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Even light-use waterpipe smoking harms the lungs

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(HealthDay)—Young, light-use waterpipe smokers exhibit a variety of

pulmonary abnormalities, according to a study published online March 23 in the *American Journal of Respiratory and Critical Care Medicine*.

Yael Strulovici-Barel, M.D., from the Weill Cornell Medical College in New York City, and colleagues compared clinical and biological parameters in young, light-use waterpipe-only smokers versus lifelong nonsmokers. Measured parameters included cough and sputum scores, lung function, chest high resolution computed tomography, lung epithelial lining fluid (ELF) metabolome, small airway epithelial (SAE) cell differential and transcriptome, alveolar macrophage (AM) transcriptome, and plasma apoptotic endothelial cell microparticles (EMPs).

Compared to nonsmokers, the researchers found that waterpipe smokers had more cough and sputum. Waterpipe smokers also exhibited lower lung diffusing capacity, abnormal ELF metabolome profile, increased proportions of SAE secretory and intermediate cells, reduced proportions of SAE ciliated and basal cells, markedly abnormal SAE and AM transcriptomes, and elevated levels of apoptotic EMPs, compared to nonsmokers.

"Young, light-use waterpipe-only smokers have a variety of abnormalities in multiple lung-related biologic and clinical parameters, suggesting that even limited waterpipe use has broad consequences on human lung biology and health," the authors write. "We suggest that large epidemiologic studies should be initiated on the harmful effects of waterpipe smoking."

More information: Full Text (subscription or payment may be required)

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