

Diagnosis of occupational rhinitis to dust and gasses using peak nasal inspiratory flow

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Abstrak

Background: The recent development in technology and industry has increased the incidence of occupational disorders of which eventually affect the productivity and cost of related industries. Whether the products or the waste-materials are harmful to airway function, it needs to be investigated. **Purpose:** To study the incidence of occupational rhinitis (OR) caused by exposure of sodium lauryl sulfate dust and irritant gases in the workplace. **Methods:** In this prospective study, 115 industrial workers who were exposed daily to multi-irritant material were investigated with questionnaire, anterior rhinoscopy, nasal endoscopy, peak nasal inspiratory flow (PNIF) meter, skin prick test, and nasal mucous scrapping before (V1) and after 8 hours (V2) work. The diagnosis of OR was made when symptoms of rhinitis worsened on workdays and a decrease of PNIF ($\geq 20\%$) at V2. In addition, hours of daily exposure to irritant, years of working, improper usage of personal protection device (nasal and oral mask), and smoking were assessed by bivariate and multivariate analysis. **Result:** 32 workers of 115 (27.8%) were diagnosed as OR based on increased rhinitis symptoms during workdays and decreased PNIF after work. Incidence of OR increased in workers who had worked >10 years=2.15 (IC 95%:1.19-3.87, $p=0.009$) and who did not use personal protective equipment properly ($p=0.04$, RR:2.3, IC 95%:1.29-4.28). **Conclusion:** Exposure to occupational reagent such as sodium lauryl sulfate dust and multi-irritant gasses was a causal factor of OR. A proper perusal of personal protection equipment (PPE) is mandatory in workplace to minimize the risk of developing OR.