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1C - Session ETS health impact

1C.1: Impact of Smoke-Free Law on Indoor Air Quality - Turkey Experience

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Turkey has become complete smoke-free country with the "amended" Anti-Tobacco Law No. 4207 in July 2009. Having a "Law" is an essential element of tobacco control, however implementation is also important. In order to see the impact of the Law on indoor air quality, PM_{2.5} levels were measured before and after the implementation of the Law at various closed places in Ankara. PM_{2.5} measurements were done for 30 minutes using SKC Sidekick 224-52TX model Dust Sampler. Several thousand mcg/m³ values were found during "before implementation" measurements, and considerable reduction was observed after smoke-free implementation. The most striking reduction was observed at a public office (from 2900 to 80 mcg/m³) and a small stationary shop (from 1800 to 400 mcg/m³). Pre and post implementation values at some of the places are seen in the table below. Although the post-implementation levels were still above the permissible limit, the improvement in indoor air quality is promising. Better implementation and enforcement of the smoke-free law is needed to achieve the complete smoke-free indoor places.

1C.2: Health impact in hospitality workers of a smoking ban in Vaud, Switzerland

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Objectives

This work addresses the impact and implementation issues, in the hospitality sector, of the new cantonal law banning smoke in public areas and the workplace.

Methods

A letter inviting hospitality workers to participate in this study on the impact of the forthcoming smoke-free cantonal law was sent to owners of all the 1798 hospitality venues listed in the canton. 36 establishments responded positively and 105 hospitality workers were recruited before the law took effect on 15.09.2009.

Environmental tobacco smoke (ETS) exposure was measured by using a passive sampling device. These personal Monitors of NiCotine (MoNIC) were carried by the subjects during one workshift in the hospitality venue. The inhaled Cigarette Equivalents (CE) was calculated, based on a reference of 0.2 mg of nicotine per cigarette. These measures were combined with biomonitoring of salivary cotinine and nicotine. 1 ml of saliva was collected by a non-stimulated method and products were quantified by liq-liq extraction with CH₂Cl₂ and GC-NPD.

Lung function tests were performed with an EasyOne portable spirometer at the work setting. Each participant underwent at least three forced expiratory maneuvers and the resulting output was analyzed by a pneumologist for validation.

The participants were also invited to answer a questionnaire as well as the SF-36 health survey, a short-form, multipurpose health survey.

These analyses were then repeated at six and twelve months from study initiation.

Results

Since the introduction of the new smoke-free law in the canton of Vaud in september 2009, exposure to ETS has declined significantly among both non-smokers and smokers using inhaled CE as measured by MoNIC badges.

Lung function tests show a significant improvement in FEV1 (forced expiratory volume in 1 second) in self reported asthmatics as well as in younger subjects (<40 years) at 6 months from study initiation, after the ban took effect.

Moreover, analysis of the SF-36 forms at 6 months reveals a significant improvement in role limitations because of physical health problems in men, physical pain in men as well as global physical score in men.

Conclusions

The smoke-free law allowed a significant decrease in hospitality workers' exposure to ETS. The most immediate benefits appear to be improvements in lung function tests in the especially vulnerable asthmatic group and more interestingly in younger subjects as well. Men exhibit an improved subjective physical health already 6 months after introduction of the law.

Further analysis of results, especially at one year from study initiation, will be crucial to better understand the impact of the smoke-free law.

Implementation

This study shows the beneficial impact of the law banning smoking in public places in the canton of Vaud. It shows the importance of implementing smoking bans in all workplaces including hospitality venues.

1C.3: Exposure to second-hand smoke and compliance with national smoke-free workplace legislation

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Objectives

The current study examined time trends and associations in exposure to second-hand smoke (SHS) in Finland in 1985-2008 in workplaces of different sizes, and compliance with national smoke-free workplace legislation that has been enforced since 1995. The legislation allows separately ventilated smoking rooms in workplaces. The legislation requires that nonsmokers are not at all exposed to SHS.

Methods

The study population comprised respondents of nationally representative annual postal surveys. The annual sample size was 5000 persons between 15 and 64 years of age. The response rate varied between 64 and 82 per cent. The differences in the prevalence of SHS-exposed respondents were measured with particular reference to workplace size and workplace smoking arrangements.