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Title: The influence of active and former smoking on the amount and quality of sleep in an obstructive sleep apnea (OSA) population versus habitual snorers

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Body: Purpose: Data regarding smoking-OSA relationship and sleep quality are inconsistent; studies are small, without adjustment for confounders (comorbidities, dependencies). Is known that acute withdrawal of nicotine causes sleep alteration, without dose-effect relationship. Objective: We analyzed effects of smoking and smoking status on sleep in 2 groups (OSA and habitual snorers) comparable regarding comorbidities and dependencies. Results: We analyzed 71 OSA patients (18% women, 82% men) successfully CPAP titrated (other pathologies excluded): 25(35%) nonsmokers, 19(27%) active smokers (YP=21.5±20.7, Fagerstrom=3.5±2.1), 27(38%) exsmokers (YP=25.9±18.8); mean values: age=54.3±13 years, Epworth=8.2±5.4, total sleep time=5.6±2h, arousal index=29.7±23.7/h, AHI=38.1±35.6/h. We compared OSA active smokers with control group of 11 active smokers snorers (2 women, 9 men, age=41.1±11.7 years, Epworth=4.09±3.6, YP=23.2±22.5, Fagerstrom =4.6±2.3, total sleep time=4.7±2.3h, arousal index=15.8±11.6/h). OSA smokers sleep quality is affected vs non-smokers (more arousals, p=0.02). There was no difference in total sleep time, efficiency, sleep latency, sleep stages or OSA severity (except worse nocturnal hypoxemia in active smokers: r= -0.49, p=0.03); no differences between active smokers/exsmokers, nor between OSA patients and snorers. YP index correlates with arousal index, but doesn't correlate with nicotine dependence. Conclusion: Smoking intensity and sleep quality (arousal index) correlated, unrelated to nicotine dependence. Studies are needed to prospectively assess effects of smoking on sleep and OSA using a non-snoring smokers control group.