Insufficient Smoking Restrictions in Restaurants Around Junior High Schools in Japan

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KOTANI, K., OSAKI, Y., KUROZAWA, Y. and KISHIMOTO, T. Insufficient Smoking Restrictions in Restaurants Around Junior High Schools in Japan. Tohoku J. Exp. Med., 2006, 210 (4), 349-353 —— Controls for second hand smoke (SHS) and adolescent smoking have been still sociomedical concerns in Japan. Restaurant smoking restrictions are associated with community social norms affecting adolescent smoking behavior, and the status in areas around Junior high schools (JHSs) in the community could be a sign of community practices on regulating SHS for adolescents. To examine whether restaurant smoking restrictions are seen especially in areas around JHSs in Japan, a survey using the direct inspection of a total of 163 restaurants (64 restaurants within and 99 outside a 1-km radius from the nearest JHSs) was conducted in May 2003 in Yonago city, Japan. We assessed smoking restriction status in each restaurant and classified them into 2 groups according to the distance from the nearest JHSs. There were only 2 (3.1%) restaurants with 100% non-smoking and 11 (17.2%) with some partial restrictions among the restaurants within a 1-km radius of JHSs. There were 1 (1.0%) restaurant with 100% non-smoking, 3 (3.0%) with complete non-smoking sections and 17 (17.2%) with some partial restrictions among the restaurants outside a 1-km radius of JHSs. Among restaurants with some partial restrictions, restriction methods were considered insufficient. The smoking restriction status was not significantly different between the restaurant groups within and outside a 1-km radius of JHSs. These results suggest that the public awareness of and attitude toward adolescent smoking problems remains low in Japan. Further SHS control actions for adolescents are needed in Japan. ——— environmental tobacco smoke; passive smoking; health promotion; descriptive epidemiology

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The contributing effect of second hand smoke (SHS) on health conditions (Hirayama 1981, 1984; Woodward and Laugesen 2001) has become accepted among medical professionals, whereas it is not yet fully understood in the general community in Japan. Restaurants can be sources of exposure to SHS (Ross et al. 1993; Siegel 1993; Kottke et al. 2001). All over the world, lots of governments and communities have enacted legislation and ordinances that require smoking to be banned in restaurants (Lam et al. 2002; Skeer and Siegel 2003). As well, on May 1,
2003, the health-promotion law aiming to bring about SHS controls in public places was first introduced in Japan. However, Japan has been still behind the times in SHS controls, and even now restaurants in Japan can choose whether or not to be smoke-free.

Previous studies on adolescent smoking problems have focused on junior high schools (JHSs) in Japan, and have suggested that education against smoking is currently needed at least in JHSs because of the marked increase in smoking prevalence as the grade of JHSs increases, regardless of gender (Ogawa et al. 1988; Kawabata et al. 1991; Osaki and Minowa 1993, 1996; Wada and Fukui 1994). The status of restaurant smoking restrictions in the community setting is one of the indexes of community practices on SHS controls (Schofield et al. 1993; Albers et al. 2004; Siegel et al. 2005). More recently, it has been reported that young people in communities with strong restaurant smoking restrictions have had less than half of progression to established smoking than those in communities with weak restrictions in a cohort study of Massachusetts youths (Siegel et al. 2005). It has been described that restaurant smoking restrictions may be related to community social norms that lead to youth anti-smoking behavior, regardless of the frequency of restaurant usage in adolescents (Albers et al. 2004; Siegel et al. 2005). Thus, restaurant smoking restrictions near schools could be a relevant measure to protect adolescents from SHS and remote their intent to smoke. Nevertheless, there have been no community-based reports on examining restaurant smoking restrictions in view of adolescent smoking problems in Japan. This study was aimed to investigate the association between the current state of restaurant smoking restrictions and the area within or outside a certain distance around JHSs in one Japanese local community, as a sample of the wider Japanese community.

Subjects and Methods

The subjects of the present study was based on a study first reported elsewhere (Kotani et al. 2005). Briefly, the cross-sectional study was performed in May 2003, to evaluate restaurant smoking restrictions in the Yonago City, located in southwestern Japan. Yonago had had no local smoking restriction policy and its smoking restriction status did not differ from any other most regions in Japan. Yonago had 11 JHSs, and the study included all JHSs. There were 2,560 registered restaurants in Yonago (data were supplied by the regional public health center). We went to a total of 163 restaurants advertised in the most popular town magazines, and investigated the smoking restriction status through a single inspection. The surveyed restaurants were thought to be appropriate in that they were often used among community residents including adolescents, they perhaps had a higher sensitivity of social trends to current SHS controls, and they had more possibility to accept our direct inspection than unadvertised restaurants. Bar-style restaurants were not included in the present study.

Taking the fitness of study aim and the geographical distribution of restaurants into account, we divided the surveyed restaurants into within and outside a 1-km radius of the nearest JHSs in the present study. We defined “100% non-smoking” as totally forbidding smoking, and defined “completely non-smoking” as setting aside a separate space using a partition in a restaurant. We judged restaurants that were “100%” and “completely” non-smoking as sufficient to control SHS effectively (Lambert et al. 1993; Repace 2004). Other restrictions were defined as insufficient.

Although, on May 1, 2003, the health-promotion law was enacted in Japan, there were no restaurants that had started their smoking restrictions from that date among our surveyed restaurants (Kotani et al. 2005) and we could ignore the effects of the law on the study results. The statistical comparison between the groups was tested by Fisher exact probability test. Significant level was set at \( p < 0.05 \).

Results

We could classify the examined 163 restaurants into the following categories of smoking restrictions: 1) sufficient conditions; 100% smoke-free coverage, and completely non-smoking section, 2) insufficient partial restrictions; non-smoking times during each day, tables with ventilation system available for non-smokers, and a separate seating section specifically for children and pregnant women, 3) no smoking restrictions. There were 64 restaurants within and 99 restaurants outside a 1-km radius around JHSs (Table 1).
We found only 2 (3.1%) restaurants that were 100% non-smoking and 11 (17.2%) with insufficient partial restrictions among restaurants within a 1-km of JHSs. On the other hand, 1 (1.0%) restaurant with 100% non-smoking, 3 (3.0%) with complete non-smoking sections and 17 (17.2%) with insufficient partial restrictions among restaurants were observed outside the area around JHSs (Table 1). The existence of JHSs was not significantly associated with the status of the restaurant smoking restrictions, when the numbers of restaurants under sufficient conditions, insufficient partial restrictions and no smoking restrictions were compared on the basis of their location.

**DISCUSSION**

Our direct inspection, which was considered valuable as a descriptive epidemiology, showed few smoking restrictions in restaurants in this Japanese community: the restaurants under sufficient smoking restrictions were rare, and there were some restaurants with insufficient partial restrictions. This figure suggests a lack of promotion of SHS controls in Japan, compared to other countries that have implemented strong legislations and ordinances requiring restaurant smoking restrictions (Kotani et al. 2005).

The present survey confirmed that a low percentage of restaurants controlled SHS within a 1-km around JHSs, with a similar trend in restaurants outside a 1-km from JHSs. This figure suggests that the community awareness of and attitude toward SHS controls for adolescents is still low in Japan, considering the importance of a smoke-free environment as suggested by a report that restaurant smoking restrictions are associated with smoking-related social norms in youths (Alberts et al. 2004). Anti-smoking education has been proposed for the age group of JHSs or earlier (Ogawa et al. 1988; Kawabata et al. 1991; Osaki and Minowa 1993, 1996; Wada and Fukui 1994) and actual education for children has been gradually developed in Japan (Fukushima et al. 1997). To regulate SHS in Japan, considering cases in foreign countries, more widespread adoption and stronger regulations of the health-promotion law in restaurants may be needed, along with anti-smoking education for adolescents and communities. Further, there have recently been a few communities with local smoking restriction policies in Japan. Although no data concerning adolescent smoking problems in those communities has been published until now, it will be a matter of concern.
to compare the data between communities with and without local smoking restriction policies.

In addition to the regulations without penalties in the health-promotion law in Japan, one of the possible reasons for few restaurant smoking restrictions (regardless of areas around JHSSs) is the restaurant owners’ fears of economic effects on restaurant business, which may be a misconception (Kotani et al. 2005). Although the contents of the health-promotion law may be well known and they may unwillingly perceive that a business decision has their priority in a health-related concern, SHS controls in restaurants on their own initiative does not seem to be realized as far as the owners’ conception of economic effects does not change. An arrangement on the owners’ conception is an issue. Also, smoking restriction methods such as provision of separate seats for children and pregnant women, observed in our study, is considered ineffective (Lambert et al. 1993; Repace 2004). To regulate SHS, to reach the knowledge and methods of proper smoking restrictions to every restaurant is necessary, if it did not reach.

Our survey has some limitations. We did not measure any biomarkers to assess the state of SHS. Also, we did not obtain detailed variables such as the actual frequency of restaurant usage among adolescents and the number/size of seats and operating hours of the restaurants. These variables may be related to restaurant smoking restrictions, and such information should be included in a future study. Next, there might be a selection bias with sampling for the restaurants restricted to advertisements in magazines. In random sampling with unadvertised restaurants, which is often useful in this kind of study, it seems to be impossible to achieve response rates of 100% with the direct inspection as in our survey. On the other hand, the actual status of SHS controls may be poorer among restaurants in our surveyed community. Finally, we did not study many other measures related to SHS controls for adolescents such as cigarette advertisements and smoking restrictions in shopping centers. Further, community opinions on smoking restrictions for adolescents and barriers to the restrictions may become the measures. More study on associations of restaurant smoking restrictions with other measures in view of adolescent smoking problems should be considered in the future.

At present, our survey suggests that adolescents in the examined community may be unprotected from SHS by restaurant smoking restrictions. Further SHS control actions for adolescents from many aspects including reinforcement of the health-promotion law will be needed in Japan.

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References


Smoking among junior high school students in Nagoya, Japan. *Int. J. Epidemiol.*, **17**, 814-820.