

Abstract

The objective of the study was to determine the prevalence of smoking among teenagers in the district of Colombo, to study the factors influencing smoking among the teenagers, assess knowledge and attitudes among teenagers and their parents towards smoking and to develop, implement and assess the outcome of a health promotion intervention to the parents to promote non-smoking behaviour among teenagers.

Two focus group discussions were carried out among young current smokers and ex-smokers to obtain information on influences on smoking to develop the questionnaires and the health promotion intervention.

A cross sectional study was carried out in the district of Colombo among 826 teenagers aged 13 – 19 years recruited using cluster sampling techniques where each cluster was identified using probability proportionate to size. The study instrument was a self-administered questionnaire for teenagers and their parents. The questionnaire was valid and reliable for obtaining smoking information of the teenagers.

The health promotion intervention consisted of two flash cards and a booklet. The intervention comprised a health message delivered by the Public Health Midwife and giving the health promotion booklet to the parents to read. The intervention study was carried out in the Medical Officer of Health (MOH) areas of Moratuwa (control area) and Dehiwela (intervention area). The study was carried out among parents of children aged 10-15 years of age. Eligible families were selected by cluster sampling with probability proportional to size. The study design included pre and post intervention collection of data with a self-administered questionnaire for the parents and the children. 196 families of the control group and 206 families in the intervention group completed the post-intervention assessment. The post intervention assessment was carried out after three months with the same self-administered questionnaire used in the pre-intervention assessment to the same families who took part in the pre-intervention assessment.

The non-response rate for the cross sectional survey was 7.2%. The results showed a prevalence of ever smoking among teenagers at 9.9% (± 2.1) with 17.6% (± 3.6) among males and 1.7% (± 1.3) among females. There were 90.1% (± 2.0) teenagers who never smoked. Mean of ever smoking was 13.4 years ($SD \pm 2.4$). Ever smoking was significantly high among

the teenagers who do not attend school (28%, $p < 0.05$) and those employed (44%, $p < 0.05$). In this study 35.3% of ever smokers first smoked before 12 years. One fifth of ever smokers first smoked a tobacco product available at home and 24% have smoked at home. The majority of the teenagers have first smoked with a friend (58%), on a roadside (40%) and the first tobacco smoking product was given by a friend (59%).

Prevalence of current smoking among teenagers was 6.8% (± 1.7) with 12% for males and 1.2% for females. Parents underestimated teenage smoking (45%). The majority of currently smoking teenagers are experimenters (66%), followed by daily smokers (25%). None of the females smoke daily. Cigarettes are smoked by 96% of the currently smoking teenagers. The majority of currently smoking teenagers smoke only if they get cigarettes free (59%). Twenty nine percent of teenage current smokers intend to quit smoking. Nobody had spoken to 61% of teenage current smokers about health effects of smoking.

Multivariate regression analysis adjusting for confounding variables showed that being a male (OR=12.967, CI=5.777-29.104, $p < 0.05$) and increasing age (OR=1.223, CI=1.067-1.402, $p < 0.05$) carried higher odds of ever smoking. The protective factors against smoking are being in school (OR=0.301, CI=0.152-0.596, $p < 0.05$), living in urban areas (OR=0.550, CI=0.323-0.936, $p < 0.05$) and positive attitudes against smoking (OR=0.935, CI=0.897-0.975, $p < 0.05$).

The FGDs revealed that the teenagers started smoking through direct and indirect influences of peers, friends, parental smoking, availability of tobacco products at home, lack of parental advice, lack of refusal skills and lack of opposition from opposite sex.

Regression analysis indicates that the factors influencing current smoking includes being a male (OR=12.749, CI=4.872-33.361, $p < 0.05$). Current schooling (OR=0.128, CI=0.062-0.267, $p < 0.05$), living in urban sector (OR=0.322, CI=0.164-0.633), positive attitudes against smoking (OR=0.921, CI=0.874-0.970, $p < 0.05$) and not noticing tobacco advertisements protects against current smoking (OR=0.210, CI=0.061-0.725, $p < 0.05$).

The majority of currently smoking teenagers smoke because their friends smoke (38%) and 18% smoke as they like the thrill of smoking.

Financial constraints, opposition from the family and health effects of smoking forced ex-smokers to quit smoking. Lack of respect in society, the influence of priests and effects on his sexual life influenced him to quit smoking. Avoiding friends who smoke and the sense of well-being following quitting strengthened non-smoking behaviour.

The majority of non smokers were influenced by their mothers (31%) not to smoke and 21% were not influenced by anybody. Influence of religious dignitaries and teachers accounted for 14% and 9% respectively. Non-smoking teenage girls were influenced by the norm that women do not smoke (6%). These cultural practices should be strengthened in schools and by religious leaders.

Fear of tobacco related diseases influenced non-smoking behaviour among male teenagers (12%). No one has asked 61% of currently smoking teenagers to quit smoking. This information deficit has to be improved to prevent teenagers from smoking. This may be done as part of the school curriculum.

Teenagers have seen tobacco advertisements significantly more often than parents. Teenagers who never smoked were significantly more knowledgeable on the health effects caused by tobacco smoking than currently smoking teenagers ($p < 0.05$).

Availability of low cost cigarettes was widely known among currently smoking teenagers. Enacting appropriate legislature, its proper implementation and increasing taxes on tobacco products will reduce the availability of these cigarettes in the open market.

The intervention was found to be successful in changing knowledge, attitudes of children as well as parents positively. Their awareness of insidious advertisements improved significantly. Current smoking of the children in the intervention group decreased with an increase in reducers (from none to 2.5%) and those quitting smoking (from 0.5 to 1.5%). Currently smoking fathers in the intervention group decreased significantly (from 43.9% to 36.9%, $p < 0.05$). Awareness of low cost cigarettes, tobacco logos attached to children's bags and clothes, tobacco smoking scenes associated with happy events in movies significantly increased in the intervention group ($p < 0.05$). The intervention was effective as it increased the awareness of insidious advertising of tobacco and reduced current smoking among children and the fathers.

This intervention being simple, home-based and taking a short time for delivery to the parents, and implemented through the Public Health Midwife can be used during her routine work with out a hindrance in MOH areas.

The self-administered questionnaire used in this survey was effective in obtaining information on smoking from the teenagers and could be used in community surveys on smoking among teenagers.