Original Article

Effect of Anti-Tobacco Audiovisual Messages on Knowledge and Attitude towards Tobacco Use in North India

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ABSTRACT

Context: Tobacco use is one of the leading preventable causes of death globally. Mass media plays a significant role in initiation as well as in control of tobacco use. Aims: To assess the effect of viewing anti-tobacco audiovisual messages on knowledge and attitudinal change towards tobacco use. Settings and Design: Interventionsal community-based study. Materials and Methods: A total of 1999 cinema attendees (age 10 years and above), irrespective of their smoking or tobacco using status, were selected from four cinema halls (two urban, one semi-urban, and one rural site). In pre-exposure phase 1000 subjects and in post-exposure phase 999 subjects were interviewed using a pre-tested questionnaire. After collecting baseline information, the other days were chosen for screening the audiovisual spots that were shown twice per show. After the show, subjects were interviewed to assess its effect. Statistical Analysis Used: Proportions of two independent groups were compared and statistically significance using chi-square test was accepted if error was less than 0.05%. Results: Overall 784 (39.2%) subjects were tobacco users, 52.6% were non-tobacco users and 8.2% were former tobacco users. Important factors for initiation of tobacco use were peer pressure (62%), imitating elders (53.4%) and imitating celebrity (63.5%). Tobacco users were significantly less likely than non-tobacco users to recall watching the spots during movie (72.1% vs. 79.1%). Anti-tobacco advertisement gave inspiration to 37% of subjects not to use tobacco. The celebrity in advertisement influenced the people’s attention. There was significant improvement in knowledge and attitudes towards anti-tobacco legal and public health measures in post exposure group. Conclusions: The anti-tobacco advertisements have been found to be effective in enhancing knowledge as well as in transforming to positive attitude of the people about tobacco use.

Keywords: Attitude, audiovisual massage, smoking, social norms, tobacco use

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the community along with the level of awareness. It is also determined by an individual’s attitude, combined with subjective norms that form his/her behavior intention. Thus, to bring about an effective change, awareness as well as attitudinal and behavioral changes are required. Keeping in line with the above, an interventional study was carried out to assess the effect of anti-tobacco audiovisual spots on attitudinal change towards smoking and smokeless forms of tobacco use of adult subjects.

Materials and Methods

Study design was community-based intervention. The study was carried out in cinema halls chosen from three locations: urban Delhi (two), semi-urban site (one) Ghaziabad, and rural site (one), Hapur, selected by random sampling. Sample was drawn with the objective of getting representative population of rural and urban areas and different types of cinema halls. A total of 1000 subjects were selected for baseline data collection. All the cinemagoers, irrespective of gender, age 10 years and above, irrespective of their smoking or tobacco-using status, were included in the study. In intervention group, 999 subjects were selected from the same sites but on different days after the film show outside the cinema halls.

Study tool

Mental health and public health professionals developed a questionnaire that consists of various items on socio-demographic information, status of smoking or tobacco use, knowledge and attitude towards tobacco use, social norms, problems related with such habits, and the perceived effectiveness of different tobacco control measures. The validity of this questionnaire was tested before implementation in the study. A psychiatrist and a psychologist conducted one-day training for the survey team to reduce inter-observer bias.

Methodology

In the pre-intervention phase, a total of 1000 subjects (250 subjects from each location) were selected randomly and interviewed to collect baseline information. This group was not included in the post-intervention phase to eliminate the obsequiousness bias (subjects may systematically alter questionnaire responses in the direction they perceive desired by the investigator) and reporting bias, because subjects were already oriented to tobacco use, which would have affected their attention to audiovisual spots, which could not be there if they were naive.

In the intervention phase, two audiovisual spots approved by the Ministry of Health and Family Welfare, Government of India, were chosen to capture two different modes of tobacco consumption, i.e., smoking (cigarette) and smokeless forms (chewing Gutka, a commonly used tobacco product). To see the effectiveness of celebrity advocating harmful effects of tobacco, the spot containing the message by Mr. Vivek Oberoi (a well known actor in Hindi cinema) was chosen, while in the message on anti-gutka consumption there was no celebrity character. The spots chosen aimed at, first to engage the viewer’s curiosity, then to highlight the dangers of tobacco intake, show the ridiculousness of the habit, and finally, to highlight the messages to quit the same habit. The duration of the celebrity spot was 1 minute while that of gutka spot was 30 seconds.

Screening of audiovisual spots was done in all four theatres. The spots were screened twice per show in all shows for the period of study, i.e., before the show and during intermission. The group that was shown audiovisual spots on anti-smoking was interviewed to assess its effect. This group was labeled as post-exposure group.

In the post-exposure phase, 999 subjects were selected who came out from theatres just after the movie finished where audiovisual spots were shown. They were interviewed on questions about attitude, acceptability of the messages shown, views regarding anti-tobacco campaign, and legal issues related to the same. In the case of adolescents aged 10–17 years, guardians/parents were requested to give consent for accompanied adolescents.

Results

Out of the total 1999 people selected for the study, 92.8% were male and 7.2% were female, and 82.8% of population was in the age range of 18–35 years. Overall, 784 (39.2%) subjects were tobacco users, 52.6% were non-users, and 8.2% were former users. The difference between the two groups was that the post-exposure group was more representative of girls, lesser former tobacco users, and had more tobacco users. The pre- and post-exposure groups were significantly different when age, gender, and number of tobacco users were compared. This difference could have affected the results [Table 1].

62% of subjects at baseline felt that pressure from friends and colleagues was an important factor for initiating tobacco use. 53.4% subjects reported that imitating elders was an important factor for the same. However, 63.5% of subjects reported that imitating celebrities in movies leads to tobacco use. 43% stated that tobacco use improved socialization, while 13.8% of subjects perceived health gains for initiating tobacco use.

Retention and recall of the anti-tobacco audiovisual spots

For recall, only post-exposure group was considered.
When they were asked; do they recall any message/spot about smoking during current movie they watched, of the 999 persons, 76.1% remembered anti-tobacco spots shown during movie. The recall was high in all the locations and there was no significant difference between these locations; however, the rural site (Hapur) people had better recall as compared to the people of other locations (P>0.05). The younger age group (10–25 years) had the highest recall rate after watching the anti-tobacco audiovisual spots. Tobacco users were significantly less than tobacco non-users to recall watching the spots (72.1% vs. 79.1%; P<0.05).

Content of recall
The messages that seem to have highest recall value were positive in nature (56%). “Choose life not tobacco” advertisement gives inspiration not to smoke and not to use tobacco products (37%). Recall of audiovisual spot on smoking was more than smokeless tobacco. The celebrity factor was also an important factor in drawing people’s attention and was linked with higher recall.

Effect of audiovisual spots on personal knowledge, values and attitude held towards tobacco use
Across most of the dimensions of personal knowledge and attitude, participants in the post-exposure group had significantly higher knowledge and healthier attitudes than those in pre-exposure group. A higher proportion of people linked smoking with macho image in post-exposure group. This response could be biased probably as the hero of the movie, “Mr. Shahrkukh Khan,” (the same movie was running across theaters) was linked with smoking, and in the content of the movie (named Rab ne bana di jodi), the word “macho” was repeated several times to describe the hero. This could have biased the viewers towards this response. The item analysis reflected that there was greater awareness about well-propagated published messages or where the impact on the health of self or others was clear (awareness or knowledge level 86.7% and 92%, respectively), and 91.1% of people reported that they should take corrective actions to overcome tobacco habit [Table 2].

Effect of audiovisual spots on social values and attitude held towards tobacco use
In the pre-exposure group, 84% of people reported that it is unacceptable to smoke in front of family members. This attitude significantly increased in the post-exposure phase to 93%. In pre-exposure, 80.8% of the population reported that family did not approve of smoking, and in post-exposure phase, it significantly increased to 90.6% (P<0.05). 67.7% reported that smoking is a public health problem in pre-exposure phase; subsequent to viewing anti-tobacco spots it increased to 84.6%; the difference was statistically significant (P<0.05). The awareness about tobacco as a public health problem was present but was much less than the other social attitudes, which are value driven. There was significant increase in awareness in this regard in post-exposure phase of the audio–video spots.

There was no statistical difference between the pre-(90%) and post-exposure (93.7%) groups in their views on need for a social campaign against tobacco use, although in post-exposure group the percentage was higher, reflecting a shift towards higher need for such a campaign [Table 3].

There was significant change in attitude regarding measures adopted to curb the menace of tobacco use. Subjects were more advocating to punitive actions such

### Table 1: General characteristics of pre- and post-exposure group

| General characteristics | Pre-exposure (n = 1000) | Post-exposure (n = 999) | Total (n = 1999) |
|-------------------------|-------------------------|------------------------|-----------------|
| Gender                  |                         |                        |                 |
| Male                    | 961 (96.1)%             | 894 (89.5)%            | 1855 (92.8)%    |
| Female                  | 39 (3.9)%               | 105 (10.5)%            | 144 (7.2)%      |
| Tobacco users           |                         |                        |                 |
| Users                   | 362 (36.2)%             | 422 (42.2)%            | 784 (39.2)%     |
| Former                  | 97 (9.7)%               | 66 (6.6)%              | 163 (8.2)%      |
| Non-users               | 541 (54.1)%             | 511 (51.2)%            | 1052 (52.6)%    |
| Age in years            |                         |                        |                 |
| 10–17                   | 23 (2.3)%               | 31 (3.1)%              | 54 (2.7)%       |
| 18–25                   | 474 (47.4)%             | 536 (53.7)%            | 1010 (50.5)%    |
| 26–35                   | 297 (29.7)%             | 346 (34.6)%            | 643 (32.2)%     |
| 36–45                   | 167 (16.7)%             | 60 (6.0)%              | 227 (11.3)%     |
| 45 and Above            | 39 (3.9)%               | 26 (2.6)%              | 65 (3.3)%       |

For all items, the difference was statistically significant, i.e., P<0.05

### Table 2: Effect of exposure of audiovisual spots on knowledge and attitude about tobacco use

| Knowledge and attitude about tobacco use | Pre-exposure (n = 1000) (%) | Post-exposure (n = 999) (%) |
|-----------------------------------------|-----------------------------|-----------------------------|
| Smoking causes serious diseases like cancer or heart attack | 835 (83.5) | 899 (90.0) |
| Smoking leads to problems like running nose, cough, bronchitis, breathlessness on running, etc | 757 (75.7) | 880 (88.1) |
| Smoking causes impotency | 247 (24.7) | 373 (37.3) |
| Smoking makes a person macho | 123 (12.3) | 204 (20.4) |
| A non-tobacco user can be harmed by being in a room with tobacco users and inhaling the second-hand smoke | 898 (89.8) | 942 (94.3) |
| The health of a non-tobacco user needs to be protected by special provisions | 570 (57.0) | 704 (70.5) |
| Some steps should be taken to restrict smoking and related activities | 877 (87.7) | 945 (94.6) |

For all items, the difference was statistically significant, i.e., P<0.05
as restricting the sale, advertisement, and smoking in public place. They were also supportive toward mass media campaign to educate general public [Table 4].

Discussion
The prevalence rate of tobacco use in the present study came out to be 39.2%, which is similar to the reported tobacco use prevalence of 38% among class C and D group of government employees, but a little higher than the national figure of 30% reported by Rani et al, and less than that reported by National Family Health Survey 2007. Majority of subjects acknowledged that imitating a celebrity in movies leads to tobacco use. Other important reasons were improving socialization and health gains. Similar findings were observed by Kishore et al among public health professionals in which majority stated that socialization was the cause of initiation and continuation of tobacco use.

Effect of anti-tobacco audiovisual spots
In the post-exposure group, majority of subjects were able to remember watching the anti-tobacco spot during the movie. The recall was high in all the locations, but the rural site had better recall as compared to other locations.

Thus, the audiovisual message was well retained and was an effective medium to reach out to the masses, particularly rural masses. Similarly, the younger age group had better recall after watching the anti-tobacco audiovisual spots. Tobacco users were significantly less likely to recall watching audiovisual spot than tobacco non-users. One of the reasons for this lower recall could be that the tobacco users experience cognitive dissonance and feel uncomfortable whenever they are confronted by an anti-tobacco message. This is also highlighted by the fact that tobacco users who used to smoke said that chewing of tobacco is a worse habit than smoking, while people who used to chew tobacco said that smoking is harmful as it affects people around, indicating cognitive dissonance. Thus to bring about a change in behavior regarding tobacco use, one must enhance knowledge and target the attitude and beliefs held at personal and community level.

The messages that seem to have highest recall value were positive in nature such as “Choose life not tobacco.” According to one-third of subjects, the advertisement was inspirational not to smoke or use tobacco products. The celebrity factor was also an important factor in drawing people’s attention and was associated with higher recall. A higher proportion of people linked smoking with macho image in the post-exposure group. The response could be biased probably, as the hero of the movie shown was associated with smoking in his personal life and well known for that habit in public. This could have influenced the viewers towards that response. Post-exposure group had shown significant positive change in their attitudes, gain in knowledge, and the level of awareness. Similar findings were also reported by Thrasher when anti-tobacco industry prevention messages in tobacco-producing regions were distributed. People developed reaction against such industries after the anti-tobacco campaign.

The findings of the study indicate that people do not appreciate advertisement and smoking in public places and appreciate more information about tobacco through mass media. It has been reported that mass media-based awareness programs have positive impact on cessation of smoking and tobacco use.

As it is a well-established fact that tobacco is one of the biggest killers, there is an urgent need to have effective programs, legislative policies, and multipronged campaigns to curb this menace and bring about a social change. The process of bringing about this massive change involves both increasing knowledge about tobacco use and changing social values through a tool called cognitive dissonance, i.e., individuals and society need to dissociate positive meanings and lifestyle with tobacco use and to associate tobacco-free life with health and well-being.
The Government of India has adopted a multi-pronged and multimedia strategy to raise awareness about harmful effects of tobacco use by using a variety of knowledge products like audiovisual spots, radio spots, advertisements in print media, and information education and communication/behavior change communication campaign through state media plans, etc. This research indicates that behavioral change at a mass level is dependent upon the beliefs and values shared by an individual and the community and the level of knowledge. The anti-tobacco spots have been found to be effective in enhancing knowledge as well as in transforming beliefs and values of the self and community about tobacco use.

It is concluded that the preventive intervention in tobacco use has found mass media programs designed to curb tobacco menace as an effective strategy to enhance knowledge and change attitudes. Thus, innovative communication strategies should be used to design and implement anti-tobacco programs with community participation to reduce the burden of the tobacco-related diseases.

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