



Parents' Perception on Mobile Phone Usage of Their Children and Knowledge on Its Hazards in Selected Hospital, Mangalore

Priya Sweety Pereira¹,^{ORCID} Sonia Karen Liz Sequera¹

¹Department of Community Health Nursing, Father Muller College of Nursing, Kankanady, Mangaluru, Karnataka, India

Address for correspondence Priya Sweety Pereira, MSc, Department of Community Health Nursing, Father Muller College of Nursing, Father Muller Road, Kankanady, Mangaluru 575002, Karnataka, India (e-mail: prdsouza86@fathermuller.in).

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Abstract

Introduction Cell phones have achieved a milestone in modern technology where they have become handy to everyone. Advancement taken place in mobile phone technology has enabled its use in online purchasing as well as communication. On one hand, it is a helping tool for faster communication; on other hand, we cannot deny the fact of its harmful effects. The young teens are the age group who have been addicted to the mobiles. It is only the parents who can mould child's behavior and personality. In this regard, parents can play an important role in enhancing the sense of responsibility in vigilant use of mobile at the early age.

Materials and Methods A quantitative descriptive research design was used in this study to collect data from 340 parents of 12 to 20 years age group who are visiting all the outpatient departments of selected Medical College Hospital, Mangaluru. Data was collected by administering demographic proforma, self-prepared perception checklist, and knowledge questionnaire on hazards of mobile phone usage.

Results Majority 230 (67.6%) parents had generally perceived that their children were spending too much of time on mobile phone and also 187(55%) parents perceived that children use mobile with earphones while traveling and 200(58.8%) parents perceived that their children have become lazy and lost interest in studies too. A total of 210 (61.8%) of parents had inadequate knowledge and 130 (38.2%) of them had adequate knowledge on hazards of mobile usage. There was association between knowledge on hazards of mobile phone usage and selected demographic variables as the *p*-value computed was found to be significant at 0.05 level of significance. There was no association found between knowledge and gender (0.052).

Conclusion As per the study findings, it was very clear that parents were observing some of the behavioral and emotional changes that were happening in their children. Hence, parents need to be educated and made aware of the possible hazards of mobile usage that may help them to tackle all the childhood issues and help in child's overall development.

Keywords

- ▶ hazards of mobile phone usage
- ▶ knowledge
- ▶ parents
- ▶ perception

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Introduction

Advances in technology have made lives easier today.¹ Everyone today, irrespective of any age group they belong to, are aware about these technologies and its uses. Advancement taken place in mobile phone technology has enabled its use in online purchasing as well as communication.² It is difficult in today's world to live without mobile. Cell phones have achieved a milestone in modern technology where they have become handy to everyone and most of the works are done at one setting.³

On one hand, it is a helping tool for faster communication; on other hand, we cannot deny the fact of its harmful effects.² To get connected with each other, the mobile phone uses radiations with frequency, which ranges from 3 kHz to 300 GHz. And these radiations can contribute to many harmful diseases. Radiations can also cause headache, sleep disruption, tiredness, and DNA damage.⁴

The young teens are the age group who have been addicted to the mobiles. As cell phones are available at affordable price, the teens are addicted to it very easily. They depend completely on mobile phones and may experience behavioral issues and may also encounter with brain development problems.⁵ A study reveals that the teenagers are the most vulnerable group of mobile phone users who may utilize mobile for the good and bad purpose. It was found that among them the age group between 15 and 22 years is the one who were having more craze toward mobile phone.⁶

Parents play important role in upbringing of their children. Children may grow physically, mentally, and become an independent human being in society, but the role of parents has become much stronger. It's only the parents who can mould child's behavior and personality. So, parents should be vigilant to observe any deviation of child's normal behavior and help in motivating the children behavior and also in helping them to come out of difficulties they face. They can be a best teacher by observing their children by taking efforts to guide them.⁷

A cross-sectional analytical study was conducted aiming the impact of smart phone usage among 115 college students at Chennai between the age group of 17 to 25 years in December 2016. Results depicted that 74% of the participants were females, and 65% were using smart phones for 3 to 5 years. Seventy-seven percent of the subjects were using it for more than 5 hours daily, 66% had habit of checking the smart phone while sleeping, and 72% of them used it for the educational purpose. Seventy-nine percent of students complained about headache, 51% had anxiety, 47% had lack of concentration, 35% had sleeplessness, and 43% had neck and arm pain due to continued mobile usage.⁸

The above literature supports the fact that adolescents are more into the mobile usage and were certainly experiencing some health issues. The investigators have come across many young teens using the mobiles in college, while traveling and many other occasions with ignorance of immediate surroundings. Hence, there is a need to identify these issues and find out a way that can help in limited and cautious use of mobile. In this regard, parents can play an important role

in enhancing the sense of responsibility in vigilant use of mobile at the early age.

Materials and Methods

Sample calculation formula:

$$n = \frac{z^2 \times p(1-p)}{e^2}$$

Following values can be used for estimating the sample size ($p = 0.67$).⁹

$$n_0 = \frac{(1.96)^2 \times 0.67(1-0.67)}{(0.05)^2} = 339.75$$

Total sample size = 340.

Methods

A quantitative descriptive research design was used in this study to collect data from 340 parents of 12 to 20 years age group who are visiting all the outpatient departments of selected Medical College Hospital, Mangaluru. In this study, the children age group is considered between 12 and 20 years because review suggests that the above-mentioned age group is showing more addiction toward mobile phone.

Permission obtained from the Institutional Ethics Committee and the hospital authority. Using purposive sampling technique parents were selected and gathered in the outpatient department classroom. Investigators introduced themselves and voluntary informed consent was taken. Data was collected by administering demographic proforma, self-prepared perception checklist, and knowledge questionnaire on hazards of mobile phone usage. At the end of data collection, parents were thanked for their whole hearted cooperation. The collected data was kept confidential and coded for further analysis. The average time taken to complete the perception checklist and knowledge questionnaire was ~10 to 20 minutes.

Pretesting and content validity was done by administering the tool to seven experts from different specialties of nursing field. The reliability of the tool for perception checklist and knowledge questionnaire was calculated using Cronbach's α with r value 0.762 and 0.739, respectively. Participants who scored more than 50% in the knowledge questionnaire were considered to have adequate knowledge and participants with score of $\leq 50\%$ were considered to have inadequate knowledge. Parents' perception was depicted as frequency and percentage.

Results

The data were analyzed using SPSS version 16.

► **Table 1** depicts that 187 (55%) were female parents, 106 (31.2%) had secondary school education, 209 (61.5%) belonged to nuclear family, and 131 (38.5%) were self-employed. A total of 185 (54.4%) parents heard information on hazards about mobile phone usage through mass media. A total of 139 (40.9%) parents were using the mobile for ≤ 30 minutes.

Table 1 Percentage distribution of subjects according to their baseline characteristics, $n = 340$

S. no.	Variables	Frequency	%
1.	Gender		
	a. Male	153	45.0
	b. Female	187	55.0
2.	Academic qualification		
	a. No formal education	21	6.2
	b. Primary school education	68	20.0
	c. Secondary school education	106	31.2
	d. Preuniversity course	78	22.9
	e. Graduation and above	67	19.7
3.	Type of family		
	a. Nuclear	209	61.5
	b. Joint	106	31.2
	c. Single parent family	25	7.4
4.	Occupation		
	a. Professional	60	17.6
	b. Skilled	72	21.2
	c. Unskilled	56	16.5
	d. Self-employed	131	38.5
	e. Unemployed	21	6.2
5.	Knowledge on hazards of mobile phone usage		
	a. No information	37	10.9
	b. Mass media	185	54.4
	c. Relatives/friends	85	25.0
	d. Health workers	33	9.7
	e. If any, mention	0	0
6.	How much time do you spend in mobile at home?		
	a. Less than or equal to 30 minutes	139	40.9
	b. 30 minutes to 1 hour	111	32.6
	c. More than 1 hour	90	26.5

The data in ►Table 2 shows that majority of (230 [67.6%]) parents had generally perceived that their children are spending too much of time on mobile phone and also 187 (55%) parents perceived that children use mobile with ear-phones while traveling and 200 (58.8%) parents perceived that their children have become lazy and lost interest in studies too. On other hand, 181 (53.2%) parents feel that mobile usage till late night is not observed in their children. One-hundred eighty (52.9%) parents think that time spent to have their regular food is not affected due to phone use.

Also, it was noted that 185 (54.4%) parents stated saying that their children use mobile only for school projects. Also, it was noted that 175 (51.5%) parents perceived that their children are alert and responsive to commands, whereas 185 (54.4%) parents observed that using mobile early in the morning for a long time is not observed. Also, 121 (35.6%) parents observed that children use phone while the phone is plugged for charging.

The data in ►Table 3 and ►Fig. 1 depicts that majority 210 (61.8%) of parents had inadequate knowledge and 130 (38.2%) of them had adequate knowledge on hazards of mobile usage.

►Table 4 shows the overall mean percentage of knowledge score was 47.75% with mean and standard deviation of 3.82 ± 2.02 . This suggests that the level of knowledge is not adequate or need to be improved.

H_0 : There will be no significant association between the knowledge on hazards of mobile phone usage and selected demographic variables.

The data presented in ►Table 5 reveal that there is association between knowledge on hazards of mobile phone usage and selected demographic variables as the p -value computed between knowledge score on hazards of mobile usage and academic qualification (0.005), type of family (0.008), occupation (0.001), knowledge on hazards of mobile phone usage (0.010), and time spent on mobile at home (0.014) was found to be significant at 0.05 level of significance. There was no association found between knowledge and gender (0.052). Hence, null hypothesis rejected for all the variables, except for gender.

Discussion

Mobile phone usage is increasing nowadays in teen including children. Parents are aware about the fact, but are ignorant about the consequences what the children may face in the future. Here in the study, it shows that majority of parents had perceived about the ill effects of mobile, but the depth of knowledge was lacking. The knowledge of the parents also highlights about the lack of information on hazards of mobile usage.

Present study shows 187 (55%) were female parents, 106 (31.2%) had secondary school education at the time of data collection, whereas similar study findings shows that 164 (86%) were female parents and 46 (24%) had high school education.¹⁰ Family group of 209 parents was nuclear (61.5%), while 131 (38.5%) parents were self-employed. The total number of parents who heard about hazards of mobile phone usage through mass media were 185 (54.4%). On the other hand, 139 (40.9%) parents found that time duration spent by them on mobile phone use was ≤ 30 minutes.

A similar study conducted at Coimbatore shows that among 30 adolescents, 17 (56.7%) had inadequate knowledge, 13 (43.3%) had moderate knowledge, and none had adequate knowledge on electronic gadgets.¹¹ Whereas the present study results say that majority, 210 (61.8%), of parents had inadequate knowledge and 130 (38.2%) of them had adequate knowledge on hazards of mobile usage.

Table 2 Percentage distribution of subjects according to their perception on mobile phone usage of their children, *n* = 340

S. no.	Statements	Yes		No	
		F	%	F	%
1.	I feel my child is spending too much time using cell phone	230	67.6	110	32.4
2.	My child uses mobile till late-night	159	46.8	181	53.2
3.	My child takes long time to finish his food because of continuous chatting in mobile	160	47.1	180	52.9
4.	My child uses mobile phone only to complete the school/college project and assignment.	185	54.4	155	45.6
5.	Most of the time and also while traveling my child uses mobile with the earphone	187	55	153	45
6.	My child is so deep in use of mobile that he will not respond to my commands	165	48.5	175	51.5
7.	My child will not come out of bed in the morning unless uses mobile at least for half an hour	155	45.6	185	54.4
8.	My child is addicted to mobile to an extent where he/she uses it with charging point on	121	35.6	219	64.4
9.	My child is become lazy because of continuous mobile usage	200	58.8	140	41.2
10.	After using mobile phone my child is lost interest in studies	200	58.8	140	41.2

Table 3 Distribution of subjects according to the level of knowledge, *n* = 340

Knowledge score	Knowledge score percentage	Grading level of knowledge	Frequency	Percentage
0-4	0-50%	Inadequate	210	61.8
5-8	51-100%	Adequate	130	38.2

Maximum score: 8.

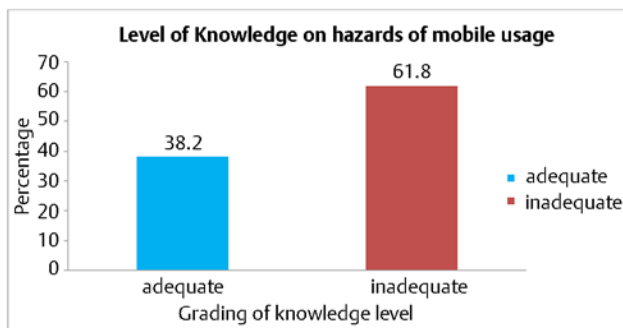


Fig. 1 Bar diagram showing the distribution of subjects according to the knowledge level.

The present study reveals that out of 340 parents, 230 (67.6%) parents agree that their kids spend a lot of time using smart phone. At the same time 185 (54.45%) parents say that the phone use is restricted only to complete their academic assignments. In this study, 159 (46.8%) parents perceived that their children use mobile till late night, whereas 160 (47.1%) agree that children will take long time to finish their food as they chat over the phone while having their lunch or dinner. One of the descriptive study findings show that 34.5% of parents (children age group: 6-12 years) who work at deemed university perceive that children show less interest while handling food.¹² Also, 155 (45.6%) parents say that early morning at least for half an hour their children use phone before they come out of their bed. The above findings suggest that these behaviors may have influence

on child's health. Exposing to ear phone use while traveling was one of the perceptions that was observed by 187 parents (55%). A similar study was conducted among 85 parents of preschool children (3-6 years) who opined that smart phone use may cause physical and mental problem specially making the child introvert and feel isolated and slowly withdraws child from society. Also, use of mobile phone exposes the child to harmful radiation.¹³

Use of mobile phone makes their children lazy that is affecting to lose their interest in studies was one of the perceptions identified by 200 (58.8) parents. Whereas a contradictory review says that learning and attention span has no significant difference with the phone usage ($r = 0.07$, $p = 0.47$).¹⁴

There was significant association between knowledge on hazards of mobile phone usage and selected demographic variables: academic qualification ($p = 0.005$), type of family ($p = 0.008$), occupation ($p = 0.001$), knowledge on hazards of mobile phone usage ($p = 0.010$), and time spent on mobile at home ($p = 0.014$).

Conclusion

Parents play a key role in upbringing of their children and they are the perfect people to mould them. As per the study findings, it is very clear that parents are observing some of the behavioral and emotional changes that are happening in their children. Many of the reviews say these changes may

Table 4 Range, mean, standard deviation, and mean percentage of knowledge score, $n = 340$

Area	Item	Maximum score	Range	Mean \pm SD	Mean percentage	Level of knowledge
Total knowledge score	8	8	8	3.82 \pm 2.02	47.75	Inadequate

Abbreviation: SD, standard deviation.

Table 5 Association between knowledge and selected baseline variables, $n = 340$

S. no.	Variables	< Median	\geq Median	p-Value
1	Gender			0.052
	a. Male	64	89	
	b. Female	98	89	
2	Academic qualification			0.005 ^a
	a. No formal education	15	6	
	b. Primary school education	32	36	
	c. Secondary school education	59	47	
	d. Preuniversity course	35	43	
e. Graduation and above	21	46		
3	Type of family			0.008 ^a
	a. Nuclear	86	123	
	b. Joint	60	46	
4	Occupation			0.001 ^a
	a. Professional	24	36	
	b. Skilled	34	38	
	c. Unskilled	16	40	
	d. Self-employed	79	52	
e. Unemployed	9	12		
5	Knowledge on hazards of mobile phone usage			0.010 ^a
	a. No information	22	15	
	b. Mass media	73	112	
	c. Relatives/friends	47	38	
	d. Health workers If any, mention	20	13	
6	How much time do you spend in mobile at home?			0.014 ^a
	a. Less than or equal to 30 minutes	73	66	
	b. 30 minutes to 1 hour	58	53	
	c. More than 1 hour	31	59	

Note: $p < 0.05$.

^aSignificant.

have an effect on physical, emotional, behavioral, and cognitive level of a child. Hence, parents need to be educated and made aware of the possible hazards of mobile usage that may help them to tackle all the childhood issues and help in child's overall development.

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Conflict of Interest

None declared.

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References

- 1 Anonymous. Technology in Our Life Today and How It Has Changed. AgingInPlace.org. Published September 24, 2018. Updated for 2020. <https://aginginplace.org/technology-in-our-life-today-and-how-it-has-changed/>. Accessed May 19, 2021
- 2 Veluri S. Technology in Today's World. Lets Nurture - An IT Company Nurturing Ideas into Reality. Published December 5, 2016. <https://www.letsnurture.com/blog/technology-todays-world.html>. Accessed May 19, 2021
- 3 Kingston K. The Importance of Cell Phones in Modern Society. Streetdirectory.com. https://www.streetdirectory.com/travel_guide/153893/cell_phones/the_importance_of_cell_phones_in_modern_society.html. Accessed May 19, 2021
- 4 Suhag AK, Larik RSA, Mangi GZ, Khan M, Abbasi SK, Madiha H. Impact of excessive mobile phone usage on human. *J Comput Sci Syst Biol* 2016;09(6):173-177. doi:10.4172/jcsb.1000235
- 5 Anonymous. Cell Phone Addiction. PsychGuides.com.. <https://www.psychguides.com/behavioral-disorders/cell-phone-addiction/>. Accessed May 19, 2021
- 6 Ball I. Mobile Phone and Teenagers. Streetdirectory.com.. https://www.streetdirectory.com/travel_guide/117157/cell_phones/mobile_phone_and_teenagers.html. Accessed May 19, 2021
- 7 Anonymous. Importance of Parents in Life| Roles and actions. Cuemath. <https://www.cuemath.com/learn/importance-of-parents/>. Accessed May 19, 2021
- 8 Subramanian SS, Sindhuja RM. Impact of smart phone usage among college students - an analytical study. *Int J Sci Res* 2017;6(9):588-590 <https://www.ijsr.net/archive/v6i9/ART20176642.pdf> (IJSR)
- 9 Pendse N, Zagade T. Knowledge and attitude regarding health hazards of mobile phone users among the junior college students. *Int J Sci Res* 2014;3(5):554-561 <https://www.ijsr.net/archive/v3i5/MDIwMTMxODU2.pdf> (IJSR)
- 10 McCloskey M, Johnson SL, Benz C, et al. Parent perceptions of mobile device use among preschool-aged children in rural head start centers. *J Nutr Educ Behav* 2018;50(1):83-89.e1
- 11 Valarmathy A. A comparative study to evaluate the effectiveness of video assisted teaching versus playway approach on the knowledge regarding the hazards of electronic gadgets among early adolescents in selected schools, Coimbatore. - EPrints@ Tamil Nadu Dr MGR Medical University. Published online October 2017. <http://repository-tnmgrmu.ac.in/10066/>. Accessed May 19, 2021
- 12 Devamani S, Paul H, George J, Begum S, Dsouza SN, Lobo MR. Parent's perception regarding mobile phone usage led behaviour changes in children. *Current Pediatric Research* 2019;23(4):143-147
- 13 Genc Z. Parents' perceptions about the mobile technology use of preschool aged children. *Procedia Soc Behav Sci* 2014;146:55-60
- 14 Tanil CT, Yong MH. Mobile phones: the effect of its presence on learning and memory. *PLoS One* 2020;15(8):e0219233