JL002 Progression of periodontal disease attributable to cigarette smoking: a 5 years population-based longitudinal study

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The population burden of periodontal disease (PD) attributable to smoking is still largely unknown in developing countries. This study aimed to estimate the proportion of PD progression over 5 years that could be attributed to smoking. At baseline, 1586 individuals 14 years and older, living in Porto Alegre-Brazil, were selected using a multistage probabilistic strategy. At follow-up, 653 individuals were available for re-examination. Periodontal attachment loss was determined using full-mouth six sites per tooth examinations. PD progression was defined as having attachment loss progression ≥3mm in ≥4 teeth. Light and heavy smoking were defined as 1-15 and >15 packyears, respectively. Population attributable risk (PAR) was estimated from multiple Poisson regression models adjusting for age, gender and education. A reduction of 6.5% (95%CI 3.0-9.9) in PD progression cases (from 37.8% to 31.3%) could be expected in this population if smoking was eliminated. Likewise, PD progression could be reduced by 10.7% (95%CI 2.6-18.6) among light smokers (from 40.2% to 29.5%) and 22.2% (95%CI 9.8-53.8) among heavy smokers (from 61.5% to 39.3%). Stratified analysis by gender indicated that males would have greater benefits of quitting smoking (PAR=8.7%; 95%CI 4.3-12.1) than females (PAR=4.7%; 95%CI 2.0-7.6).

Smoking is the most important modifiable risk factor for PD, and smoking prevention and cessation has the potential to greatly reduce the burden of not only periodontal diseases, but also other oral and systemic diseases.