

RESEARCH COMMUNICATION

Short Text Messages (SMS) as a Reminder System for Making Working Women from Delhi Breast Aware

Anita Khokhar

Abstract

A community based study was conducted with women employees in a private sector office of Delhi. A total of 106 women who volunteered to participate in the study were trained in the technique of breast self-examination (BSE) with the help of a lecture, video, demonstration of the technique on breast model by the investigator followed by feedback demonstration by the technique participants. Subsequently, short text messages (SMS) were sent according to the last menstrual period (LMP) information collected. Women who did not menstruate were sent reminders on the first of every month. Statistical analysis was done using epinfo software. All the 106 participants owned a personal mobile number, while 89% had a private connection of cell phone and 11% had a connection provided by a government agency. Some 76 (71.7%) of the women had a regular menstrual period, 11 (10.3%) had an irregular menstrual period and 19(18%) had stopped menstruating either because of menopause, surgery or some medication. The delivery status of the SMS could be confirmed in majority of the instances. From amongst those who did not do the self exam the main barriers to BSE identified were that they forgot to do it and will do it now (54%), busy (47%), anxiety (12%), pain in the breasts (4%), and some question regarding the exam(4%). Multiple responses were included. After the first two months of sending reminder the practice of BSE increased significantly ($p<0.05$).

Key Words: Breast self examination - short text message - reminder - breast awareness

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Introduction

The incidence of breast cancer is rising in India (Parkin et al., 1999). Despite improvement in scientific knowledge at present there is no known method of primary prevention of breast cancer. Under the present circumstances early diagnosis and treatment as a secondary preventive approach seems to be the most appropriate approach for reducing deaths due to breast cancer. All around the world most cases are reported by the women themselves (Love, 1995). Only if women in India were more aware of what their normal breasts look and feel like would they be able to come to the doctor in the earlier stage of the disease, contrary to the existing situation where the majority are advanced (Love, 1995). But to increase breast awareness requires regular practice of breast self examination (BSE), as advocated by various organizations.

BSE is a healthy life style practice which needs to be adopted by all the women more than 20 years of age but like any other lifestyle change it is not easy to bring about. Some sort of a system needs to be evolved where in women with a busy work schedule especially, those working in metropolitan areas who are at the highest risk of developing breast cancer are reminded on a timely basis. Short text messages (SMS) sent by cellular phone

operators could be one such strategy which needs to be explored for future. The number of Indian mobile phone subscribers has passed 200 million mark (Times of India, 2007). The government is aiming for more than half a billion mobile phone subscribers by 2010. By the end of 2008 three quarters of the India's population will be covered by a mobile network. Also the mobile rates in India are one cent a minute, the lowest in the world (Washington Post). Looking at this scenario cell phones and smses originating from them can be a boon for the health system. The present study attempts to find out the effectiveness of SMS as a reminder system for regular practice of BSE by women.

Materials and Methods

This community based study was conducted amongst women employees of an office of south Delhi. Women more than 20 years of age working for a private organization were approached to enroll in this study. A total of 106 women who volunteered were first trained in the technique of BSE by the investigator in two groups of 52 and 54 women each. A talk followed by explanation of the BSE technique on the breast models followed by showing a video clip on the same. After that a feedback demonstration of BSE technique was done by some of

Table 1. Distribution of the Participants as per the Delivery Status of the Short Text Messages for the 6 Months Reminder Period and the BSE Status (N=106)

| Month | SMS delivered | BSE Conducted | | |
|-------|---------------|---------------|-----------|-----------|
| | | Yes | No | No reply |
| 1st | 92 (86.8) | 45 (42.4) | 38 (35.8) | 23 (21.6) |
| 2nd | 96 (90.5) | 48 (45.2) | 37 (34.9) | 21 (19.8) |
| 3rd | 98 (92.4) | 72 (67.9) | 11 (10.3) | 23 (21.7) |
| 4th | 98 (92.4) | 75 (70.7) | 11 (10.8) | 20 (18.8) |
| 5th | 97 (91.5) | 75 (70.7) | 11 (10.8) | 20 (18.8) |
| 6th | 99 (93.3) | 77 (72.6) | 12 (11.3) | 17 (16.0) |

the participants till the steps of the self examination became clear to each one of them and they were confident of doing it on their own. The vertical strip method of BSE was explained (Saunders et al., 2006). Each of the programmes lasted for about 90 minutes to 2 hours duration. There was a question and answer session followed by filling of the Performa regarding personal details of the participants.

Information elicited was the address, e-mail address, mobile phone number, cell phone connection provider and the date of the last menstrual period so that the SMS reminders could be sent to each woman towards the end of her menstrual period that is the appropriate time to do BSE. Pamphlet were distributed as well. After two training programmes were conducted in April 2008 started the process of sending monthly SMS reminders to all the participants, sent according to the last menstrual period information collected from them. Women who did not menstruate were sent reminders on the first of every month. This reminder system was followed up for 6 months i.e. through October 2008. The content of the SMS not only reminded the lady to do her self exam but also asked them to send a SMS back to the investigator stating whether they had done the BSE or not. For the purpose of this study SMSs were sent to the personal mobile number as it made the process of taking the feedback simpler to find out the effectiveness of the reminder system.

Results

All the 106 participants owned a personal mobile number. Women were between the age group of 22 to 54 years. All of them were graduates or more in terms of educational qualification. All of them have been using a mobile phone for more than 2 years and were well versed with the method of retrieving an sms and also sending a message. 89% had a private connection of cell phone and 11% had a connection provided by a government agency. 76 (71.7%) women had regular menstrual period, 11 (10.3%) had irregular menstrual period and 19 (18%) had stopped menstruating either because of menopause, surgery or some medication.

The delivery status of the sms delivered was confirmed in majority of the instances. A total of three attempts were made to send a message in case the first attempt was unsuccessful (Table 1).

From amongst those who did not do the self exam the main barriers to BSE identified were that they forgot

to do it and will do it now (54%), busy (47%), anxiety (12%), pain in the breasts (4%), some question regarding the exam (4%). There were multiple responses also. After the first two months of sending reminders the practice of BSE increased significantly ($p < 0.05$, chi-square test).

Discussion

Use of short text message in health care is still a nascent area. Testing the use of SMS in the field of health has been tried recently in one such study in Cape Town, South Africa, use of SMS reminders in the treatment of tuberculosis (City of Cape Town Health Directorate and the International Development Research Council, 2005). Pharmacies in London have used SMS for stop smoking drives (E-Health Insider, 2008). SMS text messaging has also been tried as a method to improve out patient attendance in Melbourne, Australia (Downer et al., 2005).

Mobile phone text messaging has also been utilized in the area of sexual health for the purpose of communication between sexual health clinics, patients, in partner notification, contact tracing, contraception reminders and education in Melbourne, Australia (Lim et al., 2008). In the Indian context, in the Kozhikode district of Thiruvananthapuram, a SMS project was launched this year. This government project allows citizens to get information on the nearest health care facility anytime of the day by sending an SMS (Sebastian, 2008). Health Net uses SMS to support programme monitoring, drug and critical supply tracking, supervision and training of staff, lab reporting in Peru, Indonesia and provinces of Andhra Pradesh and Tamil Nadu in India (Tolnay, 2007).

In the present study text messages were used to remind women to do their monthly breast self exam so that they become aware of the normal look and feel of their breasts. An SMS on the mobile is an insistent alert requiring instant action so that health issues can be addressed. This has been reflected in the current study where after first two months of sending sms reminders the practice of BSE improved significantly. The barriers to BSE which were identified were the same as those observed by others (Persson et al., 1997; Connel and Irwin, 2001).

In conclusion, change in lifestyle with regard to practice of breast self examination requires a behavioral change and constant reminder. In the present study, sending an SMS at the appropriate time in the menstrual cycle was followed by a good response in the form of practice of BSE. As half of the Indian population is going to own a mobile phone in the near future, involving cellular operators to cooperate and take up issues related to health such as sending monthly SMS reminder could yield positive results in the long run.

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