

# THE EFFECT OF A SMOKING BAN INTRODUCTION TO ENVIRONMENTAL TOBACCO SMOKE EXPOSURE IN SWISS HOSPITALITY WORKERS

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**Background and Aims:** To protect the population from environmental tobacco smoke (ETS) Switzerland introduced a nationwide rather heterogeneous smoking ban in May 2010. The exposure situation of non-smoking hospitality workers before and after implementation of the new law is being assessed in a prospective cohort study.

**Methods:** Exposure to ETS was measured using a novel method developed by the Institute for Work and Health in Lausanne. It is a passive sampler called MoNIC (Monitor of NiCotine). The nicotine of the ETS is fixed onto a filter and transformed into salt of not volatile nicotine. Subsequently the number of passively smoked cigarettes is calculated. Badges were placed at the workplace as well as distributed to the participants for personal measuring. Additionally a salivary sample was taken to determine nicotine concentration.

**Results:** At baseline Spearman's correlation between workplace and personal badge was 0.47. The average cigarette equivalents per day at the workplace obtained by badge significantly dropped from 5.1 (95%- CI: 2.4 to 7.9) at baseline to 0.3 (0.2 to 0.4) at first follow-up (n=29) three months later (p<0.001). For personal badges the number of passively smoked cigarettes declined from 1.5 (2.7 to 0.4) per day to 0.5 (0.3 to 0.8) (n=16). Salivary nicotine concentration in a subset of 13 participants who had worked on the day prior to the examination was 2.63 ng/ml before and 1.53 ng/ml after the ban (p=0.04). Spearman's correlation of salivary nicotine was 0.56 with workplace badge and 0.79 with personal badge concentrations.

**Conclusions:** Workplace measurements clearly reflect the smoking regulation in a venue. The MoNIC badge proves to be a sensitive measuring device to determine personal ETS exposure and it is a demonstrative measure for communication with lay audiences and study participants as the number of passively smoked cigarettes is an easily conceivable result.