PREVALENCE OF PERIODONTAL DISEASE AMONG THE DENTAL PATIENTS VISITING ZEWDITU MEMORIAL HOSPITAL, DENTAL WING, ADDIS ABABA, ETHIOPIA

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PREVALENCE OF PERIODONTAL DISEASE AMONG THE DENTAL PATIENTS VISITING ZEWDITU HOSPITAL, DENTAL WING, ADDIS ABABA, ETHIOPIA, IN THE YEAR 2013 G.C.

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Glory be to GOD

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ABSTRACT

BACKGROUND: Periodontal diseases are diseases that involve the periodontal structures beyond the gingival and lead to loss of connective tissue attachment such as Gingiva, Cementum, Periodontal ligament and Alveolar bone. Periodontal diseases are among the widest spread diseases in mankind. The oral cavity is not a sterile cavity; there are more than 500 bacterial species that are capable of colonizing in the oral cavity.

OBJECTIVE: The objective of this study was to assess prevalence of periodontal disease among dental patients visiting Zewidetu Memorial hospital, dental wing in the year 2013, Addis Ababa, Ethiopia

METHODS and MATERIALS: A cross sectional study was conducted to assess the prevalence of periodontal disease among patients visiting Zewidetu Memorial hospital, dental wing. Simple random sampling technique was used to determine the sample size. Data was collected using structured questionnaire and oral examination was done by qualified dental intern using mirror, explorer, and periodontal probe.

RESULTS:

Conclusion: The oral hygiene status in this study population was very poor. The majority had plaque, calculus, gingival bleeding and periodontal disease. Risk factors for PD includes age >35 years, low level of education, plaque and calculus deposition and smoking. Gingival recession was associated with age calculus and gingival inflammation. None of the patients with the age group 12 – 19 exhibits any periodontal disease.

RECOMMENDATION: Oral health education should be given to all people to prevent periodontal disease. Patients should keep their oral hygiene and give attention for their present oral health

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Acronyms

AAP – American Academy of Periodontology

ADA - American Dental Association

CDC – Center for Disease Control and Prevention

CPI – Community Periodontal Index

FI – Furcution Involvement

HIV – Human Immune Virus

HIV-G – HIV Associated Gingivitis

HIV-P – HIV Associated Periodontitis

US – United States

RH – Rheumatoid Arthritis

PD – Periodontal Disease

PDP - Periodontal Disease Prevalence

OH- Oral Hygiene

WHO – World Health Organization

CHAPTER ONE

INTRODUCTION

1.1. Background

Periodontal disease is an inflammatory disease that affects the tooth supporting structures including the gingiva, alveolar bone, periodontal ligament and cementum. Periodontal disease is among the wide spread disease in mankind. The oral cavity has more than 500 bacterial species that are capable of colonizing in it, and about 150 species can be found in one individual, a number of these species are more associated with periodontal disease than others. Periodontal disease is caused not by single oral microorganism but by several and the list is still being refined due to complexity of the matter. (1, 2, 3)

Several methods have been developed to study the distribution of periodontal disease in a population. These methods are usually used to determine both the occurrence of periodontal disease and associated conditions in the community. For each or more than one of the periodontal conditions there is an index that is specifically designed to score the presence and/or extent of each condition of interest. That is for the microbial plaque, calculus, gingival bleeding, gingival recession, periodontal pocket. Connective tissue attachment levels have a long history of development, and modifications to improve their applications have been adapted from time to time. (4, 5, 6)

From the epidemiological and clinical findings, it has become evident that there are different types of periodontal disease and therefore different classifications have been applied at different times. (7)

Gingivitis is the mildest form of periodontal disease. It causes the gingiva to become red, swollen and bleed easily. It is often caused by inadequate oral hygiene. Untreated gingivitis can advance to periodontitis. With time, plaque can spread and grow below gum line, toxins produced by the bacteria in plaque irritates the gum and these toxins stimulate chronic inflammatory response in which the body in essence turns on itself and the tissue and bone supporting the

tooth are broken down and destroyed. Gum separates from the teeth forming pockets that become infected. As the disease progress, the pocket deepens and more gingival tissue and bone are destroyed. Often, this destructive process has very mild symptoms. Eventually teeth become loose and may have to be removed as incase of advanced periodontitis. (8, 9)

The current classification of periodontitis includes aggressive periodontitis, chronic periodontitis, periodontitis as a manifestation of systemic disease, necrotizing periodontal disease. (10)

1.2. Statement of the problem

Periodontal disease is a worldwide problem and Ethiopia is no exception. In order to develop a feasible program for the management of periodontal disease, it is important to study the prevalence of periodontal disease in this population by registering the prevalence of periodontal condition in different sub-population, and identifying the associated risk factors.

The prevalence of periodontal disease in HIV infected individuals remain a controversial issue. Data from relevant studies vary widely due to several factors which influence the prevalence of periodontal disease such as age, immune system competence, smoking habits, oral hygiene level are not always taken in to consideration. (11, 12)

Periodontal disease is strongly associated with HIV infections which are classified as linear gingival erythema, necrotizing ulcerative gingivitis and necrotizing ulcerative periodontitis and are included among the cardinal oral lesion. (12)

In some studies, global epidemiological data is less pronounced relationship between dental plague and severe periodontitis. The risk factors for the occurrence of periodontal diseases have been confirmed to include smoking and diabetes mellitus. (13, 6)

In addition, from large epidemiological studies there is evidence that some population's periodontal disease is prevalent in males than in females and that it increase with increasing age. (13)

Severe periodontal disease often results in tooth loss, which can diminish quality of life and is related to poor general health in adult. Recent studies suggested that periodontal disease has important systemic implications that can influence the risk for certain systemic disease, such as cardiovascular disease, diabetes and reproductive outcomes (low birth weight, preterm baby) and HIV. However, periodontal disease can be prevented and control. (14, 15)

Severe periodontal disease can be associated with other systemic disease for example, diabetes mellitus, adverse pregnancy outcomes, and stroke.

Furthermore some systemic disease has oral manifestation which increases the risk of oral disease, which in turn is a risk factor for a number of general health conditions. (16)

The high risk strategy for the group of people who are at higher risk for developing periodontal disease is appropriate for population with moderate or high standards of oral hygiene and well organized oral health care services. The most widely accepted methods for controlling periodontal disease and the associated conditions are personally and professionally applied mechanical oral hygiene measures. Thus, tooth brushing is the most widely used mechanical means of personal plaque control throughout the world. (17)

Preventing periodontal disease is an important strategy. For population with low level of oral hygiene and dental care, a whole population strategy is recommended to reduce periodontal treatment need in general population. (18)

CHAPTER TWO

2.1. Literature review

The occurrence of periodontal disease is a global problem, thus affecting almost all continents. Although periodontal disease occurs commonly in adults but it can be prevented early in children and adolescents. (14)

The oral cavity provides a continuous source of infectious agents and its condition often reflects progression of systemic pathologies. Historically, oral infections were thought to be localized to the oral cavity except in case of some associated syndromes and untreated odontogenic abscess. A change in paradigm has displaced this notion and a whole new concept of the status of oral cavity and its impact on systemic health and disease involved. (18)

The periodontal disease is highly prevalent in older adults affecting 34% of the American population aged greater than 30 years/in 36 million person/ and it is severe in 13% of adults. (19)

Research published in the journal of dental research from the Centers for Disease Control and prevention /CDC/ and the American Academy of Periodontology /AAP/ suggest that the prevalence of periodontal disease may have been under estimated by as much as 50%. Prevalence of moderate and severe periodontal disease in US: 1999-2004 range from 0.8% to 3.2% and 0.06% to 2.9% for adults aged 20-34 years and older respectively. (20)

In Spain, among HIV positive patients of 396, 78.3% have periodontal disease. (21)

In West Africa many studies have been conducted regarding periodontal disease. Most of these studies have applied CPITN and the results shows that the major problem is gingivitis and to lesser extent periodontal disease, however there are some studies that have shown a much higher proportion. In Gambia (5-80%) of participants are in need of complex periodontal treatments. More ever, there is more study which has deals with necrotizing ulcerative gingivitis (NUG) and other

types of periodontal disease such as aggressive periodontitis or juvenile periodontitis. (22, 1, 2, 11, 30, 35)

From North Africa, there are only two studies that used CPITN, one in Morocco and the other in Libya. Morocco had a high proportion of study participants with gingivitis [98.7%]. And status appeared similar to that in West Africa. In Libya the studies shows that, for the age group of 15-16years, the periodontal pocket depth is less or equal to 3.5mm (4.1%) signaling a problem of early stages of aggressive periodontitis. (23, 34)

The occurrence of periodontal disease in country that in the southern part of African has shown most of the studied population had a problem of gingival inflammation, for example in Kwazulu natal gingival bleeding was 80%, where as in Transket, South Africa it was 94% and in Swaziland it was 98%. However most of the populations were children between 5 and 12 years of age. Among the adult population the periodontal treatment needs for complex periodontal care was between 4 and 5 %. (24, 22, 16, 25, 32)

The occurrence of periodontal disease in East African countries apart from Tanzania is shown. More studies have been reported from Kenya than from Uganda. In Uganda, the subjects studied were in the age group of below or equal to 25 years and most of the problem reported where ANUG(41%) by Wandera and Twa Twa (2003), and early onset of periodontitis (28.8%) by Albandar et al (2002). In Kenya, child and adult population had been studied, and among the school children studied, gingivitis prevalence was 25%. The prevalence of ANUG in Kenyan children was very low, between 0.15 and 0.28% (Wagaiyu & Wagaiyu 1992, Kaimenyi 1999). For the adult population studied, aged 15-65 years, only 20% of the surface had loss of attachment $\geq$ 4mm (Baelum et al 1988).(25, 5, 13)

The prevalence of periodontal disease using other indices than CPITN gave much higher percentages. For example, in Ethiopia and in Sudan shows, at and after the age of 30 years about 52% of the study participants were classified as having periodontitis, while in Sudan only 8% had advanced periodontitis. However, in population where there was a higher(51%) proportion of people with attachment loss, the prevalence of gingival pockets remained low of about 10%.(20, 21, 33)

An examination was done in three random samples of 600, 597 and 584 subjects in 1973, 1982 and 1993 respectively. These subjects were aged 20-70 years. The severity of disease was divided into five groups with group five having the most severe disease. There was an apparent increase from 1%, 2% and 3% over three study period. This may have been due to increase of periodontal subject in the older age group. (27)

2.2 Significance of this study

Periodontal disease is a widely distributed disease in the world and a major dental problem in Ethiopia. It leads to silent tooth loss if not diagnosed early and prevented. Despite its intensiveness, little scientific attention has been paid for this disease. Therefore, this study was conducted to determine the prevalence of periodontal disease and then forward appropriate recommendation to concerned bodies and this study was a baseline for future studies.

CHAPTER THREE

Objectives

3.1 General objectives

The general objective of this study is to determine the prevalence of periodontal disease in some patients of Zewidetu Memorial Hospital Dental wing.

3.2 Specific Objective

- To identify the prevalence of periodontal disease among the population.

- To identify the age category of population more affected with periodontal disease.

- To determine the prevalence of gingivitis.

- To assess the effect of smoking on periodontal health of a patient

- To assess the oral hygiene status in population.

CHAPTER FOUR

Methodologies

4.1 Study area and period

The study was conducted in Zewidetu Memorial Hospital which is one of the health institutes under Addis Ababa health office Ethiopia in yeka sub city from May 20-30, 2013.

4.2. Study design

A cross sectional study was conducted.

4.3. Population

4.3.1 Source of population

Patients that came to dental wing in Zewidetu Memorial Hospital

4.3.2 Study population

All patients that are volunteer who come to Zewidetu Memorial Hospital with dental cases did participate.

4.4 Sample size and Sampling Technique

Sample size

Sample size is determined by:

$$No = \frac{Z^2 (1-P)}{D^2}$$

Where No = total sample size

Z = confidence interval creepily to 95% and CI = 1.96

P= estimate prevalence

D= margin of sampling error to be tolerated $(0.05)^2$

Prevalence rate of 50 % and 95% CI and 5% marginal error

$$N = \frac{(1.96)^2 (1-0.5)}{(0.05)^2}$$

$$N = 384$$

Sampling technique

Convenient sampling technique is by using the formula

$$Nf = \frac{No}{1 + \frac{No}{N}}$$

No = sample size calculated (384)

N = number of people who visit the dental wing (200)

Nf = actual sample size

$$Nf = \frac{384}{1 + \frac{384}{200}}$$

Nf = 131 = actual size

4.5. Variables

Independent variables

- Sex
- Age
- Ethnicity
- Religion
- Smoking
- Education

Dependent variable

- Calculus deposition
- Furcation involvement
- Brushing frequency
- Bleeding on probing
- Pocket depth

4.6. Data collection

Data was collected by using self-administered questionnaire and clinical examination. The clinical examination was done to determine oral hygiene, bleeding on probing, calculus deposition, probing depth, furcation involvement and tooth mobility as well as lost teeth was examined

Data collection material and instruments

- Questionnaires
- Pencil
- Paper
- Probe
- Mirror
- Glove
- Spatula
- Source of light
- Gauze

- CPI was used to record examination results

4.7. Data processing and analysis

The data collected was coded, summarized and analyzed using SPSS 11.0 and 12.0 software, and result will be presented by using numbers, percent, tables

4.8. Ethical considerations

A formal letter was written by Jimma University student's research program to Zewidetu Memorial Hospital dental wing to get permission and support during data collection. The subject was informed about the objectives of the study and consent (verbal) will be obtained from each patient before starting clinical examination

4.9. Data quality control

The principal investigator had an ongoing supervision to ensure quality of data by checking filled questionnaire and examination formats for their completeness and consistency. An interview was held first and questionnaires were filled by data collector. The data collection formats was checked prior to actual study

4.11. Operational definition

- Oral hygiene status: - determined by debris index and calculus index as poor, fair, good and excellent
    - Poor – supragingival calculus and soft debris covering more than two third of the exposed tooth surface or a continuous heavy band of sub gingival calculus covering around the cervical portion of the teeth.
    - Fair – soft debris and supragingival calculus covering more than two-third of the exposed tooth surface or the presence of individual flecks of sub gingival calculus around the cervical portion of the teeth.
    - Good – soft debris and calculus not more than one third of the tooth surface being examined or the presence of extrinsic stain without debris regardless of surface area covered.
        - Plaque - bacterial communities that adhere to oral surface.
        - Calculus – a calcified adherent mass on the surface of a tooth.
    - plaque index – is the total debris scores divided by number of teeth scored

Interpretation of plaque index

0 - Excellent oral hygiene

0.1 – 0.9 – Good oral hygiene

1.0– 1.9 – Fair oral hygiene

2.0– 3.0 – Poor oral hygiene

- Calculus index – is the total calculus scores divided by number of teeth scored
- Periodontal health status: - a condition of periodontium whether it is healthy or diseased, and to what degree it is affected if diseased.
- Sub gingival calculus: - it is a hard mass which forms on the surface of tooth below the marginal gingival and thus not visible unless detected by professional probing of the sulcus.

- Clinical attachment loss: - a distance from cementoenamel junction to the bottom of pocket usually measured in millimeter using graduated periodontal probe
- Probing pocket depth: - distance from free gingival margin to bottom of the pocket measured in millimeter using periodontal probe.
- Gingival bleeding: - bleeding of gingival upon probing by periodontal probe or spontaneously.
- Furcation involvement: - loss of alveolar bone between roots of multi-rooted teeth at the furcation as to be seen by periodontal probe or clinically seen in presence of severe gingival recession.
    - Class I – the level of bone loss allows for the insertion of periodontal probe into the cavity of the root trunks.
    - Class II – the level of bone loss allows for the insertion of periodontal probe into the furcation area between the roots.
    - Class III - the level of bone loss allows for through and through access for the furcation area. Buccal to lingual in lower molars and buccal to palatal in upper molars.
- Tooth mobility – movement of tooth in the socket
    - Class I – when a tooth moves 0.5mm – 1mm
    - Class II – when a tooth moves 1mm – 2mm
    - Class III – when a tooth moves more than 2mm or tooth is depressible occluso - apically
- Community periodontal index – it is a tool used to examine selected tooth for gingival bleeding, calculus deposition, and probing depth. The scores are:

    0 – healthy periodontal condition

    1 – Visible gingival bleeding after probing

    2 – Sub gingival calculus detected during probing and probing depth is <3mm.

    3 – Probing depth 4 -5mm

    4 – Probing depth ≥ 6mm

- Periodontitis- bacterial induced inflammation of the gingival with involvement of the alveolar bone
- Mild periodontitis – periodontitis in which CAL is 1-2mm
- Moderate periodontitis - periodontitis in which CAL is 3-4mm
- Severe periodontitis - periodontitis in which CAL is >5mm

4.12. PROBLEMS ENCOUNTERED AND MEASURES TAKEN

Problems encountered were absence of enough spatula, and probe. Those problems were solved by bringing few materials from a private dental clinic and sterilizing the instruments continuously.

4.13. LIMITATIONS

Difficulty of comparison with similar subjects because of lack of enough studies in Ethiopia.

CHAPTER FIVE

RESULTS

5.1. Socio Demographic Results

In Zewidetu Memorial hospital, dental wing, out of 131 patients, 63 (48%) were male, and 68 (52%) were female. Concerning their place of residence and religion, most of the patients were from urban 126(96.2%) of which most of them 74 (56.4%) were Orthodox, and 43(32.8%) were Amahra in Ethnicity and most were in tertiary level, 42 (32%)

Table – 1: Prevalence of periodontal disease severity by socio demographic characteristics of patients visiting Zewidetu Memorial Hospital Dental wing in the year 2013

Variables		Number	Percentage
Sex	Male	63	48
	Female	68	52
	Total	131	100
Ethnicity	Oromo	39	29.7
	Amhara	43	32.8
	Tigre	25	19
	Others	24	18.3
	Total	131	100
Age	12 – 19	11	8.3
	20 -35	69	52.6
	36 – 63	45	34.3
	>64	6	4.5
	Total	131	100
Religion	Muslim	26	19.8
	Orthodox	74	56.4
	Protestant	24	18.3
	Catholic	7	5.3
	Total	131	100
Education level	Illiterate	18	13.7
	Elementary (1 - 8)	30	22.9
	Secondary (9 -12)	41	31.3
	Tertiary (>12)	42	32
	Total	131	100
Place of residency	Urban	126	96.2
	Semi urban	5	3.8
	Rural	0	0
	Total	131	100

Table -2: Number and percentage distribution of oral hygiene status of patients visiting Zewidetu Memorial Hospital Dental wing in the year 2013.

Periodontal variable	Number	Percentage
Poor OH	81	61.8
Fair OH	28	21.4
Good OH	22	16.8

Table 2 shows that among the study participants, 61.8% had poor oral hygiene and 16.8% had good oral hygiene and 21.4% had fair oral hygiene

Table -3: Number and percentage distribution of patients by number of sextants per patient with periodontal disease by age group among patients visiting Zewidetu Memorial Hospital Dental wing in the year 2013.

Periodontal diseases	Age group								Total		
	12 – 19		20 -35		36– 63		>64				
	N	%	N	%	N	%	N	%	N	%	p = 0.000
Healthy	11	8.4	11	8.4	-	-	-	-	22	16.8	
Gingivitis	-	-	20	15.2	8	6.1	-	-	28	21.4	
Mild periodontitis	-	-	15	11.45	11	8.4	-	-	26	19.8	
Moderate periodontitis-	-	-	13	9.9	12	9.16	2	1.5	27	20.6	
Advanced periodontitis	-	-	10	7.6	14	10.7	4	3	28	21.4	

Table 3 shows that among the study participants, all patients between the ages of 12 – 19 and 8.4% of 20 – 35 ages had healthy periodontal status. 21.4% between the age of 20 – 35 and 36 – 63 had gingivitis. 19.8% between the age of 20 – 35 and 36 – 63 had mild periodontitis. 20.6% between the age of 20 – 35, 36 – 63 and > 64 had moderate periodontitis.

Table -4: Number and percentage distribution of sextants per patient with one or more periodontal variables by gender of patients visiting Zewidetu Memorial Hospital Dental wing in the year 2013.

Periodontal variables	Gender			
	Male		Female	
	N	%	N	%
Gingival bleeding	30	22.9	24	18.3
Sub gingival calculus	15	10.7	11	8.4
PD 4 – 5 mm	18	13.7	15	10
PD ≥ 6 mm	16	12.2	12	9.2
CAL 4 -5 mm	14	11.5	13	10
CAL ≥ 6 mm	15	10.7	13	10
Grade I FI	14	11.5	12	9.2
Grade II FI	13	10.7	14	10.7
Grade III FI	15	10	13	10
Grade I mobility	15	11.5	12	9.2
Grade II mobility	9	11.5	10	7.6
Grade III mobility	4	6.9	5	3.8

Table 4 shows that among the study participants, 22.9% of male patients had gingival bleeding and 6.9% had grade III mobility. And 18.3% of female had gingival bleeding and 3.8% had grade III mobility.

Table -5: Number and percentage distribution of sextants per patient with one or more periodontal diseases in smokers and non-smokers of patients visiting Zewidetu Memorial Hospital Dental wing in the year 2013.

Periodontal diseases	Smoking status					
	Smokers		Non-smokers		Total	
	N	%	N	%	N	%
Healthy	-	-	22	16.8	22	16.8
Gingivitis	9	6.9	19	14.5	28	21.4
Mild periodontitis	10	7.6	16	12.2	26	19.8
Moderate periodontitis	11	14.5	16	12.2	27	20.6
Advanced periodontitis	13	9.9	15	11.5	28	21.4

Table 5 shows that among the study participants 43 patients smokes, and out of these. 6.9% had gingivitis. 7.6 had mild gingivitis. 14.5 had moderate gingivitis and 9.9 had advanced periodontitis

Table -6: Number and percentage distribution of sextants per patient with CPITN score with age group of patients visiting Zewidetu Memorial Hospital Dental wing in the year 2013.

CPITN score	Age group									
	12 – 19		20 -35		36– 63		>64		Total	
	N	%	N	%	N	%	N	%	N	%
0	11	8.4	11	8.4	-	-	-	-	22	16.8
1	-	-	20	15.2	8	6.1	-	-	28	21.4
2	-	-	15	11.45	11	8.4	-	-	26	19.8
3	-	-	13	9.9	12	9.16	2	1.5	27	20.6
4	-	-	10	7.6	14	10.7	4	3	28	21.4

Table -7: Number and percentage distribution of smoking status with healthy and affected periodontal status of patients visiting Zewidetu Memorial Hospital Dental wing in the year 2013.

Variables	Smoking status	Number	Percentage
Healthy periodontal status	Smokers	0	0
	Non - smokers	22	16.8
Affected periodontal status	Smokers	43	32.8
	Non – smokers	66	50.4

Table 7 shows that among the study participants the whole smoking patient had affected periodontal status and out of the non-smokers 50.4% had affected periodontal status

Table -8: Number and percentage distribution of sextants per patient with periodontal disease by gender of patients visiting Zewidetu Memorial Hospital Dental wing in the year 2013.

Periodontal diseases	Gender				
	Male		Female		p = 0.000
	N	%	N	%	
Healthy	7	5.3	15	11.4	
Gingivitis	15	11.4	13	9.9	
Mild periodontitis	13	9.9	13	9.9	
Moderate periodontitis	13	9.9	14	10.6	
Advanced periodontitis	15	11.4	13	9.9	

CHAPTER SIX

DISCUSSION

A cross sectional study was done on 131 dental patients that visited Zewidetu Memorial hospital dental wing in Addis Ababa to determine the prevalence of periodontal disease, the response rate was 100%.

In this particular study on 131 participants, the age group between 20 – 35 years has the largest number of study participants.

The practice of oral hygiene is mostly in the form of tooth brushing and rinsing as reported by the study participants during the face to face interview. A total of 125(95.4%) participants try to maintain their oral hygiene. Out of these 80(61.06%) of them use tooth brush and 45(34.3%) uses the traditional one, which is mefakia. However, the oral hygiene status of most of the participants was poor. This paradox was also evident in reports of other studies. In a situation where most of the study population had only primary education or no formal education, then it could be expected that they would be less effective to maintain their oral hygiene.

The gender distribution of this study shows there is a great number in female 68(51.9%) and male 63(48.1%). Of which the percentage of PD is more in males that is 55(41.9%) and 54 (41.2%) in female. There, is a significant association between periodontal disease and gender (p = 0.000) which is similar to the research done in South Africa (65.3%) in male and (34.7%) in female.

Regarding age distribution, percentage of PD in age group 12 – 19 that is 11 out of 131, all have healthy periodontal status. Though teenagers rarely develop gingivitis but rarely develop periodontitis. As for the age

group of 20 – 35 that is 69 out of 131, 15.2% have gingivitis and 7.6% have advanced periodontitis. Between ages of 36-63 that is 45 out of 131, 6.1% have gingivitis and 10.7% have advanced periodontitis. There, is a significant association between periodontal disease and age group (p = 0.000) In Kenya, child and adult population had been studied, and among the school children studied, gingivitis prevalence was 25%. The prevalence of ANUG in Kenyan children was very low, between 0.15 and 0.28% (Wagaiyu & Wagaiyu 1992, Kaimenyi 1999). For the adult population studied, aged 15-65 years, only 20% of the surface had loss of attachment ≥ 4mm.

Regarding their place of residence, 96.2% of the participant's lives in urban area and of these 16.8% have healthy periodontal status, 21.4% have gingivitis and 21.4% have advanced periodontitis

Concerning the CPITN score, out of 131 patients with the age group 12 – 19, 22 (%) score 0, ages 20 -35, 28 (%) score 1. Ages 36– 63, 26(%) score 2, Ages 36– 63, 27(%) score 3 and ages >64 28(%) score 4. This shows most of the patients above the age of 36 has periodontal disease i.e. as CPITN scores gets higher to 3 and 4, it indicates that it has higher risk of periodontal disease. From North Africa, there are only two studies that used CPITN, one in Morocco and the other in Libya. Morocco had a high proportion of study participants with gingivitis [98.7%]. And status appeared similar to that in West Africa. In Libya the studies shows that, for the age group of 15-16years, the periodontal pocket depth is less or equal to 3.5mm (4.1%) signaling a problem of early stages of aggressive periodontitis. (23, 34)

Regarding the oral hygiene status, out of 131 patients, 22 (16.8%) had good oral hygiene. 28 (21.4%) of them had fair oral hygiene and 81 (61.8%) had poor oral hygiene. These results in severe gingival and periodontal disease.

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATION

7.1. CONCLUSION

1. The oral hygiene status in this study population was very poor.

2. The majority had plaque, calculus, gingival bleeding and periodontal disease.

3. Risk factors for PD includes age >35 years, low level of education, plaque and calculus deposition and smoking. Gingival recession was associated with age calculus and gingival inflammation.

4. None of the patients with the age group 12 – 19 exhibits any periodontal disease

7.2. RECOMMENDATION

1. Oral health education should be given to all people to prevent periodontal disease.

2. Patients should keep their oral hygiene and give attention for their present oral health

ANNEXES

ANNEXE I

References

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