to be conducted with adolescence and followed by practitioners, with continuing medical and nursing educational programs to be planned for safeguard their health.

**Murugan M, (2013)** conducted a comparative study to assess social anxiety disorder among adolescent with and without internet addiction was undertaken at Excel college of engineering. The samples were selected by purposive sampling technique. The variables were assessed by internet addiction test (1 AT) and social phobia inventory scale. The mean social anxiety disorder among adolescents with internet addition was higher than the mean social anxiety disorder among adolescents without internet addition  $\pm = 10.166$  ( $P < 0.05$ ). There was a significant association between gender ( $t = 2.251$ ) use of internet per day ( $t = 2.370$ ) self awareness about

internet addiction ( $t = 2.510$ ) and social anxiety disorder ( $P < 0.05$ ) among adolescents without internet addition.

**Akanksha Srivastava, (2013)** was conducted a study to examine the effect of excess use of cell phone on adolescents mental and quality of life. 100 male students of class 11<sup>th</sup> and 12<sup>th</sup> were randomly selected from Faizabad city of Uttar Pradesh. Semi structured interview schedule, mental health and quality of life questionnaire were administered individually to all participants. Mean, SD and t-value on various dimensions of mental health and quality of life were calculated to see the difference between experimental and control groups. It was found that limited users of cell phone have better mental health and quality of life than unlimited users of cell phone. Findings of the present study have significant contribution on adolescents mental health and quality of life.

**Nisreen Al-Bimani, (2012 )** conducted a study to evaluate the effectiveness of a teaching programme on “Ergonomics for Computer use” among the staff of Majan College. A pre experimental research design was used to conduct the study. Thirty samples who met the study criteria were selected using convenience sampling technique. The knowledge level of the staff was assessed using a pretest questionnaire. The subjects were then exposed to a planned teaching programme. The teaching programme included power point presentation with multimedia clippings, demonstration of exercises regarding ergonomics of computer use. The post test questionnaire was administered to the staff, to determine whether there is a gain in knowledge due to the exposure of the subjects to the teaching programme. The results of the experiment showed that there was an increase in the pretest ( $m=9.36$ ,  $s=3.91$ ) and the post test mean ( $m=15.99$ ,  $s=3.09$ ) scores. Paired “t” test, proved that there was a significant difference in the pre and the post test scores ( $t_{29} = 11.466$ ) at 5% level of significance. This difference was due to the intervention in the knowledge of the subjects. The practical application of this intervention would create health awareness to all computer users, thus improving quality of work environment.

**Rober V Harrison, (2012)** Conducted a study on ipod use by young adults in UK showed that at least two out of three people who use mp3 players, had their volume turned up to dangerous levels of over 85 decibels. Statistics from the Centers

for Disease Control and Prevention in the USA show that around 5 million teenagers in America who are aged between 5 and 20 have some form of hearing impairment that has been caused by noise exposure. Apparently, the number of children in the USA who have problems with their hearing has increased from 13 million at the beginning of the 1970s (pre-mp3 players) to over 30 million today, which is a massive increase.

**Wilska TA, (2011)** conducted a study at 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)** conducted a study to determine the influence of listening environment and earphone style on the preferred-listening levels (PLLs) measured in users' ear canals with a commercially-available MP3 player. It was hypothesized that listeners would prefer higher levels with ear bud headphones as opposed to over-the-ear headphones, and that the effects would depend on the environment in which the user was listening. A secondary objective was to use the measured PLLs to determine the permissible listening duration to reach 100% daily noise dose. The result is an increased sound pressure level at the eardrum.

**Thomee and others, (2011)** conducted a study to see the relationship between mobile phone use and stress, sleep disturbances and depression in young adolescents of 20-24 years olds students. It was found that over mobile phone use was associated with sleep disturbances and symptoms of depression. Over use was associated with stress, sleep disturbances and high accessibility stress and symptom of depression for both men and women. It was concluded that unlimited mobile phone use was a risk factor for mental health for young adults.

**Hoover A, et.al, (2010)** conducted a cross-sectional study to assess the presence of pain and musculoskeletal pain syndromes and also to associate them to computer use in Sao Paulo with a sample size of 727 adolescents. The data was collected by using a questionnaire or physical examination of the musculoskeletal system. Computer was used by 99% of adolescence among them pain was reported by 312 (39.4%) students. In that about quarter of them had complained of back pain, 9% had upper limb pain, and remaining suffered from diffuse pain and pain in the trapezium muscle. Clinical examination was carried out in 359 students, and 56 students (15.6%) had musculoskeletal pain syndromes such as benign joint hyper mobility syndrome, myo-facial syndrome, tendonitis and fibromyalgia. The study concluded that the frequent use of computer among adolescents, was associated with the presence of pain and musculoskeletal pain syndromes.

**Borge Sivertsen, (2010)** conducted a cross –sectional study to assess the sleep and use of electronic devices in adolescences .Adolescents spend increasingly more time on electronic devices and sleep deficiency rising in adolescents constitutes a major public health concern. The aim of the present study was to investigate daytime screen use and use of electronic devices before bedtime in relation to sleep. The 9846 adolescents aged 16–19 spent a large amount of time during the day and at bedtime using electronic devices. Daytime and bedtime use of electronic devices were both related to sleep measures, with an increased risk of short sleep duration, long sleep onset latency and increased sleep deficiency.

**Carbonell X, (2009)** conducted a study using bibliometric analysis was conducted in Spain, to locate the scientific literature dealing with addiction to the Internet, video games, and cell phones and to characterize the pattern of publications in these areas. One hundred seventy-nine valid articles were retrieved from PubMed and Psycho INFO between 1996 and 2005 related to pathological Internet, cell phone, or video game use. Results showed that the years with the highest numbers of articles published were 2004 (n = 42) and 2005 (n = 40). The most productive countries, in terms of number of articles published, were the United States (n = 52), China (n = 23), the United Kingdom (n = 17), Taiwan (n = 13), and South Korea (n = 9). The most commonly used language was English (65.4%), followed by Chinese (12.8%) and Spanish (4.5%). Articles were published in 96 different journals, of which 22

published 2 or more articles. The journal that published the most articles was *Cyberpsychology & Behavior* ( $n = 41$ ). Addiction to the Internet was the most intensely studied (85.3%), followed by addiction to video games (13.6%) and cell phones (2.1%). The study concluded that, number of publications in this area is growing. To facilitate retrieval, bibliographic databases should include descriptor termreferring specifically to Internet, video games, and cell phone addiction.

**Lam LT, (2009)** conducted a cross sectional study to identify the relationship between the internet addiction of adolescents and their Health Promotion Lifestyle Profile and Perceived Health Status, and thereby to detect the impact of internet addiction on the health among 764 adolescents of Kyung Gi Province Korea. Results showed that, there was a statistically significant difference in Health Promotion Lifestyle Profile according to internet addiction status (severe addiction vs. other status,  $P < 0.0001$ ). The Perceived Health Status scores was lowest in the severe addiction group ( $P < 0.001$ ). There was also a significant negative correlation between internet addiction and Health Promotion Lifestyle Profile ( $P < 0.0001$ ). Thus it concluded that, the severe internet addiction group had the lowest score in Health Promotion Lifestyle Profile and Perceived Health Status, which suggests that the addiction could have a negative effect on the health status of adolescents.

**Vandelanotte C, (2009)** conducted a study in Australia to find out the associations of leisure-time internet and computer use with overweight and obesity, leisure-time physical activity, and other sedentary behaviours with a sample size of 2650 adolescents. The result revealed that adults with high leisure-time internet and computer use were more likely to be overweight or obese as compared to participants who did not use the internet or computer. The study showed that apart from nutritional and physical activity interventions, it may also be necessary to decrease time spent in sedentary behaviours, such as leisure-time internet and computer use, in order to reduce the prevalence of overweight and obesity.

**Sen A, (2007)** conducted a cross-sectional questionnaire study in Malaysia with a sample size of 136 computer users among university students and office staff. Around 50% of those with some low back pain did not have an adjustable backrest. Many users had higher scores of pain in the wrist and neck suggesting increased risk



of developing OOS (Occupational Overuse Syndrome). Around (64%) of them were using refractive corrections and still had high scores of CVS (Computer Vision Syndrome) which includes eye fatigue, headache and burning sensation. It was concluded that further onsite studies are needed, to follow up this survey to decrease the risks of developing CVS and OOS amongst young computer users.

**Adedoyin RA, (2004)** conducted a study to know the pattern of musculoskeletal pain associated with the use of computer in Nigeria with a sample size of 1250 computer users using structured questionnaire. The result shows that low back pain and neck pain were found to be the highest pain complaints with 74% and 73% respectively. Remaining 67% of the respondents complained of wrist pain, followed by finger pain (65%), shoulder pain (63%) and general body pain (61%). The knee and foot pains were the least complaints reported with 26% and 25% respectively. In terms of pain severity, low back pain, finger pain, neck pain and shoulder pain were rated to be moderate, while all other joints were said to be of mild pain. This indicates that low back pain, neck pain and upper limb pain are the common complaints among the users. The cause of the pain may be attributed to bad ergonomics among the users.

**Katz JE, (2002)** conducted an epidemiological study on mobile phone use and brain tumor risk was conducted by Institute Of Medical Biostatistics and Informatics at Johannes Gutenberg University in Germany. The use of mobile phones among young children and adolescents is also found in this study. Health-risk research has mainly focused on adults and on a single outcome, brain tumors. No significant relationship has been established between mobile phone use and the incidence or growth of brain tumors. Alternatively indicates emerging concerns, including hearing problems and self-reported health symptoms, such as tiredness, stress, headache, anxiety, concentration difficulties and sleep disturbances, but results remain inconclusive. Currently, there is little epidemiological evidence indicating that the use of mobile phones causes adverse health effects.

**Hastings.EC, (2002)** conducted a experimental study to effects of video games on visual function in children of Japan, among 2,034 male and 2,321 female primary school. The data obtained by questionnaire survey. The results of this study were as follows: 1) the viewing distance between the eyes and the TV screen was shorter for video games than for watching TV programs. 2) The rate of complaints related to eye strain in children who played video games over 120 min per day was significantly higher than that of other children. 3) The eye movements during video games were more rapid and frequent than those during conventional VDT work.

**Vogell et.al, (2001)** conducted a study in America in 2001 reported 12.5% of children between the ages of 6 to 19 years had impaired hearing in one or both ears. As many as 80% of elementary school children use personal music players, many for extended periods of time and at potentially dangerous volume settings. There is little doubt that the use of consumer products, which produce increasingly high levels of noise and which are used with headsets or earphones, is growing and may well be responsible for the impaired hearing that is being seen with growing frequency in younger people.

## CHAPTER- III

### RESEARCH METHODOLOGY

Research methodology is a way to systematically solve the research problem. Methodology occupies a key position as far as research documentation is concerned. It may be understood as a science of studying how research is done. It involves systematic procedure by which the researcher starts from initial identification of the problem to its final conclusion. This chapter describes the methodology followed to evaluate the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence in Christhucoil L.M.S Higher Secondary School, Palliyadi at Kanyakumari District.

#### **Research Approach**

The investigators adopted quantitative evaluatory research approach for this study.

#### **Research Design**

One group pretest posttest design was adopted for this study. The design can be diagrammatically represented as follows.

<b>Group</b>	<b>Pretest</b>	<b>Intervention</b>	<b>Post test</b>
Study group	$O_1$	X (Video teaching)	$O_2$

$O_1$  – Assessment of level of knowledge of adolescents before Video teaching

X –Video teaching

$O_2$  – Assessment of level of knowledge of adolescents after giving video teaching.

## **Variables**

**Independent Variable:** Video teaching

**Dependent Variables:** Knowledge regarding health hazards of Electronic devices.

## **Research Setting**

The study was conducted in Christhucoil L.M.S Higher Secondary School, Palliyadi. It is a co-education school which is 5 km away from Thasiah College of Nursing, Marthandam at Kanyakumari District. The total strength of the school is 962 students. This school comprises classes from 1<sup>st</sup> to 12<sup>th</sup> standard. This school has both English and Tamil medium. The strength of the student in 11<sup>th</sup> standard is about 150 and these students are spreaded into six divisions. Investigator selected this school because of the proximity to the college and adequate availability of the samples.

## **Population**

The population of the study was adolescents studying in Christhucoil L.M.S Higher Secondary School, Palliyadi.

## **Sample Size**

The sample consists of 60 selected adolescents with the age group of 15 – 17 years belonging to 11<sup>th</sup> standard studying in Christhucoil L.M.S Higher Secondary School Palliyadi.

## **Sampling Technique**

Convenience sampling technique was used for this study on the basis of inclusive and exclusive criteria.

### **Sample Selection Criteria**

The study was conducted based on the following criteria regarding the selection of the sample.

#### ➤ **Inclusion Criteria**

- Adolescence who are in the age group 15-17 years
- Adolescence who understand and speak in Tamil
- Adolescence who are willing to participate in this study

#### ➤ **Exclusion Criteria**

- English medium students of 11<sup>th</sup> std
- Physically and mentally challenged adolescence

### **Development and Description of Tool**

The tool used for the data collection consists of 2 sections.

#### **Section A**

It consists of 13 demographic variables like age, sex, education of father, education of mother, occupation of father, occupation of mother, family monthly income, area of residence, number of children, Awareness of hazards of electronic devices. Do you have mobile phone, type of electronic devices you are using, daily usage of electronic devices.

#### **Section B**

It consists of structured knowledge questionnaire containing 30 questions. Each right answer carries 1 mark and wrong answer carries 0 mark. Total score is 30. Knowledge level was classified according to percentage of score.

### **Scoring Interpretation**

0-10 (0-33%)	- Inadequate knowledge
11-20 (37-67%)	- Moderately Adequate knowledge
21-30 (70-100%)	-Adequate knowledge

### **Validity and Reliability**

Content validity of tool was established on the basis of the opinion of six experts. Five experts from the field of Nursing and one expert from Medical field. The necessary suggestions and modifications were in-corporated in the final preparation of the tool. Reliability of the tool was established by using test-retest method. The reliability of the score is 0.09.Hence the tool was considered as reliable for preceding with the study.

### **Pilot Study**

The pilot study was done after obtaining formal permission from the principal and the ethical committee of Thasiah College of Nursing. The pilot study was conducted at Government High School, Kanjiracode. After obtaining permission from the Headmaster of the school. Pilot study was conducted at the month of November for a period of one week (09/11/15 to 16/11/15).

The researcher introduced herself to the study subjects and established good rapport with them. In group, six adolescents from 11<sup>th</sup> standard were selected pre-test was conducted by structured knowledge questionnaire and given video teaching regarding health hazards of electronic devices. The group has received information regarding health hazards of electronic devices by the student for the duration of 60 minutes and after one week post test was conducted by the investigator. The researcher found that study was feasible to conduct the main study.

## **Data Collection Procedure**

After getting the permission from authority, the investigator introduced herself to the study participants and maintain rapport with them. Investigator selected 60 samples from 11<sup>th</sup> standard by using convenience sampling method. After the selection, Pretest was conducted by the investigator for 60 students by using structured knowledge questionnaire. 30 minutes given to complete the questionnaires. On the next day video teaching was given on health hazards of electronic devices to 60 adolescence with the duration of 60 minutes by using LCD projector. After one week post test was conducted by the investigator for the group attended the same questionnaire. Samples were co-operated well during the data collection period.

## **Data Analysis and Statistical Method**

The collected data were analyzed by using descriptive (frequency and percentage distribution) and inferential statistical (mean, standard deviation, chi-square and 't' test) techniques and data were presented in the form of tables, and diagrams.

### **◆ Descriptive statistics**

- Frequency and percentage distribution were used to assess the level of knowledge regarding health hazards of electronic devices among adolescence before video teaching
- Frequency and percentage distribution were used to assess the level of knowledge regarding health hazards of electronic devices among adolescence after video teaching

### **◆ Inferential Statistics**

- Mean and standard deviation and paired t-test used to assess the effectiveness of video teaching regarding health hazards of electronic devices among adolescence.

- Chi-square test was used to find out the association between the knowledge regarding health hazards of electronic devices and selected demographic variables.



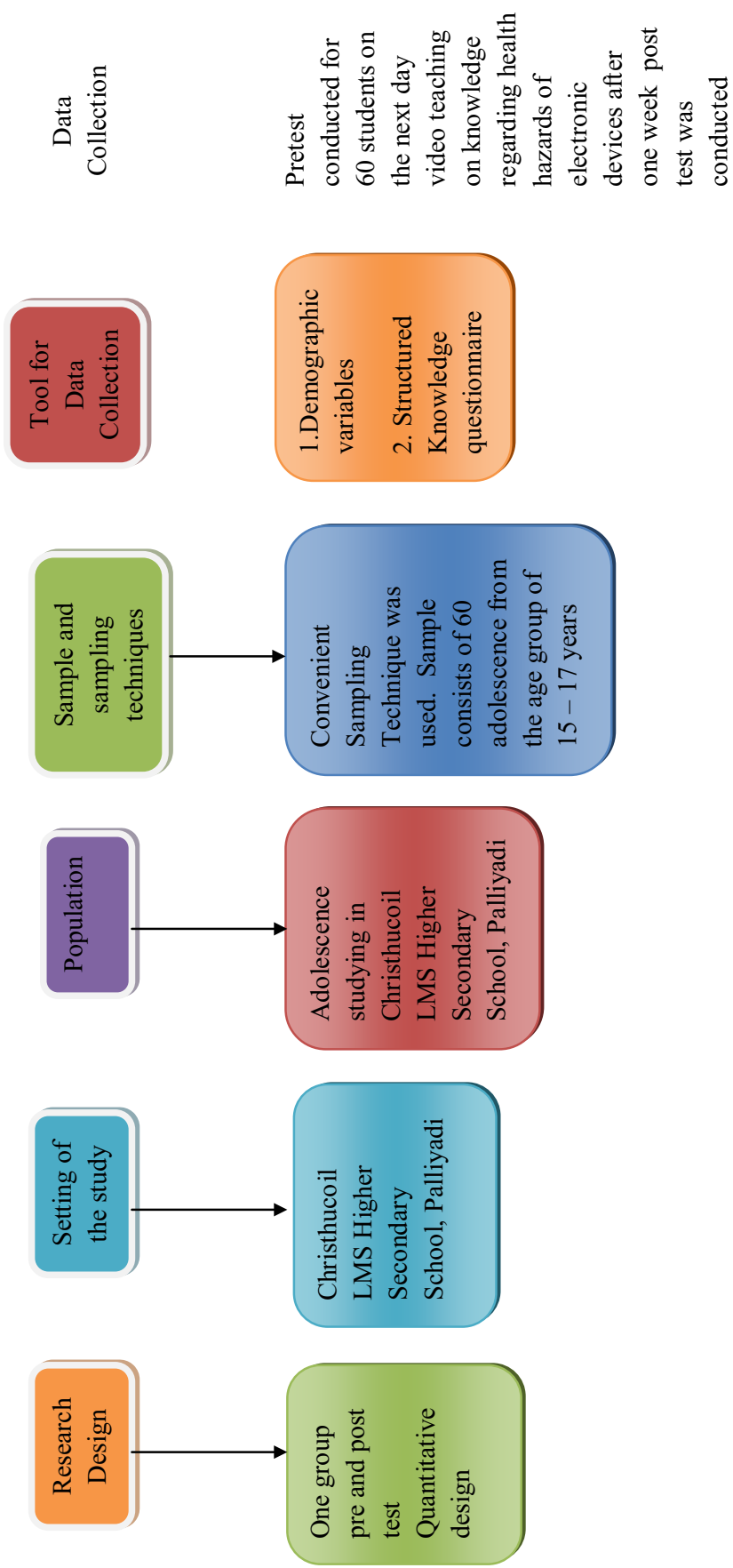


Fig : 2 Schematic Diagram of Methodology

## CHAPTER – IV

### DATA ANALYSIS AND INTERPRETATION

This chapter deals with the statistical analysis and interpretation of the data collected from the participants to find out the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence in Christucoil L.M.S Higher Secondary School, Palliyadi at Kanyakumari District.

Polit and Hungler states that statistical analysis is a method of rendering quantitative information in a meaningful and intelligible manner statistical procedure enables the researcher to organize, analyze, evaluate interpret and communicate numerical information meaningfully.

#### **Section: A**

Distribution of samples according to demographic variables of adolescence.

#### **Section: B**

Assess the level of knowledge of adolescence regarding health hazards of electronic devices before video teaching.

#### **Section: C**

Assess the level of knowledge of adolescence regarding health hazards of electronic devices after video teaching.

#### **Section: D**

Effectiveness of video teaching on health hazards of electronic devices.

#### **Section: E**

Association between the post test score level of knowledge regarding health hazards of electronic devices and selected demographic variables

## Section - A

**Distribution of the Samples According to Demographic Variables.**

Table - 1

**Percentage Distribution of Samples According to Demographic Variables**

N =60

S.No	Demographic Variables	Number of Frequency	Percentage (%)
1	<b>Age in years</b>		
	14 – 15 years	20	33.33
	15 – 16 years	20	33.33
	16 – 17 years	20	33.33
2	<b>Gender</b>		
	Male	30	50.00
	Female	30	50.00
3	<b>Education of Father</b>		
	Graduate	13	21.67
	Higher Secondary	15	25.00
	High School	23	38.33
	Primary school	9	15.00
	Illiterate	0	0.00
4	<b>Education of Mother</b>		
	Graduate	11	18.33
	Higher Secondary	22	36.67
	High School	21	35.00
	Primary School	6	10.00
	Illiterate	0	0.00
5	<b>Occupation of Father</b>		
	Government	12	20.00
	Private	29	48.33
	Own Business	19	31.67

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6	<b>Occupation of Mother</b>	8	13.33
	Government	25	41.67
	Private	27	45.00
	House wife		
7	<b>Monthly Income</b>		
	Less than Rs. 5,000	12	20.00
	Rs. 5,000 – 10,000	30	50.00
	Above Rs. 10,000	18	30.00
8	<b>Area of Residency</b>		
	Urban	18	30.00
	Rural	42	70.00
9	<b>No. of children</b>		
	One	33	21.67
	Two	33	55.00
	More than two	14	23.33
10	<b>Awareness of hazards of electronic devices</b>		
	Yes	21	35.00
	No	39	65.00
11	<b>Do you have mobile phone</b>		
	Yes	17	28.33
	No	43	71.67
12	<b>Type of electronic devices you are using</b>		
	Television	25	41.67
	Mobile phone	17	28.33
	Video game	6	10.00
	All the above	12	20.00
13	<b>Daily usage of electronic devices</b>		
	Less than 2 hours	8	13.33
	2 – 4 hours	25	41.67
	4 – 6 hours	27	45.00
	More than 6	0	0.00

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The above table showed that study samples according to the demographic variables, in 20(33.33%) were between 14 -15 years of age, 20(33.33%) were between 15 -16 years of age and 20(33.33%) were between 16-17 years of age.

Related to gender, 30 (50%) were females and 30(50%) were males.

Related to educational status of father, 13 (21.67%) were graduate, 15 (25%) were completed higher secondary Schooling, 23 (38.33%) were completed high schooling, 9(15%) were completed primary schooling, and none of them were illiterate.

Regarding educational status of mother, 11(18.33%) were graduate, 22(36.67%) were completed higher secondary schooling, 21(35%) were completed high schooling, 6(10%) were on primary schooling, and none of them were illiterate.

In relation with occupation of father, 12 (20%) were government employee, 29 (48.33%) were working in a private institution's 19 (31.67%) were working as a farmer.

In relation with occupation of other, 8 (13.33%) were government employee, 25(41.67%) were working in a private institution 27 (45%) were house wife.

Coming to monthly income, 12(20%) were getting the salary less than 5000, 30 (50%) were getting 5000 to 10,000 and 18 (30%) were getting the salary above 10,000.

Regarding area of residence, 18 (30%) were staying in urban area, 42(70%) were staying in rural area.

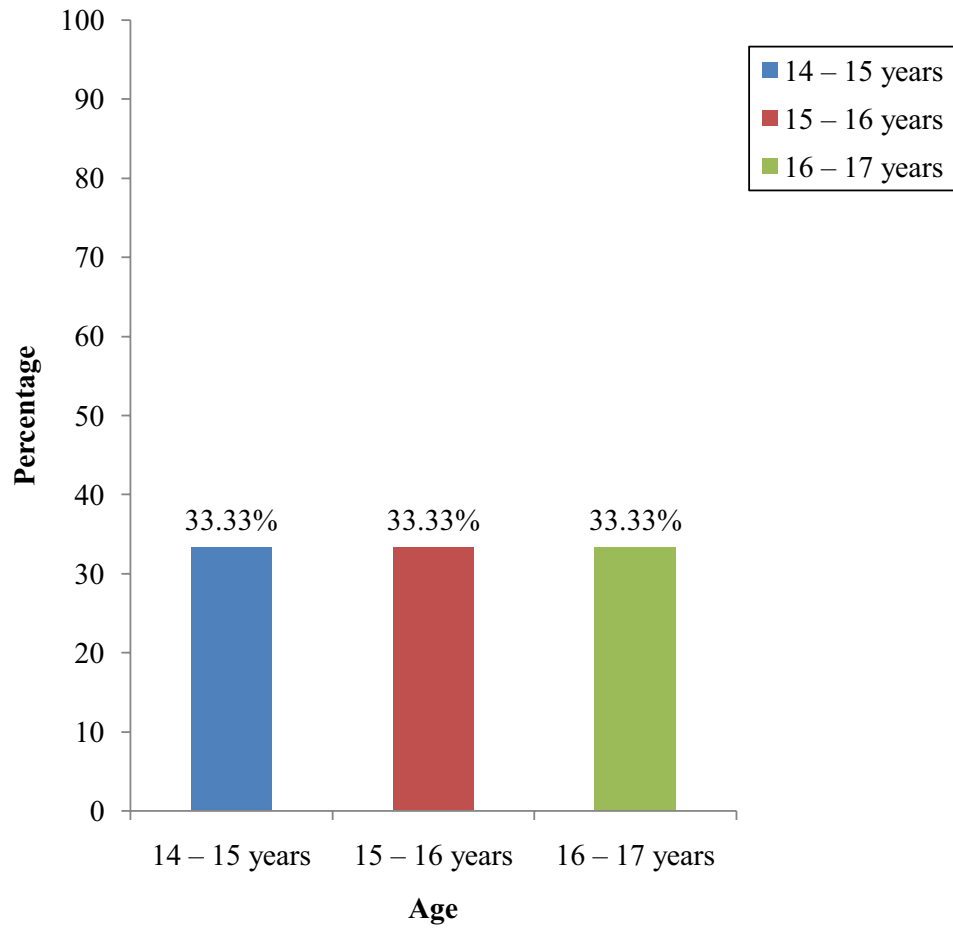
In relation to number of children, 13 (21.67%) have one children, 33(55%) have two children, 14 (23.33%) have more than two children.

Related to awareness of hazards of electronic devices, 21 (35%) were yes, 39 (65%) were no.

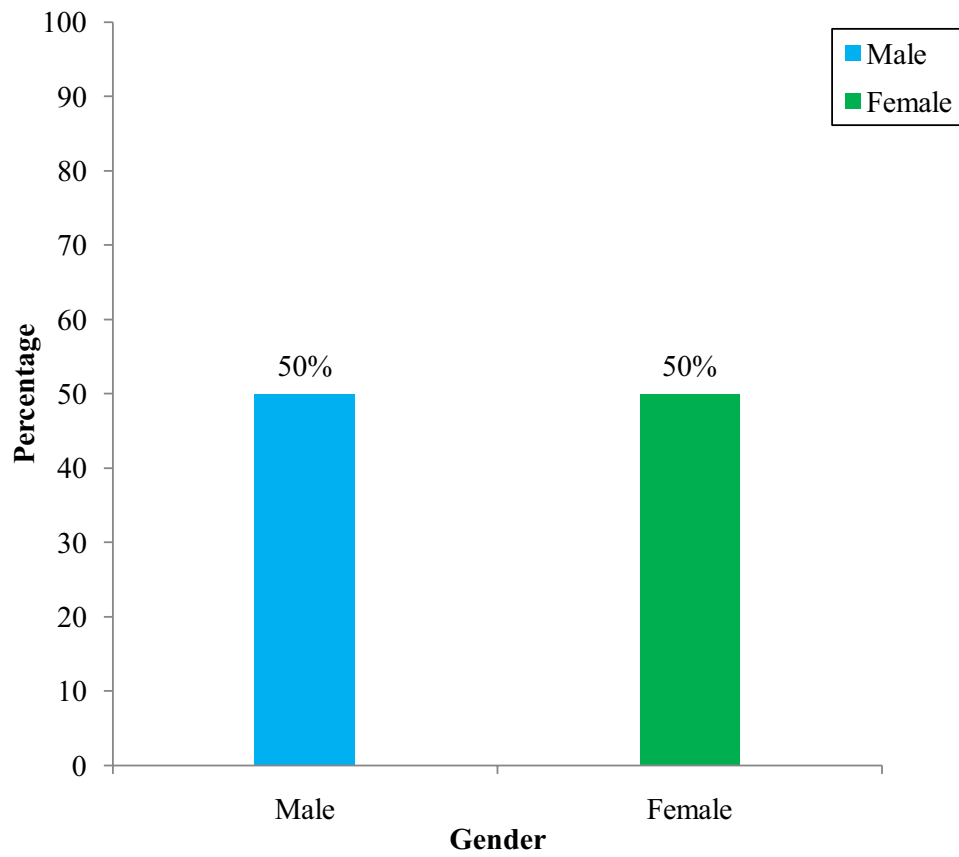
Regarding to do you have mobile phone, 17(28.33%) were yes,43(71.67%) were no.

Related to type of electronic devices you are using, 25(41.67%) were use of television,17(28.33%) were use of mobile phone,6 (10%) were use of video game,12(20%) were use all the above.

Regarding daily usage of electronic devices, (13.33%) were use of electronic devices in less than 2 hours, 25(41.67%) were use of electronic devices in 2 to 4 hours, 27(45%) were use of electronic devices in 4 to 6 hours and none of them use of electronic devices in above 6 hours.

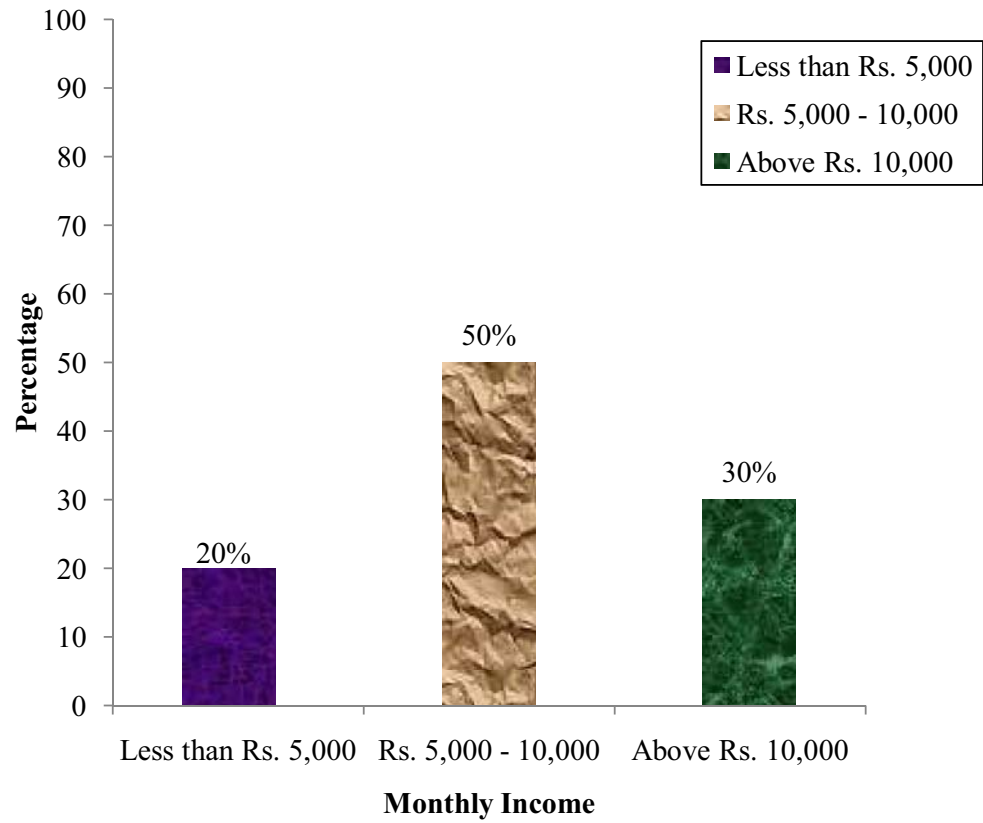


**Fig : 3 Percentage Distribution of Demographic Variables According to age**

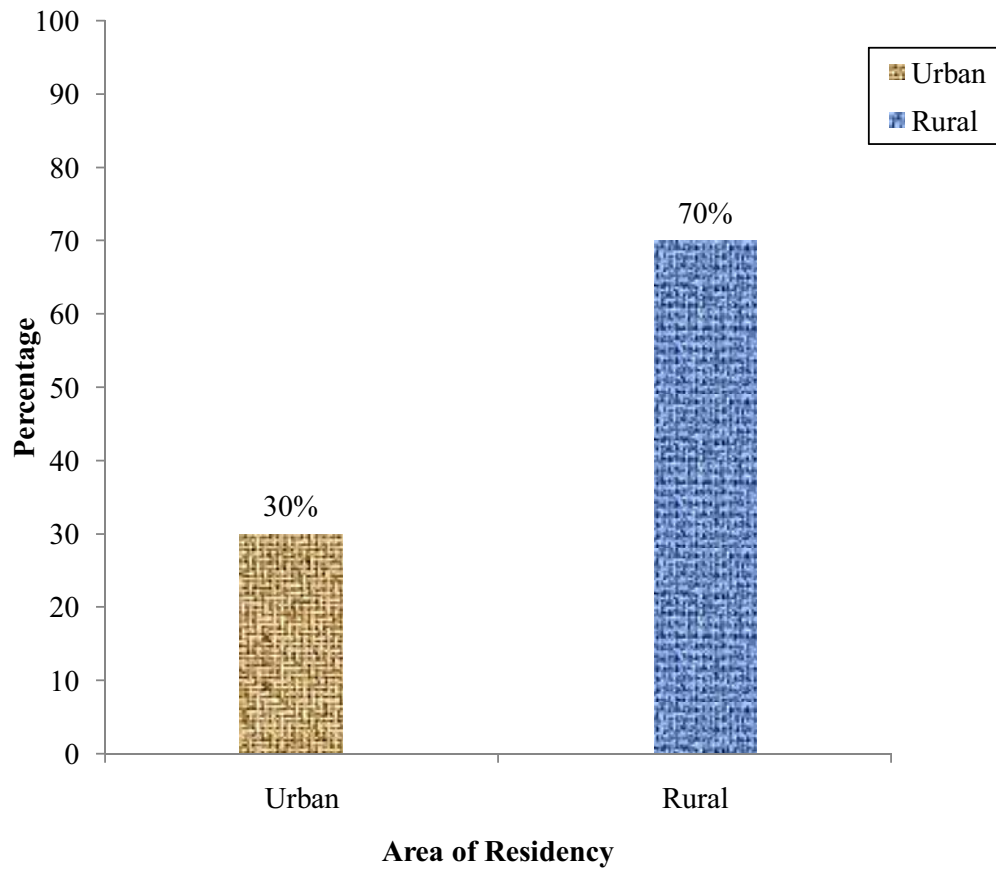


**Fig : 4 Percentage Distribution of Demographic Variables According to Gender**

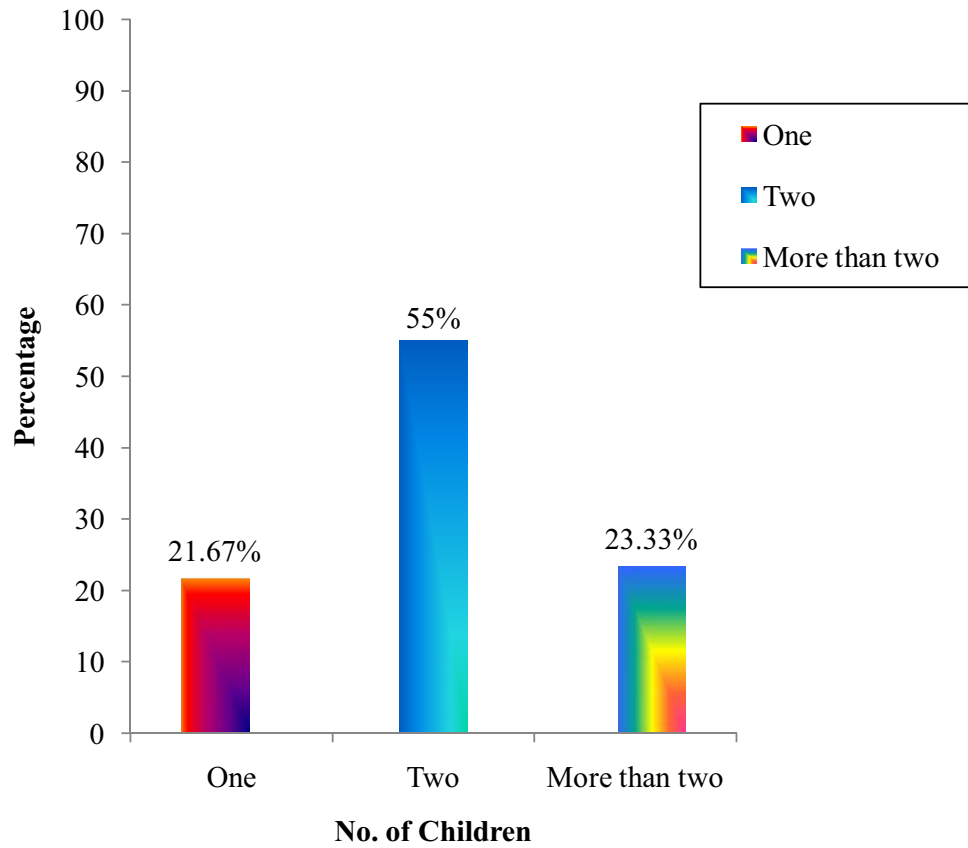




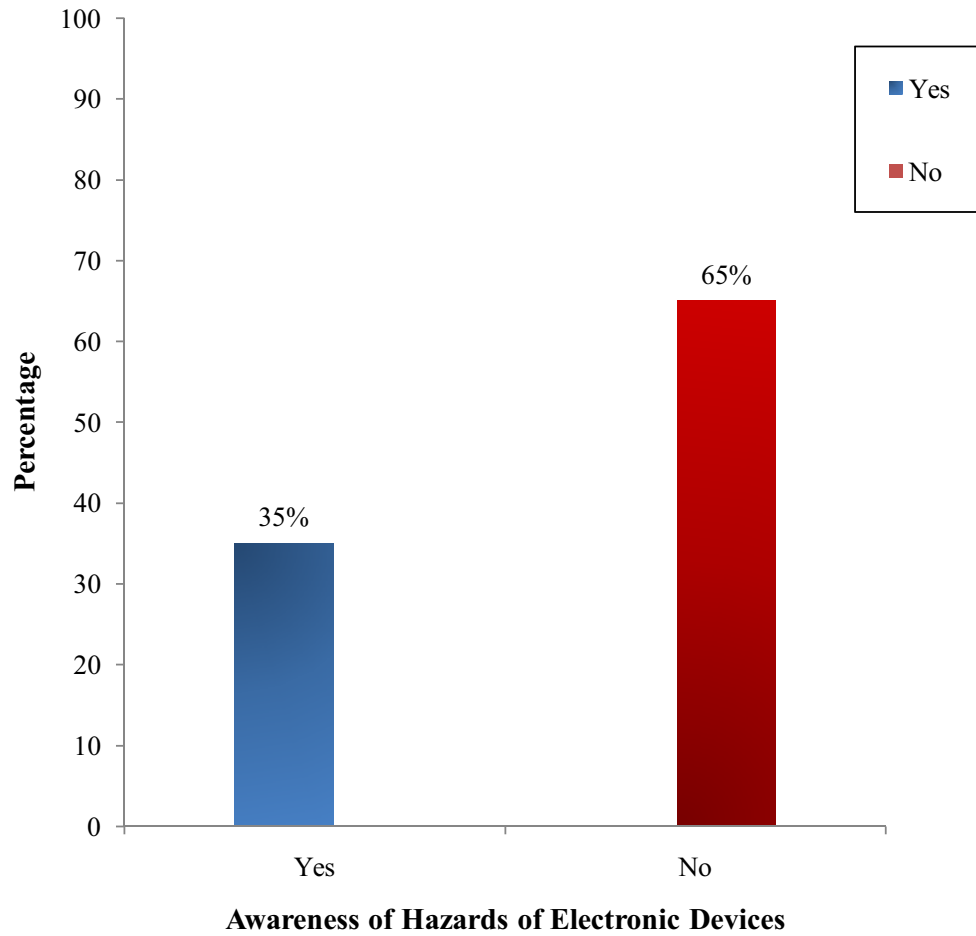
**Fig : 5 Percentage Distribution of Demographic Variables According to Monthly Income**



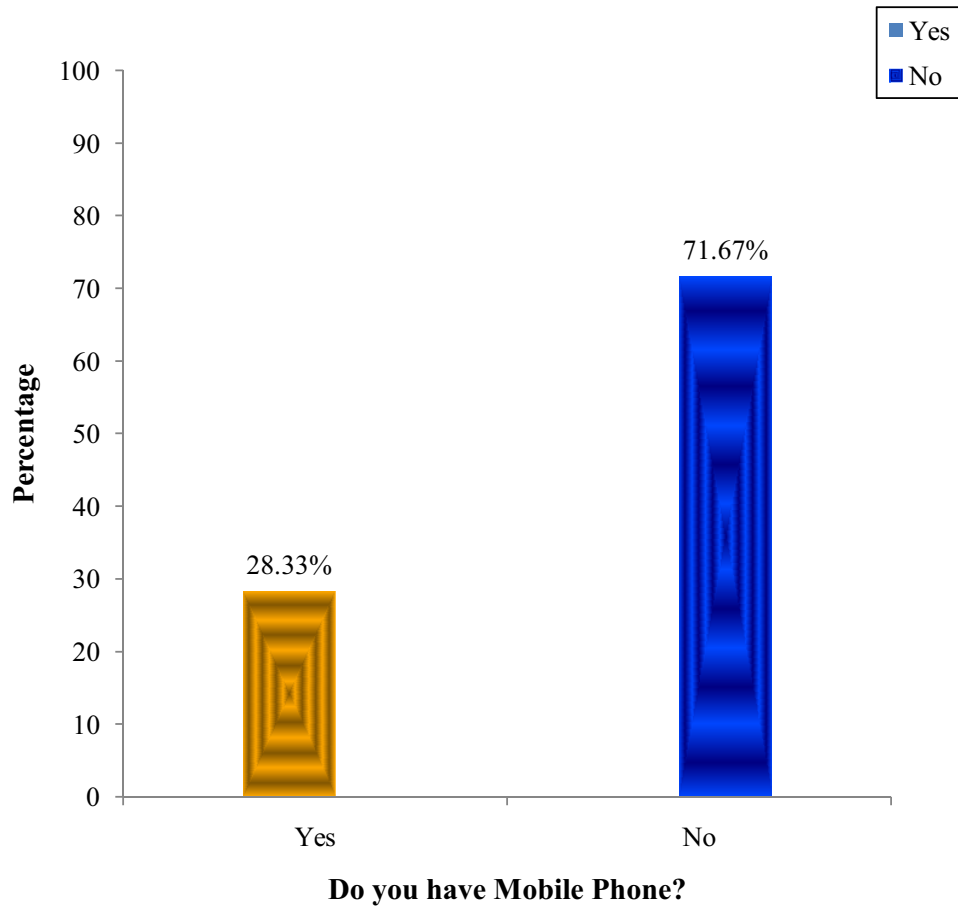
**Fig : 6 Percentage Distribution of Demographic Variables According to Area of Residency**



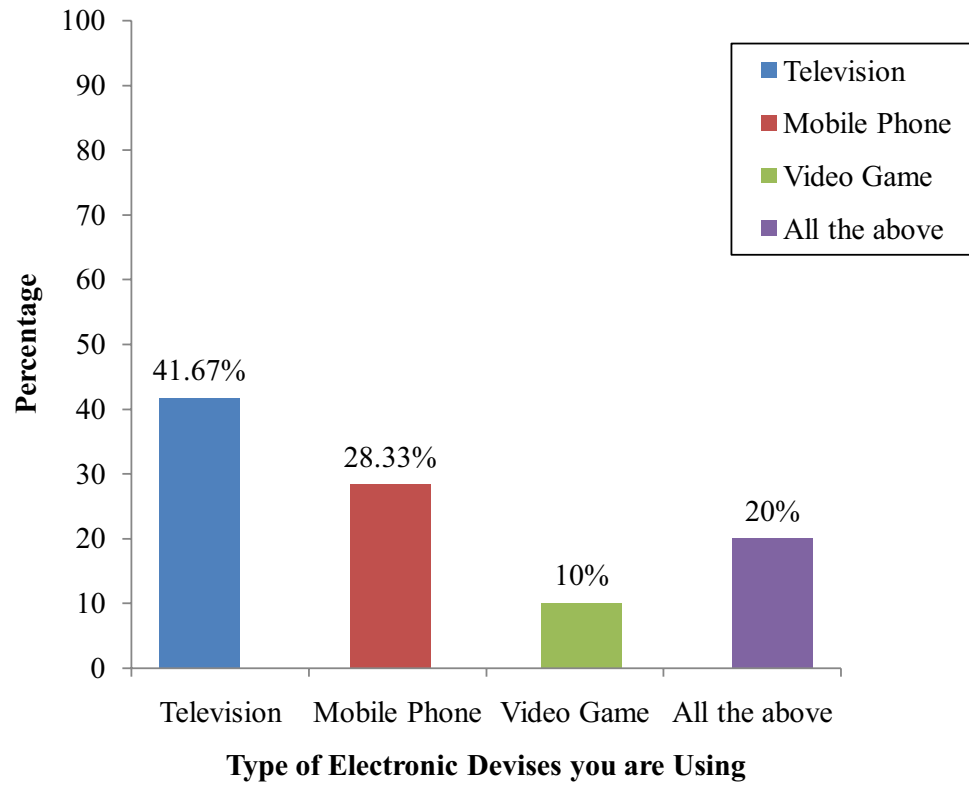
**Fig : 7 Percentage Distribution of Demographic Variables According to Number of Children**



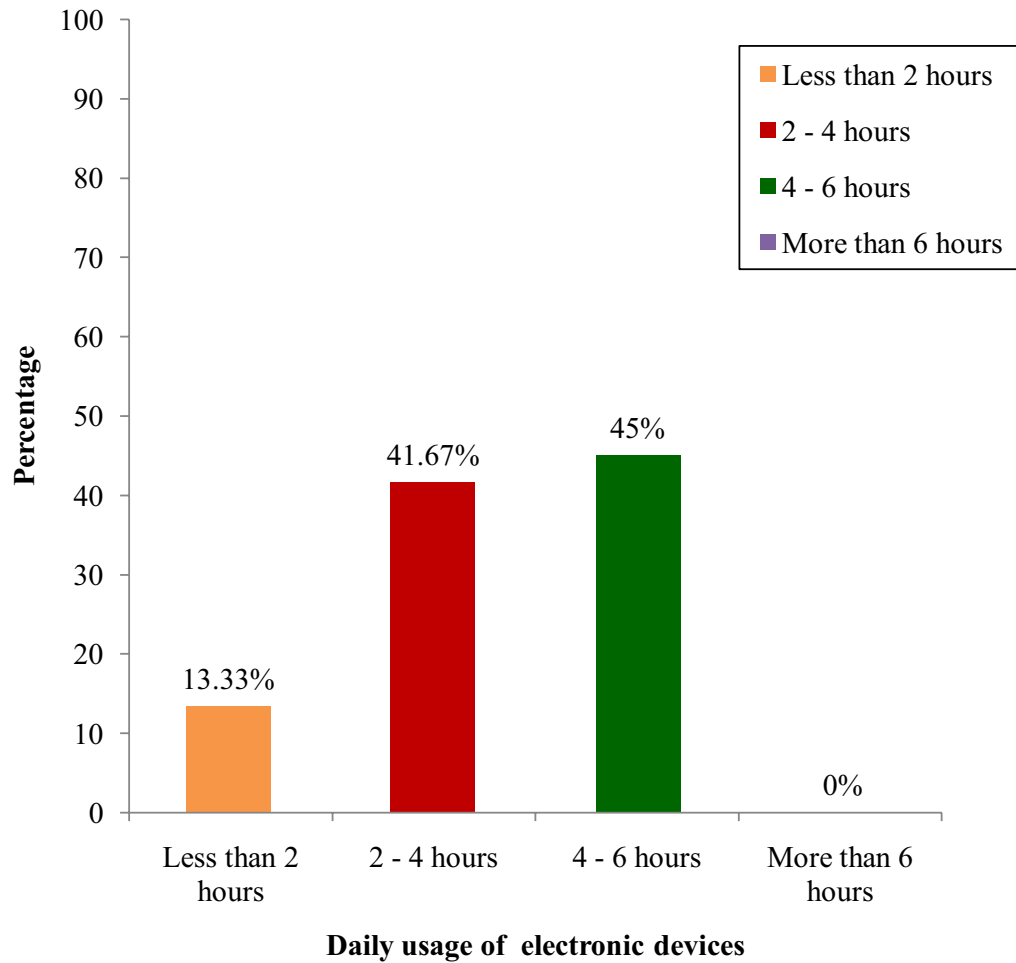
**Fig : 8 Percentage Distribution of Demographic Variables According to Awareness of Hazards of Electronic Devices**



**Fig : 9 Percentage Distribution of Demographic Variables According to do you Have Mobile Phone**



**Fig : 10 Percentage Distribution of Demographic Variables According to Type of Electronic Devices you are Using**



**Fig : 11 Percentage Distribution of Demographic Variables According to Daily Usage of Electronic Devices**

**Section : B - Assess the Level of Knowledge of Adolescence Regarding**

**Health Hazards of Electronic Devices before video teaching**

**Table No. 2 : Assess the Frequency and Percentage Distribution of pretest Level of Knowledge of Adolescence Regarding Health Hazards of Electronic Devices**

**N = 60**

Level of Knowledge	Pre Test	
	Frequency (f)	Percentage (%)
Inadequate (0-33%)	35	58.33
Moderate (37 – 67%)	25	41.67
Adequate (70 – 100%)	0	0.00
<b>Total</b>	<b>60</b>	<b>100</b>

Above table shows that, the pretest, 58.33% the adolescence had inadequate knowledge 41.67% had moderate knowledge and no one had adequate knowledge regarding the health hazards of electronic devices.



**Section : C - Assess the Level of Knowledge of Adolescence Regarding**

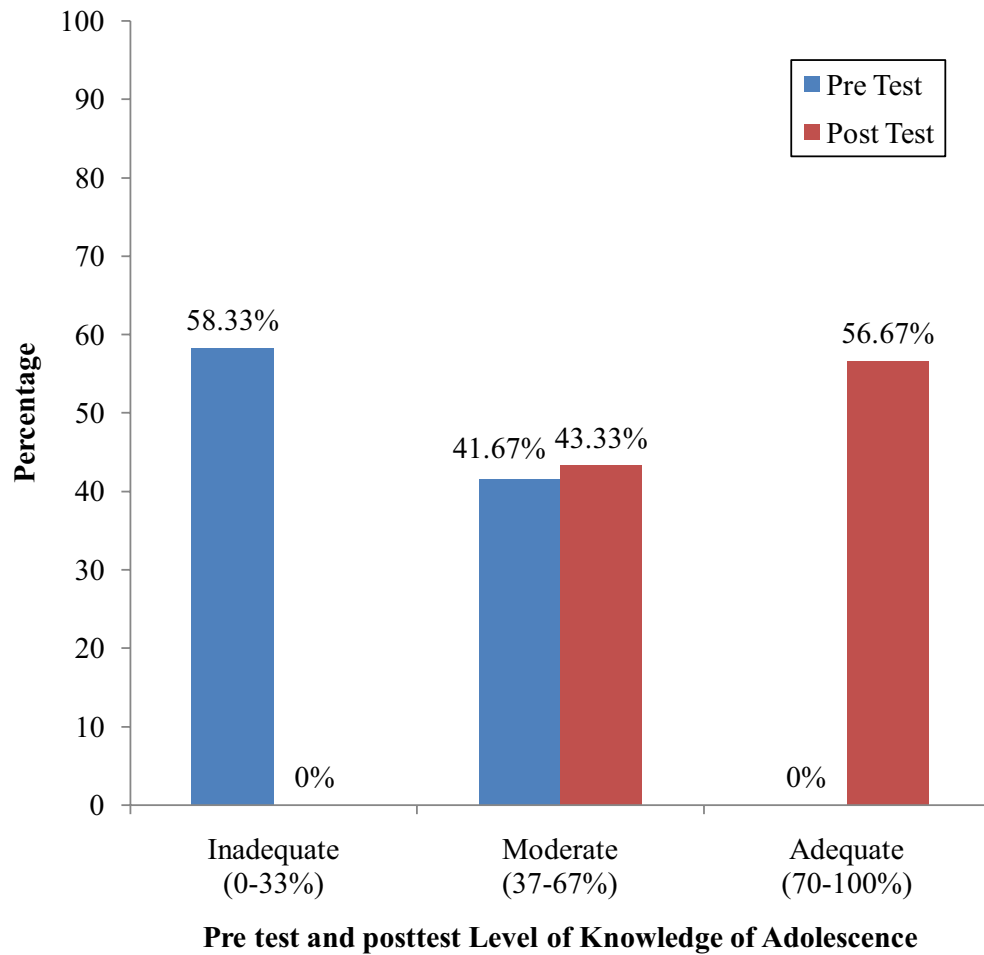
**Health Hazards of Electronic Devices after video teaching**

**Table No. 3 : Assess the Frequency and Percentage Distribution of Posttest Level of Knowledge of Adolescence Regarding Health Hazards of Electronic Devices**

**N = 60**

Level of Knowledge	Post Test	
	Frequency (f)	Percentage (%)
Inadequate (0-33%)	0	0.00
Moderate (37 – 67%)	26	43.33
Adequate (70 – 100%)	34	56.67
<b>Total</b>	<b>600</b>	<b>100</b>

In the posttest 56.67% of the adolescence had adequate knowledge, 43.33% had moderate knowledge and no one had inadequate knowledge regarding health hazards of electronic devices.



**Fig : 12 Pretest and Posttest Level of Knowledge of Adolescence Regarding Health Hazards of Electronic Devices**

**Table : 4 - Mean, Standard Deviation of Pretest and Posttest Knowledge of Adolescence regarding health Hazards of Electronic Devices**

<b>Test</b>	<b>No. of Questions</b>	<b>Minimum – Maximum Score</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Percentage (%)</b>
Pretest	30	0-30	14.23	4.30	47.43
Posttest	30	0-30	21.96	4.05	73.20

The Pretest mean score was 14.23 with standard deviation 4.30. The mean percentage score was 47.43.

The Posttest mean score was 21.96 with standard deviation 4.05. The mean percentage score was 73.20.

**Section : D- Effectiveness of Video Teaching on Knowledge Regarding Health Hazards of Electronic Devices**

**Table : 5 - Effect of Video Teaching on Knowledge Regarding Health Hazards of Electronic Devices**

N = 60

<b>Overall Knowledge</b>	<b>Mean</b>	<b>SD</b>	<b>Paired 't' test</b>	<b>5% level of Significant</b>
Pretest	14.23	4.30	9.304	59 df 2.0 *
Posttest	21.96	4.05		

\* Significant

Table no. 5 shows that, the pre test mean score with standard deviation was  $14.23 \pm 4.30$  and the posttest score was  $21.96 \pm 4.05$ . The mean difference was high and statistically significant that is the video teaching on knowledge regarding health hazards of electronic devices among adolescence was effective.

**Section – E : Association Between the post test Score of level of Knowledge  
Regarding Health Hazards of Electronic Devices the Demographic  
Variables**

Table : 6

**Association of Post test Score on Level of Knowledge Regarding  
Health Hazards of Electronic Devices with Demographic Variables**

N = 60

S. No	Variable	Posttest Level of Knowledge		Total	X <sup>2</sup>	Level of Significance	5% level of significance
		Moderate	Adequate				
1	<b>Age in years</b>						
	14 – 15 years	13	7	20	7.59	5.99 *	2df
	15 – 16 years	9	11	20			
	16 – 17 years	4	16	20			
2	<b>Gender</b>						
	Male	10	20	30	2.44	3.84	1df
	Female	16	14	30			
3	<b>Education of Father</b>						
	Graduate	4	9	13			
	Higher Secondary	6	9	15		7.82	3df
	High School	10	13	23	4.98		
	Primary school	6	3	9			
	Illiterate	0	0	0			
4	<b>Education of Mother</b>						
	Graduate	3	8	11			
	Higher Secondary	9	13	22	5.93	7.82	3 df
	High School	11	10	21			
	Primary school	3	3	6			
	Illiterate	0	0	0			
5	<b>Occupation of Father</b>						
	Government	3	9	12			
	Private	14	15	29	2.063	5.99	2 df
	Own Business	9	10	19			
6	<b>Occupation of Mother</b>						
	Government	2	6	8			
	Private	9	16	25	3.28	5.99	2df
	House wife	15	12	27			
7	<b>Monthly Income</b>						
	Less than Rs. 5,000	7	5	12			
	Rs. 5,000 – 10,000	14	16	30	2.06	5.99	2df
	Above Rs. 10,000	5	13	18			

8	<b>Area of Residency</b>						
	Urban	4	14	18	4.67	3.84 *	1df
	Rural	22	20	42			
9	<b>No. of children</b>						
	One	5	8	13	0.43	5.99	2df
	Two	14	19	33			
	More than two	7	7	14			
10	<b>Awareness of hazards of electronic devices</b>						
	Yes	5	16	21	5.02	3.84 *	1df
	No	21	18	39			
11	<b>Do you have mobile phone</b>						
	Yes	3	14	17	6.37	3.84 *	1df
	No	23	23	43			
12	<b>Type of electronic devices you are using</b>						
	Television	16	9	25			
	Mobile phone	3	14	17	9.19	7.82 *	3df
	Video game	2	4	6			
	All the above	5	7	12			
3	<b>Daily usage of electronic devices</b>						
	Less than 2 hours	3	5	8			
	2 – 4 hours	123	13	25	0.432	5.99	2df
	4 – 6 hours	11	16	27			
	More than 6	0	0	0			

**\*Significant**

The above table explained that, the demographic variables like age ( $X^2 = 7.59$ ), the area of residency ( $X^2 = 4.67$ ), awareness of health hazards of electronic devices ( $X^2 = 5.02$ ), do you have mobile phone ( $X^2 = 6.37$ ) and type of electronic devices ( $X^2 = 9.19$ ) were associated with post test knowledge regarding health hazards of electronic devices.

The demographic variables like gender, education of father, education of mother, occupation of father, occupation of mother, monthly income and daily usage of electronic devices were not associated with post test knowledge regarding health hazards of electronic devices.

## CHAPTER - V

### DISCUSSION

The study was undertaken to determine the effectiveness of video teaching on level of knowledge regarding health hazards of electronic devices among adolescence in Christhucoil L.M.S Higher Secondary School, Palliyadi at Kanyakumari District.

One group pre test post test design was adopted for the study. The results and discussion of the study was based on the findings obtained from the statistical analysis.

➤ **The First Objective of the Study was to Assess the level of Knowledge of Adolescence Regarding Health Hazards of Electronic Devices Before Video Teaching**

The findings shown that the mean value of adolescence was 14.23 and the standard deviation was 4.30. Out of 60 students none of them had adequate knowledge regarding health hazards of electronic devices and the remaining 25 (41.67%) had moderate knowledge regarding health hazards of electronic devices and the remaining 35 (58.33).

➤ **The Second Objective of the Study was to Assess the Knowledge of Adolescence Regarding Health Hazards of Electronic Devices After Video Teaching**

The finding shown that the mean value of adolescence was 21.96 and the standard deviation was 4.05. Out of 60 students 34 (56.67) adequate knowledge regarding health hazards of electronic devices and the remaining 26 (43.33 %) had moderate knowledge regarding health hazards of electronic devices and none of them inadequate. The result of the test score indicates that video teaching was effective to the adolescence regarding health hazards of electronic devices

➤ **The Third Objective of the Study was to evaluate the effectiveness of video teaching on Knowledge Regarding Health Hazards of Electronic Devices**

The findings shown that the pretest mean value (14.23) and post test mean value (21.96) and pre test and post test standard deviation were 4.30 and 4.05. The t-test (9.304) and table value (2) respectively. The calculated value is more than the table value. Hence, it is found to be more effective.

**H<sub>1</sub>** → There will be a significant difference in the effectiveness of level of knowledge among adolescence regarding health hazards of electronic devices after giving video teaching.

Hence hypothesis (H<sub>1</sub>) was supported.

➤ **The Fourth Objective was to find out the Association Between the Level of Knowledge Regarding Health Hazards of Electronic Devices and Their Selected Demographic Variables**

From the above results and discussion clearly stated that there was not significant association of post test knowledge of adolescence with their selected demographic variables like gender, education of father, education of mother, occupation of father, occupation of mother, monthly income, no of children, daily usage of electronic devices. There was significant association of demographic variables such as age, area of residency, awareness of hazards of electronic devices. Do you have mobile phone type of electronic devices you are using. From the above discussion it was concluded that the video teaching have better effect among adolescence regarding health hazards of electronic devices.

**H<sub>2</sub>** → There will be a significant association between the posttest level of knowledge regarding health hazards of electronic devices and their selected demographic variables.

Hence hypothesis (H<sub>2</sub>) was supported.



## CHAPTER – VI

### SUMMARY AND RECOMMENDATION

This chapter deals with the summary of the study, limitation and the conclusion drawn from the study. It also explains the implications of the study for different areas like nursing education, nursing administration, nursing practice and nursing research.

#### Summary of the Study

The study was conducted to find out the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence in Christhucoil L.M.S Higher Secondary School, Palliyadi at Kanyakumari District.

#### Objectives of the Study

- To assess the level of knowledge of adolescence regarding health hazards of electronic devices before Video Teaching
- To assess the level of knowledge of adolescence regarding health hazards of electronic devices after video teaching
- To evaluate the effectiveness of video teaching on knowledge regarding health hazards of electronic devices.
- To find out the association between the level of knowledge regarding health hazards of electronic devices and their selected demographic variables

#### Hypotheses

$H_1$  → There will be a significant difference in the effectiveness of level of knowledge among adolescence regarding health hazards of electronic devices after giving video teaching.

$H_2 \rightarrow$  There will be a significant association between the posttest level of knowledge regarding health hazards of electronic devices and their selected demographic variables.

Data collection was done with the help of structured knowledge questionnaire for adolescents and teaching was given by the investigator regarding health hazards of electronic devices .After that post test was conducted and selected by the investigator based on highest score. On the next day onwards, 60 students from 11<sup>th</sup> standard were selected by video teaching was given by adolescents by using LCD projector and after one week post test was conducted. The data gathered were analyzed by descriptive and inferential statistical method and interpretation was done on the basis of the objectives of the study.

### **Study Findings**

The study findings revealed that there was highly significant difference in the level of knowledge among adolescents after conducting video teaching on knowledge regarding health hazards of electronic devices among adolescents. In the Posttest the result shows that, the mean posttest score was 21.96 with the standard deviation of 4.05. The mean difference was 73.20. The obtained Paired 't' test value was 9.304 which is more than the table value ( $p=2.00$ ) with the degree of freedom 59 at 0.05 level of significance. Hence the research hypothesis ( $H_1$ ) was accepted and it was inferred that video teaching was effective in improving knowledge regarding health hazards of electronic devices among adolescence.

### **Nursing Implications**

The researcher has derived the following implication from the study results which are of vital concern in the field of nursing service, nursing administration, nursing education and nursing research. By assessing the effectiveness of video teaching on knowledge regarding health hazards of electronic devices among adolescence, researcher got a clear picture regarding different steps to be taken in all fields, to improve the standard of nursing profession and implement evidence based practice in health set up.

### **Nursing Practice**

- Pediatric Nurse should be knowledgeable regarding health hazards of electronic devices.
- School Health Nurse can implement video teaching in order to improve the knowledge level among adolescents.
- School Health Nurse should assess the behavioral as well as the communication of Adolescents.
- School Health Nurse can conduct awareness program of electronic devices.

### **Nursing Education**

Nurse educator is not primarily to teach, but to promote learning, to conduct research and provide the environment conducive to learning and to maintain clinical standards in the nursing profession.

- School health nurse must equipped with a knowledge of electronic devices.
- Nurse educator can present a paper regarding impact of health due to electronic devices consumption
- Nurse educator should teach the harmful effects of electronic devices.
- Nurse educator can educates the student nurse to awareness of electronic devices.
- School health nurse should impart the knowledge of electronic devices and health hazards.

### **Nursing Administration**

Nurse administrator is responsible for managing the nurses within the unit or department and delivering nursing services within health care agency.

- The nurse administrator co-ordinates her activity along with improving the level of knowledge regarding health hazards of electronic devices among adolescence by participating, practicing and supervising the daily activities
- Nurse administrator can organize inservice education programme regarding the health hazards of electronic devices.
- Nurse administrator plan and organize to conduct workshops, role play, or conferences regarding health hazards of electronic devices .
- School health nurse can arrange a food exhibition regarding hazards of electronic devices.

### **Nursing Research**

The research implication of the study lies in the scope for expanding the quality of nursing service. In the era of evidenced based practice, publication of these studies will take nursing to new horizon.

- Nurses should conduct research for further clarifications regarding health hazards of electronic devices.
- Encouragement should be fostered among various research institutions, health associations to conduct further research on health hazards o electronic devices.
- The findings of the study would help to expand the scientific body of professional knowledge upon which further research can be conducted.
- Nurse Educator can direct and motivate the Student Nurses. So that they can conduct research in the same or different specialties and thereby professional independence can be achieved.

### **Limitations**

- The sampling size was only 60
- The data collection period was limited to one month
- Since the study was conducted among the adolescents, the investigator had a lot of difficulties in assembling the Adolescence.

## Recommendations

- ★ The study can be conducted among larger sample for the better generalization
- ★ The study can be carried out for a longer period of time.
- ★ A study can be conducted on changes in life style as well as health hazards among adolescents.
- ★ A same study can be carried out for different age groups
- ★ A comparative study can be conducted to assess the effectiveness of video teaching Vs role play regarding health hazards of electronic devices and safeguard method.
- ★ A study can be conducted on various preventive measures which can be carried out to prevent electronic devices addiction.
- ★ A Study can be conducted regarding internet addition among Urban and rural adolescents for further clarification.

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