



**FACT SHEET FOR:** Cannabis smoking and periodontal disease among young adults

**EMBARGOED FOR RELEASE: 3 P.M. (CT) TUESDAY, FEBRUARY 5, 2008**

Please note: only for journalists in New Zealand and Australia, this study will have an early embargo of 6 a.m. (NZDT) Wednesday, February 6.

**PUBLICATION SOURCE:** The Journal of the American Medical Association (<http://jama.ama-assn.org/>)

**THE FINDING:** Periodontal disease (also known as gum disease) is the second most common cause of tooth loss (after tooth decay), and cigarette smoking is a known risk factor for the condition because of the effects of toxins absorbed into the blood via the lungs. Cannabis smoking is likely to have a similar effect (particularly because of the deeper inhalation and longer contact time) but has never before been investigated. We report on the relationship between heavy cannabis use from ages 18 through 32 and periodontal disease by age 32 in 1000 individuals born in New Zealand in 1972-73. We identified heavy cannabis users as those in the highest 20% of usage, equivalent to an average of 41 or more occasions per year between ages 18 and 32. After we allowed for lifelong cigarette smoking, heavy cannabis smokers were found to have considerably higher risk of having established gum disease by age 32. Those who smoked cannabis less frequently were in between the heavy users and those who had never smoked it. Even cannabis users who did not smoke tobacco developed gum disease, suggesting that the periodontal-disease risk of cannabis smoking was not simply a function of tobacco smoking. Heavy cannabis smoking was responsible for more than one-third of the new cases of gum disease between ages 26 and 32.

#### **WHY IS THIS FINDING IMPORTANT?**

This is the first study to have investigated whether smoking anything other than tobacco is detrimental for the gums. The findings account for some of the unexplained variation in gum disease among younger adults. Studying gum disease in young adulthood is particularly relevant when the topic is cannabis use, because smoking cannabis is a phenomenon of young adulthood (US cohort studies show that its use drops off with age after the mid-30s).

**For society:** Heavy cannabis use has been linked to greater risk of developing respiratory disease and psychiatric difficulties. Gum disease should be added to the known hazards of heavy cannabis smoking.

**For public understanding of oral health:** Until now, the best way to maintain healthy gums was to brush thoroughly twice a day, floss regularly (preferably daily), visit a dentist or hygienist regularly, and avoid smoking tobacco. Our study’s findings suggest that the latter point needs to be changed to “avoid smoking anything”.

**For dental professionals:** As part of their history-taking, dentists and hygienists should ask patients about all smoking habits, and counsel patients appropriately.

### **PARTICIPANTS:**

Were 903 members of the Dunedin Multidisciplinary Health and Development Study, which follows all children born between April 1972 and March 1973 in Dunedin, New Zealand. This birth cohort’s families represent the full range of socio-economic status and health in the general population. Follow-ups have been carried out at ages 3, 5, 7, 9, 11, 13, 15, 18, 21, 26, and most recently at age 32, when 96% of the living cohort members took part.

### **SUPPORTING DETAILS:**

#### **How did we measure gum disease?**

At age 26 and then again at age 32, we recorded gum recession and probing depth at 3 sites per tooth. Together, these indicate how much gum attachment has been lost at each site, and we use the data from the entire mouth to identify which study participants were cases of gum disease (“periodontitis”): (a) those with attachment loss of 5mm or more, and (b) those who had new attachment loss between ages 26 and 32.

#### **How did we measure cannabis use?**

At each of ages 18, 21, 26 and 32, participants were asked how many times in the previous year they had used cannabis. We then averaged their usage over those four ages and identified those in the highest 20% of cannabis use – they averaged 41 or more occasions of cannabis use for each of the years between ages 18 and 32.

#### **How did we measure tobacco smoking?**

We calculated the number of pack-years exposure (that is, the number of packs of cigarettes smoked per day multiplied by the number of years smoked at that rate) from tobacco usage data collected for the periods: up to age 18; from ages 18 to 21; from ages 21 to 26; and from ages 26 to 32. We then controlled for tobacco use in the analyses of gum disease.

#### **What else did we control for?**

We controlled for gender, use of dental services, socio-economic status, and how clean or dirty the teeth were.

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**DIAGRAM:**

**Heavy cannabis smokers are more likely to develop gum disease by age 32**

