European Respiratory Society
Annual Congress 2013

Abstract Number: 3725

Publication Number: P992

Abstract Group: 6.2. Occupational and Environmental Health

Keyword 1: Occupation **Keyword 2:** Spirometry **Keyword 3:** Asthma - diagnosis

Title: Respiratory symptoms, ventilatory function and bronchial responsiveness in workers exposed to cement dust

Dr. Sasho 22864 Stoleski sstoleski@yahoo.com MD [1], Prof. Dr Jordan 22865 Minov minovj@hotmail.com MD [1], Prof. Dr Jovanka 22866 Karadzinska-Bislimovska bislimovska_j@yahoo.com MD [1], Dr. Dragan 22867 Mijakoski dmijakoski@yahoo.com MD [1] and Dr. Snezana 22868 Risteska-Kuc risteska_kuc@yahoo.com MD [1]. [1] Center for Respiratory Functional Diagnostics, Institute for Occupational Health of R. Macedonia, WHO CC and Ga2len CC, Skopje, Macedonia, The Former Yugoslav Republic of, 1000 .

Body: Objective: To determine the prevalence of respiratory symptoms, lung function test abnormalities and non specific bronchial hyperresponsiveness (BHR) among workers employed in cement industry. Methods: A cross sectional study was performed including 55 males (mean age= 42.2±8.7) employed in a cement plant (duration of exposure 16.1±7.2) and 50 male office workers as a control group (mean age=41.8±8.1) matched for age, smoking habits and socioeconomic status. Evaluation of examined subjects included completion of a questionnaire on respiratory symptoms in the last 12 months (cough, phlegm, dyspnea, wheezing, and chest tightness), spirometry and histamine challenge (PC20≤8 mg/mL). Results: Cement workers had a significantly higher prevalence of cough with phlegm (32.4 %), dry-cough (20.1%), wheezing (12.8%), dyspnea (4.7%), and nasal symptoms (9.2 %) than the control group ($p<0.05$). All spirometric parameters (FVC, FEV1, FEV1/FVC%, MEF75-25, MEF50, and MEF25) were lower among cement workers compared with the control group, but statistical significance was found for MEF25, MEF50, and MEF75 ($p=0.02$, $p=0.02$, and $p=0.005$; respectively), adjusted for age, duration of exposure, height, and pack-years. The prevalence of non specific BHR, defined by histamine PC20 less than 8 mg/mL, was higher in cement workers, but still without statistical significance (22.1% vs. 15.1%). Conclusion: Our study suggest that occupational exposure to cement dust is associated with a higher prevalence of respiratory and nasal symptoms, lung function impairment as well as higher prevalence of non specific airway responsiveness.