In addition to the examination, a questionnaire was distributed that included several sections on general and dental health as perceived by the individual, preventive habits, dental services utilization, socio-demographic data, and medical history.

Results

The participation rate was 77% for the questionnaire and 44.5% for the oral examination. There was no significant difference as far as age and last dental visit between those who only answered the questionnaire and those who were examined. On the other hand, those people examined were more often women than men (54.3% vs. 50.8%) and had a higher level of education (27.7% had a university degree vs. 21.6% who did not). Data were weighted to correct this problem.

There is a very high prevalence of calculus and gingival bleeding in this population. More than 80% of examined persons had gingival bleeding on at least one tooth, while more than 50% presented with gingival bleeding on at least 5 teeth. For calculus, these percentages were 75% and 50%, respectively (Fig. 1).

The CPITN, which evaluates a population's periodontal treatment needs, highlighted several phenomena (Table 2). Only 5.2% of Quebec adults aged 35 to 44 years had no treatment needs. As well, 67.8% of individuals were classified in categories 2 and 3, meaning that they presented with calculus or a periodontal pocket of 4 to 5 mm, or both, on at least one tooth. These people require treatment consisting of oral hygiene instruction and scaling. Finally, 21.4% of examined persons had at least one tooth with a periodontal pocket ≥ 6 mm, representing one adult out of 5 with a periodontal lesion requiring complex treatment. Of this last group, 37% had only one tooth with a periodontal pocket ≥ 6 mm; 34% had 2 or 3 teeth with this problem; and 29% had 4 or more.

The prevalence of periodontal pockets ≥ 6 mm was concentrated in a limited group of adults. Indeed, close to 90% of affected teeth were found in only 13.6% of examined persons (those with at least 2 affected teeth). In this last group, individuals had an average of 4.7 teeth with periodontal pockets ≥ 6 mm, compared to 0.7 for the whole of the population.

As indicated in Table 3, the presence of at least one tooth with a periodontal pocket ≥ 6 mm was significantly associated with socio-demographic characteristics (with the exception of age) and dental health behaviors. In order to control for potential confounding factors, logistic regression analysis was performed; the dependent variable was the presence of at least one tooth with a periodontal pocket ≥ 6 mm. Table 4 indicates the adjusted odds ratio (OR) and confidence intervals (CI) for independent variables under study. After controlling for potential confounding factors, only sex and family income were associated with this periodontal problem. Men were 1.9 times more at risk than women of having at least one tooth with a periodontal pocket ≥ 6 mm. Individuals with a family income below $30,000 were 2 times more at risk of having this problem than persons with a family income of $60,000 or more. Age and language spoken did not appear to be associated with the presence of periodontal pockets. As well, none of the dental health behaviors (regular dental visits, brushing and flossing frequency) were significantly associated with the presence of periodontal pockets.

Finally, this study also showed that persons aged 35 to 44 years were not aware of their periodontal problems. In response to the question: "Do you consider yourself in need of dental treatment for gum problems?" only 26.4% of examined persons with at least one tooth with a periodontal pocket ≥ 6 mm answered "yes." What's more, there was little difference in the perception of periodontal treatment needs between those affected by severe periodontal problems and those with calculus only.

Discussion

This study showed that almost all Quebec adults aged 35 to 44 years who are not completely edentulous have gingival bleeding or calculus or both; that half have at least one tooth with a periodontal pocket of 4 to 5 mm; and that one person out of 5 has a periodontal pocket of ≥ 6 mm. Based on the CPITN, only 5.2% of persons do not require any treatment needs, and one person out of 5 needs complex treatment.

Periodontal diseases are chronic diseases that irreversibly destroy the supporting tissues of teeth, resulting in their eventual loss. Studies on the causes of dental extractions have shown that even though caries remains the principal cause of tooth loss, periodontal diseases are an important cause of dental extractions among adults over 40 years of age. With such a high prevalence of periodontal diseases, we can expect an increase in tooth loss as people grow older. In this study, we observed that, on average,