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Parenteral knowledge and supervision of safe internet practices in children

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Abstract---Introduction: The ability to use the internet safely is about making safe choices. Parental guidance to children in this regard is imperative. The purpose of this study was to estimate parental knowledge and supervision of safe internet practices in children. Materials and Methods: This is an observational and cross-sectional study. Study participants were parents of school age children working in a higher educational institution. Sample size was 304, selected randomly. Pre-designed, pre-validated questionnaire with questions related to sociodemographic data, parental knowledge and supervision of child's internet use/online activities and health effects on children was applied. Data was analyzed by SPSS software version 25.0. Median score was used to analyze the parents' supervision. Chi-square test was used to know the association with socio-demographic variables. Results: Majority of study subjects were educated above graduation. Mean age of study subjects was 38.2±5.15 yrs. They were aware of the average time their children spent on the internet (81.3%) and were actively involved in limiting the amount of time spent (71.1%). Smart phone (86.8%) was the most common gadget used. Better parental supervision had significant association with income and education of study subjects. Conclusion: Creating a culture where internet safety and threats are discussed in the family would enable

children to protect themselves. In order to achieve this, good parental internet literacy is required.

Keywords---parental awareness, safe internet, supervision on children, health effects.

Introduction

The internet usage has indeed become an inseparable necessity of our lives, more so during the COVID 19 Pandemic. Its use has facilitated us to execute several daily necessary activities and provided us with a tool to decrease in person contact and thereby the spread of infection. With its umpteen advantages, internet is a boon to mankind in many ways. Current internet users in India are estimated to be 560 million. The Population Penetration % is 40.6%(1). Therefore, there are a proportionately high number of children who can access the Internet from their home.

One has to bear in mind that the current generation of children are born and raised with technology being an integral part of their upbringing. A study done in Belgium(2) stated that the “home guru” of the internet is often the child. Since children often use and know more about the internet than their parents, they are often at a higher risk for behaviors such as giving out too much personal information on the internet, visiting pornographic sites or becoming victims of cyber bullying or addiction(3).

Several physical, psychological and security issues are cropping up with the unrestricted use of internet. Several research articles have investigated the use of the Internet and its affects in children. A study done across seven European countries has shown that children (0 to 8 years) are little aware of what internet is, what “online” means and what risks they can encounter or the benefits they can gain(4). Little attention has been paid to the role of parenting in use of new technologies by children(5). As there are very few studies in India looking at the parental knowledge about their children’s safe use of internet, this study aims to get a better understanding of the current scenario.

Primary objectives:

1. To estimate level of knowledge about internet safety (usage by children) among parents
2. To estimate level of supervision by the parents related to internet usage by children.

Secondary Objective

To estimate parental awareness regarding health risks related to excessive internet usage in children.

Materials and Methods

Study design: Observational and cross-sectional study.

Study Population: Parents of school aged children (4 -15yrs) working in a higher educational institution. Sample size was calculated to be 304 based on the pilot study.

$$n = \frac{Z_{1-\alpha/2}^2 P (1-P)}{d^2} = \frac{(1.96)^2 * 26.7 * 73.3}{5^2} = \text{Minimum sample size is 301.}$$

Selection criteria: Parents who were working in a higher educational institution and whose children are in the age group of 4 to 15 years and who were willing to give informed consent.

Study instrument: Pre-designed, pre-validated questionnaire with questions related to sociodemographic data, parental knowledge and supervision of Child's internet use/online activities and health effects on children.

Statistical analysis: Data entry was done in MS-Excel, analysis was done using SPSS 25 version. The descriptive statistics were presented in percentages and bar charts. The total score of 12 was given to all the items relating to parent's supervision in the questionnaire. The median score was calculated based on the responses. Chi-square test was used to assess the association between socio-demographic variables and parents' supervision. P value less than 0.05 was considered statistically significant. 95% level confidence intervals were taken.

Results

In this study, a total of 304 study subjects (parents having 4-15yr old children) were included. Majority (79.3%) of the study subjects were educated above graduation and more than half of them were mothers (53.9%). The mean age of the study subject (parent) was 38.2 ± 5.15 yrs. The mean age of the child was 9.69 ± 3.29 yrs.

Smart phone (86.8%) was the most common gadget used by children for internet usage, followed by Laptop (37.5%), Tablet (37.4%), Desktop (12.2%), I pad (10.5%). Most of the study subjects (81.3%) were aware of the average time the child spends on the internet. Majority (71.1%) were actively involved in limiting the amount of time spent by their child. More than half of the study subjects (62.5%) said that mealtimes were "tech free" and use of gadgets were not allowed before bed time.

More than four fifth (86.8%) of study subjects opined that child's online activities need to be monitored and had awareness about parental control settings (77%). Around two thirds (65.5%) had knowledge about availability of commercially apps for parental controls. However, less than half of the study subjects (46.4%) opined that the online services available for parental controls were sufficient to monitor child's internet activity. (Fig-1)

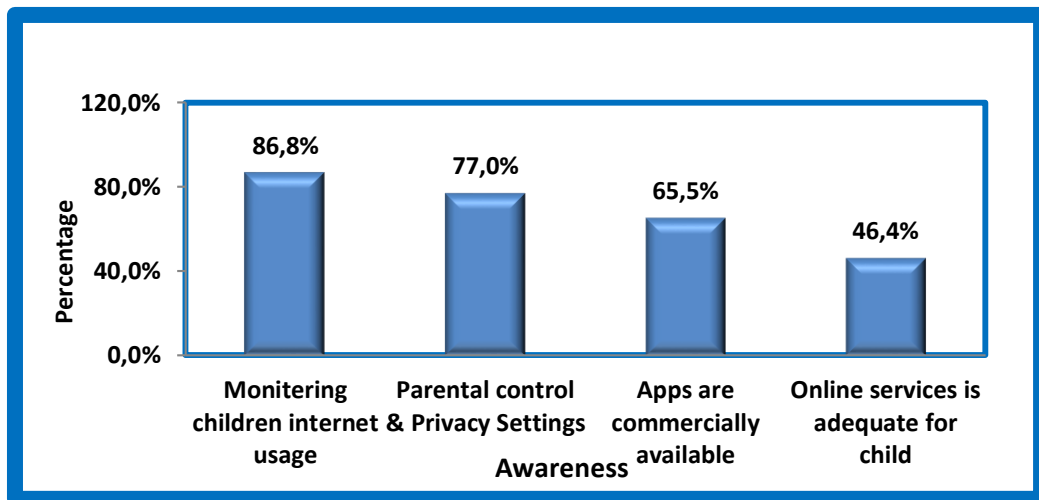


Fig: 1 chart showing the parental knowledge regarding safe internet use/online activity

Parental supervision:

There were 12 items about parents' supervision in the questionnaire. The median score was found to be 9. The two groups were made based on the median score. More than three fifths of study subjects (60.2%) scored less than the median in terms of supervision of their child's internet usage. There was significant association between the parent category (father/mother) and supervision. Fathers (53.7%) were found to have more supervision than mothers (46.3%) regarding child's internet usage. There was significant association between income, education of study subjects and their supervision on child's internet usage. The study subjects with higher income more than twenty-five thousand per month (68.6%) and education above graduation (93.3%) were found to have more supervision than others. There was no significant association with age groups of study subjects and supervision on child's internet usage (table 1).

Table-1: Socio-demographic variables in relation with parents' supervision on child's internet usage

Demographic variables	Total Count (%)	Supervision score		P-value
		≤ 9 Count (%)	> 9 Count (%)	
Are you the child's				0.020*
Father	140 (46.1)	75(40.99)	65(53.72)	
Mother	164 (53.9)	108(59.02)	56(46.29)	
Your age				0.154
≤ 30	22 (7.2)	9(4.92)	13(10.74)	
31 - 35	65 (21.4)	45(24.6)	20(16.53)	
36 - 40	123 (40.5)	76(41.54)	47(38.84)	
41 - 45	73 (24.0)	40(21.86)	33(27.27)	
> 45	21 (6.9)	13(7.11)	8(6.62)	

Your Income				0.026*
≤ 10000	63 (20.7)	47(25.69)	16(13.21)	
10001 - 25000	55 (18.1)	33(18.04)	22(18.19)	
> 25000	186 (61.2)	103(56.29)	83(68.6)	
Your education				0.000*
No formal education	23 (7.6)	23(12.57)	0(0)	
Primary education	13 (4.3)	11(6.02)	2(1.66)	
Secondary education	27 (8.9)	21(11.48)	6(4.96)	
Graduate and above	241 (79.3)	128(69.95)	113(93.38)	

Parental awareness regarding health risks related to excessive internet usage by children:

Majority of study subjects were aware about eyestrain, headache related problems (91.1%), Internet addiction (72.5%), sleep problems (72.1%), negative effect on academics (69.4%), decreased time spent in doing physical activity (68.6%). More than half of the study subjects were aware about problems of decreased attention span and hyperactivity (58.5%), aggression (56.6%), anxiety (56.2%), obesity (53.9%). Less than half were aware of risk of the issues with body image, eating disorders (48.4%), depression (46.5%), cyber threats (38.4%), risky behaviors (30.2%), suicidal behavior (29.5%) (Figure 2).

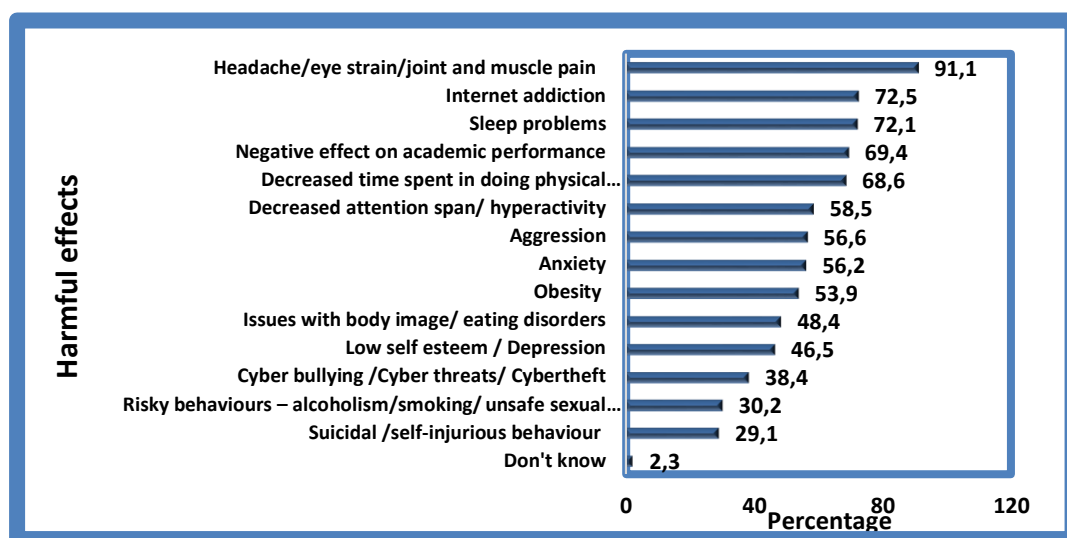


Figure 2 showing parental knowledge regarding health effects

Discussion

The mean age of study subjects (38.2 ± 5.15 yrs) reflected that most of the parents were in middle age group. In our study even though majority of them (81.3%) had awareness about the average time their child spent on internet, 28.9% were not actively involved in limiting the amount of time spent. A study done on 252 parents in Turkey(6), showed medium level of awareness towards safe internet use among parents.

We found that the smart phone usage was higher when compared to all other gadgets for internet usage. This is in concurrence with the findings of study done

among students of secondary schools in Bangladesh(7). It has been suggested that as time passes, children start using internet early on in life. Most children started using the internet by playing online games (12).

We found that majority of parents had awareness about need of monitoring child's online activities. But, more than one third of (34.5%) study subjects did not know about availability of apps to set up parental controls. Greater than half (53.6%) of the study subjects opined that the available protection offered by online services alone was insufficient. There is a gap between the parental awareness and actual implementation of the safety norms for their children and this has to be bridged by increasing the parents' internet literacy rates. This has also been identified in another study where majority of the parents had basic level of awareness, but not an in depth one(12).

Our study revealed that parents' supervision on child's internet usage was less (table 1- 60.2% had score less than median score). Fathers were found to have more supervision on child's internet usage than mothers. There is a statistically significant association of parents' supervision on child's internet usage with education and income. Child's supervision was directly proportional to the income and education of the study subjects, this is in similar lines with the findings of an international study that looked at parents' confidence in internet supervision(8). Majority of the study subjects with education below graduation had a supervision score less than median (87%).

In our study, it was identified that most of the parents had knowledge about headache, eye strain related problems, sleep problems and internet addiction with excessive usage of internet. It was found that the only 68.6% of study subjects had awareness about decreased physical activity levels because of internet usage. However, it has already been shown that there was high level association between high use of technology and low level of physical activity(11).

Studies showed that internet addiction is high among university students(9,10). Our study revealed that parents had good awareness about internet addiction as side effect to internet usage. Alarming, very less percentage of them had knowledge about high-risk behaviors and suicidal tendencies as harmful effects. High risk behaviors such as alcoholism, smoking etc can lead to long term medical problems and it is crucial that more awareness is created at a very early stage for both parents and children. One limitation of this study is that it was done in a higher educational institution where majority of the study subjects had educational qualifications above graduation. Larger studies are needed to understand the deficiencies better.

Conclusion and Recommendation

Active parental supervision of children's online activities was found to be insufficient in this study, however this needs to be a priority. Education and counselling of children in an age-appropriate manner will lead to a positive impact and a safer online environment. Creating a culture where in internet safety and threats are discussed in the family would enable children to protect themselves. In order to achieve this, good parental internet literacy is required. This has to be

addressed at multiple levels through government policies, involvement of educational institutions and voluntary organizations and parent groups so that all parents irrespective of their education and economic status are able to steer their children's use of internet correctly.

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