

ABSTRACT

The aim of the present study was to determine the periodontal disease status, oral health related quality of life and risk factors for chronic periodontitis among 30-60 year olds residing in the Colombo district.

The study consisted of two components. The first component comprised of cross sectional-community based study involving 1400 of 30-60 year olds residing in the district of Colombo to assess the periodontal disease status and oral health related quality of life. The second component consisted of case control study to determine risk factors for the chronic periodontitis in this sample. Having defined "chronic periodontitis", 694 cases and 706 controls were identified from the cross sectional study conducted under component one. Clinical case definitions proposed by the Centers for Disease Control and Prevention in 2003 for population based studies of periodontitis were used to identify cases, for the study. All cases and controls identified from cross sectional study were used for the case control study.

Data were collected by means of three interviewer administered questionnaires, a physical and a clinical oral examination. The first interviewer administered questionnaire consisted of three parts and was used to gather basic demographic, socioeconomic information, life style factors and medical history. The second questionnaire included the Sinhala version of the General Health Questionnaire (GHQ)-30 to assess psychological distress, while the third questionnaire included the Sinhala version of the Oral Health Impact Profile (OHIP)-14 which has been validated for Sri Lankan population to assess the oral health related quality of life of individuals. Standing body height, weight and waist circumference were measured during the physical examination. The clinical oral examination included the assessment of bleeding on probing (BOP), measurement of periodontal pocket depth (PD), clinical attachment loss (CAL) and recession (R) on six surfaces of all teeth (mesio-buccal, buccal, disto-buccal, lingual and mesio-lingual surfaces) present in the mouth excluding the third molars.

Periodontal disease status was presented according to three dimensions namely prevalence, the extent and the severity.

Prevalence of chronic periodontitis in the sample was 49.6% and of those with chronic periodontitis 36.1% and 13.5% had moderate and severe periodontitis respectively.

The mean percentage of sites with pockets of 4-6mm and ≥ 7 mm were 19.25 (± 12.55) and 3.37 (± 4.17) in cases with chronic periodontitis while it was 2.56 (± 2.63) and 0.09 (± 0.32) in the controls (No periodontitis). The differences between the two groups were highly significant ($p < 0.001$).

The mean percentage of sites with clinical attachment loss (CAL) of 1-3mm, 4-6mm and ≥ 7 mm were 16.82 (± 8.84), 11.44 (± 4.91) and 5.18 (± 4.11) in cases with chronic periodontitis while it was 3.00 (± 2.88), 0.22 (± 0.57) and 0.0009 (± 0.023) in the controls. The differences between the two groups were highly significant ($p < 0.001$).

The prevalence of bleeding on probing (BOP) among the study sample was nearly 93% and a statistically significant association between bleeding on probing and age was evident ($p < 0.001$). Nearly 50% of the sample had at least one site with gingival recession of ≥ 3 mm. Age was significantly associated with gingival recession (OR = 46.25, 95% CI: 32.41-65-99, $p < 0.001$).

Pain (48.7%) was the most common impact experienced by those with chronic periodontitis. Nearly 41%, 60% and 69% of subjects with no periodontitis, moderate periodontitis and severe periodontitis had experienced at least one oral impact item fairly often/very often. Total Oral Health Impact Profile-14 scores were significantly different between cases of chronic periodontitis and controls ($p < 0.001$). Except for the handicap subscale, scores for all other subscales of the OHIP-14 namely functional limitation, physical pain, psychological discomfort, physical disability, psychological disability and social disability were significantly different between cases with chronic periodontitis and controls.

Bivariate analyses of data from case control study identified several risk indicators of chronic periodontitis. Age, gender, low educational level, employment status, average household income, alcohol consumption, combinations of types of alcohol drinking, pattern of drinking of arrack, beer and whisky, duration of drinking of arrack, beer and whisky, smoking, pattern and duration of cigarette smoking, pattern, duration and number of betel quid chewing, mode of brushing, history of dental care, last visit to the dentist, diabetes mellitus, hypertension and psychological distress were the factors significantly associated with chronic periodontitis.

According to the multivariate analysis diabetes mellitus (OR= 4.46, 95% CI: 2.00-5.09, p =0.009), hypertension (OR= 3.38, 95% CI: 1.89-3.87, p= 0.007), age (OR= 4.40, 95% CI: 3.37-5.74, p < 0.001), gender (OR= 2.13, 95% CI: 1.58-2.88, p < 0.001) psychological distress (OR= 6.96, 95% CI: 3.07-15.74, p < 0.001), educational level (OR= 1.85, 95% CI: 1.45- 2.37, p <0.001), smoking habit (OR= 6.42, 95% CI: 2.66-15.46, p < 0.001) and betel chewing (OR= 1.76, 95% CI: 1.16-2.68, p = 0.008) emerged as risk factors of chronic periodontitis.

In conclusion the prevalence of chronic periodontitis was high in this sample of adults and age, gender, low educational level, smoking, betel chewing, diabetes mellitus, hypertension and psychological distress, were risk factors for chronic periodontitis. Further, oral health related quality of life was significantly affected in cases with chronic periodontitis compared to the controls. Therefore, there is necessity to develop preventive strategies for the early detection and control of periodontal diseases. This study provides valuable information needed to develop such strategies as well as for planning services for treatment of chronic periodontitis.

It is recommended that further studies are carried out to determine the additional risk factors for chronic periodontitis.

Key Words: Prevalence, oral health related quality of life, risk factors, chronic periodontitis, 30-60 year olds, Colombo district