Assessment of Nicotine Dermal Contact and Urinary Cotinine of Tobacco Processing Workers.

Objective: To assess the dermal contact of nicotine dust, subjective symptoms and urinary cotinine of post curing tobacco workers.

Material and Method: Dermal hand wipes of residual nicotine dust samples, morning urine samples and subjective symptoms were collected from 30 workers. The hand-wipe samples and urine samples were analyzed for nicotine and cotinine by a GC/MS, respectively.

Results: The average amount of nicotine on the hands of workers was 0.24 microgram/cm², while the average urinary cotinine concentration of workers was 3.08 microgram/ml. Moreover, there was a significant correlation between nicotine residue on hands and urinary cotinine excretion at r = 0.978, p < 0.05. There was also a significant relationship between the occupational related nicotine residue on hands and the number of subjective symptoms reported (p < 0.05).

Conclusion: The nicotine residue on hands could be used as an indicator of occupational nicotine dust exposure which might affect the health of tobacco workers.

Keywords: Nicotine, Cotinine, Tobacco dust, GC/MS