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Evaluation Work-related Asthma Frequency and Determinants in Hospital Cleaners

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Objectives: Occupational asthma term emphasizes a newly started disease caused by an occupational exposure. Occupational asthma cases constitute 10-25% of all asthma cases. Professional cleaners were found having more asthma symptoms than general population in developed countries. Diagnosis of occupational asthma include that taking medical history and tests; Peak Flow Meter (PEF) is measured at work and holiday and bronchial provocation tests. In this cross-sectional study, our aim was to determine WRA level of professional hospital cleaners working in Hacettepe University hospitals and evaluate possible causes.

Methods: Professional cleaners working at Hacettepe University Hospitals interviewed and spirometric pulmonary function tests were performed. Of 366 hospital cleaners, 78 weren't reached, 11 didn't accept to participate, and data collected from 278 (75.7%) participants. PEF measurement data of 24 cleaners were digitally obtained. Number of cleaners whose serial measurements met pre-defined criteria to include into variability analysis was seven.

Results: Number of participants with wheezing within last 12 months or history of physician diagnosed asthma or history of asthma medication prescribed within last 12 months are 40 (%14.4). Of those 40 cleaners, 23 (8.2%) didn't have symptoms aggravated in workplace. Remaining 17 (6.1%) participants were grouped as WRA. For seven participants whose serial PEF measurements analyzed to calculate variability, mean PEF variability of workers were 20.6% and 20.4% for work days and days away from work respectively.

Conclusion: In our study we detected WRA prevalence as 6.1% in cleaners. We found significant relation between WRA and female gender (OR=4.5) and allergic rhinitis (OR=8.3) and significantly higher level of usage of cleaning products at home (p=0.026). Besides compliance issues, relatively long follow-up period (three weeks), unwillingness of participants to carry PEFmeter between home and work, varying workload, heterogeneity of education level of participants may affect scarcity of PEFmeter follow-ups meeting specified criteria. To conclude, we detected work-related asthma symptoms and pulmonary function test abnormalities in hospital cleaners. Many chemical cleaning products used in hospital area need to be careful toxicity of the mixture.

Keywords: Work-related asthma, occupational asthma, cleaning workers