DEGREE OF PAIN/DISCOMFORT EXPERIENCED BY PATIENTS DURING AND AFTER SCALING AND ROOT PLANING

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OBJECTIVES: To determine: the degree of pain experienced by patients during periodontal probing and periodontal debridement by using a Visual Analog Scale (VAS).

STUDY DESIGN: Cross sectional descriptive study.

PLACE AND DURATION: Conducted at Periodontology Department of Margalla Institute of Health Sciences (MIHS) Rawalpindi from December 2011 to May 2012.

METHODOLOGY: Measurements for probing depths were performed, followed by pain ratings by each patient using a VAS. The hygienists also completed a VAS, estimating the pain level perceived by their patients.

RESULTS: Among 106 patients, 70% showed low pain responses to both probing and instrumentation. In our study a group of 106 (56 male and 50 female) patients were included, which received scaling and root planing procedures, out of which 36.6% of the patients experienced mild pain, 33.3% felt moderate pain while only 13.3% felt severe pain. In addition the pain and discomfort remain low with 23.3% and 53% during procedures but increases to 53.3% and 86.7% after treatment respectively.

CONCLUSION: Majority of the patients experience mild to moderate pain during scaling and root planing; moreover intensity of pain and discomfort felt after these procedures are greater than the pain sensation felt during the procedures.

KEY WORDS: Pain Intensity, SRP (Scaling & Root Planing), VAS (Visual Analog Scale)

INTRODUCTION

Pain is an unpleasant feeling caused by intense or damaging stimuli while discomfort is something that causes one to feel uncomfortable. The objective of scaling and root planing, otherwise known as conventional periodontal therapy, non-surgical periodontal therapy or deep cleaning, is to remove or eliminate the etiologic agents which cause inflammation: dental plaque, its products and calculus, thus helping to establish a periodontium that is free of disease. Post operative pain is an adverse effect of periodontal surgeries and therefore be prevented or minimized. Periodontal diseases are the inflammatory conditions that cause destruction of periodontal tissues and may present as gingivitis or periodontitis. Treatment modality for such inflammatory conditions is catered with scaling and root planing depending upon the severity of the disease.

The VAS is a simple and frequently used method for the assessment of variations in intensity of pain. In clinical practice the percentage of pain relief, assessed by VAS, is often considered as a measure of the efficacy of treatment which is similar to the present study but the past studies also show that pain can be found by using different scales other than visual analog scale which was not included in the present study in which pain was only measured by only visual analog scale. This study was conducted to determine the degree of pain experienced by patients during and after periodontal probing and periodontal debridement by using VAS in our setup.
METHODOLOGY

The study was conducted at Periodontology Department of Margalla Institute of Health Sciences (MIHS) Rawalpindi from December 2011 to May 2012. The aim of study was to determine the degree of pain experienced by patients during periodontal probing and periodontal debridement by using a visual analog scale (VAS).

Prior to the maintenance procedures of periodontal diseases, simple random sampling was done. Patient's selection criteria were: regular patients of periodontal department of MIHS. All the patients irrespective of age who have undergone scaling and root planing. Patients with the following conditions were excluded: those suffering from systemic diseases like diabetes mellitus, hypertension, coagulopathies, hepatitis and cardiac diseases.

106 patients filled an anxiety questionnaire giving their written consent to participate in this study. Out of which 50 manual (by demonstrators) and 56 ultra sonic scaling (by consultants) were performed. Subsequently 3 measurements by periodontal probe were performed in the lower right quadrant of each patient by demonstrators. Finally pain level for lower right quadrant was assessed with a VAS during and after the procedures. All findings were recorded carefully and evaluated statistically at the end of study.

RESULTS

A total of 106 patients studied from Dec 2011 to May 2012. Majority of the patients experience mild (36.7%, n=39) and moderate (33.34%, n=36) pain only 13.3% (n=14) patients complained of severe pain at presentation (Table – I). Table – II shows that only 23.3% (n=25) patients complained of pain during procedure and 53.3% (n=56) after treatment. Pain was not experiences in majority of patients (76.7%, n=81) where are 46.6% (n=50) patient did not complained after treatment. Frequency of patients experiencing discomfort during and after procedure is show in 53% (n=56). Table – III, which shows majority of patients complained of discomfort during procedure and their number increased up to 86.7% (n=92) after treatment.

<table>
<thead>
<tr>
<th>Pain Intensity</th>
<th>Number</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>None</td>
<td>17</td>
<td>(16.6%)</td>
</tr>
<tr>
<td>Mild</td>
<td>39</td>
<td>(36.7%)</td>
</tr>
<tr>
<td>Moderate</td>
<td>36</td>
<td>(33.4%)</td>
</tr>
<tr>
<td>Severe</td>
<td>14</td>
<td>(13.3%)</td>
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<table>
<thead>
<tr>
<th>Pain during Procedure (n=106)</th>
<th>Pain after Treatment (n=106)</th>
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<tbody>
<tr>
<td>Present</td>
<td>Absent</td>
</tr>
<tr>
<td>25 (23.3%)</td>
<td>81 (76.7%)</td>
</tr>
<tr>
<td>56 (53.3%)</td>
<td>50 (46.6 %)</td>
</tr>
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<table>
<thead>
<tr>
<th>Discomfort during Procedure</th>
<th>Discomfort after Treatment</th>
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<tbody>
<tr>
<td>Present</td>
<td>Absent</td>
</tr>
<tr>
<td>56 (53%)</td>
<td>50 (47%)</td>
</tr>
<tr>
<td>92 (86.7%)</td>
<td>14 (13.3%)</td>
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DISCUSSION

The present study showed the measurement of preoperative and postoperative pain after scaling and root planing using VAS as compared to Canakci² who assessed the levels of postoperative pain, postoperative dentin hypersensitivity and discomfort patients experienced during various periodontal
treatments by using a VAS. The authors analysis showed no statistical differences between the patients discomfort levels during and after periodontal treatment which is not similar to the present study in which the discomfort level was increased after periodontal treatment.

Braun A. explained periodontal treatment using an ultrasonic scaler. Conventional periodontal therapy was given to the patients having residual periodontal pockets. A visual analogue scale was used for pain assessment directly after each treatment procedure which was similar to the present intensities of pain during supportive study. He concluded that by using Er. YAG Laser during supportive periodontal treatment, painful sensations can be reduced as compared with sonic scaler instrumentation.

The visual analog scale (VAS) is a simple and frequently used method for the assessment of variations in intensity of pain. The Bruce L. Pilstrom undertook a study to document the intensity and duration of pain after SRP with a view towards helping practitioners and their patients manage post-procedural discomforts, which was similar to the present study, except of the measuring scale used i.e. the authors used to measure the intensity of pain by a Heft-Parker self-assessment pain scale.

The degree of pain during periodontal probing and mechanical non-surgical therapy according to age, gender, and intersubject variation such as tooth type, tooth surfaces or regions of mouth, probing depth, and bleeding on probing which was not similar to the present study as there was no age limit during the study.

CONCLUSION

On the basis of the above mentioned findings in the present study, it can be concluded that intensity of pain after scaling and root planing while treating periodontal diseases is greater than the pain sensation felt by the patients during the periodontal treatment. This might be due to use of appropriate local anesthetic agents during procedures. We recommended that good powerful analgesics with suitable antibiotics along with anti-hypersensitivity tooth pastes should be prescribed to these patients after procedures to minimize the intensity of pain and discomfort.

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