Effectiveness of Structured Teaching Programme on Knowledge regarding Harmful Effect of Long Screen Viewing Habits among Adolescents

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Abstract: <u>*Background:*</u> *Digital age is also known as computer age & information age. Eighty-five per cent of youth live in developing countries and India has the largest population of adolescents that's why this age group is mostly affected by harmful physiological and psychological impact of long screen viewing habits. Therefore, adolescents should be taught about harmful effects of long screen viewing habits.* <u>*Aim:*</u> *The aim of the study is to assess the effectiveness of structured teaching programme on knowledge regarding harmful effects of long screen viewing habits in digital age among adolescents.* <u>*Materials and methods:*</u> *A pre experimental one group pre test post test design was adopted for the study. A survey was conducted with a self structured questionnaire using Non probability convenient sampling technique that surveyed 60 adolescents.* <u>*Results:*</u> *The effectiveness of structured teaching program on level of knowledge regarding harmful-effects of long screen viewing habits among adolescents was highly significant at P<0.05 level. Each variables such as age, gender, educational status, family type, family income were having no statistically significant association with post-test level of knowledge score at the level p< 0.05.* <u>*Conclusion:*</u> *The study concluded that structured teaching programme is effective in order to improve knowledge of adolescents regarding harmful effects of long screen viewing habits.*

Keywords: structured teaching programme, knowledge, harmful effects, long screen viewing habits, adolescents, digital age.

1. Introduction

Digital age is also known as computer age & information age. The Digital Revolution refers to the advancement of technology from analogue electronic and mechanical devices to the digital technology available today. The Era started to during the 1980s and is on-going. The Digital Revolution also marks the beginning of the Information Era. The Digital Revolution is sometimes also called the **"Third Industrial Revolution.** [1]

Today's children have grown up in a world that is very different from that of most adults. Nearly half the world's population-more than 3 billion people are under the age of 20. Eighty-five per cent of youth live in developing countries and India has the largest population of adolescents in the world being home to 243 million individuals aged 10-19 years. Within the world of the young, adolescents are at a particularly formative stage. These 1.2 billion adolescents between the ages of 10 and 19 are brimming with energy and possibilities. Their minds are open to acquiring knowledge, learning skills and absorbing values. [2]

The statistic gives information on the internet penetration in India from 2000 to 2016. That year, 29.55 % of the Indian population accessed the internet, up from 7.5 per cent in 2010. [3]Adolescent is a time of both disorientation and discovery. This is the age group where they struggle with issues of independence and self-identity. It is often said that the teen age years are the "best years of one's life". In fact Art Link letter a Canadian born US broad caster in his book "A Child's garden of Misinformation", highlighted the beauty of the adolescent years in this famous quote; "Life for many adolescents is a painful tug of war filled with mixed messages and conflicting demands from parents, teachers, friends, family and oneself. " [4]

American academy of paediatrics (APP) (December 2006) describes the commonrisks of youth using social are: Cyber bullying and Online Harassment, Substance abuse, Exposure to inappropriate content, Sexting, Facebook Depression, Anxiety, Distracting from learning, Poor sleep patterns, Privacy concerns and the digital foot print influence of advertisements on buying [5]Many observational studies find relationships between screen media exposure and increased risks of obesity. evidence suggests that screen media exposure leads to obesity in children and adolescents through increased eating while viewing; exposure to high-calorie, low-nutrient food and beverage marketing that influences children's preferences, purchase requests, consumption habits; and reduced sleep duration. [6] higher level of screen time is associated with a variety of health harm for CYP (children and young people), with evidence strongest for adiposity, unhealthy diet, depressive symptoms and quality of life. [7] another study reveals detrimental effect of screen time and mobile phone-related awakenings on sleep problems and related health symptoms. [8]

Screen time also affects psychological well-being of adolescents, more hours of daily screen time were associated with lower psychological well-being, including less curiosity, lower self-control, more distractibility, more difficulty making friends, less emotional stability, being more difficult to care for, and inability to finish tasks. [9]

This study was aimed to assess the effectiveness of structured teaching programme (STP) on knowledge regarding harmful effects of long screen viewing habits in digital age among adolescents.

The findings of this study will be used to provide appropriate interventions for the prevention of harmful effects of long screen viewing habits in digital age among adolescents. It will provide data for related professionals like school administrators, teachers, and policy makers, syllabus planners to teach the harmful effects of long screen viewing habits among adolescents in order to improve their physical and psychological well-being.

2. Materials & methods

A quantitative, experimental approach, and one group pretest –post test design was used to assess the effectiveness of structured teaching program on knowledge regarding harmful effect of long screen viewing habits in digital age among adolescents. Non probability convenient sampling technique was used. A self structured questionnaire was developed. First the participants given their consent for the study and then they filled demographic variables. Afterwards a set of self structured questionnaire appeared sequentially, then we provide structured teaching program to the participants. Then Post test appeared by the participants. Participants between the age group 13-18 years who are able to understand English and willing to give informed consent were included. The data was initiated from 17th Feb 2019 and closed on 21th Feb 2019. We were able to collect 60 responses from selected school.

Following tools were used to measure variable under study-

Demographic variables sheet
It is a self administered tools prepared by the investigator used to measured the socio demographic profile of adolescents it consist of 12 items which are age, gender, educational status, have any electronic gadgets, type of gadgets, time spend in screen viewing, type of family, monthly income, place of residence, having any medical problem and using of spectacles. Total administration time of this tool is 3-5 min. Content validity of this tool was determined by the expert in the field of psychiatric. Reliability was done by test retest method and it was found r =.89.

Structured knowledge questionnaire
It is self administered questionnaire with 20items. The tool was validate and approved by research experts in the field of psychiatry. This questionnaire include 5 domains these are introduction of digital age, types of screen devices, relationship between screen devices and adolescents, knowledge regarding harmful effects of long screen viewing habits, tips for using screen devices. And the dimension include inadequate ($\leq$50%), moderately adequate (50%-80%), and adequate ($\geq$80%). The data were analyzed manually by data sheet. The $P < 0.05$ level was established for paired't' test and we used different p level for chi square. Appropriate descriptive and inferential statistics were employed to analyze data.

3. Discussion

The study has to assess the effectiveness of structured teaching program on knowledge regarding harmful effect of long screen viewing habits among adolescents. The comparison of pre and post test scores reveals that 't' value was 15.39 for level of knowledge regarding harmful effects of long screen viewing habits among adolescents which showed a high statistical significance at p<0.05 level.

The finding supported by **Santhosh S. U et al (2021),** who conducted a study on effectiveness of structured teaching program on knowledge of parents regarding adverse effects of television in children. The comparison of pre and post test score reveals that 't' value was 19.51 for level of knowledge of parents regarding adverse effects of television in children which showed a high statistical significance at p<0.05. [10]

The finding supported by **Savita pardhi et al (2022),** who conducted a study on effectiveness of structured teaching programme on knowledge regarding the prevention of Smartphone addiction among nursing students. The study reveals that there was deficit knowledge regarding prevention of Smartphone addiction in pre test. The post-test knowledge was increased which reveals that structured teaching programme was effective on knowledge regarding prevention of Smartphone addiction. [11]

The finding supported by **Ms. Gilbert Neetu (2019),** has conducted a study on effectiveness of structured teaching programme on consequences of internet addiction and its prevention among adolescents. Study conclude that prevalence of internet addiction among adolescents are on the rise which demands the need of intervention like teaching programme. There was an improvement in knowledge regarding consequences of internet addiction among adolescents after structured teaching programme. [12]

The finding supported by **Ms. Sheetal Kadam et al (2016),** conducted a study to evaluate the effectiveness of structured teaching program on knowledge regarding impact of social network addiction among adolescents. The study reveals that there was deficit knowledge regarding impact of social network addiction among adolescents. Paired't' value 13.109 at p value 0.05. This indicate gain in knowledge score, Therefore, the structured teaching programme was effective in improving the knowledge of students. [13]

4. Results

Socio demographic variables
Majority 29 (48.4%) of adolescents were in the age group of 13 years, 48 (80%) adolescents in my study were male, majority 56 (93.4%) adolescents have their personal electronic gadget for daily basis and most of 48 (85.8%) adolescents used their own mobile phone. majority of adolescents 39 (69.7%) spend screen viewing 1-2 hour daily, majority 26 (43.4%) of adolescents were living in nuclear family, 36 (60%) had a monthly income >Rs.20000, 56 (93.4%) were non spectacles users.

Table 1: Frequency and percentage distribution of adolescents based on demographic variables such as age, gender, educational status, do you have electronic gadget, and which type device used. (N=60)

S. No.	Demographic Variables	NO.	%
1	**Age (In Years)**		
	a) 13	**29**	**48.40%**
	b) 14	9	15%
	c) 15	5	8.30%
	d) >15	17	28.30%
2	**Gender**		
	a) Male	**48**	**80%**
	b) Female	12	20%
3	**Educational Status**		
	a) 8	**37**	**61.70%**
	b) 9	5	8.30%
	c) 10	5	8.30%
	d) >=11	13	21.70%
4	**Do you use any of electronic gadgets on daily basis?**		
	a) Yes	**56**	**93.40%**
	b) No	4	6.60%
5	**If yes specify which of the following device do you use commonly?**		(N=56)
	a) Personal computer	1	1.80%
	b) Mobile Phone	**48**	**85.80%**
	c) Laptop	5	8.90%
	d) Tablet	2	3.50%

Table 1, depicts the frequency and percentage distribution of the demographic variables such as age, gender, educational status, electronic gadgets, commonly used device.

Table 2: Frequency and percentage distribution of adolescents based on demographic variables such as how much time you spend screen viewing habits, family type, family income, place of residence. (N=60)

S.No.	Demographic Variables	No.	%
1	**How much time you spend screen viewing on daily?**		(N=56)
	a) 1-3hrs.	**39**	**69.70%**
	b) 3-5hrs.	8	14.30%
	c) 5-7hrs.	6	10.70%
	d) 7-9hrs.	3	5.30%
2	**Type of family.**		
	a) Nuclear family	**26**	**43.40%**
	b) Joint family	21	35%
	c) Broken family	13	21.60%
3	**Monthly income of family**		
	a) <Rs 10, 000	10	16.70%
	b) Rs 10, 000-20, 000	14	23.30%
	c) >Rs 20, 000	**36**	**60%**
4	**Place of residence**		
	a) Rural	**60**	**100%**
	b) Urban	0	0%
5	**Do you have any medical problem recently diagnosed?** (if yes specify)		
	a) Yes	4	6.60%
	b) No	**56**	**93.40%**
6	**Are you using spectacles?**		
	a) Yes	2	3.40%
	b) No	**58**	**96.40%**

Table 2, depicts the frequency and percentage distribution of the demographic variables such as how much time used screen device, family type, family income, place of residence.

Table 3: Comparison of pre and post test level of knowledge regarding harmful effects of long screen viewing habits among adolescents

Domain	Pretest		Post test		Paired 't' value	P – value
	Mean	SD	Mean	SD		
Knowledge regarding harmful effects of long screen viewing	7.05	1.85	10.05	1.58	15.39***	p<0.05

Table 3 reveals the comparison between the pre and post test level of knowledge regarding harmful effects of long screen viewing among adolescents.

The comparison of pre and post test scores reveals that 't' value was 15.39 for level of knowledge regarding harmful effects of long screen viewing habits among adolescents which showed a high statistical significance at p<0.05 level**.**

Table 4: Association of post-test knowledge score with selected demographic variables (N=60)

S. No.	Demographic Variables	Inadequate knowledge ≤50%	Moderately adequate knowledge 51-80%	Adequate knowledge ≥81%	df	X^2	p
	Age (In Years)						
1	a) 13	0	29	0	6	14.4	0.026
	b) 14	0	8	1			
	c) 15	0	3	2			
	d) >15	1	11	5			
	Gender						
2	a) Male	1	40	7	0 2	4.54	0.103
	b) Female	0	7	5			
	Educational Status						
3	a) 8	0	36	0	6	20.1	0.003
	b) 9	0	3	2			
	c) 10	0	5	1			
	d) >=11	1	7	5			
4	**Do you have any of electronic gadgets on daily basis?**						
	a) Yes	1	48	7	2	0.559	0.756
	b) No	0	3	1			
5	**If yes specify which of the following**		(N=56)				

	device you use commonly?						
	a) Personal computer	0	1	0	6	2.64	0.852
	b) Mobile Phone	1	41	6			
	c) Laptop	0	4	1			
	d) Tablet	0	1	1			
6	**How much time you used screen device in a day?**				6	19.3	0.004
	a) 1-3hrs.	0	37	2			
	b) 3-5hrs.	0	5	3			
	c) 5-7hrs.	0	4	2			
	d) 7-9hrs.	1	3	1			
7	**Family type.**				4	2.56	0.634
	a) Nuclear family	1	23	2			
	b) Joint family	0	17	4			
	c) Broken family	0	11	2			
8	**Family Income (monthly)**				4	2.52	0.64
	a) <Rs10, 000	0	8	2			
	b) Rs10, 000-20, 000	0	11	3			
	c) >Rs20, 000	1	32	3			
9	**Place of residence**				NA	NA	NA
	a) Rural	1	51	8			
	b) Urban	0	0	0			
10	**Do you have any medical problem recently diagnosed?** (if yes specify. . . . .)				2	11.6	0.003
	a) Yes	1	3	1			
	b) No	0	48	7			
11	**Are you using spectacles?**				2	29.6	0
	a) Yes	1	1	0			
	b) No	0	50	8			

Table no.4 shows the association between post-test knowledge score with selected demographic variables.

Each variables such as age, gender, educational status, family type, family income were having no statistically significant association with post-test level of knowledge score at the level p< 0.05.

5. Discussion

The study has to assess the effectiveness of structured teaching program on knowledge regarding harmful effect of long screen viewing habits among adolescents. The comparison of pre and post test scores reveals that 't' value was 15.39 for level of knowledge regarding harmful effects of long screen viewing habits among adolescents which showed a high statistical significance at p<0.05 level.

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6. Conclusion

The study result revealed that the effectiveness of structured teaching program on level ofknowledge regarding harmful-effects of long screen viewing habits among adolescents washighly significant at P<0.05 level. Further researches can be done to assess the level of stress because of long screen viewing habits among adolescents and also to assess the attitude of adolescents regarding long use of mobile devices.

7. Implications and Recommendations

It is the prime responsibilities of nurses who are working in community rehabilitation centers and occupations settings to conduct the awareness regarding harmful effects of long screen viewing habits among adolescents. Harmful effects of long screen viewing should be taught in industrial and educational settings through role play, motivational interviewing and structured teaching programme in order to increase knowledge and decrease excessive use of screen devices. Awareness programme should be planned by the administrative body to conduct in various settings of health care system.

8. Limitations

The study was limited to group of adolescents in a selected school. Therefore studies should be conducted on large sample size with different demographic variables and study can also be conducted to assess the harmful effects of internet and coping strategies.

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