FACULTY OF DENTAL SCIENCES,
DEPARTMENT OF PERIODONTOLOGY, COMMUNITY AND PREVENTIVE DENTISTRY,
UNIVERSITY OF NAIROBI.

PATIENT SATISFACTION FOLLOWING PERIODONTAL THERAPY AT THE
UNIVERSITY OF NAIROBI DENTAL HOSPITAL

INVESTIGATOR: MANYASI J. OTIDO
V28/8306/03
LEVEL 111 BDS

A RESEARCH REPORT FOR A COMMUNITY DENTISTRY PROJECT SUBMITTED IN
PARTIAL FULFILMENT OF THE BACHELOR OF DENTAL SURGERY DEGREE OF THE
UNIVERSITY OF NAIROBI.
SUPERVISORS' DECLARATION:

This research project has been submitted for partial fulfillment of a Bachelor Of Dental Surgery (BDS) degree with the approval as university supervisors.

1. INTERNAL.

Dr. Loice W. Gathece BDS, MPH (Nbi).
Department of periodontology, community and preventive dentistry,
School of Dental Sciences,
College of Health Sciences,
University of Nairobi.

Signature: ................................
Date: ..................................

2. EXTERNAL.

Dr. Evelyn Wagaiyu, BDS, Msc (London), FADI, PFA.
Department of periodontology, community and preventive dentistry,
School of Dental Sciences,
College of Health Sciences,
University of Nairobi.

Signature: ................................
Date: ..................................
ABSTRACT

Periodontal diseases result in progressive destruction of bone and the tooth support structures. It is irreversible and caused by poor plaque control, allowing a sticky film of bacteria to build upon tooth surface and harden. Progression of periodontal disease can be stopped through treatment. Depending on the extent of the periodontal disease, treatment is in the form of periodontal therapy. Periodontal therapy includes scaling and root planning, patient motivation, oral hygiene instructions and periodontal surgery. It is important for patients to be satisfied with the periodontal treatment received so as to improve treatment quality and compliance. This will in turn lead to better prognosis and maintenance of good periodontal health. Patients’ compliance with periodontal therapy is important for the treatment outcome.

The main objective of this study was to determine patient satisfaction following periodontal therapy. A descriptive cross-sectional study was conducted among 100 patients aged 18 years and above visiting the Periodontology Clinic of University of Nairobi dental hospital. This was during the months of September and October. Interviewer-administered questionnaires were used to collect data. Variables sought included gender, age, previous history of periodontal disease and type of periodontal therapy.

Most patients are satisfied with periodontal treatment received. This is in agreement with studies done in the United Kingdom by R.Bedi et al which showed 89% were satisfied. The satisfaction could be due to improvement in signs and the symptoms of the chief complaint.

Majority of the patients attending the UON Dental hospital are satisfied with the periodontal treatment received. Younger patients between 21 -30 years are more satisfied compared to the other age groups. Males are more satisfied than their female counterparts. Type of periodontal therapy and previous history of periodontal disease did not influence satisfaction after periodontal therapy. Length of treatment is also not significant when it comes to patient satisfaction. Care providers should be educated on the methods of improving patient satisfaction.
INTRODUCTION

Periodontium is the functional unit of tissues supporting the teeth which include gingiva, periodontal ligament, cementum, and alveolar process. Periodontal disease results in progressive destruction of the tooth support structures and eventually leads to early loss of teeth. The process begins with plaque formation which leads to accumulation and if poorly controlled, calcifies to form calculus on the tooth surface.

Signs of periodontal disease include pain, bleeding gums, mobility, spacing and migration of teeth, gingival changes in colour, texture, consistency, size and bleeding on probing. On a global scale, studies done have indicated that there is a high prevalence of periodontal disease. American surveys have shown that the prevalence of periodontal disease increases from 29% at age 19-44 years to 50% in people aged more than 50 years.

Treatment of periodontal diseases is in the form of periodontal therapy, whose goals are to eliminate infection, maintain a healthy periodontium, prevent tooth loss and improve aesthetics and function. Periodontal therapy includes; good plaque control in a well-motivated patient, scaling, root planning, surgical therapy including regenerative techniques and regular maintenance.

In studying the need for periodontal treatment in an urban population, Johansen et al established that 65% required one form or the other of periodontal therapy. The study also showed that the need for surgical treatment increased with age and the estimated treatment time was higher in females.

Satisfying patients should be a key task for all dental providers and patient satisfaction has been shown to influence compliance and success of treatment. Satisfaction after periodontal therapy varies from one person to another and may depend on various factors like disease severity and attitude of the individual.

A study done by Gurdal P. et al in Turkey showed that less than 38% of the patients were satisfied with the treatment they received and important components of satisfaction were found to be the relationship between the dentist and the patient.
In comparing patient expectation and satisfaction after periodontal surgery, a South Korean study by Jae-Mok Lee et al 2002 established that increasing satisfaction level was through improvement of preventive measures. The study also found that the total mean score of general satisfaction before treatment was 2.65, decreasing to 2.60 after treatment.

The aim of this study is to determine patient satisfaction following periodontal therapy. Finding out the level of satisfaction experienced following periodontal therapy among patients, will assist in formulating strategies to improve the services provided.
LITERATURE REVIEW

Sitzia J. et al 2000 have defined patient satisfaction as a health care recipient's reaction to salient aspects of the context, process and result of their experience with health care services. This view characterizes patient satisfaction as an evaluation of directly received service, comparing the individual’s health care experience with a subjective standard. The subjective standard used for judging a health care experience may include a subjective ideal, sense of what one desires and past experience. Evidence suggests that patient satisfaction with oral health care may also be influenced by characteristic of delivery system, outcome of care, socio-demographics and oral health care systems.

A South Korean study by Jae-Mok Lee et al 2002 showed that satisfaction scores of items related to patient expectation of treatment outcome decreased significantly following surgery. The patients also expressed great dissatisfaction with items regarding disease prevention such as “desire for knowledge of periodontal disease prevention” and “desire for knowledge of recurrence control methods”. This meant that the dissatisfaction was due to lack of knowledge. The total mean score of general satisfaction before treatment was 2.65 decreasing to 2.60 after treatment. The study concluded that any increase in periodontal therapy satisfaction was difficult to achieve but satisfaction levels must be raised to improve preventive measure factors.

A study done at National Naval Dental Centre in USA by Matis .S. et al 2001 to determine what factors were most predictive of reported overall patient satisfaction showed that individuals who were seen on time were 5.8 times more likely to be satisfied than those who waited for more than 30 minutes. It also revealed that patients who were seen and periodontal treatment carried out were 3 times more likely to be satisfied than those who were seen for examination only. Other statistically significant factors were number of days a patient must wait between the time an appointment is made and the appointment.
A Norwegian study in 2002 reported very low levels of discomfort associated with both non-
surgical and surgical periodontal therapy in a specialist periodontal practice. Virtually all (97%)
patient's perceived periodontal treatment to be associated with no more discomfort than
conventional treatment.

A study done in USA by Maupome G. et al 1986, found that perception of oral health status and
levels of satisfaction were generally closely associated. The study concluded that future work
should seek to clarify whether opinions on oral health status and satisfaction are as a result of
clinical experiences over time or whether the behavior and the values associated with seeking
dental services determine satisfaction.

A study done in Uganda by Okullo et al 2004 to investigate the satisfaction with dental care
rendered among adolescents and to analyze factors influencing their satisfaction scores showed
that inter-personal interaction with dentists was a key determinant in establishing satisfaction with
dental care among urban as well as rural adolescents.

Increased importance is being placed on the views of the patient on the process of monitoring and
improving quality of dental services. It is evident for instance that dissatisfaction with dentists
affects the patients' decision to return for more treatment.

A study in the United Kingdom by R.Bedi et al 2002 showed that most people in Britain were
satisfied with dental services, that is, about 89% and one in three did not know to whom to
complain if they were dissatisfied. Bivariate analysis revealed that satisfaction with the quality of
care received at the dentist was associated with 3 socio-demographic and dental service factors:
age (p=0.01); time since last dental visit (p=<0.001); and reason for last dental visit (p=<0.001).
Younger people were also less satisfied with the quality of care received at their dentist compared
to older people. The shorter the time between the dental visits, the more satisfied a patient was.

A review of patient satisfaction by Newsome et al 1999 showed that dental satisfaction was the
result of an extremely complex process and future research should concentrate on unraveling
factors that result in expressions of satisfaction or dissatisfaction.
In the past, research has concentrated on practices or attributes that are most influential in determining satisfaction and how different groups react to the various attributes. This suggested that a patient may have a bad experience with the dentist but may nevertheless express overall satisfaction.

The review also established that if more light is to be shed on the process by which the negative experiences are translated into positive or negative evaluation of the dental providers, more also needs to be known about patient expectations in terms of minimum acceptable or adequate service.
Problem statement
Periodontal disease is common worldwide and treatment includes good plaque control in a well-motivated patient, scaling, root planning and surgical therapy. Whenever patients are given periodontal therapy, they should be satisfied with the treatment they receive. However, this is not always the case and once not satisfied, the patients may refuse to follow up treatment, or preventive measures given leading to recurrence of disease. There is much need for patient satisfaction following periodontal therapy so as to improve treatment quality and compliance, better prognosis and maintain good periodontal health.

Justification of the study
There is scanty information regarding patient satisfaction after periodontal therapy. Very few studies have been done regarding satisfaction after treatment. Information collected from the study will therefore form a data baseline for policy makers to formulate policies regarding patient satisfaction.

Objectives
Main objective
1. To determine patient satisfaction following periodontal therapy.

Specific objectives
1. To establish whether patients are satisfied or not.
2. To establish whether patient satisfaction depends on age, sex, type of periodontal disease and previous history of periodontal disease.

Variables
Independent variables
1. Sociodemographics i.e. age and gender
2. Previous history of periodontal disease
3. Type of periodontal therapy
4. Occupation
Dependent variables
Satisfaction with the periodontal treatment

Hypothesis
Majority of patients are satisfied with the periodontal therapy they receive at the UON Dental Hospital

METHODOLOGY
Study area
The city of Nairobi is in an urban center with a population of about 3 million. It is cosmopolitan and has people from different racial and tribal background.
The University of Nairobi dental Hospital is situated on Argwings Kodhek road in the outskirts of the city center. It is the only institution in Kenya training undergraduate students pursuing the Bachelor of Dental Surgery degree course as well as postgraduate students in various fields of dentistry in Kenya. It is divided into four departments each dealing with specific specialties. It is also one of two referral hospitals in Kenya for oral and maxillofacial conditions and complications. The study will be carried out at the periodontology clinic within the hospital.

Study population
It was a hospital-based study involving all patients aged 18 years and above visiting periodontology clinic, during the period of study.

Study design
A descriptive cross-sectional study.

Sample size
Using a prevalence rate of 70% (Manji et al; periodontal diseases in adult Kenyans)
Using 95% confidence level and Z value 1.96,
Sample size \( N = \frac{Z^2 P (1-P)}{C^2} \)

\( C = 1 - \text{Confidence level} \)
Hence \( N = \frac{1.96^2 \times 0.7 \times (1-0.7)}{(1-0.95)^2} = 322 \) People
Inclusion Criteria
Patients aged 18 years and above who gave consent.

Exclusion Criteria
1. Patients who did not consent to the study.
2. Patients below 18 years of age.

Data collection tools and methods
Data was collected using interviewer-administered questionnaires. The questionnaire was pretested and revised.

Data analysis and presentation
Data analysis was performed using SPSS package. The results obtained was presented as tables, pie charts and bar graphs.

Constraints anticipated
1. Financial constraints as the investigator is a student.
2. Time due to tight and demanding clinical schedules.

Ethical considerations
Approval to conduct the study was sought from Kenyatta National Hospital/University of Nairobi Ethical and Research Standards Committee. Permission was obtained from the authority at the School of Dental Sciences. Informed consent was sought from the patient and information collected was treated confidentially. All participants had an equal chance of being involved.
Perceived benefits

1. The study will provide data, which could be used to formulate policies to improve patient satisfaction following periodontal therapy.

2. The results from this study could also be a Partial fulfillment of the award of Bachelor of Dental surgery Degree.
RESULTS

A total of 100 interviewer-administered questionnaires were filled. Of these, 50(50%) were males while 50(50%) were females. The age ranged from 18 years to 65 years. The largest age group was that of 21-30 years for both males and females. The smallest age group was that of 50 years and above. The mean age of the patients was 32.75 years with a standard deviation of ±12.22.

Fig 1: Age and sex distribution
58 (58%) had attained university education, 32 (32%) had attained secondary education, 66 (66%) had attained primary education and 4 (4%) had attained postgraduate education.

17 (17%) of the patients were government employed, 17 (17%) self-employed, 17 (17%) were employed by private organizations, 27 (27%) were students and 22 (22%) were not employed.
Most patients were done for scaling and root planning 80(80%), while oral hygiene instructions and motivation were given to 96(96%). Periodontal surgery was done in 6(6%) of the patients. 29(29%) of the patients had treatment done in less than 2 weeks, 29(29%) less than 3 weeks, 25(25%) less than 1 week and in 17(17%) the patients the treatment took more than a month. 88(88%) of the patients reported to have observed improvement after the treatment while 9(9%) did not see any changes. 66(66%) of the patients had not visited a dentist before for the same problem while 33(33%) had consulted before for the same problem with no success.

![Fig 4: Length of treatment](image)

![Fig 5: Did you observe any improvement?](image)
Satisfaction with the treatment

91(91%) of the total sample were satisfied with the treatment received while 9(9%) reported not to be satisfied. The mean satisfaction score was 1.08 with a standard deviation of ±0.27.

78(78%) of the patients interviewed reported to have gone back for review and follow up while 21(21%) did not go for review. This did not however affect the satisfaction and was not significant. Recurrence of the periodontal disease was not reported in 77(77%) of the patients while the other 23(23%) reported recurrence. The mean of recurrence was 1.77 with a standard deviation of 0.42.

Table 1: Patients who went back for review

<table>
<thead>
<tr>
<th>Patients response</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>78%</td>
</tr>
<tr>
<td>No</td>
<td>21%</td>
</tr>
</tbody>
</table>
Regarding the disease severity, about 55(55%) reported their symptoms to be severe while 45(45%) did not have severe symptoms. At the end of treatment 82(82%) of the patients knew exactly what the problem was, how it came about and how to prevent recurrence while 18(18%) did not know. This showed that most patients who attended the periodontology clinic were given information regarding the disease.

Table 2: Was the problem severe?

<table>
<thead>
<tr>
<th>Patients response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>No</td>
<td>45</td>
<td>44</td>
</tr>
</tbody>
</table>

Fig 7: Ways of prevention
Concerning age and satisfaction after periodontal therapy, the most satisfied patients 39(39%) was between 21 -30 years. The least satisfied were those of 50 years and above. Males were also more satisfied 46(46%) than their female counterparts 45(45%).

Fig 8: Age group and satisfaction

![Age Group and Satisfaction](image-url)

were you satisfied with the treatment

- yes
- no
DISCUSSION

A total of 100 patients filled the questionnaire. Sociodemographic information showed a male to female ratio of 1:1. The near equality of persons of both genders revealed that almost equal numbers of male and females patients visited the UON dental hospital during the period of the study. This could be explained by equal periodontal health awareness on both parts.

The ages of the respondents revealed a wide range, with the youngest being 18 years and the oldest being 63 years. The mean age, however indicated an average value of 21-30 years hence most participants studied were young adults.

Concerning patient satisfaction after periodontal therapy, 91(91%) were satisfied while 9(9%) were not satisfied with the treatment received. This compares to a study done in the United Kingdom by R.Bedi et al 2002, where about 89% were satisfied. The results also contradict a study done by Gurdal P. et al in Turkey, which showed that less than 38% were satisfied with the treatment they received. This difference could be attributed to different treatment needs of the patients, socio-economic set up and urbanization.

The Reasons of satisfaction were mostly associated with improvement and less signs and symptoms of the periodontal disease. This contradicts a study done by Gurdal P. et al which showed that the most important components of satisfaction were the relationship between the dentist and the patient. This can be explained by the fact that by coming to the dental clinic patients expected their problems to be solved, and when symptoms reduced the patients were satisfied.

Concerning age and satisfaction of periodontal treatment, the most satisfied patients 39(39%) were between 21-30 years. This may be attributed to the fact that young people presented with less severe symptoms than their older counterparts. The elderly mostly presented with tooth mobility and prognosis was poor. This contraindicated a study done in the United Kingdom by R.Bedi et al 2002, where satisfaction with quality of care received at the dentist was associated with age. In this case, younger people were less satisfied with the quality of care received at their dentist compared to older people. This difference is probably due to the different social upbringing of the younger generation in United Kingdom.
With regards to sex, male patients were more satisfied (46%) than their female counterparts (45%). 3% and 5% of the male and female patients respectively were not satisfied with the treatment. This difference could be attributed to the way they were differently handled by different caregivers. A difference could also be due to simplicity nature of males and complex nature of females.

Treatment received at the dentist varied from oral hygiene instructions (71%) and motivation, scaling and root planning (80%) and periodontal surgery (6%). All patients (6%) who were done for periodontal surgery were satisfied with mean scores of 1.08. This contradicts a South Korean study by Jae-Mok Lee et al 2002 which showed a significant decrease in satisfaction scores after periodontal surgery. This may be explained by the proper oral hygiene instructions that were given and maintained by the patients before treatment to better prognosis.

The length of the treatment was not significant in relation to the overall satisfaction. This contradicts to a previous study done at the National Naval Centre in USA by Matis .S. et al 2001 which established the longer a patient waited for an appointment the less satisfied a patient was. This difference could be explained by the fact that the caregivers were students under supervision with scheduled clinics; the patients had to wait for appointments from the students.

Limitations

Time limit meant that enough time could not be found to adequately carry out the study as intended due to tight clinical schedules and other clinical work.

Due to financial and time constraints the initial sample size could not be achieved.

Conclusion

Majority of the patients attending the UON Dental hospital are satisfied with the periodontal treatment received. Younger patients between 21 -30 years are more satisfied compared to the other age groups. Males are more satisfied than their female counterparts. Type of periodontal therapy and previous history of periodontal disease did not influence satisfaction after periodontal therapy. Length of treatment is also not significant when it comes to patient satisfaction.
Recommendations

1. The same study should be carried out again using the correct sample size.
2. Care providers should be educated on the methods of satisfying patients.
3. Another study should also be carried out to find out why patients are unsatisfied with the periodontal treatment received.
REFERENCES


7. Manson JD, Eley BM: Outline of periodontics. 3rd Edition


PATIENT SATISFACTION FOLLOWING PERIODONTAL THERAPY AT THE UNIVERSITY OF NAIROBI DENTAL HOSPITAL

QUESTIONNAIRE

Questionnaire no...........
Date.......................

Age........ (Years)
Sex......................
Occupation............... 

Highest education level attained;

- □ Primary
- □ Secondary
- □ College/University
- □ Post College/University

Level of income (Kshs)

- □ 0-5,000
- □ 5,001-10,000
- □ 10,001-20,000
- □ 20,001 and above

1. Have you ever been to a dentist?

- □ Yes
- □ No

2. If yes, why did you go to see a dentist?

- □ Teeth mobility
- □ Sensitivity
- □ Bleeding gums
- □ Pain
- □ Bad breath
- □ Cleaning
- □ Regular check-up
- □ Others (specify)...........................................
3. What treatment did you receive at the dentist?
   - Oral hygiene instructions and motivation
   - Scaling and root planning
   - Periodontal surgery
   - Others (specify) .................................................................

4. How long did the treatment take?
   - Less than 1 week
   - Less than 2 weeks
   - Less than 3 weeks
   - More than 1 month

5. Were you satisfied with the treatment?
   - Yes    - No

6. Depending on your answer to question 5 above state why?
   .................................................................................................................................

7. Did you observe any improvement after the treatment?
   - Yes    - No

8. After the initial treatment, did you go back to the dentist for review/follow up?
   - Yes    - No

9. Did you observe any recurrence of the problem after treatment?
   - Yes    - No

10. Was the problem severe before you went to the dentist?
    - Yes    - No

11. In your own words how satisfied/dissatisfied would you say you were with the treatment received?
    .................................................................................................................................

12. At the end of the treatment, did you know exactly how the problem came about and what to do to prevent the problem in future?
    - Yes    - No

13. Have you visited a dentist before for the same problem?
    - Yes    - No