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Assessment of Knowledge on impacts of cell phone use among Secondary level students in a selected School of Kathmandu valley, Nepal

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ABSTRACT

Background & Objective: All age groups use cell phones as a common form of communication, although adolescents use them especially frequently. Students' daily lives with mobile devices are getting more and more dependent on them, which has led to reliance. Its usage has climbed 67% globally and 44.89% in Nepal. The scale of potential health concerns among mobile phone users has increased due to the rising use of these devices. The objective was to assess how cell phone use affects secondary school students among secondary level school students in a selected school of Kathmandu Valley, Nepal.

Material and Methods: A descriptive cross sectional study was conducted among 100 samples by using Probability Stratified Random Sampling Technique. The pre tested self-administered questionnaire with structured and semi structured questions was used to collect information through online survey by Fluroscent School App from Grade 9 and Grade 10 respondents. The collected data was analyzed by using Statistical Package for Social Science (SPSS) 16 version using descriptive and inferential statistics.

Results: Majority of the respondents (38%) were of age 15 years. The respondents of Grade 9 and Grade 10 were equal. The overall mean knowledge score was 26.870 ± 4.978 regarding the use of mobile. The minimum score obtained is 15 and the maximum score obtained is 37 out of 40 possible correct answers .It showed that 60% of the respondents had average level of knowledge, 32% had adequate level of knowledge and 8% had poor level of knowledge. There was no significant association between knowledge regarding mobile phone use with other selected socio-demographic variables.

Conclusion: The study concluded that there was average level of knowledge regarding impact of cell phone use. Thus, school based cell phone health awareness and education programs are

necessity to improve the overall health of students.

Keywords: Cell phone, Impact, Knowledge, School

INTRODUCTION

Mobile phones have become an almost essential part of daily life since their rapid growth in popularity in the late 1990s, [1]. Globalization has changed our lives and one of the ways in which it is changing our lives, every day, is how we communicate; thanks to advancements in Information and Communication Technologies (ICT). One of the ICT's which is seeing rapid advancement is Mobile Phone. Using mobile phones for more than 10 years could double up one's risk of having brain tumor [2]. Nowadays technology is advancing and widening rapidly as per the needs of the generation that helps the people of the current world to perform each and every task at a fast pace.. Over last few years 61% of global population now using cell phones i.e., around the world, there are more than 2.4 billion cell phone users and more than 1000 new customers are added every minute [3].

Mobile phone is very popular nowadays, with 7 billion mobile connections worldwide and unique mobile subscriptions of over 3.5 billion they are very popular with young people and are commonplace in our educational institutions. [4, 5]. A study conducted in Spain, discovered that a cell phone call lasting just two minutes can alter the natural electrical activity of a child's brain for up to an hour afterwards. The alteration in brain waves could lead to things like a lack of concentration, memory loss, inability to learn and aggressive behavior. The study suggests that this kind of damage in humans could trigger the early onset of Alzheimer's

disease [6]. People who chatted on their cells for more than an hour, on a daily basis for four plus years, had greater auditory damage than those who used landlines [7]. The use of mobile phone among secondary school students had the significant relationship with their academic performance [8]. A Previous study conducted in Nepal among medical students at a medical academy revealed the phone usage signal the evolution of mobile phone use from a habit to an addiction [9].

Mobile phone has gained immeasurable ground in the lives of students all over the world. Mobile phone is a common sight today. In schools students going to school/class with some of the most expensive and sophisticated mobile phones, tablets and ipads that has all the applications, facilities and software that can connect them to the internet and all forms of social media platforms, other web sites and so on, where they chat, access, stream, download, upload, exchange and play different kinds of media contents, which most often, are pornographic in nature [10]. Researchers have discovered that the use of mobile phone in schools is problematic. [11,12,13].

There is the conflicting priority of young people, parents and teachers in relation to the mobile phone device, with teachers more concerned about issues such as discipline in the classroom and parents worried about means of contacting their children at every point in time. But, surprisingly, research on the influence of mobile phone on schools today has not been given much attention. Therefore, the objective of the study was to The objective was to assess how cell phone use affects secondary school students among secondary level school students in a selected school of Kathmandu Valley, Nepal.

MATERIAL AND METHODS

A descriptive cross-sectional study was done on 100 samples of secondary school students at Fluorescent Higher Secondary School in Gairigaun, Kathmandu. The reliability of the instrument was maintained by split half method and it was r= 0.86. Informed consent was taken from the school authority.

Probability Stratified Random Sampling Technique was used for selecting the sample. The pre tested self-administered questionnaire with structured and semi structured questions was used to collect information through online survey in Fluorescent School app. The questionnaire has two parts with Socio-demographic information of the respondents and knowledge regarding the effects of mobile phones respectively. The level of knowledge score was categorized on the basis of three sections which include good level of knowledge (>75%), average level of knowledge (50-75%) and poor level of knowledge (<50%). With protocol clearance number 4/20, the Institutional Review Committee (Ref: 2608) of Sheer Memorial Adventist Hospital gave ethical approval.

All the collected data was coded and analyzed by using Statistical Package for Social Science (SPSS) 16 version. Categorical variables were described using frequency, distribution and percentage. Continuous variables were expressed by mean and standard deviation. The inferential statistics technique: independent samples t-test, ANOVA is employed to test the significance of the sample data. The independent t test was used to compare mean knowledge score between two independent groups. P-value of <0.05 was considered statistically significant.

RESULTS

The mean age and SD of respondents was distribution of respondents was 15.06±1.062 years. The majority of respondents (81%) belonged to the upper caste. Hinduism was practiced by the majority of respondents (90%) as shown in Table 1.

Table 1: Socio-Demographic Data of respondents (n = 100)

Variables	Frequency	Percentage (%)
Age		
13	6	6
14	24	24
15	38	38
16	23	23
17	8	8
18	1	1
Mean (SD)= 15.06±1.062	**Max 18**	**Min 13**
Gender		
Female	50	50
Male	50	50
Ethnicity		
Dalit	1	1
Disadvantaged Janjati	5	5
Relatively Advantaged Janjati	10	10
Religious Minorities	3	3
Upper Caste Group	81	81
Religion		
Buddhist	5	5
Christian	3	3
Hindu	90	90
Islam	2	2

Out of possible correct score 40, overall mean knowledge score of total respondents is 26.870 ± 4.978. The range of knowledge score was 15-37 as shown in Table 2.

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Table 2: Overall Knowledge Score Regarding the Use of Mobile Phone (n=100)

Variable	Possible Correct Score	Mean (SD)	Maximum Score	Minimum Score
General knowledge	8	5.64 ± 1.314	8	1
Positive Effect	7	5.19 ± 1.186	7	2
Negative Effect	25	16.04 ± 3.673	24	6
Overall Knowledge Score	40	26.870 ± 4.98	37	15

Table 3: Knowledge Level of Secondary Level Students with Effect of Cell Phone Use(n = 100)

Variables	Frequency	Percentage
Good Level of knowledge (>75%)	32	32
Average Level of knowledge (75-50%)	60	60
Poor knowledge Level (<50%)	8	8

Table 4: Association between Knowledge Regarding Mobile phone and Socio-demographic Variable (n=100)

Variables	Frequency	<50% (Poor knowledge)	50-75% (Average knowledge)	>75% (Adequate knowledge)	p-value
Age					
<15	30	0	18	12	**0.078**
>15	70	8	42	20	
Gender					
Male	50	6	26	18	**0.063**
Female	50	2	34	14	
Educational status					
Grade 9	50	3	27	20	**0.086**
Grade 10	50	5	33	12	

Table 5: Distribution of Respondents According to the Overall Knowledge Scores Regarding Mobile Phones Based on Religion (n = 100)

Variable	Possible Score	Hindu n=90 Mean (SD)	Buddhist n = 5 Mean (SD)	Christian n=3 Mean (SD)	Islam n = 2 Mean(SD)	p-Value (ANOVA)
General knowledge Score	8	4.74±1.30	3.80±1.09	3.33±1.15	5.0±1.31	0.128
Positive effect Score	7	5.20±1.14	5.40±1.51	4.66±2.30	6.0±1.18	0.758
Negative Effect Score	25	15.98±3.77	16.60±3.04	16.33±3.51	18.0±3.69	0.936
Overall Knowledge Score	40	25.93±5.04	25.80±5.16	24.33±4.72	29.0±4.98	0.880

Table 3 shows that more than half (60%) of the respondents have average knowledge, 32% of the respondents have good level of knowledge and 8% have poor knowledge on the effect of cell phone use.

In Table 4, Independent sample t test was done in which the p-value obtained in association between knowledge regarding mobile phone and socio-demographic variable was greater than 0.05. Hence, it showed that there was no significant difference between knowledge regarding effect of cell phone use and socio-demographic variable.

Table 5 shows that the mean and standard deviation of total knowledge score of Hindu respondents is 25.93±5.04, Buddhist respondents is 25.80±5.167, Christian is 24.33±4.98, Islam respondents is 29.0±4.98. ANOVA test was done for the variable at 95% level of confidence in which the p-value obtained in the overall knowledge score is 0.880 which was greater than 0.05. Hence, there was no significant difference the knowledge regarding the effects of cell phone and religion.

DISCUSSION

The study revealed that more than half of the respondents have average knowledge regarding effect of cell phone use. This study showed that 60% of the respondents had average level of knowledge, 32% had good level of knowledge and 8% had poor level of knowledge which is consistent to the study done Al Samadani et al., in which 8% had poor knowledge, 56% had average knowledge and 36% had good knowledge [14]. In present study majority of the respondent (36%)are using mobile phone for 2 to 3hours, (28%)for 3 to 4hours, (23%) for

4 to 5 hours whereas only (13%) for more than 5hours which is consistent with the finding of the study done Dhaka, Bangladesh(2013) i.e. Majority (30%)are using mobile phone for 2 to 3hours,(32%)for 3 to 4hours, (26%) for 4 to 5 hours whereas only (12%) for more than 5 hours[15].

In the current study, majority of the respondent (96.9%) answered that the positive effects of cell phone use are entertainment purposes, (75.3%) to pass leisure time, (24.7%) to keep connected with friends and family, (9.3%) for gaming purpose which is inconsistent with the finding of the study done in Malaysia i.e More than half of the respondent (62%) answered that the positive effects of cell phone use are entertainment purposes, (22%) to pass leisure time, (14%) to keep connected with friends and family, (2%) for gaming purpose [16].

In present study, majority of the respondent (91.4%) answered that the reason that mobile phone help with academic performance is online course material, more than half (65.6%) answered lecture videos, (15.1%) answered self-learning, and (4.8%) answered online games. It indicates that most of the respondent thinks the positive effect of the mobile phone is to reduce stress and anxiety which is consistent with the finding of the study done in Combodia where majority of the respondent (88.4%) answered that the reason that mobile phone help with academic performance is online course material, more than half (63.6%) answered lecture videos, (19.1%) answered self-learning, and (2.8%) answered online games [17].

In this study, majority of the respondent (70.7%) answered the effects of mobile phone use on social life is social anxiety,

(62.6%) answered it as isolation, (39.4%) answered depression, and (21.2%) answered phobias which is inconsistent with the finding of the study on India i.e. less than half of the respondent (48.6%) answered the effects of mobile phone use on social life is social anxiety, (18%) answered it as isolation, (22.2%) answered depression, and (21.2%) answered phobias [18].

In our study, less than half of the respondents (48%) answered common cancer due to excessive use of the mobile phone is brain cancer, (36%) answered eye cancer, (13%) answered skin cancer and (3%) answered ear cancer which is consistent with the finding of the study in Karnataka, India i.e. Less than half of the respondents (45.2%) answered common cancer due to excessive use of the mobile phone is brain cancer, (38.8%) answered eye cancer, (10%) answered skin cancer and (12%) answered ear cancer[19].

Our findings depicted that majority of the respondent (92%) answered the main problem faced by a person due to excessive use of the mobile phone is headache, (6%) answered lethargy,(2%)answered body pain and (0%) answered fainting which is consistent with the finding of study on Bangladesh which is consistent with the finding of the study on Pakistan i.e. Majority of the respondent (96.4%) answered the main problem faced by a person due to excessive use of the mobile phone is headache, (2.3%) answered lethargy, (1.3%) answered body pain and (0%) answered fainting [20]. The study includes some limitations due to time limitation. This study was conducted among students in a single secondary school in Kathmandu valley. So, it cannot be generalized to all the secondary level students of Nepal.

CONCLUSION

The study concluded that majority of the respondents had average level of knowledge, few had good level of knowledge and less had poor level of knowledge regarding effect of cell phone use. Therefore the study highlights school based cell phone health awareness and education programs are necessity to improve the overall health of students.

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