

主論文の要旨

**A cross-sectional study on tobacco advertising,
promotion and sponsorship (TAPS) and violations of
tobacco sale regulations in Myanmar: Do these factors
affect current tobacco use among Myanmar high
school students?**

ミャンマーにおけるタバコ広告、販売促進、後援とタバコ販売規制
違反に関する横断研究：これらの要因はミャンマーの高校生の
現タバコ使用に影響するか

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【Introduction】

Regulations on tobacco advertising, promotion and sponsorship (TAPS) and tobacco sale are regarded as effective global tobacco control measures, yet TAPS and illicit tobacco sale exposures in Myanmar are not rare. This study aimed to investigate 1) the prevalences of TAPS and illicit tobacco sale exposures among Myanmar high school students and 2) their associations with the current tobacco use of the study participants.

【Materials and methods】

In November 2015, a cross-sectional study was conducted in two states and two regions of Myanmar. Total participants were 1,174 high school students (482 males and 692 females) from 7 schools. A pre-tested, anonymous, self-administered question was used for data collection. Multiple logistic regression was performed to estimate adjusted odds ratios (AOR), and 95% confidence interval (CI).

【Results】

1. Characteristics of the study participants by gender

Most of the participants (84.7%) were younger than or equal to 15 years of age. More than two-thirds of the students (68.5% of males and 67.1% of females) were grade 10 students. Of those who took part, 25.3% of male and 1.3% of female students were current tobacco users. Male students had more exposure to parental smoking (6.0%), sibling smoking (11.4%), and peer smoking (9.3%) than female students had. Nearly two-thirds of females (66.0%) reported receiving health education about tobacco use, compared to 52.7% of males. Regarding the perception score of tobacco use, measured with eight items, the mean score of seven was set as the cut-off point. Overall, 68.7% of males and 83.2% of females scored more than seven (Table 1).

2. Tobacco advertising, promotion and sponsorship (TAPS) exposures

In total, 90.9% had TAPS exposure in any form. The findings indicate that 71.7% had seen or heard of tobacco advertisement and sponsorship in any form, and 68.1% had seen goods displaying the label of any tobacco product being used in promotions. One out of three students had seen toys, comestibles or wares made in the form of any tobacco product (Table 2).

3. Illicit tobacco sale exposures

Within the last 12 months, more than 80% had been exposed to the sale of any smoked tobacco product inside or within 100 feet of the school premises, the sale or gifting of any smoked tobacco product to minors, or the sale of cigarettes singly or

in packs of less than 20. Nearly 56% had seen the sale or distribution of any smoked tobacco product by minors (Table 3).

4. Odds ratio (OR) of current tobacco use among study participants

In multiple logistic regression analysis, the current tobacco use was significantly associated with exposure to any kind of TAPS (AOR 6.59; 95%CI 2.33–18.64). It was also positively associated with having seen any smoked tobacco product for sale inside or within 100 feet of the school premises within the last 12 months (AOR 4.17; 95%CI 1.65–10.58); having seen the sale or gifting of any smoked tobacco product to minors within the last 12 months (AOR 6.40; 95%CI 2.18–19.12); and having seen the sale or distribution of any smoked tobacco product by minors within the last 12 months (AOR 2.42; 95%CI 1.42–4.10) (Table 4).

【Discussion】

To the best of our knowledge, this is the first study to report the associations of current tobacco use with TAPS and illicit tobacco sale exposures among high school students in Myanmar. The majority of the study participants reported having TAPS and illicit tobacco sales exposures and these exposures increase the odds of current tobacco use among high school students.

In this study, a high prevalence of TAPS exposure (90.9%) was reported. Monitoring, reporting and punishment of TAPS activities prohibited by the Tobacco Control Law are not common in Myanmar. Moreover, global tobacco industry has been focusing on expanding its market in developing countries than in developed countries with high tobacco taxes, comprehensive and complete TAPS bans, and the strict implementation of TAPS regulations. Our findings highlighted the urgent need to enforce this law in Myanmar to reduce TAPS exposure among adolescents. Local authorities need to monitor TAPS among Myanmar youths strictly and to punish the tobacco companies, stores, and retailers violating TAPS regulations.

High school students exposed to TAPS in any form were six times more likely to be current tobacco users than those without any TAPS exposure. A recent study from Myanmar has reported that only half of the high school students had heard about the Tobacco Control Law, and none of the study participants had ever heard of any reporting of or punishment for any violation of regulations on TAPS activities and tobacco sales among minors. Our study suggests that Myanmar high school students should be properly informed of the dangers of TAPS exposure as well as the country's Tobacco Control Law and its punishments.

Regarding illicit tobacco sales, students who had seen any smoked tobacco product for sale inside or within 100 feet of the school premises during the last 12 months were four

times more likely to be current tobacco users than their peers were. This finding implies that the lack of monitoring and reporting of illicit tobacco sales inside or near school premises exerts an influence on current tobacco use among Myanmar high school students.

Within the last 12 months, 82.5% of the study participants reported having seen selling or gifting of any smoked tobacco product to a minor, and 55.6% of the participants reported having witnessed the sale or distribution of any smoked tobacco product by minors. The study also revealed the positive associations of these two illicit tobacco sales with the current tobacco use among the study participants. In Myanmar, there is no specific regulation on smokeless tobacco sales and distributions to and by minors. A study from the United States has reported an association between smokeless tobacco use and smoking. To reduce current tobacco use among Myanmar high school students, this study recommends the urgent need of specific smokeless tobacco regulations concerning sales made to and by minors, and strict law enforcement on sales and distributions all smoked and smokeless tobacco to and by minors in the country.

Another common illicit tobacco sale, the sale of cigarettes singly or in packs of less than 20, made both foreign and local brands become affordable for smokers despite the significant price difference. In addition, other smoked and smokeless tobacco products, such as cheroots, cigars, pipes, betel quids, etc., can be purchased singly or in small quantities in Myanmar. To reduce tobacco use in all age groups, our study recommends that the 2006 Myanmar Tobacco Control Law be updated to address the sale and purchase of all forms of smoked and smokeless tobacco products in small quantities, along with strict law enforcement.

【Conclusion】

There was an alarming prevalence of TAPS exposure among Myanmar high school students. TAPS exposure and violations of tobacco sale regulations were strong risk factors for current tobacco use among Myanmar high school students, while health education about tobacco products was reported as an effective protective factor. Specific smokeless tobacco sale regulations for minors are needed immediately in Myanmar.