THE PERIODONTAL TREATMENT NEEDS OF MALAGAN ADULTS

M. ALCALA, E. GOMEZ, A. GARCIA and J. FERNANDEZ-CREHUET

Department of Preventive Medicine and Public Health - Faculty of Medicine - University of Málaga
Campus Universitario Teatinos s/n. - 29071 Málaga (Spain).

Key words: CPITN - Epidemiology - Periodontal disease - CPITN - Spain

The Periodontal treatment needs of 908 subjects aged 18-64 years in Málaga, Spain were assessed using the Community Periodontal Index of Treatment Needs (CPITN).

The percentage of subjects scored periodontally healthy decreased with age, 18-64 yrs., from 22% to 3%. Conversely periodontal pocketing increased with age from 2% to 55%. Calculus was a very prevalent score at all ages, about 60% overall.

No significant differences in periodontal treatment needs were identified among the three defined socio-economic groups, but the health professional group had fewer periodontal pockets than the other two groups. Treatment needs increased significantly with age in all groups.

For the WHO standard age group 35-44 yrs 8% of 180 were scored healthy, 66% were scored for calculus or bleeding only, 23% with shallow pockets and 3% with deep pockets. An average of 2 out of 6 sextants were found healthy and 2.6 (43%) had calculus or other retentive factors.

INTRODUCTION

Periodontal disease is one of the most widespread diseases of mankind (8). Its chronic, slowly progressing nature has made it difficult to assess in terms of need for care and treatment within communities. Differentiating between levels of periodontal care and treatment needs in a community would be helpful for implementing appropriate public health programmes and assessing the magnitude and complexity of needs in epidemiology.

A simple, rapid and reliable method for the assessment and recording of periodontal conditions based on a generalized simple hierarchy of levels of care was proposed by a WHO Scientific Group after reviewing the epidemiology, aetiology and prevention of periodontal diseases (8). This, later, led to the development of the Community Periodontal Index of Treatment Need (CPITN) proposed by a joint FDI/WHO Wording Group in 1982 (2). Subsequently this procedure became widely used in dental epidemiology and was also found valuable for screening purposes in clinical situations (e.g. private dental practice) because of its easiness, rapid recording procedure and objectivity towards broad categories of treatment needs (4).

We have used this procedure to obtain an overview on the categories of periodontal treatment needs in Málaga, Spain.

MATERIALS AND METHODS

Sample - 900 subjects, aged between 15-64 yrs, were selected as representative of three socio-economic groups. The first group was formed by health professionals (physicians, nurses and pharmacists). The second group was a random sample of workers.
attending the Spanish Institute of Hygiene and Security at Work (INST), the third group comprised sea workers, i.e., sailors, fishermen, dockers and their families from the Social Institute for Seamen (ISM). Each group included 300 individuals with 100 subjects in each of the three age groups, 18-29 yrs, 30-44 yrs and 45-64 yrs.

**Questionnaire** - Each individual completed a questionnaire which included information on the following items: profession, dental hygiene, dietary habits, use of denture, malocclusion, tobacco smoking, alcohol consumption, presence of health disorders, intake of medicine and parents' dental health.

**CPTITN Procedure** - The prevalence and severity of periodontal needs with respect to treatment needs was assessed using the CPTITN procedure (10). This required that periodontal treatment needs of each sextant to be categorized as one of the following: healthy (H); gingival bleeding (B) on gentle probing; presence of calculus, supra – and sub –, or other plaque retentive factors (C); presence of shallow (4-5 mm) periodontal pockets (P1); presence of deep (6 mm or deeper) periodontal pockets (P2). The score for each of the (six) mouth sextants was identified by the condition of the appropriate Index tooth.

The CPTITN categories of treatment needs (TN) were also used, that is: TNO: a recording of code O (health) or X (missing) in all six sextants indicated that there was no need for treatment. TN1: a code 1 or higher indicated a need for improving personal oral hygiene. TN2: a code 2 or higher indicated a need for professional cleaning of the teeth and removal of plaque retentive factors and oral hygiene instruction. TN3: complex treatment includes deep scaling, root planing, or more complex surgical procedures together with plaque and calculus removal and oral hygiene instruction.

**Data analysis** - The different parameters were evaluated by an analysis of variance. For calculating the level of significance, the number of subjects was always taken as N. The analysis of material was performed by an Olivetti M24 Personal Computer with an SPSS/PC Plus Statistical Program Package. Values of P = 0.05 or smaller were accepted as statistically significant.

**RESULTS**

**Prevalence of treatment needs**

The percentage distribution of the dentate subjects by their highest sextant score recorded a decrease in the prevalence of periodontally healthy subjects from group 1 to group 3; an increase in periodontal pockets from group 1 to group 3. The distribution was dominated by the very high prevalence, 60%, of subjects in all age groups scored for calculus (or plaque retentive factors).

No statistical significant differences in prevalence were found among the socio-economic groups. The prevalence of edentulous subjects was least in Group 1 and most in Group 3.

**TABLE 1. - Results of the different groups.**

<table>
<thead>
<tr>
<th>Group</th>
<th>No. Examined</th>
<th>No. Dentate</th>
<th>% Persons Code of</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>H    B    C    P1 P2</td>
</tr>
<tr>
<td>1</td>
<td>303</td>
<td>296</td>
<td>16   5   60    17  2</td>
</tr>
<tr>
<td>2</td>
<td>301</td>
<td>288</td>
<td>10   5   61    18  6</td>
</tr>
<tr>
<td>3</td>
<td>304</td>
<td>277</td>
<td>8    4   61    22  5</td>
</tr>
</tbody>
</table>

1 = Health professionals.
2 = INST: Workers examined at the Spanish Institute of Health and Security at Work.
3 = ISM: Social Institute for Seamen (Sailors, fishermen, dockers and their families).

For the combined sample (861) considered by age groups statistically significant differences (P < 0.05) occurred for periodontal pocketing; also for subjects scored healthy. The decrease in persons coded C with age was explained by the increasing numbers being scored higher, i.e. P1 or P2 (Table 2).

**TABLE 2. - CPTITN. Prevalence of persons affected in each age group.**

<table>
<thead>
<tr>
<th>Age</th>
<th>No. Examined</th>
<th>No. Dentate</th>
<th>% Persons Code of</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>H    B    C    P1 P2</td>
</tr>
<tr>
<td>18-29</td>
<td>302</td>
<td>302</td>
<td>22   7   69    2   0</td>
</tr>
<tr>
<td>30-44</td>
<td>302</td>
<td>300</td>
<td>9    3   71    16  2</td>
</tr>
<tr>
<td>45-64</td>
<td>304</td>
<td>259</td>
<td>3    2   40    43  12</td>
</tr>
<tr>
<td>Total</td>
<td>908</td>
<td>861</td>
<td>11   4   60    20  5</td>
</tr>
</tbody>
</table>

**Mean number of sextants affected**

Table 3 shows the mean No. of sextants affected in a cumulative basis of each of the age groups of this survey and the mean number of sextants excluded for having less than two teeth.

A high prevalence of calculus can be observed. Note that deep pocketings have low prevalence in all age groups.