PATIENTS’ EXPERIENCE AND SATISFACTION AFTER NON-SURGICAL PERIODONTAL THERAPY AT THE UNIVERSITY OF NAIROBI DENTAL HOSPITAL

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V28/35122/2010

A community dentistry research proposal submitted in partial fulfilment of the Bachelor of Dental Surgery degree.

2013
DECLARATION

I, Mwangi Charlene Wangui, declare that this is my original work, and that it has never been submitted by any other person for research purpose, degree or otherwise in any other institution, for any other degree, diploma or certificate.

Signed: ___________________________  Date: _____________________
APPROVAL

I, MWANGI CHARLENE WANGUI, hereby submit this proposal to the Research Ethics and Standards Committee, Kenyatta National Hospital (KNH) and University of Nairobi (UON) for approval.

Signed: ___________________________  Date: ______________________

MWANGI CHARLENE WANGUI

This proposal has been submitted with the approval of my supervisors:

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DEDICATION
To my parents, J. Mwangi and J. W. Mwangi, whose unfailing love and endless support kept me going.

To my sister, C. N. Mwangi, a constant source of joy and friendship.

To E. K. Korir, my best friend and an unending source of wisdom and wit. I could not have done this without you.
ACKNOWLEDGEMENT

I would like to thank the following persons for their assistance and contribution to my work:

First, I would like to thank the Lord God for His grace and strength throughout the years and throughout this project.

I would also like to thank my supervisors, Dr. B. N. Mua and Dr. H. Alumera for their sound advice, and for taking time to guide me through my work.

Special thanks go out to the Department of Periodontology and Community and Preventive dentistry for their invaluable assistance.

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LIST OF ACRONYMS

EMLA Eutectic Mixture of Local Anaesthetics
IASP International Association of Pain
LA Local anaesthesia
NSPT Non-Surgical Periodontal Therapy
SRP Scaling and Root Planing
UDH University of Nairobi Dental Hospital
UoN University of Nairobi
VAS Visual Analogue Scale
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DEFINITION OF TERMS

**Calculus:** This is a hard deposit that forms by mineralization of dental plaque and is generally covered by a layer of unmineralized plaque.

**Dental Plaque:** A host-associated biofilm that adhering to the tooth surface or other hard surfaces in the oral cavity, including removable and fixed restorations contains bacterial colonies.

**Eutectic Mixture of Local Anaesthetics:** A topical anaesthetic made from equal parts of lidocaine and prilocaine that is applied as a cream on unbroken skin or mucosa, and then covered with an occlusive dressing, to kill pain prior to venipuncture, intramuscular injections, intravenous cannulation, or minor skin or mucosal procedures.

**Gingivitis:** Inflammation of the gingiva.

**Non-surgical periodontal therapy:** It is the management and control of periodontal disease which involve plaque removal, plaque control, supra- and subgingival scaling, root surface debridement and the adjunctive use of chemotherapeutic agents, as well as polishing, topical fluoride application and giving oral health instructions to the patient.

**Pain:** An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.

**Periodontitis:** Inflammation of the periodontal tissues.

**Root planning:** The process by which residual embedded calculus and portions of cementum are removed from the roots to produce a smooth, hard, clean surface.

**Satisfactory Level Scale:** A measurement instrument for satisfactory levels.

**Scaling:** The process by which plaque, calculus and extrinsic stains are removed from the surfaces of both the crowns and roots of teeth.

**Visual Analogue Scale:** It is a measurement instrument for pain and other subjective characteristics or attitudes that cannot be directly measured.
ABSTRACT

Background: Non-surgical periodontal therapy is a critical component in the management of periodontal diseases. Several procedures are carried out in this phase of treatment which include scaling, root planing, polishing, topical fluoride application and oral health instructions. However, data on patients’ experience and satisfaction after NSPT is currently lacking in Kenya, and in the greater East African region as a whole. This knowledge is crucial for clinicians’ understanding on how to better manage patients during NSPT. Also, the patients’ experience to this therapy may influence outcome of treatment in various ways. The patients may fail to come for subsequent treatment sessions if they have had an uncomfortable or painful first experience. Also, the experience may have a lasting negative effect and may influence the patient’s overall attitude towards general dental therapy negatively. The level of pain and discomfort are thus important parameters in the overall acceptance, satisfaction and adherence to therapy.

Objectives: To investigate patients’ experience and satisfaction after receiving non-surgical periodontal therapy at the University of Nairobi Dental Hospital.

Study design: This was a descriptive cross-sectional study.

Study area: The University of Nairobi Dental Hospital, within the Periodontology Clinic.

Study population: Patients visiting the Periodontology Clinic to receive non-surgical periodontal therapy.

Sampling: Convenient method of sampling was used.

Data Collection: The data was collected via interviewer-administered questionnaires

Results: Majority of the respondents were from between the ages of 20 to 29. All of the patients had scaling, polishing and oral health instructions given during the duration of the therapy. Of the total respondents, 10.5% received fluoride therapy and 20.7% had root planning done. 47.7% of the patients felt no pain before the NSPT. 52.3% of patients experienced mild pain before receiving the NSPT. During NSPT, 38.4% of the patients experienced no pain, 48.8% experienced mild pain, 11.6% experienced moderate pain and 1.2% experienced severe pain. After NSPT, 72.9% of patients felt no pain, 23.5% felt mild pain and 3.5% felt moderate pain.37 (42.52%) respondents were
extremely satisfied with the NSPT they received at SDS, 25 (28.73%) were very satisfied, 23 (26.44%) were satisfied, 1 (1.14%) was unsatisfied and 1 (1.14%) was disappointed. 84 (97.7%) respondents said that they would recommend the treatment to someone else, while 2 (2.3%) said that they would not recommend the treatment to anyone else.

**Conclusion:** Patients experience while receiving non-surgical periodontal therapy was influenced by prior knowledge of what the therapy entails, how relaxed they were before receiving NSPT, the pain they felt before, during and after the therapy, whether or not the clinician gave them medication to prevent or relieve the pain, and how satisfied they were after receiving the therapy.

**Recommendation:** Patients should be given information by the clinician on the purposes of NSPT and what it entails. All SRP should be done under medication that minimizes or relieves pain to minimize patients’ discomfort.
CHAPTER ONE

1.0 INTRODUCTION AND LITERATURE REVIEW

1.1 Introduction

Most periodontal diseases are as a result of inflammation of the tissues of the periodontium, resulting in what has been broadly classified as gingivitis and periodontitis. Treatment of periodontal diseases usually ranges from non-surgical periodontal treatment (NSPT), which is commonly referred to as scaling and root planing (SRP) to more sophisticated surgical procedures. Scaling and root planing (SRP) are among some of the most commonly utilized procedures for the treatment of periodontal diseases and has been used as the “gold” standard therapy in comparison to other therapeutic interventions.

Scaling and root planing are part of cause-related periodontal therapy, i.e., therapy which aims at the elimination and the prevention of recurrence of supra and subgingivally located bacterial deposits from the tooth surface. The main aim of scaling and root planing is the removal of dental plaque - an aetiological agent of inflammation of periodontal tissues, from tooth surfaces, along with its products, plus calculus, which provides a surface for attachment of dental plaque. Dental plaque is a host-associated biofilm, comprising mostly of bacteria, which are the primary cause of infection of the periodontal tissues. It thus follows that removal of dental plaque and calculus will result in reduction or elimination of periodontal tissue inflammation. The instruments used in scaling and root planing are classified as hand instruments, ultrasonic and sonic instruments, rotating instruments, reciprocating instruments and laser instruments.

Other procedures carried out as part of NSPT include polishing, topical fluoride application, pharmacological therapy and giving oral hygiene instructions. Polishing is done to remove supra- and subgingival plaque as well as extrinsic stains on the tooth surface. It involves the use of a slow-speed rotating hand instrument with a rubber cap using prophylactic polishing paste and pumice. Topical fluoride application involves delivering fluoride locally on to the surface of a patient’s teeth. This is used to reduce tooth sensitivity after periodontal therapy, especially when the roots are...
exposed. The most common forms in which the fluoride is presented are foams, gels, mouth rinses, varnishes and dentifrices.

Pharmacologic therapy involves delivery of chemotherapeutic agents and/or antiseptic agents, either locally i.e. directly into the gingival pockets, or systemically, either orally or parenterally. This is usually done as an adjunct to SRP. Locally administered chemotherapeutic agents are more efficient and effective in antimicrobial effects.\textsuperscript{[10]}

Oral hygiene instructions are given to a patient in order for them to learn proper plaque-control methods, and practice them on their own.

NSPT generally does not require local anaesthesia but in some cases, there may be some level of discomfort, which may range from mild tooth sensitivity to severe pain.

A literature search revealed very little data on patients’ experience of NSPT, especially in Kenya. Since NSPT is an essential component in treatment and prevention of infection of periodontal disease, it is important to determine the patients’ experience following these procedures after they have been carried out. Thus the aim of this study was to determine the experience and satisfaction of patients undergoing NSPT at the Periodontology Clinic in the University of Nairobi Dental Hospital.
1.2 Literature review

A study carried out to assess patients’ perception of pain, discomfort and on post-operative following both surgical and non-surgical periodontal therapy established that age, type of therapy and post-operative duration had an influence on post-treatment pain, swelling and discomfort, and that the severity of pain, post-operative swelling and discomfort decreased with time. Scaling and root planning had the least pain, swelling and discomfort as compared to surgical periodontal treatments done. \[11\]

In a study done to determine pain experienced by patients undergoing different periodontal therapies, it was found out that discomfort during periodontal treatments, postoperative pain and postoperative dentin hypersensitivity were associated significantly with age, type of therapy and higher scores on Corah’s Dental Anxiety Scale. All surgical procedures produced significantly more dentin hypersensitivity than did nonsurgical therapy. \[12\]

In another study carried out to determine the effects of two different methods of NSPT on patients’ pain perception and quality of life, it was found out that there was no difference in pain perception between the two groups of patients However, there were differences in levels of sensitivity experienced, with those who had it done with the piezo-ceramic instrument experiencing less sensitivity. It was also determined that patients’ quality of life increased after therapy for both. \[13\]

A study carried out to evaluate the perception of pain in patients during scaling and its relationship with dental anxiety found out that there was a significant correlation between pain perception during scaling and dental anxiety. The patients were found to experience only limited pain during scaling. They were anxious because they expected pain, women being more anxious than men. \[14\]

A study was among dental patients who were scheduled for periodontal surgery to investigate the inter-relationship between gender and acute pain prediction and memory under periodontal surgery treatment established that gender had a significant effect on pain prediction and pain memory. Men expected to experience more pain pre-operatively than women but remembered less pain post-operatively. It was concluded that cognitive pain perception in clinical situations differs between genders. \[15\]

Patients treated for plaque-related periodontitis were assessed for their experience of pain and discomfort during instrumentation in the diagnosis and non-surgical treatment of periodontitis. Many patients were most bothered by the scaling procedure, while others by the anaesthetic injection. Painful experiences during previous primary probing of pocket depths and present SRP were highly correlated. From these results, it was concluded that subgingival instrumentation caused pain and
discomfort, and that the use of local infiltration anaesthesia to reduce pain was in itself a cause of discomfort. [16]

In a different study, patients were recruited to test on the use of virtual reality distraction for pain control during periodontal scaling and root planing procedures. Patients received SRP under three treatment conditions in three quadrants. The three conditions were control, watching a movie and virtual reality (VR). Patients reported that they preferred the VR condition. The results of this study suggested that use of immersive VR distraction may be an effective method of pain control during SRP procedures. [17]

The efficacy of a topical anaesthetic on pain and unpleasantness provoked by scaling of gingival pockets was investigated among patients with mild chronic periodontitis. It was found that patients considered gingival scaling to be associated with some degree of pain and unpleasantness. Also, application of EMLA reduced both pain intensity and unpleasantness significantly. Generally, the patients accepted the anaesthetic procedure well. Thus it was demonstrated that topical anaesthesia was efficient in pain reduction during scaling. [18]

A study carried out to assess patients’ levels of pain before and after SRP conducted with local anaesthesia established that most patients experienced some level of pain some hours after SRP, but upon awakening the following day, the pain levels had returned to pre- SRP levels. [19]
CHAPTER TWO

2.0 STATEMENT OF RESEARCH PROBLEM, STUDY JUSTIFICATION AND OBJECTIVES

2.1 STATEMENT OF THE RESEARCH PROBLEM
Non-surgical periodontal therapy (NSPT) is the most common mode of periodontal treatment in the University of Nairobi Dental Hospital. Some level of discomfort or even pain may be experienced during these procedures. This may influence the patients’ perception on the procedure hence adherence to future therapy and oral health seeking behaviour and practice. The factors influencing patients’ perception to pain and discomfort hence subsequent satisfaction vary among individuals, and even within the same individual if subjected to different procedures. The aim of NSPT is to eliminate the cause of periodontal disease hence should be offered in a manner that is both comfortable and perceived to be pain-free or with minimal discomfort.

2.2 STUDY JUSTIFICATION
Whereas most surgical procedures are carried out with local anaesthetics, NSPT may or may not require use of LA. The patients’ level of pain, experience and discomfort whether perceived or real, is a crucial factor in their future health seeking behaviour. An understanding of such factors is therefore important in determining how to improve delivery of NSPT. A literature search reveals a substantial study of these factors, however many of these studies have been carried out in other geographical locations. Studies in East Africa and indeed in Kenya are lacking. This study therefore seeks to investigate the perception and satisfaction of patients after non-surgical periodontal therapy at the University of Nairobi Dental Hospital.

2.3 OBJECTIVES

2.3.1 General Objective
To investigate patients’ experience and satisfaction after receiving non-surgical periodontal therapy at the University of Nairobi Dental Hospital.

2.3.2 Specific Objectives
i. To document the age and gender of patients attending at UDH Periodontology clinic
ii. To determine the unfavourable factors experienced by patients while being treated at the Periodontal clinic at UDH after NSPT
iii. To determine satisfaction level after various forms of NSPT for patients being seen at the Periodontal clinic at UDH
### 2.4 VARIABLES

Table 1: Study variables

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MEASUREMENT</th>
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</thead>
<tbody>
<tr>
<td><strong>Socio-demographic</strong></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Years</td>
</tr>
<tr>
<td>Gender</td>
<td>Male/Female</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
</tr>
<tr>
<td><strong>Independent</strong></td>
<td></td>
</tr>
<tr>
<td>Procedure undertaken</td>
<td></td>
</tr>
<tr>
<td>Whether there has been dental procedures done before</td>
<td></td>
</tr>
<tr>
<td><strong>Dependent</strong></td>
<td></td>
</tr>
<tr>
<td>Perception of pain before NSPT</td>
<td>Visual Analogue Scale (Appendix III)</td>
</tr>
<tr>
<td>Patient’s experience</td>
<td></td>
</tr>
<tr>
<td>Level of Satisfaction</td>
<td>Satisfactory level scale (Appendix IV)</td>
</tr>
</tbody>
</table>
CHAPTER THREE

3.0 MATERIALS AND METHODS

3.1 STUDY AREA

Nairobi city, located within Nairobi County, is the economic and administrative capital of Kenya, and currently has an estimated population of about 4 million people. However, it serves a larger population, as people from other counties come to Nairobi for various services such as education, employment and medical treatment. The Periodontology clinic is found at University of Nairobi Dental Hospital, which is a teaching and referral dental hospital for the University of Nairobi, and it manages patients with periodontal diseases. The Hospital serves people from within the county of Nairobi as well as surrounding counties. Patients from far flung counties as well as from the greater east African region are also attended to mainly on referral basis.

3.2 STUDY POPULATION

Patients visiting the Periodontology Clinic in the UoN Dental Hospital, either having been referred for periodontal therapy from a different clinic within the school, or having routine periodontal check-up, or having periodontal therapy as part of their larger treatment plan make up the study population.

3.3 SAMPLING

3.3.1 Sample size

The sample size has been calculated using the formula:

\[ n = \frac{Z^2 p(1-p)}{C^2} \]

Using a prevalence rate of 50% and 95% confidence level,

Where:

n = Sample size

Z = the Z value of 1.96 corresponding to a confidence level of 95%

P = Proportion of patients satisfied after NSPT

C = Level of significance (1-confidence level)
\[ n = \frac{1.96^2 \times 0.50(1 - 0.5)}{(1 - 0.95)^2} \]

\[ n = 384 \]

For a population of less than 10,000:

\[ n_f = \frac{n}{1 + \frac{n}{N}} \]

Where:

\( n_f \) = Sample size

\( n \) = Sample size in an estimated population of >10,000

\( N \) = estimated population with the characteristics under investigation

Taking \( N \) to be 175:

\[ n = \frac{384}{1 + \frac{384}{175}} \]

\[ n = 120 \]

3.3.2 Sampling Method
A convenient method of sampling will be used where all patients attending the Periodontology clinic during the study period and fulfil all inclusion criteria for this study will be recruited.

3.3.3 Study Design
This will be a descriptive cross-sectional study.

3.3.4 Data Analysis
The data will be entered, coded and analysed using the Statistical Package for Social Sciences (SPSS) and Microsoft Excel 2007.

3.3.5 Study Period
The study will take place between September and October 2013.

3.3.6 Inclusion Criteria
- Patient seen at the Periodontology Clinic in UoN Dental Hospital.
- Individuals above 18 years with written consent to the study.
• Individuals below 18 years, who assent to the study and whose parents/guardians have given written consent.

3.3.7 Exclusion Criteria
• Patients attending the Periodontology clinic in UoN Dental Hospital but not having NSPT.

3.3.8 Participant recruitment
Patients attending the Periodontology clinic during the study period and fulfil the inclusion criteria will be informed about the study. Thereafter they will be provided with a consent form (Appendix I) for their reading and signing. Patients with a duly signed consent form will be interviewed within the precincts of the clinic. All patient identifying information will not be used in the questionnaire.

3.4 DATA COLLECTION TOOLS
The data will be collected via interviewer-administered questionnaires (Appendix II). Data will be collected on socio-economic variables i.e. a respondent’s age, gender and occupation; dependent variables i.e. the respondent’s perception of pain and level of satisfaction, and independent variables i.e. the duration of therapy and whether the patient has had dental procedures done prior to the NSPT. Data on the type of procedure undertaken will be retrieved from the patients file.

3.5 MINIMIZING ERRORS AND BIAS
• The data collection forms will be pretested before being issued to the patients.
• All the questionnaires will be administered by the principal investigator to ensure consistency in collection of data.
• VAS for pain perception will be used to minimize the subjectivity of pain experience.

3.6 PERCEIVED BENEFITS
i) The findings of this study may be used to design protocols for better patient management during NSPT.
ii) The study will be submitted as partial fulfilment for a Bachelor of Dental Surgery degree at the University of Nairobi.

3.7 ETHICAL CONSIDERATIONS
• Ethical clearance will be sought from the Kenyatta National Hospital and University of Nairobi Research Standards and Ethics Committee.
• Permission will be sought from the Dean, School of Dental Sciences.
• Informed consent will be sought from the patients before their inclusion into the study.
• All participants will have withdrawal privilege at all times during this study.
• Patients identity information will not be used, and only authorised personnel will access the questionnaires

CHAPTER FOUR: RESULTS

4.1 SOCIODEMOGRAPHIC VARIABLES

A total of 87 respondents participated in the study. Of these, 48 (55.2%) were males and 38 (43.7%) were females. The males were significantly older than the females. Figure 1 shows age and gender distribution. There were no males in the 0-19 years age group, while there were no females in the 70+ years age group. There were more females than males in the 20-29 years age group, but there were more males than females in the 30-39, 40-49, 50-59 and 60-69 years age groups.

![Figure 1: The distribution of gender among various age groups](image)

Of the respondents, 22 (25.9%) were unemployed, 23 (27.1%) were self-employed and 40 (47.1%) were in formal employed. Figure 2 shows the type of employment by gender. Females were less likely to be in self-employment or formal employment than males.
Figure 2: The distribution of gender among different occupations

More respondents lived in urban areas (75.9%) than in rural areas (24.1%). Figure 3 shows the distribution of area of residence according to gender.

Figure 3: The distribution of gender among various areas of residence
4.2 PROCEDURE UNDERTAKEN

All the respondents had scaling, polishing and oral hygiene instructions done (100%). 20.7% of the respondents had root planing done, while 10.5% had fluoride therapy. Figure 4 shows the number of respondents that received various forms of NSPT.

![Figure 4: Non-surgical periodontal therapy received](image)

4.3 PAST DENTAL EXPERIENCE

A total of 64 respondents (72.4%) had had a dental procedure done before receiving the current NSPT. 33 were male and 31 were female. Of those who had had dental procedures done before, 32.3% had a very pleasant experience, 30.8% had a pleasant experience, 21.5% had a slightly unpleasant experience, 4.6% had a very unpleasant experience and 10.8% had an extremely unpleasant experience. Figure 5 shows the distribution of frequency for past dental experience among the participants.
4.3.1 Gender comparison of past dental experience
More males than females had very pleasant, very unpleasant and extremely unpleasant dental experiences, while more females than males had a pleasant and slightly unpleasant past dental experience. Figure 6 shows the comparison between past dental experience for males and females.

Figure 6: Past dental experience compared between males and females
4.4 KNOWLEDGE

Of the total respondents, 24 (27.6%) went for NSPT on their own volition. 19 (21.8%) had the therapy recommended to them by friends of family, 40 (46.0%) by dentists and 4 (4.6%) by other health care professionals. Figure 7 shows the party that recommended the therapy for the respondents.

![Figure 7: Party that referred NSPT to the respondent](image)

48 (55.2%) respondents had knowledge on the purpose of NSPT, while 39 (44.8%) respondents had poor or no knowledge.

Respondents who recommended the therapy for themselves tended to have greater knowledge of the purpose of NSPT than those who had the therapy recommended by their friends or family, dentists and other health care professionals. There was a negative correlation between the party that recommended the therapy for the respondents and the knowledge they had of the therapy.

38 (43.68%) respondents heard of or had had NSPT done before, while 49 (56.32%) respondents were having the therapy done and hearing about it for the first time. Figure 8 compares the number of respondents who had heard of or had NSPT done before, compared to those who had not.
Respondents who had heard of or had had NSPT done before tended to have more knowledge of what the therapy was for as compared to those who did not. There was a positive correlation between knowledge of the purpose of NSPT and having heard of NSPT or having it done before.
4.5 STATE OF PATIENTS BEFORE TREATMENT

41 respondents (47.12%) were very relaxed before therapy, 22 were slightly relaxed (25.29%), 14 were slightly uneasy (16.10%), 8 were very uneasy (2.30%) and 2 were so uneasy that they almost felt sick (2%) before receiving the therapy. Figure 9 shows how relaxed the respondents were before receiving the therapy.

4.6 PAIN EXPERIENCED

<table>
<thead>
<tr>
<th></th>
<th>No Pain (0)</th>
<th>Mild Pain (1-3)</th>
<th>Moderate Pain (4-6)</th>
<th>Severe Pain (7-10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before NSPT</td>
<td>47.7%</td>
<td>52.3%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>During NSPT</td>
<td>38.4%</td>
<td>48.8%</td>
<td>11.6%</td>
<td>1.2%</td>
</tr>
<tr>
<td>After NSPT</td>
<td>72.9%</td>
<td>23.5%</td>
<td>3.5%</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 1: Proportion of patients that experienced pain before, during and after NSPT

4.7 MEDICATION TO RELIEVE PAIN

<table>
<thead>
<tr>
<th></th>
<th>During Therapy</th>
<th>After Therapy</th>
<th>Felt that medication should have been given</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>22.9%</td>
<td>12.0%</td>
<td>10.7%</td>
</tr>
<tr>
<td>No</td>
<td>77.1%</td>
<td>88.0%</td>
<td>89.3%</td>
</tr>
</tbody>
</table>

Table 2: Whether or not patients received medication to relieve pain during and after receiving NSPT, and whether they felt like they should have been given medication
4.8 LEVEL OF SATISFACTION AFTER RECEIVING NSPT
37 (42.52%) respondents were extremely satisfied with the NSPT they received at SDS, 25 (28.73%) were very satisfied, 23 (26.44%) were satisfied, 1 (1.14%) was unsatisfied and 1 (1.14%) was disappointed. Figure 10 shows the level of satisfaction after receiving NSPT.

![Figure 10: Level of satisfaction after receiving NSPT](image)

Of the total respondents, 84 (97.7%) said that they would recommend the therapy to someone else, while 2 (2.3%) said that they would not.
CHAPTER 5

5.0 DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 DISCUSSION
The main objective of the study was to investigate patients’ experiences after receiving non-surgical periodontal therapy at the University of Nairobi Dental Hospital. Determination of patients’ experience was done by assessing the type of NSPT they had had done, finding out if the respondents had had any dental therapy done prior to receiving the current NSPT, assessing the respondents’ knowledge of the purpose of NSPT, whether they had heard of or received NSPT before, determining the pain they felt before, during and after receiving NSPT and the level of satisfaction after receiving the therapy.

100 questionnaires were distributed of which 87 had relevant responses. Sampling was done using a convenience method, whereby the respondents that met the criteria and consented to taking part in the study were recruited. The questionnaires were administered by the principle investigator, assisted by third year students at the University of Nairobi Dental Hospital at the Periodontology Clinic.

55.2% (48) of the respondents were male and 43.7% (38) were female. The male to female ratio was 1.3:1. This could be due to the fact that most patients seen in the Periodontology Clinic are male. These findings were not similar to those of a similar study done in another developing country by Sanikop S. et al, whereby there were 52 women and 48 men (male to female ratio- 1:1.2). [14]

The males were significantly older than the female. Majority of the respondents were from between the ages of 20 to 29.

Majority of the respondents (75.9%) came from urban areas. This could be attributed to the fact that the university of Nairobi Dental hospital is located within Nairobi County, which is an urban area, and thus is accessible mainly to patients from within Nairobi.

All of the patients had scaling, polishing and oral health instructions given during the duration of the therapy. Of the total respondents, 10.5% received fluoride therapy and 20.7% had root planning done. Scaling, root planing and polishing are the main procedures that are carried out at the Periodontology clinic at the University of Nairobi Dental Hospital. All patients in the Periodontology Clinic receive oral hygiene instructions as part of their treatment plan.
72.4% of the patients had had other dental procedures done before receiving the current NSPT. Of these, 32.3% felt that the past dental experience was very pleasant.

47.12% of the respondents were very relaxed before therapy, 25.29% were slightly relaxed, 16.10% were slightly uneasy, 2.30% were very uneasy and 2% were so uneasy that they almost felt sick. Uneasiness among patients could be attributed to lack of knowledge on what the therapy entailed or this being their first time having a dental procedure done.

47.7% of the patients felt no pain before the NSPT. 52.3% of patients experienced mild pain before receiving the NSPT. The pain can be attributed to the possible gingival or periodontal inflammation, of which one cardinal feature is pain. It could also be attributed to other dental and oral diseases, other than gingival or periodontal disease.

During NSPT, 38.4% of the patients experienced no pain, 48.8% experienced mild pain, 11.6% experienced moderate pain and 1.2% experienced severe pain.

After NSPT, 72.9% of patients felt no pain, 23.5% felt mild pain and 3.5% felt moderate pain. This does not compare well with a study carried out by Khalid A, whereby mild pain was experienced by 34% of the patients and no patient at all experienced intolerable pain. [1]

22.9% patients received local anaesthesia during NSPT to prevent pain, while 12.0% received medication after NSPT to relieve pain. 10.7% felt that they needed medication to prevent or relieve pain either during or after NSPT respectively. In a study carried out by Shaju J. P., all patients were given local anaesthesia on half the sites to be scaled. [20]

There generally was a higher experience of pain amongst patients during NSPT as compared to before and after NSPT. This can be attributed to the fact that few patients were given local anaesthesia during NSPT. This does not compare well with the results from a study conducted by Shaju J. P. et al, which showed that there was significantly more pain experienced by the respondents after instrumentation. [20]

Of the patients who had had NSPT done before the current therapy, 71.4% felt that the current one was better compared to the previous one. 2.9% felt that it was worse than the previous one and 25.7% felt that they were the same.

37 (42.52%) respondents were extremely satisfied with the NSPT they received at SDS, 25 (28.73%) were very satisfied, 23 (26.44%) were satisfied, 1 (1.14%) was unsatisfied and 1 (1.14%) was disappointed.

84 (97.7%) respondents said that they would recommend the treatment to someone else, while 2 (2.3%) said that they would not recommend the treatment to anyone else. This could be due to
uneasiness before the treatment, with the clinician failing to allay their fears, lack of proper understanding as to what the treatment entailed and involved, pain experienced during and after the therapy with the clinician failing to administer medication that would prevent or relieve the pain, and an overall sense of dissatisfaction with the treatment they received.

5.2 CONCLUSION

Based on the study findings, the following conclusions were made:

1. Patients’ experience while receiving non-surgical periodontal treatment was influenced by: prior knowledge of what the treatment entailed, level of relaxation before receiving NSPT, the pain they felt before, during and after the therapy and whether or not the clinician gave them medication to prevent or relieve the pain.
2. The patients’ satisfaction was directly influenced by their experience while receiving NSPT.

5.3 RECOMMENDATION

Based on the findings of the study, the following was recommended:

1. Clinicians should take time to explain to patients the purpose of receiving non-surgical periodontal therapy what the therapy entails in order to make the patients feel relaxed and less anxious.
2. All scaling and/or root planing should be done under medication that reduces or eliminates pain.
REFERENCES


APPENDIX I: INFORMED CONSENT FORM

I am Charlene Wanguimwangi, a third year undergraduate student at the School of Dental Sciences College of health sciences, University of Nairobi. I am conducting this research as part of my studies in the department of Periodontology/ Community and preventive dentistry towards a Bachelor of Dental surgery degree.

CONSENT STATEMENT

I understand this study will involve filling a questionnaire with the assistance of Miss. Mwangi.

I understand that details of the treatment procedures I have undergone including my opinion about the treatment will be inquired for. I will be referred to one of the consultant at the UoN dental school if I have questions that Miss. Mwangi cannot address.

RISKS

I understand there are no associated risks to my health or future therapy as a result of participating in this study.

BENEFITS

I understand that the results obtained from the study will provide baseline information for development of a protocol to help patients undergoing the type of procedures I have undergone.

COST AND PAYMENTS

I understand that this study is voluntary and no monetary compensation will be given.

CONFIDENTIALITY

I understand that all personal information obtained about me during this research will be kept strictly confidential.

WITHDRAWAL PRIVILEGE:

I understand that I may refuse to participate in or withdraw from the project at any time without penalty or prejudice. If I do this, I will continue to receive health care at UoN Dental hospital as I would normally receive.
VOLUNTARY CONSENT

I certify that I have read all this consent form or it has been read to me and that I understand it. Any questions pertaining to the research have been answered to my satisfaction and my signature means I freely agree to participate in this study.

This is to certify that, I hereby agree to participate in this educational and research study of Charlene Wangui Mwangi, a third year undergraduate student from the School of Dental Sciences, College of Health Sciences University of Nairobi P.O. BOX 19676 Nairobi.

-----------------------------------------        ------------------
Signature of the participant                   Date
Mimi ni Charlene Wangui Mwangi. Mimi ni mwanafunzi wa masomo ya shahada la Utabibu wa meno (Bachelor of Dental Surgery) katika Chuo Kikuu cha Nairobi na niko katika mwaka wangu wa tatu. Ninaliyotafiti kuhusu jinsi wagonjwa wanavyochukulia matibabu yasiyohitaji upasuaji katika Periodontology Clinic Hospitali ya Matibabu ya Meno ya Chuo Kikuu cha Nairobi, na kama wanapata kuridhika na matibabu hayo.

**RIDHAA**

Ninaelewa ya kwamba utafiti huu unahitaji nijibu maswali kadhaa nikiwa nausaidizi wa C. W. Mwangi.

Ninaelewa matibabu yote nimepata. Ninaelewa kuwa, nikiwa na swali ambalo C. W. Mwangi hawezikujibu, nitaelekezwa kwa daktari yeyote hapa hospitali ni atakayeweza kulijibu.

Ninaelewa ya kwamba hakuna madhara nitapata nikiwa katika utafiti huu.

Ninaelewa ya kwamba ripoti itakayotokana na utafiti huu itasaidia wagonjwa watakaopata matibabu kama niliyopata siku za usoni.

Ninaelewa ya kwamba hakuna malipo ya aina yoyote nitapewa kwa kushiriki katika utafiti huu.

Ninaelewa ya kwamba mambo nitakayosema kujihusu hayatatumika kwingine ila katika utafiti huu na mambo yatakayohusiana na utafiti huu.

Ninaelewa ya kwamba ninaweza kujiondoa kutoka zozezi hili wakati wowote bila kushiriki au matibabu yangu kubadilishwa.

**IDHINI YA MGONJWA**

Nimekubali ya kwamba nimesoma fomu nzima ama nimepata kusomewa, na ya kwamba nimeelewa kwa ukamili. Maswali yoyote kuhusu utafiti huu yamejibiwa kwa kina. Sahihi yangu inamaanisha ya kwamba nimekubali kuhusika na utafiti huu wa Charlene Wangui Mwangi, mwanafunzi wa mwaka wa tatu katika School of Dental Sciences, College of Health Sciences, Chuo Kikuu cha Nairobi. S.L.P. 19676, Nairobi.

Sahihi Tarehe

25
APPENDIX II: DATA COLLECTIONFORM

1. Age
2. Gender
3. Occupation
4. Area of residence (Please tick appropriately)
   - □ Nairobi
   - □ Other (Please specify) .................................................................
5. Procedure undertaken
   - □ Scaling
   - □ Root planning
   - □ Polishing
   - □ Oral hygiene instructions
   - □ Fluoride therapy
6. Is this the first time you have had a dental procedure done?
   - □ Yes
   - □ No
   (If No to question for above, go to question 7)
7. Which other dental procedures have you had done before?
   ..................................................................................................................
   ..................................................................................................................
8. How can you describe the overall experience? (for question 6 above)
   - □ Very pleasant
   - □ Pleasant
   - □ Slightly unpleasant
   - □ Very unpleasant
   - □ Extremely Unpleasant
9. Who recommended this current treatment?
   - □ Self
   - □ Friend/ family
   - □ Dentist
   - □ Other health care professional
10. What do you think the purpose of the therapy you received is? (Non-surgical periodontal therapy)
   - [ ] Whitening teeth
   - [ ] Deep cleaning of teeth
   - [ ] Removal of bacteria and other elements that would cause infection of gums and tissues supporting the teeth
   - [ ] Supplement to daily brushing at home
   - [ ] I don’t know

11. Before coming for this treatment, had you had it done before or heard of it before?
   - [ ] Yes
   - [ ] No

12. How relaxed were you before receiving the treatment?
   - [ ] Very relaxed
   - [ ] Slightly relaxed
   - [ ] Slightly uneasy
   - [ ] Very uneasy
   - [ ] So uneasy that I almost felt sick

Please use the following scale to answer questions 13-15. Respond with the number that is adequate for your response.

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<th>2</th>
<th>3</th>
<th>4</th>
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<th>6</th>
<th>7</th>
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<th>10</th>
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Where 0 represents no pain at all and 10 represents worst possible pain imaginable.

13. Pain before therapy ..................
14. Pain during therapy ..................
15. Pain after therapy ..................
16. Did the clinician/dentist give you any medication to decrease the pain during treatment?
   - [ ] Yes
   - [ ] No
17. Did the clinician/dentist give you any medication to decrease the pain after treatment?
   - [ ] Yes
18. If your answer is no to either question 16 or 17, or both, do you feel like some medication should have been given?
   □ Yes
   □ No

19. If you have had this treatment done before, how does the current treatment compare with the previous one?
   □ Better
   □ Worse
   □ The same

20. How can you describe your overall experience for the duration of this treatment?
   □ Very pleasant
   □ Pleasant
   □ Slightly unpleasant
   □ Very unpleasant
   □ Extremely Unpleasant

21. How would you rate your satisfaction after treatment? (Tick appropriate response)
   I. Extremely satisfied
   II. Very satisfied
   III. Satisfied
   IV. Unsatisfied
   V. Disappointed
   VI. Very disappointed
   VII. Extremely disappointed

22. Would you recommend this treatment to anyone else?
   □ Yes
   □ No
## APPENDIX III: VISUAL ANALOGUE SCALE

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0- No Pain
2- Mild Pain
4- Moderate Pain
6- Severe Pain
8- Very Severe Pain
10- Worst Possible Pain Imaginable
APPENDIX IV: SATISFACTORY LEVEL SCALE

I. Extremely satisfied
II. Very satisfied
III. Satisfied
IV. Unhappy
V. Disappointed
VI. Very disappointed
VII. Extremely disappointed