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IO-34

Oral health-related quality of  
life and periodontal status

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## Clinician-centered parameters of periodontal disease

- **Objective**
- **Bleeding on probing (BOP)**
- **Probing pocket depth (PPD)**
- **Clinical attachment level (CAL)**



## Patient-centered parameters of periodontal disease

- **Subjective**
- **Redness**
- **Bleeding on brushing**
- **Loosening of teeth**
- **Bad breath**
- **Affect daily functions**



## Patient-centered parameters of periodontal disease

- **More relevant from patient's point of view**
- **Significant impact on daily quality of life (QoL)**



## Aim of study

- **Impact of periodontal status on oral health-related quality of life**

## Hypothesis

- **Subjects with high level of clinical attachment loss would have inferior oral health-related quality of life (QoL)**



## Subjects

- **Sub-sample in a community study of psychosocial stress and periodontal disease (IO-33: Ng & Leung)**
- **Age 25-64**
- **Mean full mouth CAL  $\leq$  2mm**
- **Mean full mouth CAL  $>$  3mm (Genco et al., 1999)**



## Data Collection

- **Periodontal status**
  - › **Clinical Attachment Level (CAL)**



## Data Collection

- **Quality of Life (QoL)**
  - › Measured by Chinese short-form version of the Oral Health Impact Profile (OHIP-14S)
- **Checklist of self-reported (Yes/No) periodontal signs and symptoms**





- **OHIP-14S**

- › **Functional limitation**
- › **Physical discomfort**
- › **Psychological discomfort**
- › **Physical disability**
- › **Psychological disability**
- › **Social disability**
- › **Handicap**



- **OHIP-14S**

- › **Preceding 12 months**

- › **5-point Likert scale**

- › **0 = never**

- › **1 = hardly ever**

- › **2 = occasional**

- › **3 = fairly often**

- › **4 = very often**



## Data Analysis

- **Compare the OHIP-14S scores between the two groups of subjects:**
  - › **Healthy-Low CAL group: mean CAL  $\leq$  2mm**
  - › **High-Severe CAL group: mean CAL  $>$  3mm**



## Results

- **727 subjects**
  - › **Male : Female 342 : 385**
- **Education**
  - › **More than two-thirds above secondary**
- **Income**
  - › **30% above HK\$15,000**

## Results

- **Dental visit**
  - › **1 year or less** **35.9%**
    - › **For check-up & cleaning** **24.5%**
    - › **For dental problem** **11.4%**
  - › **1 to 3 year** **31.5%**
  - › **More than 3 year** **25.4%**
  - › **Never visited dentist** **6.2%**
  - › **Could not remember** **1.0%**

**Table 1: Prevalence of negative impacts in OHIP-14S subscales**

	Fairly/very often <sup>a</sup>
	%
<b>Functional limitation</b>	<b>21.0</b>
<b>Physical pain</b>	13.2
<b>Psychological discomfort</b>	8.1
<b>Physical disability</b>	<b>20.5</b>
<b>Psychological disability</b>	6.5
<b>Social disability</b>	1.1
<b>Handicap</b>	1.3

<sup>a</sup>subjects with negative impacts.

**Table 2: Mean scores and internal consistency for OHIP-14S and individual subscales**

	Mean Scores ( $\pm$ SD)	Range	Internal Consistency (Cronbach's $\alpha$ )
<b>Functional limitation</b>	1.99 $\pm$ 1.92	0 - 8	0.77
<b>Physical pain</b>	1.82 $\pm$ 1.88	0 - 8	0.88
<b>Psychological discomfort</b>	1.02 $\pm$ 1.69	0 - 8	0.88
<b>Physical disability</b>	1.54 $\pm$ 2.08	0 - 8	0.79
<b>Psychological disability</b>	1.25 $\pm$ 1.76	0 - 8	0.85
<b>Social disability</b>	0.38 $\pm$ 1.09	0 - 8	0.81
<b>Handicap</b>	0.29 $\pm$ 1.01	0 - 7	0.73
<b>OHIP-14S</b>	8.31 $\pm$ 10.76	0 - 55	0.94

**Table 3: Adjusted scores (Mean  $\pm$  SE) of OHIP-14S and individual subscales of subjects in the two levels of CAL severity**

	Periodontal attachment loss <sup>a</sup>		Statistics	
	Healthy/Low ( <i>n</i> = 584)	High/Severe ( <i>n</i> = 143)	<i>F</i> <sup>b</sup>	<i>P</i> - value
Functional limitation	1.11 $\pm$ 0.44	5.41 $\pm$ 1.24	6.72	<0.01
Physical pain	0.96 $\pm$ 0.43	4.86 $\pm$ 1.26	6.13	<0.05
Psychological discomfort	0.32 $\pm$ 0.37	3.95 $\pm$ 1.12	4.36	<0.05
Physical disability	0.59 $\pm$ 0.43	5.33 $\pm$ 1.23	5.43	<0.05
Psychological disability	0.45 $\pm$ 0.40	4.38 $\pm$ 1.09	4.28	<0.05
Social disability	0.35 $\pm$ 0.73	0.45 $\pm$ 0.57	2.22	0.14
Handicap	0.26 $\pm$ 0.56	0.34 $\pm$ 0.51	2.32	0.13
OHIP-14S	3.78 $\pm$ 2.25	25.09 $\pm$ 5.94	4.24	<0.05

<sup>a</sup>CAL categories (mean full mouth CAL): healthy/low = 0 to 2.0 mm; high/severe > 3.0 mm (Genco et al., 1999).

<sup>b</sup>Adjusted for **age, education and number of teeth**; ANOVA.





## Conclusions

- **The impact of periodontal health on QoL was appreciable, especially on**
  - › **Functional limitation**
  - › **Physical disabilities**



## **Conclusions**

- **A significant difference of oral health-related QoL between high-severe and healthy-low periodontal attachment loss groups**
  - › **Functional limitation**
  - › **Physical pain**
  - › **Psychological discomfort**
  - › **Physical disabilities**
  - › **Psychological disabilities**



## Conclusions

- **A significant association exists between oral health-related quality of life and periodontal disease.**

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