

Original article

Study of awareness of health hazards of mobile phones among women of reproductive age-group in semi-urban area of Talegaon Dabhade

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Introduction

There are officially more mobile phones in the world than people in the world. The world is home to more than 7.2 billion gadgets and they are multiplying faster than we are. (1) Mobile phones became more common in the 1990s. India has the second largest mobile telecommunications market in the world with more than 900 million subscribers. (2)

Mobile phones use electromagnetic radiation in the microwave range. (at frequencies in the range of 900-1500Mhz) Mobile phones use data communication networks, which produce similar radiation. (3) The WHO has classified phone radiation on the IARC scale into a group B -possibly carcinogenic. With rapid increase in the use of mobile phones, there is also increased need for information on harmful effects and the safety of mobile phones. (4) Various studies have also shown possible health hazards on human health from Electromagnetic Radiation emitted (EMR) from mobile phones. EMR pose serious hazards to people particularly children below 16 years and pregnant women (4)

Recent studies have shown that mobile phone radiation can affect the growing foetus in pregnant mothers use mobile phones prolonged periods. Young children are more prone to the ill-effects of EMR due to their smaller and

thinner skulls which allows radiation to penetrate deeper and their cells are dividing at a faster rate, impact of radiation can be much larger. (7) According to WHO, EMR from mobile phones increased risk of brain tumours and could possibly be carcinogenic to humans. (4) Studies have shown that mobiles cause a decrease in sperm count (5) and can cause Attention Deficit Hyperactivity Disorder (ADHD) in offspring (6) It is also possible that radio emissions from mobile phones can cause health problems in other parts of the body as well. The effect of mobile phone radiations is the subject of recent interest and study as a result of enormous increase in mobile phone usage throughout the world. In our field practice area, it was observed that mobiles were being used commonly by young and old alike, without any regard for safety. There are few studies from our country on awareness of health hazards of Mobile phones among reproductive age groups in semi urban area. Hence a need for this kind of study was felt.

Aims and objectives:

1. To study the knowledge regarding mobile phone radiation in women of reproductive age group.
2. To study the attitude regarding mobile phone usage in women of reproductive age group.
3. To study practices towards mobile phone use

usage in women of reproductive age group.

4 To study knowledge about risks and health hazards associated with mobile phones usage in women of reproductive age group.

Materials and Methods:

Study design: It is a cross sectional study design. The study was conducted in a study period of 6 months at the Rural Health Training Centre - Kanhe Phata. Ethical Committee approval was taken prior to the study. The RHTC of MIMER Medical college under department of Community Medicine is situated at Kanhe village approximately 10 kms from Talegaon Dabhade where the college is situated. The centre has adopted 10 villages with a population of approximately 10,000. Out of

these, 1400 women belonged to the reproductive age group. 10% of the women were randomly selected from the above group for the purpose of our study.

Methodology:

The data was collected using pre-tested questionnaire after taking consent from the concerned women. The ladies were given scores based on their General Knowledge regarding mobile phones and also knowledge about any health risks/ hazards associated with mobile phones. Right answer was given 2 marks, wrong answer 1 mark and no knowledge was given 0 marks. Maximum marks for health related knowledge was 18 marks and for general knowledge was 16 marks.

Chart 1.

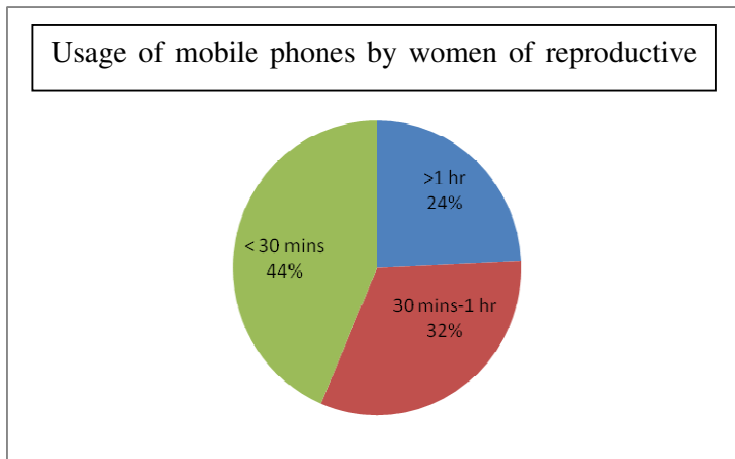


Table No 1: Health related knowledge

1.	Radiation emission	15.71%
2.	Mobile emission can cause tumor of brain	12.85%
3.	Mobile radiation can cause cancer	14.2%
4.	Decreases sperm count in men	15.71%
5.	Can cause harm to foetus	28.5%
6.	Decreases concentration in children	20%
7.	Decreases sleep in children	24.28%

Table No 2: General knowledge regarding mobile usage.

1.	Instrument heats up during prolonged usage	52.85%
2.	Dangerous to use while driving	60.8%
3.	Dangerous to use in Petrol Pumps	54.26%
4.	Harm to small children	60.8%
5.	Dangerous to use on 2 wheeler	54.26%
6.	Safe to use as torch	14%
7.	safe to use while charging	37.14%

Results and Discussion:

Mobile phones are low power radio devices that transmit and receive radio frequency radiation.(at frequ encies in the range of 900-1800 MW) through an antenna close to the users head. There is concern that microwaves might induce or promote cancer, and other problems like sleep disturbances, memory probl ems, headaches, nausea and dizziness. Changes in permeability of BBB, EEG activity and BP have also been noted.(8) Use of mobile phones for long periods in pregnant women has also been associated with increased risk of spontaneous abortion.(9), A total of 140 women participated in the study. The age of the participants varied from 17-45 years. 57% women were above 30 years of age and 43% below 30 years. It was observed that girls below 17 gener-ally did not own a mobile phone. As far as the education of women was concerned, 37.1% of the women were educated upto Std 10th ; 28.5% women had completed their secondary school education, and 15.71%- women had studied more than 12 th standard. When asked about occupation, 54.28% of respondents were housewives, 7% were students and 38.3% were working women. As regards income, most of the women were not very forth coming in disclosing their income. 38% of the women said they did not know the exact income of their family. Out of those who did, most of them belonged to households where income was

below 20,000 per month.

Mobile phones were being used by 48.3% women for a period of more than 5 years. When the women were asked about daily usage ,24.-28% women said that they used the mobile phones for more than one hour a day. 32.5% women used it for 30mins -1hour. (Chart no 1). Headphones were used by only 22.85% women while speaking to someone.. When asked where they kept their mobile phones at night, 31.42% women said that they kept their mobile phones under their pillow or near their beds while sleeping at night. When asked ,if they knew that mobile phones were harmful to the health of a person,15.71% respondents were aware about some form of emission/ radiation. 12.85% knew that emission from mobiles can cause tumor in the brain.14.2% said that the emission can cause some form of cancer. 15.71% respondents were aware that emission from mobiles can decrease sperm count in men. On being asked what harm, prolonged mobile phone usage can cause in pregnant women, 28.57% women were of the opinion that the emission from mobile phones can harm the growing foetus in a pregnant mother. Similar findings were also observed by F.S. Mahmudabadi et al, in their study(9) In our study, 20% said that mobile phones decreased concentration in children and 24.28% said that it also decreases sleep in children which was con-

sistent with the findings in British medical Journal (8) (Table 1)

On being asked about general hazards related to mobile phone usage, 60.82% women were aware that it is dangerous to use mobile phones while driving . More than 54.5% women were aware that it is dangerous to use mobiles in Petrol pumps and an equal number of women said that it is dangerous to use them while riding two - wheelers.

More than 52% answered that their instrument heats-up while charging and, 32.15% women said that using the handset while charging did not cause any harm. (Table No 2) In spite of variation in age, income, occupation and education, there was no difference seen in usage of mobile phones. Knowledge regarding health ha-

zards was also not related to any of the above mentioned variables.

Conclusion:

Majority of the women were unaware about mobile phone radiations and the health hazards they caused. Knowledge regarding general hazards however was satisfactory. So, here is an immense need to spread mass awareness regarding health hazards of mobile phones in women of reproductive age groups across all sections of society.

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References:

1. BBC news: Oct 2012.
2. Wikipedia. Org- telecommunications statistics of India.
3. The hindu, business line print edition, New Delhi, May 2011.
4. WHO press release- 2011;5-31
5. Agarwal A, Deepinder F, Sharma Rk, 2008, effect of cell phone usage on semen analysis in men attending fertility clinic, an observational study, Fertl Steril, 89(1)124-8.
6. Divan HA, Khiefets L, Obel C, Olsen J2012. Cell phone usage and behavioural problems in young children. J epidemiology and comm. health, 66(6) 524-9.
7. WHO fact sheet 198 , June 2011.
8. BMJ 2000, may 13, 320(7345) 1288-1289.
9. . Use of mobile phone during pregnancy and risk of spontaneous abortion, F. S. Mahmudabadi, S. Ziael, M Firaooz-abadi et al. J. env sci and eng, 2015, 13:34.