

Original Research Article

A cross-sectional study regarding usage of mobile phone and internet facilities through mobile handsets and its role in empowering adolescent school going girls in a peri-urban area of Tripura, India

Anjan Datta*, Shib Sekhar Datta, Nabarun Karmakar, Kaushik Nag,
Kaushik Tripura, Partha Bhattacharjee

Department of Community Medicine, Tripura Medical College and Dr. BRAM Teaching Hospital, Agartala, Tripura, India

Received: 17 October 2016

Accepted: 15 November 2016

*Correspondence:

Dr. Anjan Datta,

E-mail: dranjandatta86@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: In India lack of access and control over resources severely constrain the capabilities of adolescent girls and limits their empowerment in wider society. As adolescents now-a-days are adopting new digital technologies almost as quickly as they are being introduced, this present study was aimed at assessing the use of mobile phone and internet facilities in mobile handset and its role in empowering adolescent school girls in a peri-urban area of Tripura, India.

Methods: A school based cross-sectional study was conducted among purposively selected 166 girls between Class VI to Class XI of Madhuban (East) Higher Secondary School, Dukli during January-February 2016. Data was collected using pre-designed and pre-tested questionnaire and qualitative information was collected through two focus group discussions (FGDs). Data were analysed using computer software SPSS version 20.0.

Results: The study reveals 18.1% subjects were having their own mobile handsets and majority of them (60%) were using it for communicating with others. The main reason for not having a mobile phone is they did not feel it required (52%). The main uses of mobile phones were; calling (46.7%), texting (16.7%), social networking (13.3%), gaming (16.7%) and others (6.7%). Significant association was found in this study between age of adolescent girls and ownership of mobile phone, usage of internet, smart phone usage.

Conclusions: This study reveals that majority of the adolescent girls were having their own mobile handset, neither majority were using mobile phones; but believed mobile phones and internet could help in their empowerment.

Keywords: Adolescent girl, Empowerment, Internet, Mobile phones

INTRODUCTION

Empowerment is the process of enabling or authorizing an individual to think, behave, take action and work in an autonomous way.¹ It is the process by which one can gain control over one's destiny and the circumstances of their lives. Empowerment can be viewed as means of creating a social environment in which one can make decisions

and make choice either individually or collectively for social transformation. For young women in particular, lack of access to and control over resources severely constrain their capabilities as decision making agents within the family and limits their empowerment in wider society.² Girls must be considered integral to, rather than peripheral to other engines of growth. A mobile phone is a telephone that can make and receive calls over a radio

frequency carrier variety of other services, such as text messaging, email, internet access, business applications, gaming and photography. On the other hand internet is the global system of interconnected mainframe, personal and wireless computer networks and internet carries an extensive range of information resources and services.

WHO defines an adolescent as any person in the age group of 10 to 19 years. The course of adolescent development is influenced by the adolescents as well as the people and world that surround them. Adolescents today are adopting new digital technologies almost as quickly as they are being introduced.³ These technologies, such as the internet, social networking sites, and mobile phones are considered by adolescents to be an integral and essential part of their lives. But due to bad financial and social circumstances adolescent girls and their families in India are devoid of modern technologies and gadgets to connect to the outer world. Present study aims to assess the role of mobile phone with or without internet facilities in empowering school going adolescent girls in a peri-urban area of Tripura, India.

Objectives

- To find out the prevalence of mobile phone usage and usage of internet facilities in mobile phone among school going adolescent girls in a peri-urban area of Tripura.
- To assess the role of usage of mobile phone and internet facilities in mobile phone in empowerment of school going adolescent girls quantitatively as well as qualitatively in a peri-urban area of Tripura.

METHODS

Present school based cross-sectional study was conducted during January-February, 2016 in Madhuban (East) Higher Secondary School of Dukli under the field practice area of Urban Health Training Centre (UHTC) of Department of Community Medicine, Tripura Medical college and Dr. BRAM Teaching Hospital, Hapania.

For study purpose, school going adolescent girls of class VI-XI of Madhuban (East) Higher Secondary School, the only school existing under the field practice area of UHTC, Dukli was selected. Information was collected from 166 adolescent school girls (who consented to participate in the study).

Data was collected using a pre-designed and pre-tested semi-structured questionnaire translated into local language (Bengali) by trained personnel. Collected data was entered and analysed using computer software SPSS version 20.0.

Data was expressed as percentage and proportions; significance of study findings were assessed using test of significance with application of Chi-square test ($p < 0.05$ was considered as significant).

Qualitative focus group discussion

Two semi-structured focus group discussions (FGDs) were facilitated by faculty from Community Medicine (with more than 8 year experience in qualitative research) and observed by trained personnel to explore issues pertinent to mobile phone usage and empowerment of adolescent girls. FGDs were conducted as per PRIA (Participatory Research in Asia) guidelines. Each FGD was conducted for approximate 40-45 minutes till point of exhaustion. Adolescent girls who can talk freely and communicate effectively and identified during the quantitative data collection were chosen for FGDs.

Ethical issues

A duly explained and written informed consent was taken from study subjects before their inclusion in the present study and permission from school authorities were also taken before conduct of the study.

RESULTS

Present study shows that majority (65.1%) of the participants were from age group 10-14 years, with majority (69.9%) belonging to nuclear families. Majority (42.8%) of adolescent girls' parents were educated upto primary level. Majority of the subjects fathers were daily labourers (47%), and mothers were housewives (75.9%).

Prevalence of mobile phone usage among adolescent school girls was 18.1%. The primary reason for not using mobile phone was that they believe they don't require it (52.3%), followed by reason that their parents don't allow it (41.9%). Among the mobile phone users, 63.3% girls were having internet facilities in their handset, and 53.3% were smart phone users. Most of them (80%) were using mobile phone for less than one year with an average monthly expenditure ranging between Rs. 101-200; and for 76.6% girls it was their first mobile handset.

When enquired about main reasons for having mobile phone, majority (60%) of the girls communicated that they are using phone for better communication, followed by reason since their friends were also having a mobile phone (20%). Predominant use of mobile phone by the adolescent girls was calling (46.7%), followed by text messaging and playing games (16.7% each). Most of the girls (76.7%) were using mobile phones less than 2 hours a day. Majority of the girls (63.2%) do not use internet for academic purposes and don't belong to any group network (73.7%).

Table 1 reveals that majority (52.4%) of the girls believe that mobile phone can empower an adolescent girl, it can help access to better opportunities (63.3%), and an adolescent girl can be more independent with a mobile phone (42.2%). Majority (50.6%) of the girls think internet facility in mobile handset can help in better decision making and sharing of ideas with the outer

world (50%). The study also reveals that majority of the girls (83.3%) have never received any health related messages in their mobile phones till date.

But, most of them (54.2%) believe that mobile phones can help better access to health care; whereas, 42.8% girls were aware of health related side effects due to mobile phone usage. Table 2 shows that with increasing age of adolescent girls there is significant increase in usage of

mobile phone of their own ($p < 0.001$); but significant decrease in usage of internet facility in their mobile handset ($p < 0.001$), and decrease usage of smart phones ($p < 0.001$) respectively. There is significant association between father's occupation and having mobile handset of their own (p value 0.021), and self-reported empowerment of adolescent girls (p value 0.006) respectively.

Table 1: Frequency distribution of responses of adolescent girls on usage of mobile phone and their empowerment (N=166).

Characteristics	N (%)
Do you think having a mobile phone can empower a girl?	
Yes	87 (52.4)
No	38 (22.9)
Don't know	41 (24.7)
Do you think having internet facility in mobile can influence the decisions you make?	
Yes	84 (50.6)
No	35 (21.1)
Don't know	47 (28.3)
Do you think a mobile phone can help in getting better opportunities?	
Yes	105 (63.3)
No	30 (18.1)
Don't know	31 (18.6)
Do you feel more independent with a mobile phone?	
Yes	70 (42.2)
No	65 (39.1)
Don't know	31 (18.7)
Does internet help you sharing your ideas with the outer world?	
Yes	83 (50)
No	33 (19.9)
Don't know	50 (30.1)
Did you ever get influenced by internet services to join a political campaign?	
Yes	17 (10.2)
No	76 (45.8)
Don't know	73 (44)

DISCUSSION

Present study was done among school going adolescent girls in a peri-urban area of Tripura with a sample size of 166 where it was observed that 18.1% of girls were using mobile phone of their own.

A study conducted in three selected villages in Trichirappalli district of Tamil Nadu, where data were collected from 60 women aged 15 to 25 years, it was found that 97% of the study subjects were using cell phones; which may be because of the fact that they had included women from higher age group and smaller sample size.⁴ In present study, majority (52%) of the girls communicated that they are not using mobile phone because they feel they don't require it, followed by

41.9% subjects, who were not allowed to use phones by their parents. In the study by MACRO (Market Analysis and Consumer Research Organization) done on 165 respondents in Mumbai, 29.69% did not own a mobile phone.

Main reasons cited were; 69.39% don't required it, followed by 16.33% were not allowed to possess a mobile phone.⁵

In study conducted in Trichirappalli district of Tamil Nadu, about 50% of study subjects spent minimum Rs.300 per month on mobile phone in contrast to only 36.66% spent between Rs. 101-200 in present study.⁴ This disparity could be because of difference in setting and socio-economic condition of the study population. In

the present study, the main purpose for possessing a mobile phone were; for communication purpose (60%), followed by reason that friends were having mobile phones (20%), and social networking (6.7%). Similarly, in the study conducted by MACRO, the main reasons cited by majority (68.42%) were that peer members

possessed a mobile handset; and 13.16% wanted to actually buy. In the same study, 68% study subjects perceived there were possible medical side effects with usage of mobile phones, which is much higher than present study.⁵

Table 2: Relationship between mobile phone, internet services and various other factors with empowerment of adolescent school girls.

Age(in years)	Do you own a mobile handset?			p value
	Total (N=166)	Yes (N=30)	No (N=136)	
10-14	108	11 (36.7)	97 (71.3)	< 0.001
15-18	58	19 (63.3)	39 (28.7)	
	Does that support internet facility?			< 0.001
	Total (N=30)	Yes (N=19)	No (N=11)	
10-14	11	8 (72.7)	3 (27.3)	< 0.001
15-18	19	11 (57.9)	8 (42.1)	
	Is it a smart phone?			< 0.001
	Total (N=30)	Yes (N=16)	No/Don't know (N=14)	
10-14	11	8 (72.7)	3 (27.3)	< 0.001
15-18	19	8 (42.1)	11 (57.9)	
Do you own a mobile handset?	Do you think having a mobile phone can empower a girl?			0.05
	Total (N=166)	Yes (N=87)	No/Don't know (N=79)	
Yes	30	13 (43.3)	17 (56.7)	0.07
No	136	74 (54.4)	62 (45.6)	
Do you own a mobile handset?	Do you think having internet facility in mobile can influence decision making?			0.07
	Total (N=166)	Yes (N=84)	No/Don't know (N=82)	
Yes	30	15 (50)	15 (50)	0.021
No	136	69 (50.7)	69 (49.3)	
Father's occupation	Do you own a mobile handset?			0.021
	Total (N=136)	Yes (N=30)	No/Don't know (N=136)	
Govt. Service and business	77	17 (22.1)	60 (77.9)	0.006
Daily labourer	89	13 (14.6)	76 (85.4)	
	Do you think having mobile phone can empower a girl?			0.006
	Total (N=136)	Yes (N=87)	No/Don't know (N=79)	
Govt. Service and business	77	34 (44.2)	43 (55.8)	0.006
Daily labourer	89	53 (59.6)	36 (40.4)	

Study at Trichirappalli district of Tamil Nadu showed that 35% of the subjects use the internet in mobile phone only to know the SSLC and HSc exam results; this is completely different than calling and texting, which is the predominant use of mobile phone cited by present study population as well as in study conducted by MARCO.^{4,5}

In a study done on mobile phone usage by students in Gujrat, the female students appraised it as a tool for personal safety in case one is late in returning home, in addition to socialising tool and a multipurpose gadget for listening to songs or for watching videos and using it as alarm clock.⁶ Similarly, in a study conducted in Amrita University, Kerala; it has been found that students use

mobile phones for accessing internet, mainly social networking and believe it can help a person gain more knowledge and social skills when the usage is timely and appropriate.⁷

Study done by Cherie Blair Foundation revealed that 41% of the women believed having increased income and professional opportunities through owning a mobile phone; similar to what 63.3% of the adolescent school girls perceived in present study.⁸

In present study, significant association has been found between adolescent girls' father's occupation and their empowerment; but not with having mobile phone of their

own and decision making by the girls. But study conducted in Sonipat, Haryana, showed significant positive correlation between socio-economic status of

adolescent girls in government higher secondary school and their decision making, power and entitlement.⁹

Table 3: Findings of focus group discussion to explore relation of mobile handset and internet usage with empowerment of adolescent girls.

Criteria	Coding	Interpretation
Preference about mobile phone uses	Ownership Predominant uses Disadvantages	Mostly the adolescent girls don't have mobile phones but use their parents' and siblings' phones. They use phone for listening songs, playing games, clicking photos, texting, calling, calculating. According to them strangers will disturb them if they get their number.
Perception about internet usage in mobile phones	Creativity Academic	They use internet for getting innovative ideas regarding painting and designs. They also access internet for academic (letter, paragraph, and history, physical and work education) and project purposes.
Opinion about social networking with mobile handset	Accessibility Sharing ideas Disadvantage	Though they don't have their own account, they know well about Facebook and Whats App. They can post and share their thoughts and ideas with the outer world. Some of them think that it distracts them from studies; so, better not to use social networking sites.
Decision making	Personal care Official purposes Education Navigation Social aspects of life	They can get tips about fitness, remedies about pimples, pregnancy related facts, online shopping using internet. They can also use it for net banking, correction of mistakes in Aadhaar card. They can use it for distance education and searching results. They know GPS system can be used for searching new places and getting directions if they are lost. They can make friendship with unknown people and also know about various matrimonial sites.
Empowerment of adolescent girls	Perception	They don't have any ideas regarding empowerment by internet. They are neither interested in political issues like campaigns and rallies.
Health hazards	Ill effects	According to them headache, pain in ear, decrease in concentration, brain dullness can occur due to excess usage of mobile phone.

CONCLUSION

This study reveals even-though most of the adolescent school girls in Dukli area are not using mobile phones and internet facilities presently, they are well aware of its various uses and believe that it can help in their empowerment.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

- Bird and Espey. 'Adolescent girl empowerment' [Online] cited in www.chronicpoverty.org, 2010 [Accessed on 30 May, 2016] Available from: http://www.chronicpoverty.org/uploads/publication_files/RefAnnIndex.pdf.
- Desai. 'Adolescent girl empowerment' [Online] cited in <http://shetkari.in/main>, 2010 [Accessed on 24 May, 2016] Available from: <http://www.researchpublish.com/download.php?file=STUDY%20OF%20ADOLESCENT%20GIRLS-427.pdf&act=book>.
- Aoki K, Downes EJ. An analysis of young people's use of and attitudes toward cellphones. *Telemat. Info.* 2003;20(4):349-64.
- Krithika M, Vasantha S. The mobile phone usage among teens and young adults impact of invading technology. *Int J Inn Res Sci, EngTechno.* 2013;2(12):7259-65.
- MACRO (May 2004). A report on 'A study of mobile phone usage among the teenagers and youth in Mumbai'. Market Analysis and Consumer Research Organization. [Online] [Accessed on 15 March 2016] Available from: <http://www.itu.int/osg/spu/ni/futuremobile/socialaspects/IndiaMacroMobileYouthStudy04.pdf>.
- Patel A, Rathod HS. Mobile phone usage habits of students commuting from rural areas to nearby town - An exploratory study of Visnagar (Gujarat-India). *Glo J Manag Bus Res.* 2011;11(6):30-8.
- Rajeev MM, Jobilal. Effects of social media on social relationships: A descriptive study on the impact of mobile phones among youth population. *Int. Res. J. Social Sci.* 2015;4(2):11-6.
- Cherie Blair Foundation for Women. Women and Mobile: A Global Opportunity - A study on the mobile phone gender gap in low and middle-income countries'. [Online] [Accessed on 31 May, 2016]

Available from: <http://www.gsrhc.org/document-library/women-mobile-a-global-opportunity-a-study-on-the-mobile-phone-gender-gap-in-low-and-middle-income-countries/>

9. Rathee I. Impact of socio-economic status on different indicators of empowerment. *Inte Edu E-J*. 2014;3(3):186-91.

Cite this article as: Datta A, Datta SS, Karmakar N, Nag K, Tripura K, Bhattacharjee P. A cross-sectional study regarding usage of mobile phone and internet facilities through mobile handsets and its role in empowering adolescent school going girls in a peri-urban area of Tripura, India. *Int J Community Med Public Health* 2016;3:3538-43.