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A Comprehensive Evaluation of Health Hazard Prevention Education Programs Targeting Online Activity Risks Among Students

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Abstract: ***In this study the investigator aimed to find out the effectiveness of planned teaching on knowledge and practices regarding the prevention of health hazards related to online activities among students in the selected area. The child's physical and mental behavior is being affected by online education. This caused different health problems in school-age youngsters. The usage of mobile and other electronic media has risen for e-learning during the COVID 19 pandemic. The frequency of screenings and their effects on health have grown along with social media use and gaming. Electronic media has numerous negative physical and psychological effects, including poor nutrition, obesity, violence, aggressive behavior, tobacco and alcohol use, and attention problems. Research shows that screen violence makes children more aggressive, anxious, and fearful, especially for children under 8. Teenagers spend most of their time on social media, which can lead to risky behaviors like drinking, smoking, and sex. A survey by the Australian Psychological Association found that adolescents spend 3.3 hours a day on social media, impacting self-esteem and exposing them to strangers. Encouraging better use patterns may help minimize these harmful effects.***

Keywords: health hazards, online education, online activities, school-age youngsters, health problems

1. Introduction

In many areas, people get educated through the media where they get to learn many things from media about politics, outside environment, etc. There are MOOC courses, that can give you a better resume along with classes from around the world. Person can also self-learn in whichever field wish to. People are not blinded now. They have more than the information they need. Media like television is a good source for people to get information regarding anything that would otherwise be very difficult to attain.[1]

A survey by the Australian Psychological Association (2017) found that adolescents spend 3.3 hours a day on social media with some logging on as much as 50 times per day. The survey found high use of social media and technology impacts self-esteem, with two in three adolescents feeling pressure to look good. Further, many are contacted by or contact strangers via Facebook, with 15% of respondents in the survey saying this occurs daily. Although the impact of social media on the mental health and well-being of young people is largely unknown, encouragement of better patterns of use may help to minimize the harmful effects.[2]

A systematic review of 23 peer-reviewed papers found that problematic smartphone use is consistently linked to psychopathology, with depression severity, anxiety, chronic stress, and low self-esteem being the most common factors. However, self-esteem was inconsistently related, with small to medium effects. Statistically adjusting for other variables yielded smaller effects. Research literature on problematic smartphone use, or smartphone addiction, has proliferated. However, relationships with existing categories of psychopathology are not well defined. they discussed the concept of problematic smartphone use, including possible causal pathways to such use.[3]

Health hazards are chemical, physical or biological factors in our environment that can have negative impacts on our short-or long-term health. Exposure can occur through touch, inhalation, and ingestion. Understanding the risks of these hazards can help us to take action to avoid or mitigate these risks.5 At the peak of the COVID-19 pandemic, UNESCO estimates that 91.3% of the world's students were learning remotely, with 194 governments ordering country-wide closures of their schools and more than 1.3 billion students learning in online classrooms.[4]

Online learning is rapidly becoming one of the most effective ways to impart education. The impact of the virus was so strong that online education became a seemingly ubiquitous part of our growing world, which resulted in the closure of schools and no further physical interaction of teachers with students. Fortunately, soon enough most of the schools and educational institutions moved to online mode to resume their studies. As a result, education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely on digital platforms instead of physical classrooms.[5]

2. Literature Survey

Review of literature is defined as a broad, comprehensive, in depth, systematic and critical review of scholarly publications, unpublished scholarly print material, and audio-visual materials and personal communication.

Singh Sunitha and Gopalkrishna Gururaj's (2014) study highlights the increasing health impacting behaviors and conditions among youth, which are interlinked and likely to increase in the coming years. Major health problems include undernutrition, mental disorders, suicidal tendencies, increased substance use, NCDs, high-risk sexual behaviors, injuries, and violence. These problems are closely linked to ongoing nutrition and epidemiological transition and are behavior-related with a life course perspective. The public health community needs to identify, prepare, and implement activities to promote health and healthy lifestyles, establish mechanisms for population-based interventions, and generate robust population data to drive policies and programs. Strategic investments in health, nutrition, education, employment, and welfare are critical for healthy growth of young people.[19]

Jaisoorya, T. S. (2021) To conclude, mental health issues are prevalent among college students and if left unaddressed lead to long-term negative personal, social, academic, and occupational outcomes. This is a key public health priority for India as the number of students enrolling in our higher educational institutions is increasing. Hence developing structured evidence-based mental health services in all higher educational institutions with provision for continuous evaluation of effectiveness is the way it is forwarded. Mental health issues among college students are prevalent and can lead to long-term negative outcomes. As the number of students enrolling in higher education institutions increases, India must prioritize developing structured evidence-based mental health services in all institutions, with continuous evaluation of effectiveness.2[0]

3. Problem Definition

Is there a effect of planned teaching on knowledge and practices regarding prevention of health hazards related to online activities among students in the selected area?

4. Objectives of the Study

1) To assess the knowledge and practices regarding the prevention of health hazards related to online activities in students before and after planned teaching.
2) Effect of planned teaching on knowledge and practices regarding the prevention of health hazards related to online activities among the student.
3) To compare knowledge and practices regarding the prevention of health hazards related to online activities of students

5. Methods/Approach

In this study the researcher has used order to achieve the objectives of the study, **quantitative approach** is considered appropriate, as the investigator aimed to find out The study used a quasi-experimental one-group pretest post-test design to evaluate the impact of planned teaching on knowledge and practices related to health hazards prevention among children aged 11-15 years, with a sample size of 75 from selected schools using non-probability convenient sampling technique.

6. Results

The study reveals that 37% of students follow good practices, with 33.7% following average and 29.3% very good practices. The post-test knowledge level is 40% very excellent, 33.3% average, and 26.7% poor.46% follow poor practices, and 26.7% follow average and very good practices. The majority of students use electronic media from friends, with 53.3% getting information from family. The age range for starting electronic media use is 41.3% after 16 years old, 40% between 11 and 15 years old, and 18.7% between 6 and 10 years old. The majority of students use smartphones, computers, laptops, television, and console games. The study confirms the association between knowledge and practice scores and demographic variables, with a calculated p-value less than 0.005. The null hypothesis is rejected, and the effectiveness of planned teaching interventions in preventing online teaching hazards related to knowledge and practice is demonstrated, with a p-value less than 0.005, indicating their effectiveness.

Section A-Socio demographic data.

Section B-The knowledge and practices regarding preventing health hazards related to online activities

Section- I

This section deals with the analysis and interpretation of demographic data of students in terms of frequency and percentage.

Table 3: Distribution of students as per Age in years in terms of frequency and percentage, N= 75

Age of the students	Frequency	Percentage
10-11 Years	16	21%
12-13years	27	36%
14-15 Years	32	43%
Total	75	100.0

Table no 3 show that majority of students i.e. 32 (43%) are from the age group of 14 to 15 years old followed by 27 students (36%) are from the age group of 12 to 13 years old, 21% from the age group of 10-11 years old.

Table 4: Distribution of students as per Gender in years in terms of frequency and percentages, N= 75

Gender	Frequency	Percentage
1 Male	39	57.0%
2 Female	36	43.0%
Total	75	100.0%

Above table no 4 indicates that total 75 no of students had participated in the study out of which 39 (57%) are male and 36 students (43%) are female candidate.

Table 5: Distribution of students as per religion in terms of frequency and percentages, N= 75

Religion		Frequency	Percentage
1	Hindu	47	62.7%
2	Christian	14	18.7%
3	Muslim	14	18.7%
	Total	75	100.0%

Above table no 5 shows that 47 students (62.7%) are from Hindu religion, followed by 28 (38.7%) belongs to Christian and Muslim Religion.

Table 6: Distribution of students as per education of mother in years in terms of frequency and percentages, N= 75

Education of the mother		Frequency	Percentage
1	Primary education	13	17.3%
2	Secondary education	22	29.3%
3	Graduate	28	37.3%
4	Post graduate	12	16.0%
	Total	75	100.0%

Above table no 6 describe that majority of students mothers are educated as Graduate 37.3%, followed by 22 mothers are educated up to secondary education (29.3%), 13 mothers (17.3%) are educated as Primary education, and very few are graduated (16%).

Table 7: Distribution of students as per fathers' education in terms of frequency and percentage, N= 75

Education of the father		Frequency	Percentage
A	Primary education	7	9.3%
B	Secondary education	20	26.7%
C	Graduate	26	34.7%
D	Post graduate	22	29.3%
Total		75	100.0%

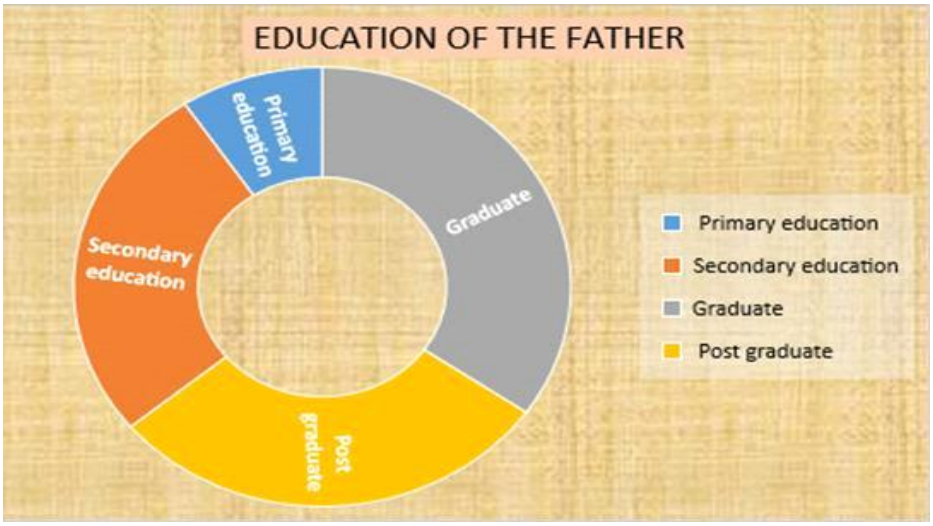

Figure 1: Doughnut diagram showing education of the father in terms of frequency and percentage

Above table no 7 and figure no 1 shows the education of student's father, majority of 26 (34.7%) are educated as Graduate (34.7%), followed by 29% (22) as Post graduate, 26% (20) as secondary education, and very few 9.3% (7) have done primary education.

Table 8: Distribution of students as per type of family in terms of frequency and percentages, N= 75

Type of family		Frequency	Percentage
A	Nuclear	40	53.3%
B	Joint	35	46.7%
	Total	75	100.0%

Above table no 8 highlighted that majority 40 (53.3%) of students belongs to nuclear type of family, and remaining 35 (46.3%) belongs to joint type of family.

Table 9: Distribution of students as per average percentage in the last year in terms of frequency and percentage, N= 75

Average percentage in last year final exam		Frequency	Percentage
1	50%-60%	10	13.3%
2	60%-70%	40	53.3%
3	70%-80%	11	14.7%
4	80%-90%	11	14.7%
5	90%-100%	3	4.0%
	Total	75	100.0%

Above table no 9 indicates that majority of students 40 (53.3%) got percentage between 60 to 70%, followed by 11 students in between 70 to 80%, followed by some in between 80 to 90% and very few 3 (4%) of them between 90 to 100%.

Table 10: Distribution of students as per sources of information regarding the use of online learning in terms of frequency and percentage, N= 75

Source of obtaining electronic media?		Frequency	Percentage
1	Family	4	5.3%
2	Relatives	1	1.3%
3	Friends	40	53.3%
4	Self	30	40%
	Total	75	100%
At what age you started using electronic media?		Frequency	Percentage
A	06 To 10 Yrs	14	18.7%
B	11 To 15 Yrs	30	40%
C	More Than 16 Yrs	31	41.3%
	Total	75	100%
Common devices used for Online Learning		Frequency	Percentage
A	Smart Phones	26	34.7%
B	Computer/ laptop	24	32%
C	Televisions	18	24%
D	Console Games	7	9.3%
	Total	75	100%

Table no 10 describe that the major sources of use of electric media is from friends (40) almost 53.3%, 40 students got

information by self, and very few have got source to use online learning from family.

This table also describes that at what age students started the use of ecteronic media i.e., 41.3% of students started after the age of 16 years old, followed by 40% of them started at the age of 11 to 15 Years age, and the remaining 18.7% has started use at the age of 6 to 10 years old.

Above table no 10 which shows the common online learning devices used by the students, it shows that the majority of them 26 (34.7), are using smartphone, followed by 32% are using computers and laptop, 24% of them use television as electronic media, and very few 7 (9.3%) use console game.

Section II

Table 11: Distribution of students as per Pretest level of knowledge score by the students in terms of frequency and percentage, N=75

SN	Level of knowledge	Frequency	Percentage
1	Poor Knowledge	42	56.0%
2	Average knowledge	20	26.7%
3	Good Knowledge	13	17.3%
Total		75	100.0%

Table no 11 show the pretest level of knowledge among the students i.e. the maximum 56% of the students have poor knowledge, followed by 26%, with average knowledge and 17.3% with good knowledge.

Table 12: Distribution of students as per pretest level of practice score in terms of frequency and percentages, N=75

SN	Level of Practice	Frequency	Percentage
1	Poor practice	35	46.7%
2	Average practice	20	26.7%
3	Good practice	20	26.7%
	Total	75	100.0%

Figure 2: Pie diagram showing pretest level of practice score

A maximum 46% of the students followed poor practices, followed by an equal number of 26.7% of students who followed average and very good practices, according to table 12 and Figure 2.

Table 13: Distribution of students as per Post-test level of knowledge score of the students in terms of frequency and percentages, N=75

SN	Level of knowledge	Frequency	Percentage
1	Poor Knowledge	20	26.7
2	Average knowledge	25	33.3
3	Good Knowledge	30	40.0
	Total	75	100.0

According to table no. 13, the post-test score of knowledge of maximum students i.e., 40% have very excellent knowledge, followed by 33.3% with average knowledge, and 26.7% have poor knowledge.

Table 14: Distribution of students as post test level of practice score of the students in terms of frequency and percentage, N=75

SN	Level of Practice	Frequency	Percentage
1	Poor practice	22	29.3%
2	Average practice	25	33.3%
3	Good practice	28	37.3%
	Total	75	100.0%

A maximum of 37 % of the students follows good practices, followed by an equal number of 33.7% of students who follow average and 29.3% very good practices, according to Table 14.

Table 14 shows the level of knowledge and practice has been increased in both knowledge and Practice. This shows that educational intervention i.e. planned teaching program is effective in improving the level of knowledge and practice of students.

Table 15: Comparison of the effect of teaching on the knowledge and practices regarding the prevention of health hazards related to online activities of students, N=75

Parameter	Knowledge (n=75)		Practice (n=75)		At-term (n=30)		T test Value	P Value
	Mean	SD	Mean	SD	Mean	SD		
Tactile sensitivity	3.7	0.103	8.43	0.392	4.41	0.682	6.65	<0.00001

This t-distribution table provides the critical t-values for both one-tailed and two-tailed t-tests and confidence intervals. Learn how to use this t-table with the information.

The above table shows the effectiveness of planned teaching interventions to prevent online teaching hazards related to knowledge and practice. Which is calculated by t-value is

compared with the p value. P value is less than 0.005 which is shows that planned teaching interventions are effective for the students to gain knowledge and practice

Section III

Table 16: Association between the level of knowledge and practice with their selected demographic variable

Age of the students	***N=75***	***Mean***	***Sd***	***X2***	***Df***	***P value***
10-11 Years	11	65.67	3.386	6.487	0.96	0.04
12-13 years	27	66.85	1.908			
14 – 15	37	66.63	1.061			
Gender	Frequency					
Male	39	67.33	1.506	1.147	0.57	0.068
Female	36	70.54	2.226			
Total	75					
Religion	Frequency					
Hindu	47	70.14	2.825	3.114	1.18	0.24
Christian	14	67.09	0.831			
Muslim	14	67.4	1.517			
Any other	0					
Education of the mother	Frequency					
Primary education	13	33.06	1.952	6.114	0.47	0.04
Secondary Education	22	32.83	2.787			
Graduate	28	34.86	8.572			
Post graduate	12	30.52	6.45			
Education of the father	Frequency					
Primary education	7	33	2.335	4.334	0.79	0.47
Secondary education	20	33.11	1.691			
Graduate	26	34.33	7.632			
Post graduate	22	35.55	13.573			
Type of family	Frequency					
Nuclear	40	69.21	1.396	7.334	1.47	0.01
Joint	35	70.43	7.337			
Average percentage in last year final exam.	N					
50%-60%	10	33.8	2.387	5.991	1.94	0.04
60%-70%	40	33.36	4.725			
70%-80%	11	32.92	7.063			
80%-90%	11	32.48	9.401			
90%-100%	3	32.04	11.739			
Total	75					

The above table shows the association of the knowledge and practice score demographic variable the result shows that there is an association as the calculated p-value is less than the p-value of 0.005. hence research hypothesis is accepted and the null hypothesis is rejected for the study. The above table shows that the calculated p-value is less than 0.005 for all the demographic variables except all the gender of the students and the education of the father.

7. Discussion

The present study was carried out on to evaluate the effectiveness of planned teaching on knowledge and practices regarding the prevention of health hazards related to online activities among students in the selected area.

This study was conducted on the school children in selected hospital. The patients were in this study was selected on the basis of inclusion criteria determined at the beginning Descriptive and inferential statistics were used for data analysis. Chi-square method is used to find out the association between knowledge and practice score with their selected demographic variables. The collected data is planned to be organized and tabulated by using descriptive statistics like mean, standard deviation and mean percentage

The finding is summarized as follow of findings related to Socio-demographic data of Students:

- Majority of the subjects were (43%) in the age group of 14-15 years
- Majority of the subjects (43%) were female.
- Majority of the subjects (37%) students mother were graduate
- Highest percentage (34%) students father were graduate.
- Majority of the respondents (53%) were belonged to nuclear family
- Majority 53% of the student performance in last year final exam was between 60-70%
- Majority 53% had the source of information about use of phone was friend
- Majority 49% students were using mobile less than 3 years during night time

Findings related to Pretest level of knowledge and practice score by the students in terms of frequency and percentages.

Pretest knowledge level of the students, out of which the majority (56%) have inadequate knowledge, followed by the average (26%) and the remaining 17.3%. Maximum

(46%) of the students engaged in poor behavior, followed by an equal percentage (26.7%) of students who engaged in average and excellent behavior.

Similar studies have been discussed in this chapter A study to assess the effect of self-instructional modules on knowledge regarding the prevention of occupational health hazards among computer operators working in Dr. D. Y. Patil Institute of Pune city. Study findings say that A study of 50 computer operators in Pune, India, involved a structured knowledge questionnaire and self-instructional module. The majority were young, with 52% females, half having a graduate level of education, and 44% having less than 5 years of experience. Most had 4-6 hours of daily exposure to computers. The study found that the self-instructional module was effective in increasing knowledge about occupational health hazards prevention, with a significant difference between the mean scores and the calculated "t" value.

8. Future Scope

a) Nursing Education

- School students should be made aware of prevention health hazards
- Nurse educators should educate to students and another healthcare worker to improve their knowledge and create awareness regarding the prevention of health hazards related to online activity

b) Nursing Research:

- There is a need of extensive and intensive research in this area, so that a strategy for educating nurses on the prevention health hazards
- In service education and continuing education should be organized to update the nurse's knowledge on prevention health hazards.

9. Conclusion

The planned teaching program is effective in improving the level of knowledge and practice among school-going children. So, training and teaching sessions are necessary to protect the child from ill effects of online Learning among the children After the planned teaching program, the overall improvement means the score was 26.6 with a standard deviation of 1.08. The paired "t" test value was-22.96 which is highly significant at the p-value.

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