

An analysis of municipal ordinances prohibiting smoking on the street in Japan

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[Objective] Whether municipal ordinances prohibiting smoking on the street might act as a motivator to change attitudes and behaviors among smokers who had not quit smoking but rather began smoking on the streets off campus after a total ban on smoking on campus was introduced by our university, was a critical issue. To that end, we examined municipal ordinances in Japan that prohibiting smoking on the street. The goal of the present study was to collect and analyze information cited on municipal websites regarding local ordinances prohibiting smoking on the street in Japan.

[Methods] Local ordinances governing public smoking were gathered from all the municipal websites in Japan then analyzed with descriptive, parametric and non-parametric statistics in order to clarify the mutual relationships among legislation, bylaw names, aims, exemptive clauses of the smoking ban, intensified restricted areas, and penalties.

[Findings] Of the 1,741 municipalities in Japan, 107 (6.1%) had enacted ordinances prohibiting smoking on the street. Analysis revealed that ordinances may be categorized into 2 types. One type was characterized by the use of the term “environmental beautification”, and was not aimed at securing the health or safety of residents. Exemptive clauses in this type of smoking ban were conditioned on the use of portable ashtrays. This type of ordinance made up the majority. The other type of ordinance dealt more directly with health.

[Conclusions] Without nationwide indoor smoking regulations, major type of municipal ordinances aiming for “environmental beautification” may have little effect on changing attitudes and behaviors among smokers, and on providing for the safety and health protection of residents against secondhand smoke.

Key words: municipal ordinance, smoking ban on the street, nationwide indoor smoking ban

Strengths and limitations of this study

Municipal ordinances prohibiting smoking on the street in Japan were evaluated to determine their effectiveness in motivating change in the attitudes and behaviors of smokers, and in safeguarding the health of citizens against secondhand smoke. This issue has been a topic of debate in recent years.

Major type of municipal ordinances prohibiting

outdoor smoking, without nationwide parallel regulations governing indoor smoking, have little effect.

We collected municipal ordinances from municipal websites, the practical effectiveness of ordinances was not investigated.

Background

In 2011, a survey on the impact of a total ban on smoking on a university campus was conducted¹⁾. For smokers, the ban on smoking did not provide an effective motivator to quit smoking but led to smoking on the streets off campus while at the university¹⁾. We therefore realized whether municipal ordinances prohibiting smoking on the street might act as a motivator to change attitudes and behaviors among those smokers, was a critical issue.

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Recently, local ordinances prohibiting smoking on the street and outdoor public spaces have been enacted in some municipalities in Japan. Simon Chapman suggest that recent spreading of local ordinances prohibiting smoking on the street in municipalities in Japan was shown to be influenced by strategy of Japan Tobacco enthusiastic support of street smoking bans²⁾. He also introduced Yumiko Mochizuki's suggestion that the industry's intense support of the policy may be an important foil to hold off indoor bans.

There are three levels of government in Japan: national, prefectural and municipal. The nation is divided into 47 prefectures, each of which consist of numerous municipalities, with a nationwide total of 1,741 cities, towns, villages and special wards of Tokyo Metropolis as of January 2017. Each municipality has an elected mayor and a governing council, which form the primary level of jurisdiction and administrative division. In this regard, wards as administrative district in municipalities, except for special wards of Tokyo Metropolis, were excluded from subjects because those were not local governments.

The aim of the present study was to collect and analyze information cited on municipal websites regarding local ordinances that pertained to smoking in outdoor public spaces, particularly on the street, in Japan.

Methods

Data collection

In January 2017, we obtained complete list of municipalities in Japan from website of Ministry of Internal Affairs and Communications³⁾, browsed all the municipal websites of Japan, and collected municipal ordinances concerned with smoking ban on the street. Categories of data collected from municipal websites were shown in [Table 1](#). Years of enactment, bylaw names, aims, exemptive clauses of the ban on smoking, intensified restriction areas, penalties and mutual relationships among characteristics of the municipal ordinances prohibiting smoking were analyzed. Relationships between the presence of ordinances and municipal population, and prefectural capital or not were also investigated.

Table 1 Categories of data collected from municipal websites

| |
|--|
| • Prefectural capital or not |
| • Municipal population |
| • Legislation of ordinances to prohibiting smoking on the street |
| • Year of enactment of ordinances |
| • Ordinance names and aims |
| • Exemptive clauses of the ban on smoking in ordinances |
| • Intensified restriction areas in ordinances |
| • Penalties in ordinances |

Statistical analysis

Data were digitized and then analyzed with descriptive (frequency distributions, mean, SD, median and so on), parametric (comparison of population according to the presence or absence of ordinances: Student's t-test) and non-parametric (contingency table analyses among characteristics of the data: Fisher's exact test) statistics in order to clarify the mutual relationships among legislation, bylaw names, aims, exemptive clauses of the ban on smoking, intensified restriction areas, and penalties. All *P*-values were based on a two-tailed test and a significance level lower than 0.05 was considered as significant. Statistical analyses were performed using the IBM SPSS Statistics 19.0.0 package.

Results

We confirmed that all municipalities have their own websites, which exhaustively provide administrative information, including ordinances implemented by the municipal governments. We analyzed those municipal ordinances that pertained to smoking in outdoor public spaces, particularly on the street.

Of the 1,741 municipalities in Japan, 107 (6.1 %) municipalities had enacted ordinances prohibiting smoking on the street. Frequency distributions of year of enactment, names, aims, penalties and fines were shown in [Table 2](#). Year of enactment ranged from 1993 to 2016, and the median was 2005. The mean and SD of population in municipalities where ordinances had been enacted were 451,926 and 562,439, whereas those in municipalities without ordinances were significantly smaller (Student's t-test: $P < 0.001$) at 48,880 and 81,365, respectively.

Among the 47 prefectural capitals, 25 (53.2%) cities had enacted ordinances while of the remaining 1,694 municipalities, only 82 (4.8%) had done so, a significantly much lower percentage (Fisher's exact test: $P < 0.001$). Municipalities that enacted ordinances were concentrated around Tokyo, including all 23 special wards of Tokyo Metropolis (Fig. 1).

As concerns the names of the ordinances, 77 (72.0%) of them contained the phrase "environmental beautification", and 49 (45.8%) contained the words "ban on smoking". Of the 77 ordinances that had "environmental beautification" in their names, 58 (75.3%) made no reference to a "ban on smoking". On the other hand, of the 30 ordinances without "environmental beautification" in their names, all of them included the words "ban on smoking" in their names (Fisher's exact test: $P < 0.001$). There was no significant relationship between the names of ordinances and populations, or whether they were

Table 2 Frequency distributions in characteristics of the 107 ordinances as of January 2017

| | Characteristics | n (%) |
|---------------------|--------------------------------|-----------|
| Year of enactment | 1993-1999 | 24 (22.4) |
| | 2000-2004 | 20 (18.7) |
| | 2005-2009 | 52 (48.6) |
| | 2010-2016 | 11 (10.3) |
| Names containing | "environmental beautification" | 77 (72.0) |
| | "ban on smoking" | 49 (45.8) |
| Aims containing | environmental beautification | 96 (89.7) |
| | health and safety of residents | 55 (51.4) |
| Penalties and fines | ¥ 0 (no penalties) | 48 (44.9) |
| | ¥ 1,000 | 2 (1.9) |
| | ¥ 2,000 | 10 (9.3) |
| | ¥ 10,000 | 12 (11.2) |
| | ¥ 20,000 | 28 (26.2) |
| | ¥ 30,000 | 3 (2.8) |
| | ¥ 50,000 | 4 (3.7) |

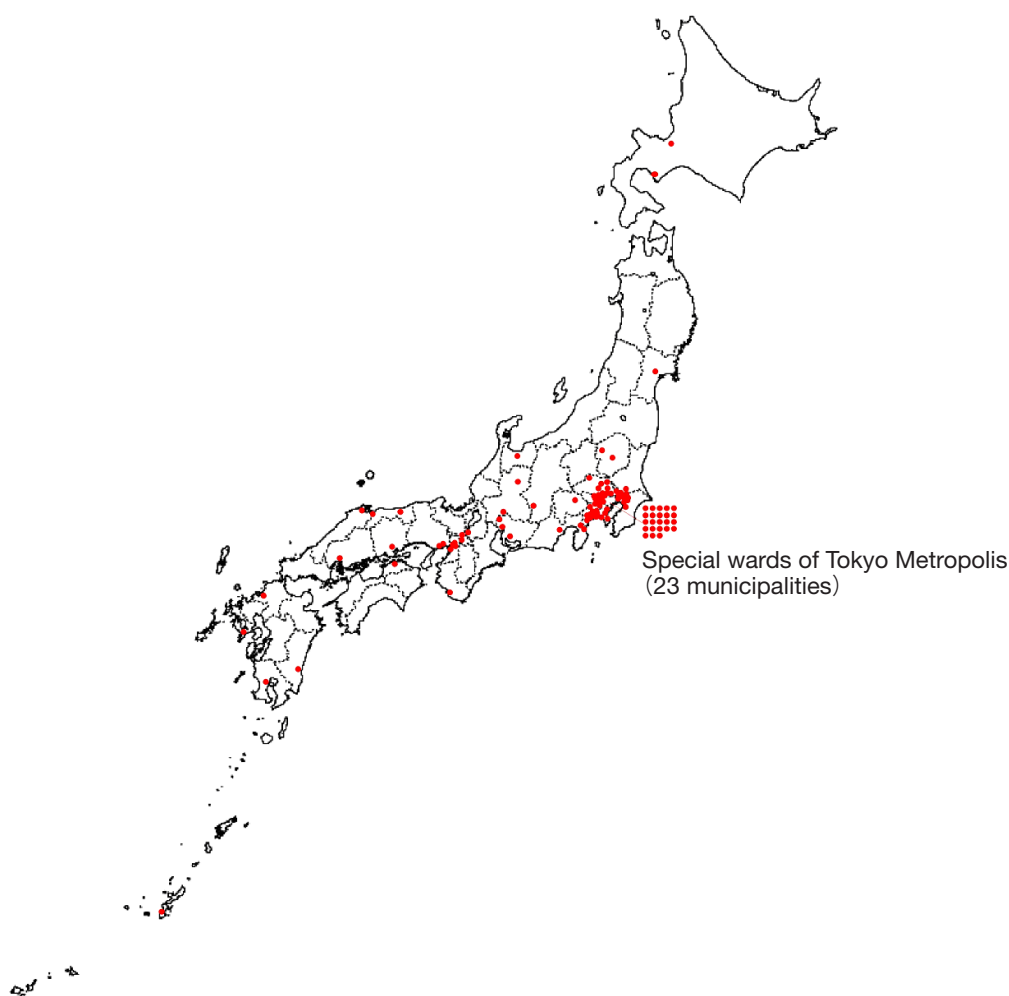


Fig. 1 Location of municipalities in Japan with ordinances prohibiting outdoor smoking
Red dots indicate the location of municipalities with legislative restrictions on smoking on the street. Dashed lines indicate borders between prefectures.

prefectural capitals or not.

Of the 107 ordinances, 96 of them (89.7%) had the stated goal of environmental beautification and 55 (51.4%) of them were aimed at safeguarding the health of residents. Ordinances containing “ban on smoking” in their names had a tendency to be aimed at safeguarding the health of residents, while those with “environmental beautification” in their names did not (Table 3).

Exemptions to the ban on smoking were defined in several ordinances. Thirty three (30.8%) ordinances allowed smokers to use portable ashtrays anywhere on the street. Of the 77 ordinances with “environmental beautification” in their names, 28 (36.4%) of them contained clauses with this exemption, while in the 30 ordinances not containing “environmental beautification” in their names, just 5 (16.7%) defined exemptions to the smoking ban. (Fisher’s exact test: $P=0.037$).

Intensified restriction areas were defined in 89 (83.2%) ordinances. Railway station vicinities, busy shopping areas, scenic spots, natural conservation areas, swimming beaches and school zones were designated as intensified smoking-restricted areas, in 73 (68.2%), 78 (72.9%), 9 (8.4%), 4 (3.7%), 4 (3.7%) and 4 (3.7%) ordinances, respectively. In 59 (55.1%) ordinances, penalties were also defined. Fines ranged from ¥1,000 to ¥50,000, and the median was ¥2,000. Of the 89 ordinances defining intensified smoking-restricted areas, 58 (65.2%) defined fines or penalties whereas of the

18 ordinances that did not define restricted areas, only one (5.6%) ordinance prescribed penalties (Fisher’s exact test: $P<0.001$). There were no significant relations between names of ordinances and the allocation of intensified smoking-restricted areas and penalties.

Discussion

An analysis of municipal ordinances prohibiting smoking on the street in Japan revealed that ordinances may be categorized into 2 types. One type was characterized by names containing “environmental beautification”, the absence of clauses aimed at ensuring the health and safety of citizens, and the inclusion of exemptive clauses to the ban on smoking when portable ashtrays were used. Although we presumed that municipal ordinances might act as motivators in changing attitudes and behaviors among smokers, this type of ordinance has little effective impact on smokers because simple possession of a portable ashtray can serve as an excuse or alibi for smokers. Additionally, this type of ordinance does not provide for the safety and health protection of residents against secondhand smoke, which has been demonstrated to be a considerable health hazard almost as serious and damaging as smoking itself^{4,5}. Furthermore, this type of ordinance comprised the majority, in comparison with ordinances characterized by names containing “ban on smoking”, clauses aimed at the health safety of citizens, and no defined exemptions to the smoking

Table 3 Contingency table between names and aims of the ordinances

| | | n/subtotal (%) | P: Fisher’s exact test |
|---|-------------------------------------|----------------|------------------------|
| Names containing “environmental beautification” | Aim: environmental beautification | | 0.002 |
| | Y | 74/77 (96.1) | |
| | N | 22/30 (73.3) | |
| | Aim: health and safety of residents | | 0.001 |
| Y | 32/77 (41.6) | | |
| | N | 23/30 (76.7) | |
| Names containing “ban on smoking” | Aim: environmental beautification | | ns |
| | Y | 41/49 (83.7) | |
| | N | 55/58 (94.8) | |
| | Aim: health and safety of residents | | < 0.001 |
| Y | 37/49 (75.5) | | |
| | N | 18/58 (31.0) | |

ban. Consequently, municipal ordinances prohibiting smoking on the street may have little effect in providing motivation to change attitudes and behaviors among smokers, and in providing for the safety and health protection of citizens against secondhand smoke.

Smokers prevented from smoking on the street might easily enter public indoor spaces and smoke in the provided smoking areas, because there is no Japanese national law prohibiting smoking in public indoor spaces⁶⁾. Even if non-smoking and smoking areas are spatially separated indoors, pollution from secondhand smoke in non-smoking spaces is not prevented⁷⁾. In addition, these ineffective municipal ordinances might provide an excuse for tobacco-related and associated industries to implement strategies for keeping smoking areas²⁾. Municipalities which enacted these ordinances are concentrated in densely populated areas in Japan. Restricting smoking outside while failing to ban it inside may actually serve to shape public opinion in favor of keeping poorly-ventilated indoor smoking areas, even in densely populated zones where the harmful effects of secondhand smoke hurt a greater number of people.

First, a total ban on smoking in public indoor spaces should be legislated by national law in order to encourage the changing of attitudes and behaviors among smokers, and to safeguard the health of citizens by protecting them from secondhand smoke. A total ban on smoking in public indoor spaces, including restaurants and bars, has been demonstrated to have a negligible impact on economics⁸⁻¹⁰⁾. Secondly, bans on smoking in outdoor spaces should be regulated by municipal ordinances and/or facility regulations where appropriate. In particular, school zones should be designated as restricted areas in order to protect youth from the health hazards of secondhand smoke and to provide a smoke-free, model environment that encourages students to refrain from smoking. Unfortunately, however, only 3.7% of ordinances currently designate such restrictions.

The effectiveness of an outdoor smoking ban has been a topic of debate¹¹⁾. However, regional bans on street smoking without nationwide indoor smoking bans may have little effect, or even lead to an adverse result.

Limitation

Because we collected municipal ordinances from municipal websites, the practical effectiveness of ordinances was not investigated. Though penalties and fines were defined in about half of the ordinances, the median fine was ¥2,000, which is only 4 to 5 times the average price of a package of cigarettes. Such a low fine is not likely to be an effective incentive for smokers to abstain from smoking, even in restricted areas.

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Authors' contributions:

HO had the primary responsibility for protocol development, data collection, outcome assessment, preliminary data analysis, and writing of the manuscript. DO participated in the data collection, analysis and contributed to the writing of the manuscript. MM contributed to preparation of the manuscript and the checking of English. All authors read and approved the final manuscript.

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わが国の路上喫煙を規制する市町村条例の分析

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【目的】 本学では、キャンパス内全域が禁煙であるが、喫煙者は周辺の公道上で喫煙している。路上喫煙を規制する市町村条例がそのような喫煙者に何らかの影響を与えるかもしれない。まず、どのような条例があるかを調査した。

【方法】 全市町村のwebsiteから路上喫煙を規制する条例を収集し、条例名、目的、喫煙規制除外条件、禁煙強化地区、罰則について分析した。

【結果】 1,741市町村のうち、107(6.1%)に条例があった。内容から2つのカテゴリーに分けることができた。多くが「環境美化」を目的とし、住民の健康や安全を目的としておらず、喫煙規制除外条件は携帯灰皿の使用などであった。住民の健康を守るためとするものは少なかった。

【考察と結論】 全国的な屋内喫煙規制がないなかでは、多くを占める「環境美化」を目的とした路上喫煙規制条例は、喫煙者の行動を変えることができず、受動喫煙の害から、住民の健康や安全を守ることができない。

キーワード: 市町村条例、路上喫煙規制、全国的な屋内喫煙規制