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Title: Tobacco smoke: Environmental control in a public hospital of Rome

Dr. Rosastella 12015 Principe rprincipe@scamilloforlanini.rm.it MD ¹, Dr. Gregorino 12016 Paone rpaone1023@yahoo.com MD ², Dr. Patrizio 12017 Palermo palermo.patrizio@gmail.com MD ², Dr. Salvatore 12018 Damante s.damante@ariambiente.it MD ³, Dr. Sergio 12019 Fuselli sergio.fuselli@iss.it MD ⁴, Dr. Giuseppe Alessio 12020 Messano giuseppe.messano@yahoo.it MD ⁵ and Dr. Piergiorgio 12021 Zuccaro piergiorgio.zuccaro@iss.it MD ⁶. ¹ Smoking Cessation Center, S. Camillo-Forlanini Hospital, Rome, Italy ; ² Heart and Lung Institute, Sapienza University of Rome, S. Camillo-Forlanini Hospital, Rome, Italy ; ³ Environmental Researcher for Air Quality, Health Institute, Rome, Italy ; ⁴ Hygienic Living Environment, Health Institute, Rome, Italy ; ⁵ Department of Public Health and Infectious Diseases, Sapienza University of Rome, Rome, Italy and ⁶ Observatory Smoking, Alcohol and Drugs, Health Institute, Roma, Italy .

Body: Background. The Environmental Tobacco Smoke (ETS) is a complex mixture of around 4000 chemicals, some 50 which are carcinogens. Particulate Matters (especially PM2,5) are the most commonly used indicators to evaluate environmental exposure to ETS. Passive smoking has been associated with many adverse health effects. On 10 January 2005 in Italy a smoking ban was enforced for all indoor public places. Aims and objectives. Our Study was aimed to monitor the compliance with the smoke free policy within a Public Hospital in Rome. Methods. A cross sectional study was designed to measure 4 month levels of Particulate Matter (PM2,5 and PM10) in three sensitive areas of a Public Hospital: Administrative Offices, Surgical Units and Main Entrances. To accomplish this, we used passive environmental mass analyzer by Radiello and personal samplers EGO plus TT Zambelli and GT 531 Met One Instruments. Results. While no significant concentrations of PM2,5 and PM10 were measured in the Administrative Areas and in the Surgical Units (except a peak of 38 µg/m3 PM2,5), a significant increase of PMs levels was observed at Hospital Main Entrance (PM2,5 for 24h > 18 μg/m3), which was above the 10 μg/m3 that WHO has set for Good Air Quality Conclusion. Hospitals should be among the most influential settings in terms of controlling tobacco consumption promoting smoke-free environments and monitoring compliance with the law. Our study confirms the compliance with the ban in most of the analyzed areas, however, the Main Entrances were not completely free from second-hand smoke. This data should prompt a revision of current smoke free policies particularly in the outdoor settings.