PATTERN OF PRESENTATION AND QUALITY OF LIFE OF PATIENTS AT THE ORAL DIAGNOSIS CLINIC UCH, IBADAN.

BY

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SUPERVISORS'ATTESTATION

We supervised the project Titled "Pattern of Presentation and quality of life of patients at the Oral Diagnosis Clinic, UCH, Ibadan" conducted by Dr. Werigwara Charity Okolo, a postgraduate student of Faculty of Dentistry, University of Ibadan, Ibadan, Nigeria.

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DECLARATION

I hereby declare that this survey was carried out by me and is original unless otherwise acknowledged. The study has neither been presented to any examination body nor has it been submitted elsewhere for publication. The opinions expressed by me in this work, are entirely mine and should not be taken as representing the views of the University of Ibadan.

Werigwara C. Okolo (BDS Ibadan)

DEDICATION

This project work is dedicated to the loving memory of my gentle and strict father, Chief D.J. Weli, (Eze Chinyeruigo 1 of Oropotoma Kingdom), whose love for education knew no gender, but pointed out the way with great vision like the man who saw tomorrow among his peers.

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ABSTRACT

Background

Patients' presentation at the dental clinic is mostly related to pain. This study aims at documenting the current trend in the pattern of patients' presentation and the impact of dental diseases on quality of life.

Materials and Methods

This is a descriptive, cross sectional survey of consecutive patients attending the Oral Diagnosis Clinic UCH, Ibadan. Data was collected with a validated, structured interviewer - administered questionnaire. Information collected, included: demographic variables, clinic attendance, reasons for presentation, attitude to oral health, oral hygiene practices andquestions to assess the impact of oral disease on quality of life. Data was subjected to analysis using SPSS.

Results

There were 300 respondents, consisting of 167 females (55.6%) and 133 males (44.4%). The age range was 16-86 years with a mean of 38.21(± 16.10) years. The majority, 54.3% were aged 20-39 years. The commonest reason for seeking help was pain of dental origin (56%) Only a few (5.7%) attended dental clinic regularly for checkups. The relationship between social class and previous dental visit was insignificant (p= 0.07). Majority (80.7%) used tooth brush and paste to clean their mouth but only 41.0% do so twice daily. The impact of oral disease on daily activity was highest in the order of eating and enjoying food (61.7%), work disturbance (44.4%) and sleep disturbance (42.2%).

Conclusion

Despite respondents' awareness of the benefits of regular dental check up, this practice was poor among them. Pain was still the commonest cause of presentation. Oral diseases had great impact on respondents' quality of life, with marked affectation of daily activities such as eating, sleep and work disturbance.

Key words: Pattern, presentation, patients, quality of life.

CHAPTER ONE

INTRODUCTION

1.1 Background

Disease patterns are changing, especially in the developing countries such as ours where urbanization has brought changes in life style, habit, diet and environment. The two foremost oral pathologies; dental caries and periodontal disease though chronic, are usually not life threatening. However, they remain widely prevalent affecting 60-90% of children and adults in industrialized countries. All age groups and both gender are affected in all populations. (Petersen,2003). The World Health Organization(WHO) in a publication on global review of oral health problems observed that oral health problems still persist despite improvement in some countries especially among vulnerable groups in both developed and developing countries. (Petersen, 2004).This is more so in developing countries with very limited access to oral health care.

In addition to dental caries and periodontal diseases, other diseases such as oral mucosal lesions, oropharyngeal cancer, trauma to the teeth and jaws, tooth loss, human immunodeficiency virus and acquired immune deficiency syndrome (HIV/AIDS) related oral diseases are important public health problems worldwide. The awareness of general health as well as oral health in most parts of Africa is low (Ndiaye, 2005; Olusile, 2010). This affects the response of patients in seeking appropriate help on time to prevent aggravation of simple ailments to more advanced or life threatening conditions. Unfortunately, many reasons such as the fear of dentists, fear and anxiety about dental equipment, cost of treatment, and inability to appreciate symptoms of oral diseases give rise to delay in consultation. (Brennan et al, 2008; Muirhead et al, 2009; Braimoh et al, 2013). In addition, poor educational level, lack of time and dearth of dental facilities

contribute immensely to poor utilization of dental facilities (Akpata 2004; Taiwo et al, 2006). Some of these people resort to alternative methods of alleviating pain such as self-medication in order to save time and cost (Afolabi et al, 2010; Bennadi et al,2013), consulting traditional healers, application of substances like alcohol and aspirin amongst others. A few utilize the "wait and see" method, with the hope that the problem would disappear (Kikwilu et al, 2008; Butani et al, 2008). All these delays invariably lead to aggravation of minor ailments to a more serious condition. For example, delayed management of carious lesion, could lead to acute pulpitis, spread of infection, septicemia and in some rare cases, it leads to an eventual death of the patient (Varenne et al, 2006). Thus diseases that could be managed with simple procedures become more serious, requiring hospital admission and on rare occasions, life support. Several studies were conducted on presentation pattern of patients at dental clinics. Various reasons ranging from non-painful conditions (aesthetic concerns) to painful conditions such as; dental caries, oral mucosal diseases, trauma to teeth and jaws as well as malignancies (Omitola and Arigbede, 2010; Novak et al, 2013) give rise to patient consultation.

Oral health is closely related to general health, thus poor oral health may affect general health. Research has shown that periodontal diseases are related to chronic diseases such as diabetes mellitus It has also been observed that inflammatory diseases of the oral cavity are linked to important health parameters like, the state of cardiovascular system, stroke, and low birth weight (Petersen, 2004). Most oral diseases cause some discomfort when the patient eats, speaks, smiles, and at times while relaxing; thus impacting on patients' life and well being. As a consequence, activities at home, school, and work are affected, leading to loss of hours at school and work (Reisine, 1988; Petersen, 2003;

Varenne et,al 2006). Of recent, a lot of attention has been given to the assessment of subjective dimensions of oral health. A number of indices and scales have been developed to measure subjective oral health, such as oral health related quality of life-OHRQoL instruments (Allen, 2003). Most of these instruments make use of multiple-item questionnaire to assess the frequency and or severity of functional, psychological and social impacts of oral disorders on the individual.

1.2 **Problem statement**

Most oral diseases such as carious lesions, periodontal diseases and malignant diseases are asymptomatic in the early stages. At this stage, they can be treated at minimal cost and with the best clinical outcome than when associated with severe pain. The asymptomatic nature of several oral diseases at inception underscores the need for regular dental checkups. This provides opportunity for detection of oral diseases at the earliest stage. Documentation in literature, state that most dental patients present on account of pain. This study will describe the pattern of presentation; provide information on how education and socioeconomic status has impacted on dental visits. It will also provide information on how oral diseases affect quality of life of patients and areas to be focused on by oral health promotion.

1.3 **Research Question**

Is there a pattern to the presentation and quality of life of patients presenting at the oral Diagnosis Clinic, UCH, Ibadan or is there no pattern to the presentation and quality of life of patients at the Oral Diagnosis Clinic, UCH, Ibadan?

1.4 **Significance of the Study (Justification)**

Previous studies on patient presentation at dental clinics have identified fear of dental treatment/environment as factors contributing to delay in utilization of dental facilities (Bamise et al, 2008; Muirhead et al, 2009; Ajayi and Arigbede, 2012), also the most frequent cause of dental consultation was pain. (Telino de Larceda et al, 2004; Omitola and Arigbede, 2010; Kolude and Gbadebo, 2013). Emergency visits due to pain which lead to tooth loss, cause difficulty in eating and enjoying food. This has negative impact on quality of life with loss of confidence and reduction in some daily activities. With better education and awareness now (Zhu et al, 2005; Sistani et al, 2013; Petersen et al, 2005; Ndiaye, 2005) and improvement in availability of dental facilities (Dughill et al, 2011), it is expected that the populace should be more aware of oral health issues, therefore this study was conducted to determine the pattern of presentation and the effect of oral diseases on the life of patients.

1.5 **Aim of Study**

The aim of this study was to assess the current trend of patient presentation at Oral Diagnosis Clinic UCH, Ibadan and the effect of their oral conditions on quality of life.

1.6 **Research Objectives**

General Objectives

To determine the pattern of patient presentation at the Oral Diagnosis Clinic of UCH, Ibadan.

Specific objectives

1. To determine the pattern of patient presentation in terms of their gender, age, education and occupation.
2. To determine the most common reasons for consultation.
3. To assess the effect of socioeconomic status on presentation
4. To determine patients' attitude to oral health.
5. To determine the effects of oral diseases on quality of life.

1.7 **Illness - Behaviour**

The term illness behaviour was introduced by Mechanic and Volkart in 1960. It describes the ways in which people respond to signs and conditions of the body which they view as abnormal, the manner in which they monitor their bodies, define and interpret the symptoms and take remedial steps to utilize sources of help as well as formal health care facilities. It is also concerned with how people monitor and respond to symptoms and changes over the course of an illness and how this affects behaviour, remedial actions taken and response to treatment. Illness response is part of a continuing process of adaptation in which the individual's efforts to cope are variously linked with the particular dimensions of the threat, and both change over time. Illness as well as illness experience is shaped by socio cultural and socio psychological factors (Mechanic et al, 1960). According to the general theory of help-seeking by Mechanic, the decision by an individual whether or not to seek help depends on ten factors:

1. Visibility and recognition of symptoms.
2. The extent to which symptoms are perceived to be dangerous.
3. The extent to which symptoms disrupt family, work and other social activities.

4. The frequency and persistence of the symptoms.
5. Amount of tolerance to symptoms.
6. Available information, knowledge and cultural assumptions.
7. Basic needs that lead to denial.
8. Other competing needs.
9. Complete interpretations that can be given to symptoms once they are recognized.
10. Available treatment resources, proximity, Psychological and financial costs of taking action.

1.8 **Conceptual Frame Work**

The frame-work for evaluating the use of health care facilities as proposed by Andersen and Newman (1973) is a function of predisposing, enabling and need factors which describe a person's decision to use health services.

1. Predisposing characteristics – These include age, gender, tribe, marital status, educational level, occupation, attitude to dental services and health beliefs.
2. Enabling characteristics – These refer to specific attributes of the individual or community such as awareness to health issues, health insurance coverage, income and access to health care.
3. Needs for oral care–These include perceived oral health problems that require the need of health services, as well as health-seeking behaviour of the individual.

   The predisposing and enabling characteristics regulate an individual's likelihood to seek health care when stimulated by need (health status, disability or diagnosis).

1.9 **Expected Outcome**

From this study, it is expected that the factors influencing patients' attendance at the Oral Diagnosis Clinic of UCH as well as how oral problems affect their quality of life will be known.

CHAPTER TWO

LITERATURE REVIEW

2.1 Oral Health in Nigeria

Oral diseases are still major public health problems world wide, more so in developing countries, where poverty and misplaced priority has made it difficult for government to initiate and sustain oral health care strategies (Petersen, 2003).

Most of the oral health surveys done in Nigeria have been limited to caries and periodontal disease in urban settings (Akpata, 2004; Okoye et al, 2011). Akpata in his study also remarked that most facilities are situated in urban areas. There are public as well as private dental clinics. The public dental clinics are usually established as a small dental unit within medical service complex of specialist hospitals, health management boards of state governments or part of armed forces hospitals (Olusile, 2010). These centres also offer mainly curative treatment rather than preventive measures (Aderinokun 2000; Opeodu et al, 2009).

Studies of different Nigerian population groups such as students, pregnant women etc, indicate a low awareness and poor attitude to oral health care in spite of educational status. These studies revealed that 52% to 80% of respondents had never been to a dentist in their life. (Agbelusi et al, 1999; Orenuga et al, 2005; Sofola et al, 2009)

Health professionals including medical doctors, also have poor attitude and knowledge of oral health. In a study carried out by Sofola, only 54% and 45% of respondents were able to give correct definitions of dental caries and periodontal diseases respectively (Sofola et al, 2009).

In a key note address given by the minister of health, Prof Chukwu on the occasion of the celebration of the second national oral health week/national oral health policy launch 2012, promised an improvement in oral health care, with a target of at least 50% of primary health care centres having functional dental clinics by the year 2015. The goal was to achieve better oral health for Nigerians through sustainable awareness creation, development of work force and coordination of oral health activities with effective integration of oral health into relevant national health programmes. There is a poor understanding of the oral health aspect in the national health insurance scheme (NHIS), as dentists are designated as secondary providers with physicians making diagnosis and referring patients to them. This invariably leads to a lot of time wasting and subsequent loss of interest by the patient (Sofola, 2010). Preventive care such as scaling and polishing, fluoride therapy, is also not covered by the scheme (probably because it is regarded as aesthetic treatment whereas it is a preventive measure for caries and periodontal disease which account for more than 70% of all dental presentations (Petersen 2003).

2.2 Oral Health in the African Region

In Africa, oral health is regarded by policy makers as of low priority; this is partly due to poverty of the region with the result that limited resources are channelled to life threatening conditions such as HIV/AIDS, tuberculosis, and malaria. According to the Regional Adviser of Oral Health to the World Health Organization (WHO), the 10 year oral health plan for Africa for the period1998-2008; to improve community oral health has achieved very little. Oral diseases appear to be on the increase probably due to the influence of western culture with regard to increased consumption of sugars and inadequate use of fluorides. (Ndiaye, 2005)

Data from 39 African countries, on dental caries using DMFT showed 33% in 12 year olds in 13 countries; 44% in 19 countries and moderate level of 23% in the other 7 countries. The main problem was untreated dental caries in children which is a reflection of inadequate or poor utilization of oral health facilities. Periodontal disease was very high in 7 countries in all age groups: 50% in children and 75% in adults. The prevalence of other oral diseases is largely unknown because data on these were unavailable.

Oral health care in Africa is mostly curative; directed towards combating dental caries and periodontal disease (Varrene et al, 2006). Access to affordable and appropriate quality health care services is limited. There is a low dentist to population ratio (1:150,000) in most African countries (Petersen, 2004). Studies from Burkina Faso and Tanzania showed that utilization was often for symptomatic reasons, with patients relying more on consultation of traditional healers and use of self-medication especially in rural areas. (Kikwilu et al, 2008; Omitola and Arigbede, 2010). Nevertheless, oral diseases have great impact on affected persons and their relations in terms of pain, suffering and impairment of functions. This reduces quality of life (Petersen, 2003). This is made worse in developing countries as patients opt for emergency visits because of poverty, low awareness of oral health Issues, poor education, low socioeconomic status and poor access to dental facilities.

2.3 Utilization of Oral Health in Nigeria

Most of the studies done in Nigeria, also report poor utilization, with visits to dental facilities mainly due to pain rather than prevention or prophylaxis (Opeodu et al, 2012). Bamise et al from Obafemi Awolowo University Teaching Hospital also reported low utilization of dental care facilities.

Reasons proffered by patients for not utilizing dental facilities include; a lack of perceived oral disease, unfavourable work schedules that do not allow time to visit clinics, high cost of treatment, fear of dental treatment and long waiting hours (Bamise et al, 2008; Ajayi and Arigbede, 2012) . These patients were observed to resort to self medication as a means of saving time and cost. This practice was more prevalent amongst educated persons resident in urban areas. (Afolabi et al, 2010; Adedapo et al, 2011).

2.4 **Factors Related to Oral Care Utilization**

Worldwide, pain of dental origin has been recognized as the most common reason for dental consultation (Telino de Lacerda et al, 2004; Brennan et al, 2008; Muirhead et al, 2009; Scott et al, 2011; Ajayi and Arigbede, 2012; Novak et al, 2013). Other reasons include oral mucosal diseases, trauma, birth defects, temporo-mandibular joint (TMJ) problems and malignant diseases. Quite often, despite the seriousness of these conditions, a lot of time is wasted before seeking help in the clinic. Several reasons have been identified in association with delay in seeking help. These include; cost of treatment, Petersen, 2004 described dental treatment as the fourth most expensive treatment in industrialized countries. Financial constraint is a serious barrier to dental consultation (Varenne et al, 2006; Bamise et al, 2008; Opeodu et al, 2009). Others are anticipation of pain during treatment, long waiting periods at the clinic, self medication, consultation of traditional healers as well as "wait and see attitude"(Omitola and Arigbede, 2010; Kikwilu et al, 2008)

Other factors which could influence presentation are gender, age, and educational level, proximity to oral health facility, use of health insurance coverage, culture and attitude.

2.4.1 **Age and Attendance**

Most studies have shown that the younger age group- between the second and third decades of life tend to attend dental health facilities more often than the older age group. In a study at the Obafemi Awolowo University Teaching Hospital, Bamise et al, (2008) observed more respondents in the age group 21-25years. Kolude and Gbadebo, (2013) observed the age range 18-39 years as constituting more of the respondents in their study of oro facial pain at the University College Hospital, Ibadan, while (Novak et al, 2013) in a study to determine the oral hygiene status and treatment needs of patients attending the University Dental clinic at Cracow over a period of time, noted that more of the respondents were in the age range of 20-29 years. (Omitola and Arigbede, 2010), from Port Harcourt University Teaching hospital, found that 41.1% of their subjects were in the age range 17-29 years. (Telino de Lacerda et al, 2004) in Brazil observed the age range 18-24 years as constituting more of the population examined and attributed it to increased perception of need for good looks in the younger age group. Also, the young are more mobile, thus are better positioned to access dental facilities. Barriers to oral health among the elderly are quite considerable. Impaired mobility impedes access to care especially among those residing in rural areas. Poor public transport system, financial hardship associated with retirement, the cost or perceived cost of treatment together with negative attitude to oral health also reduce the visiting capacity of the elderly. (Petersen, 2004; Niesten et al, 2012).

2.4.2 **Gender and Presentation**

More women than men attend health facilities .(Brennan et al, 2008; Taiwo et al, 2006; Manski and Madger,1998; Varenne et al, 2006; Kolude and Gbadebo, 2013) This has been attributed to the care – giving role of women in the home as well as community. Women are also more

sensitive to pain, and more aware of symptoms leading to early reporting at clinics for themselves and their dependents. (Muirhead et al, 2009). Men often shy away from reporting pain in the clinic, because some men believe they ought to endure pain (Kikwilu et al, 2008).

2.4.3 Education and Presentation

A major vehicle for increased health-seeking behaviour and awareness of health issues is knowledge. There is a direct relationship between educational status and oral health literacy. (Jones et al, 2007). Those with lower level of education were less likely to visit a health facility. Whereas, the highly educated made visits more often and for preventive care rather than curative. (Manskl and Madger, 1998) Knowledge source could be from radio/television programmes, newspapers/ magazines and posters amongst others (Zhu et al, 2013; Sistani et al, 2013). Oral health education in schools, local health campaigns and workshops also help in creating awareness about health issues. (Bamise et al, 2012; Dedeke et al, 2013). Education leads to better positive attitude to oral health care (Abiola et al, 2011).

2.4.4 Income and Presentation

Socioeconomic status is a key determinant of health seeking behavior. (Varenne et al, 2006). (Manski et al, 2002) reported significant association between lack of family income and lack of preventive dental care. Demand for dental services increases with income, and the higher socioeconomic class constitute the greater percentage of those presenting at dental centres. (Muirhead et al, 2009) Those with high income also tend to attend health facilities earlier and more often (Sabbah et al, 2007).

2.4.5 Health Insurance Coverage and Presentation

Insurance cover has direct impact on access to care, as it reduces the perceived cost of care, thus affecting how early and how frequently people seek help at dental facilities. Those without insurance are less likely to seek preventive treatment and more likely to attend late for curative care (Manski et al, 2002; Muirhead et al, 2009).

2.4.6 Location and Presentation

Dental facilities and services are mainly located in the urban areas especially in developing countries, thus rural dwellers are disadvantaged (Aderinokun, 2000; Akpata, 2004) For this reason, most rural dwellers revert to the use of traditional healers or self medication with orthodox medicine or herbal remedies for relief of their health problems (Arikpo et al, 2009; Olusile, 2010).

2.4.7 Culture and Presentation

Cultural belief has influence on conditions of the mouth and teeth through diet and other habits (Chandra and Raja, 2009).Some African cultures have negligent attitude to the oral health needs of children. Others believe that children will eventually develop cavities, thus they neglect their mouth, with consequent loss of teeth and impairment. Some others believe that there is no need to care for a child's carious tooth since it will eventually exfoliate (Butani et al, 2008).

Use of home-made remedies such as cotton wool soaked in aspirin/ turpentine/oil of cloves to reduce pain and swelling is common with African Americans (Butani et al, 2008). According to World Oral Health Report, there is a general belief that tooth loss is a natural consequence of aging. (Petersen, 2004). In some culture, retaining teeth in old age is a sign of bad luck for the young (Butani et al, 2008). Kikwilu et al, (2008) reported that in some parts of Tanzania, men

would rather endure pain and wait for it to disappear than report at a dental facility. Homemade remedies such as cooling tea and herbal medicine are used to treat gum disease by the Chinese (Zhu et al, 2005).

The use of cherry wood for up to an hour for teeth cleaning by the Hindus, some use their fingers to clean the teeth (this could have a negative effect on oral health), others use twigs from mango trees, cashew trees, neem and coconut trees for teeth cleaning (these will aid mechanical cleaning in addition to their antibacterial properties) Charcoal powder, salt and ash are also used as dentifrice for cleaning the teeth (this could have a negative effect by causing gum recession, abrasion and sensitivity of teeth). Coarse and fibrous food in the diet has a positive effect on oral health by its cleansing effect on the teeth and reducing refined carbohydrate, an important factor in cariogenesis. (Chandra and Raja, 2009).

Some cultures also encourage practices that are detrimental to oral health such as reverse smoking in parts of Asia which increases the risk of palatal malignancies. Pan chewing is a custom in Northern India, but is a factor for periodontal diseases and malignancies (Petersen et al, 2005).

2.5 Oral Health and Quality of Life

The consequences of oral diseases are not only physical; they are also economical, social and psychological. They seriously impair quality of life and can affect various aspects of life such oral functions, appearance and interpersonal relationship. (Moeintaghari et al, 2013)

Quality of life is vague, amorphous and ethereal; it can be defined as a general well-being of individuals and societies, covering a wide range of contexts such as the field of international development, health care, politics and employment. The standard indicators of quality of life

include wealth and employment, environment, physical and mental health, education, recreation and leisure, as well as social life (Locker D, 1977).

Health contributes immensely to quality of life; and the real impact of health and disease on quality of life is known as health related quality of life (HRQoL).(Barbosa do Vale et al, 2010). HRQoL evolved since the 1980s to encompass those aspects of quality of life (QoL) that can be clearly shown to affect physical or mental health of an individual or community.

There is an increasing focus in dentistry on assessing the subjective dimensions of oral health. Clinical indicators such as dental caries and periodontal disease only signify the presence of disease without recognizing the social and psychological effects on the individual with regards to daily functions. The notion of oral health related quality of life (OHRQoL) concerns the impact of oral diseases on different aspects of life (Locker D 1988).

OHRQoL is a multidimensional concept which places individuals as the main focus of consideration. Different OHRQoL measures have been developed by researchers and found useful in assessing oral health status of individuals subjectively and in assessing treatment outcome (Locker et al, 1994). They have been categorized mainly into three; social indicators, global self ratings and multiple items questionnaires of oral health related quality of life.

Multiple items questionnaires are most widely used (Al Shamrany, 2006) Some of the popular instruments include; Oral Health Impact Profile (OHIP); which explores 7 dimensions of impact (functional limitations, pain, psychological discomfort, physical disability, psychological disability, social disability and handicap).

Oral Impact on Daily performances (OIDP) assesses the impact of oral conditions on the ability of individuals to perform 8 daily activities (eating, speaking, oral hygiene practice, occupational activities, social relations, sleeping and relaxing, smiling, and emotional state).

Dental Impact on Daily Living (DIDL) has 36 items grouped into 5 dimensions (appearance, pain, and oral comfort, general performance, eating and chewing).

Subjective Oral Health Status Indicator (SOHSI) has 42 items under 6 dimensions (chewing, speaking, sleeping, eating, communication, and social relations).

These indices, especially OHIP and OIDP were based on theoretical framework of World Health Organization's International Classification of Impairments, Disability and Handicap (ICIDH) and amended for dentistry by Locker, who described consequences of disease (Locker, 1988). Disease can lead to impairment, which in turn leads to functional limitations and or disability; this finally leads to handicap as the last consequence.

Pain which has been confirmed as the primary reason for patients' presentation to the dental clinic, has physical as well as psychological impact on the quality of life of an individual (Karasneh et al,2004). A neglected carious tooth causes dental suffering due to pain and impairment as the tooth is eventually extracted (Telino de Lacerda et al, 2004). Pain interferes with quality of life and is influenced by social conditions as well as conditions of access to dental services (Petersen, 2004; Varenne et al, 2006). Dentition has impact on daily living because it affects ability to eat, speak and socialize (Al Shamrany, 2006). Other negative impacts include demoralizing oral hygiene which gives rise to halitosis with resultant apathy from spouse and friends. This eventually leads to a reduction in social life and self esteem (Richards and Ameen, 2002; Niesten et al, 2012)

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study Design

This is a descriptive cross sectional study.

3.2 Study Population

Patients attending Oral Diagnosis Clinic, University College Hospital (UCH) Ibadan.

3.3 Sample Size Determination

The sample size for the study was determined using the formula

$$n = \frac{z^2pq}{d^2}$$

n = minimum sample size

z = standard normal deviate, usually set at 1.96 which corresponds to 95% confidence level.

P = prevalence rate of oral disease based on dental caries and periodontal disease is 60%-90 % (Bulletin of WHO, 2005). The mean, 75% was used in this calculation.

q = precision (1-p) or 25%

d = the level of significance or margin of error, 5%

Substituting for the formula,

$$n = \frac{(1.96)^2 (0.75)(0.25)}{(0.05)^2}$$

n= 288.

This was approximated to 300 for this study.

3.4 Sampling Procedure

Sampling was not done. With the sample size known, a total of 300 consecutive and consenting patients aged 16 years and above, attending the Oral Diagnosis Clinic were recruited until the sample size was realised.

3.5 Data Collection

3.5.1 **Data source** - Data was obtained from patients attending the Oral Diagnosis Clinic during the period of study. (1st April 2014- 30th May, 2014).

3.5.2 **Data Collection instrument** - Data was collected with the aid of a validated, structured, interviewer - administered questionnaire composed of closed and open - ended questions. The questionnaire was divided into the following sections:

1. Socio-demographic characteristics
2. Clinic attendance
3. Socio cultural section
4. Oral examination
5. Attitude to oral health
6. Oral health practices
7. Perception of oral health care services
8. Assessment of oral health related quality of life.

The statements used were selected from OIDP, OHIP, DIDL and SOHSI scales since the goal of the measurement was descriptive.

With the use of mouth mirror, dental probe, wooden spatula and source of light, each patient was examined on the dental chair by two trained resident doctors.

3.5.3 Data Collection Procedure

The questionnaire was pretested on 25 patients at Government Dental Clinic, Dugbe in Ibadan for clarity before using it for the study at the Oral Diagnosis Clinic, UCH. The average time spent to complete each record was 30 minutes. Oral examination was carried out by two resident doctors to document the patients' presenting complaints, oral hygiene status using the oral hygiene index (simplified) by Greene and Vermillion (1960) was used as a measure of oral hygiene. DMFT index was employed as a measure of caries experience; D- representing decayed tooth, M- missing teeth and F- filled teeth. A tooth was classified as carious based on the International Caries Detection and Assessment system (ICDAS). (Shivakumar et al, 2009). Diagnosis of pulpal disease was based on American Board of Endodontics (ABE) 2007. Teeth were regarded as missing if there was a history of extraction due to periodontal involvement and or trauma. Diagnosis of gingivitis was based on the International Workshop for classification of periodontal diseases and conditions 1999 (Armitage 1999). While the diagnosis for periodontitis was based on the Diagnostic standard of Goodson 1992 using clinical attachment loss. (Savage et al, 2009). Diagnosis of malocclusion was based on Angle's classification.(Onyeaso 2004). Cleft lip and palate were diagnosed with the classification of cleft lip and palate based on Kernhan Y classification.(Khan et al, 2013). Diagnosis of dental trauma was based on World Health Organization (WHO) Application of Internal Classification of diseases to dentistry as modified by Andreasen (Andreasen and Andreasen, 1993). The diagnosis of oral tumours was based on the World Health Organization (WHO)

classification of head and neck tumours .(Phillipsen and Reichert, 2006). Diagnosis of jaw trauma was based on Natwig's classification by anatomic region (Malik 2008). Radiological examination and pulp testing was also done in relevant cases.

3.6 **Data Analysis**

The data collected was entered into a personal micro computer, and subjected to statistical analysis using SPSS for Windows version 20. Descriptive statistics was performed on socio - demographic variables to generate frequencies, means, standard deviation and percentages. The socio economic status of each subject was determined using the social class stratification devised by Oyejide (1985) with some modifications. In this scale the two criteria used were patients' occupational scale and highest level of education attained. The mean of these two criteria to the nearest whole number was the social class assigned to each subject. A mean score of one was considered as high social class; 2 and 3 as middle social class.

Table I Criteria for Determination of Social Class of Subjects

Criteria	Score
Occupational Scale	
Senior public servants, professionals, business people, large scale traders, contractors.	1
Intermediate grade public servants, senior school teachers.	2
Junior grade public servants, junior school teachers, artisans, drivers.	3
Petty traders, labourers, messengers.	4
Full time housewives, unemployed, students, subsistence farmers.	5
Educational Scale	Score
University graduates or equivalent.	1
School certificate holders with teaching or other professional training.	2
School certificate holders.	3
Primary six certificate holders.	4
No formal education	5

3.7 Ethical Considerations

The study was approved by the joint University of Ibadan/University College Hospital Ethics Committee. The consent of each participant was obtained after a detailed explanation of the study and its purpose. Participation was voluntary and each participant signed an informed consent form. Each participant was given a tooth paste after the interview in appreciation of their time and co-operation.

CHAPTER FOUR

RESULTS

4.1.1 General Characteristics of Respondents

The study sample comprised of 300 participants attending the Oral diagnosis Clinic of UCH Dental centre, Ibadan, consisting of 167 females (55.67%) and 133 males (44.33%). The ages of the participants ranged from 16 to 86 years with a mean of 38.21(± 16.10) years. The mean age of males was 37.47(± 14.83) years and the mean age of females was 38.80(±17.07) years. There was no statistically significant difference in age group of patients according to gender. (X^2 = 6.17; p = 0.52). The majority (54.3%) of patients seeking care were in the second and third decades of life. There were more Yoruba respondents 233(77.7%) in the study sample, the Igbos were 35(11.7%), the Hausas were 3(1.0%) and 29(9.7%) were other minor tribes.

4.1.2 Education, Occupation and Socioeconomic Status

Majority 241(80.33%) of the respondents were graduates or post graduates, while ordinary secondary school certificate holders were 45 (15%), primary six certificate holders were 9 (3%), and 5 persons had no formal education (1.67%).

A total of 96 (32%) respondents, were house wives, unemployed, students and subsistence farmers, this was followed by 70 professionals and senior civil servants (23%). Sixty two were junior civil servants, teachers, artisans, drivers and youth corpers (21%). Fifty-six (19%) were in the group of intermediate public servants and senior school teachers. However, the lowest number of participants was found among the petty traders, labourers and messengers 17 (6%). According to the socioeconomic strata by Oyejide (1985), 65(21.7%) of respondents were in the high social class, 198(66.0%) were in the middle social class and 37(12.3%) were in the low social class (Table II).

Table II: Socio-demographic profile of respondents

Variables	Males		females		Total
Age group	Frequency	%	Frequency	%	
10 – 19	6	4.5	13	7.8	19
20 – 29	42	31.5	51	30.4	93
30 – 39	39	29.3	34	20.4	73
40 – 49	21	15.8	25	15.0	46
50 – 59	11	8.3	17	10.2	28
60 – 69	7	5.3	16	9.6	23
70 – 79	5	3.8	7	4.2	12
80 – 89	2	1.5	4	2.4	6
Total	133	100	167	100	300

Chi square comparism of age group distribution according to gender was not significant. (X^2 =6.17; p = 0.52) Male to female ratio = 1:1.25

Marital status	Males		females		Total
	Frequency	%	Frequency	%	
Single	66	49.6	59	35.3	125
Married	66	49.6	91	54.5	157
Separated	0	0.0	2	1.2	2
Widowed	0	0.0	15	9.0	15
Widower	1	0.8	0	0.0	1
Total	133	100	167	100	300

Chi square comparism of marital status according to gender was significant. (X^2 =18.76; p =0.001)

Socioeconomic status	Males		females		Total
	Frequency	%	Frequency	%	
High	37	27.8	28	16.8	65
Middle	86	64.6	112	67.0	198
Low	10	7.6	27	16.2	37
Total	133	100	167	100	300

Chi-square comparison of SES according to gender was significant (X^2 = 8.73; p =0.013)

4.1.3**Marital status**

A higher proportion of respondents 157 (52.3%) were married, 125 (41.7%) were singles while widows were 15 persons (5.0%). (Table II)

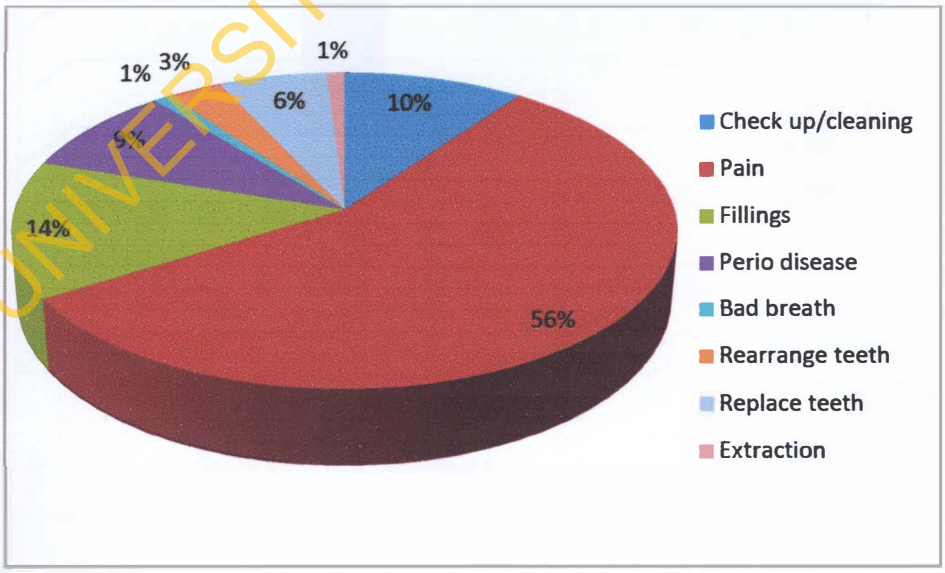
4.1.4 **Location**

Most participants resided in the urban areas 292(97.3%) with only 8(2.7%) residing in the rural areas.

4.2 **Reasons for Seeking Dental Care**

Pain was the most common reason for dental consultation 168 (56%). However, the causes of pain varied from acute pulpitis secondary to dental caries, broken tooth, inflammatory diseases of the jaw and gum. This was followed by tooth decay and the need to have fillings done 41(14%). Another cause of presentation was bad breath accounting for 1.0% (Figure 1)

Figure 1- Reasons for presentation at the dental clinic



4.3 Reasons for not visiting dental clinic in the past one year

A total of 266 respondents did not visit the dental clinic in the past one year. Of these, 150 (59.8%) did not consult the dentist because they had no dental problems, 32(12.0%) had dental pain but thought the pain would disappear without specialist care, 27(10.2%) had no time to visit the clinic, 23(8.6%) depended on self-medication,15(5.6%) had financial constraints, while 5(1.9%) had no nearby clinic to attend.

4.4 Effect of Socioeconomic Status on Dental Clinic Attendance

Majority 121(66.1%) of those in the middle socioeconomic class and 45(24.6%) in the high socioeconomic class have had previous dental visits, while only 17(9.3%) of the low socioeconomic class had visited the dental clinic before. The relationship between social class and previous dental visit was not statistically significant ($x2 = 5.4$; $p = 0.07$) (figure 2a).

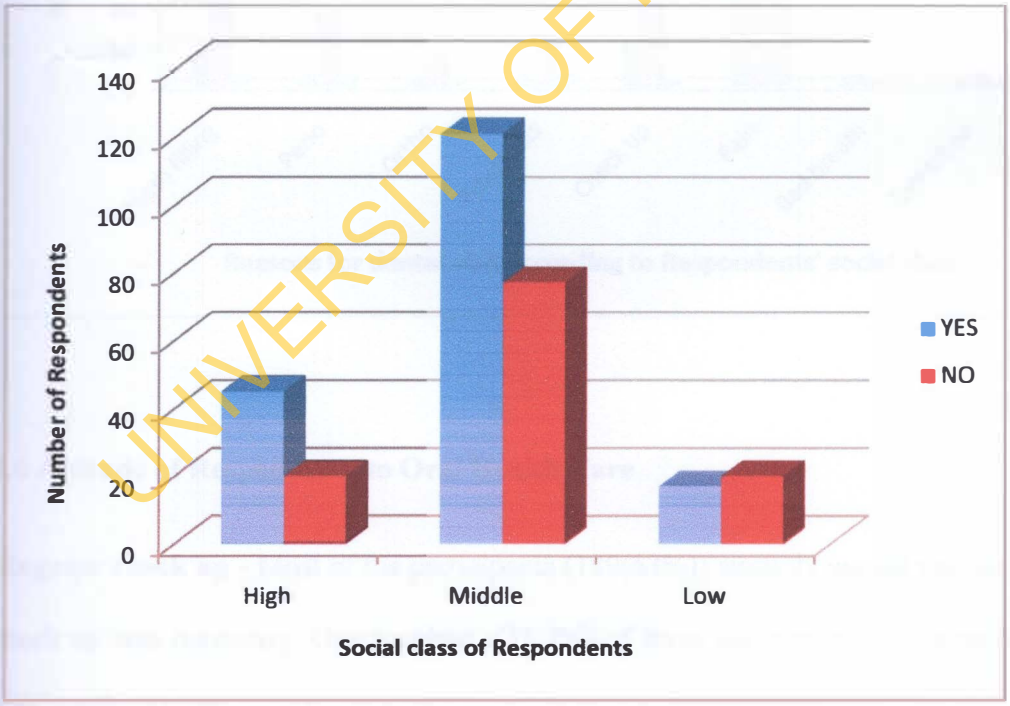
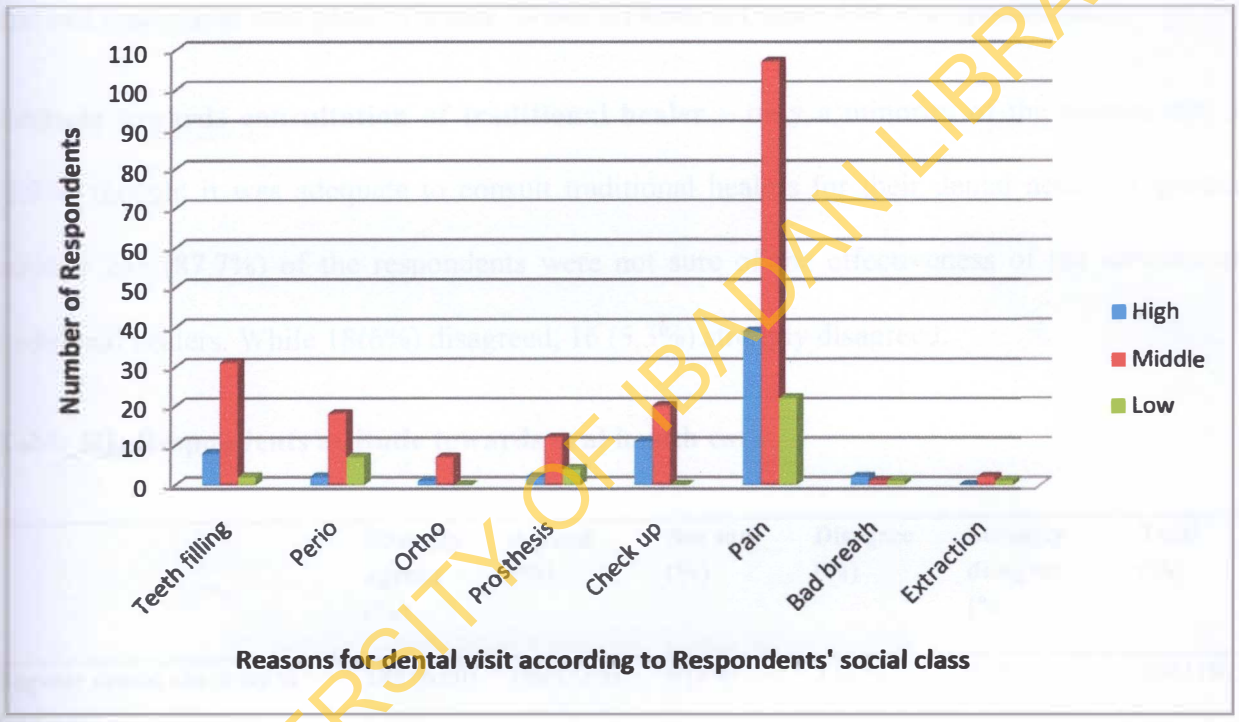


Figure 2a Relationship between social class and previous dental visit

4.5 Reasons for presentation according to social class

Whereas pain was the most common reason for presentation for all the socioeconomic classes, most of the respondents who attended clinic for check up, prophylactic scaling and polishing, restorative treatment and orthodontic treatment were from the middle and high social class, Respondents in the low social class presented for periodontal disease and prosthesis (figure 2b).

Figure 2b Relationship between social class and reasons for dental visit



4.6 Attitude of Respondents to Oral Health Care

Regular check up - Most of the participants (189(63%)) strongly agreed that six monthly dental check up was necessary. One hundred, (33.3%) of them just agreed. However 6 (2%) were not sure, while (5)1.7% could not see the necessity for dental check up.

Resolution of dental problem without intervention - Thirty-three participants (11.0%) believed that untreated dental pain could disappear after a while without intervention, those who were not sure were 27(9%) while 223 (74.3%) thought that dental pain will not disappear without intervention, whereas 17(5.7%) strongly disagreed that dental pain will disappear without intervention.

Attitude towards self medication - One hundred and ninety respondents (63.4%) strongly disagreed that self medication was enough to take care of dental problems, 79 (26.3%) disagreed that self medication was good, whereas 20 (6.7%) were not sure of its appropriateness.

Attitude towards consultation of traditional healer – only a minority of the respondents 3 (1.0%) thought it was adequate to consult traditional healers for their dental needs. A greater number 263 (87.7%) of the respondents were not sure of the effectiveness of the services of traditional healers. While 18(6%) disagreed, 16 (5.3%) strongly disagreed.

Table III: Respondents attitude towards oral health care

	Strongly agreed (%)	Agreed (%)	Not sure (%)	Disagree (%)	Strongly disagree (%)	Total (%)
Regular dental check up is necessary	189 (63.0)	100 (33.3)	6 (2.0)	5 (1.7)	0 (0.0)	300 (100)
Resolution of dental problem without intervention	0 (0.0)	33 (11.0)	27 (9.0)	223 (74.3)	17 (5.7)	300 (100)
Self medication	1 (0.3)	10 (3.3)	20 (6.7)	190 (63.4)	79 (26.3)	300 (100)
Traditional healer consultation	0 (0.0)	3 (1.0)	263 (87.7)	18 (6.0)	16 (5.3)	300 (100)
Traditional healer is cheaper than dentist	0 (0.0)	18 (6.0)	262 (87.3)	19 (6.4)	1 (0.3)	300 (100)

Attitude towards cheaper alternatives – Few respondents 18 (6%) considered traditional healers cheaper compared to the dentist, 19(6.4%) disagreed that it was cheaper to consult the traditional healer, 1 (0.3%) strongly disagreed,, the majority 262(87.3%) were not sure about the cost of consultation with traditional healer. (Table III)

Majority of the respondents 96.3% had never visited a traditional healer on account of dental complaints, whereas 3% admitted having done so.

Effect of Health Insurance on dental visit in the past one year - The percentage of those without health insurance that had made a visit in the past one year was 70.6%, while only 29.4% of those who have visited in the last one year had health insurance.

4.7 Oral Health Practices and Habits of Respondents

Cleaning of the teeth/mouth - The majority of the respondents 80.7% used toothbrush and toothpaste to clean, 19.3% used both toothbrush/paste and chewing stick to clean, 0.7%, used salt and water for cleaning, 0.3% used only chewing stick and 92.7% cleaned their tongue by scraping the surface, only 19.0% used dental floss as an adjunct to oral cleaning. (Table IV)

Frequency of mouth cleaning – The majority, 171(57.0%) respondents cleaned their mouth only once every day. 123(41%) cleaned it twice every day, 5(1.7%) cleaned their teeth after every meal, and only one respondent (0.4%) cleaned occasionally.(Table IV)

Use of tooth pick - 45% used tooth pick occasionally, and 18% used it after every meal while 25% used it every day.(Table IV)

Tobacco habits

Smokeless tobacco - Concerning chewing or snuffing tobacco, only one (0.3%) of the respondents in this study, was in the habit of smokeless tobacco use. (Table IV)

Table IV Oral health practices and habits

		Frequency	Percentage (%)
Use of tooth pick			
	Yes	214	71.3
	No	86	28.7
Frequency of tooth pick use			
	After every meal	54	28.6
	Every day	25	11.6
	Occasionally	135	63.8
Use of smokeless tobacco			
	Yes	1	0.3
	No	299	99.7
Cigarette smoking			2.0
	Yes	6	98.0
	No	294	
Frequency of smoking			
	Few sticks/ day	4	66.7
	Few sticks/week	2	33.3
Regular dental check up			
	Yes	17	5.7
	No	283	94.3
Tools for cleaning mouth and teeth			
Salt and water			
	Yes	2	0.7
	No	298	99.3
Chewing stick			
	Yes	1	0.3
	No	299	99.7
Tooth brush & paste			
	Yes	242	80.7
	No	58	19.3
Chewing stick & brush			
	Yes	58	19.3
	No	242	80.7
Tongue scraping			
	Yes	278	92.7
	No	22	7.3
Use of dental floss			
	Yes	57	19.0
	No	243	81.0
Frequency of teeth cleaning			
	After every meal	5	1.6
	Twice a day	123	41.0
	Once a day	171	57.0
	Occasionally	1	0.4

Cigarette smoking - Concerning smoking, majority of respondents 283 (97.9%) did not smoke. However, only 6 (2.1%) admitted to the habit of smoking cigarette. Out of these, 4 (66.7%) smoked a few sticks a day while 2 (33.3%) smoked a few sticks per week.(Table IV).

4.8 Assessment of Impact of General Oral Conditions on Quality of Life

4.8.1 Frequency of Impacts on Quality of Life

The highest impact of 61.7% was due to difficulty in eating and enjoying food. This was followed by 44.4% absence from work due to oral problems and difficulty in sleeping accounts for 42.2%. However the least impacts were on embarrassment due to mouth odour (11%) and ability to speak clearly (2%)

4.8.2 Impact on daily activities

Absence from work

Majority (55.7%) of respondents have never been absent from work as a result of dental problems, while 28.7% seldom missed work due to dental problems, however, 15.7% missed work often or very often (Table V)

Productivity at work

Majority 68.8% claimed that teeth/gum problems had no effect on their daily activities, while 31.2% were affected by dental problems. Among those who claimed that oral problems affected their daily activities, majority 81.9% claimed that their daily activities were occasionally affected, while 18.1% were affected all the time. (Table V)

Eating and enjoying food

About 61.7% of the respondents experienced some difficulty in eating and enjoying food; while (38.3%) claimed no difficulty in eating and enjoying food in the past 6 months. Of this group (with difficulty in eating and enjoying food), 50.5% said dental problems prevented them from

taking food as frequently as they would normally have. A total of 92.7% had to reduce the quantity of food intake while 11.9% ate with difficulty. Out of those that had difficulty, frequency of the difficulty on eating and enjoying food were often in 73.6%, quite often in 23.7% and rare in 2.7%. The severity was little in 36%, moderate in 24.7%, and much in 18.4% (Table V)

Choice and quantity – Majority of the participants 56.9%, claimed that dental problems often or always limited the kind or amount of food intake, while 17.7% claimed it rarely affected them, only 25.4% claimed that it never limited the kind or amount of food they take (Table V)

Ease - Majority of respondents 71.3% avoid some part of their mouth while eating/drinking, while only minority 28.7% did not avoid some part of their mouth while eating/drinking (Table V)

4.8.3 **Impact on pain perception**

Disturbance of sleep during the night

Most of the respondents 173 (57.7%) never stayed awake due to dental problems, while a minority 28 (9.3%) seldom stayed awake. A considerable proportion 92 (30.6%), stayed awake often or very often due to dental problems. In addition, 7(2.3%) of respondents stayed awake every day due to dental problems. (Table V)

Pain during speech

The majority (93.3%) of the participants recognized the importance of being able to speak without pain or discomfort, while only a minority (6.7%) did not attach importance to such. The majority (98%), were very happy with their painless unrestrained speech, while only a minority (2%) were unhappy or barely happy with their inability to speak without pain. (Table V)

Table V Assessment of impact of general oral conditions on quality of life

		Frequency	Percentage (%)
Miss work due to dental problems:	Very often	12	4.0
	Often	35	11.7
	Seldom	86	28.7
	Never	167	55.7
Stay awake due to dental problems:	Everyday	7	2.3
	Very often	46	15.3
	Often	46	15.3
	Seldom	28	9.3
	Never	173	57.7
Do you have missing teeth	Yes	133	44.3
	No	167	55.7
Embarrassment due to missing teeth			
	Very often/often	29	21.8
	Seldom	11	17.3
	Never	93	60.9
Do you have mouth odor	Yes	12	9.0
	No	120	91.0
Mouth odor and personal interaction			
	Embarrassment	9	27.3
	Withdrawal	6	18.2
	Limited interaction	8	24.2
	No effect	10	30.3
Speech	Without pain	293	98.0
	With pain	7	2.0
Effect of teeth/ denture on oral comfort			
	Not comfortable	227	76.0
	Comfortable	30	10.0
	No effect	43	14.0
Limitation of food intake	Yes	109	36.3
	No	176	58.7
Frequency affected	Yes	55	50.5
	No	54	49.5
Quantity affected	Yes	101	92.7
	No	8	7.3
Appetite affected	Yes	13	11.9
	No	94	86.2
Satisfaction in the past three months			
	Not satisfied	159	53.5
	Satisfied	88	28.8
	Barely satisfied	53	17.7

4.8.4 Impact on socio-psychological discomfort or disability

Mouth odour and personal interaction

Majority 91% of respondents did not have mouth odour, while only a minority 9% had mouth odour. Among those with complaint of mouth odour, 30.3% claimed it had no psychological effect on them, while 27.3% claimed that mouth odour prevented them from interacting freely with others. (Table V)

Effect of teeth/denture on intra oral comfort

Problems associated with teeth/dentures were sources of discomfort in 228(75.9%) of respondents, while 30(10.1%) claimed they were comfortable despite their dental problems. However, 42(14%) claimed that their teeth/ denture problem had no effect on their comfort. (Table V)

Missing teeth and public embarrassment

Majority of participants 55.7% did not have missing teeth. However, among the minority with missing teeth, 60.9% have never been embarrassed by their missing teeth. 17.3% are seldom embarrassed. 21.8% claimed they are embarrassed very often or every day. (Table V)

Satisfaction with dental conditions in the past 3 month

Majority 53.5% were not satisfied with their dental condition, while 17.7% were barely satisfied, however 28.8% were satisfied. (Table V)

4.9 Effect of Specific Disease Conditions on quality of life (Table VI)

4.9.1 Impact on limitation of daily activity

Absence from work

Out of the respondents with apical periodontitis, (61.9%) were unable to go to work. This was followed in frequency by pulpitis respondents with 40.9% being unable to go to work, while 31.9% of respondents with periodontal disease reported inability to go to work due to oral problems.

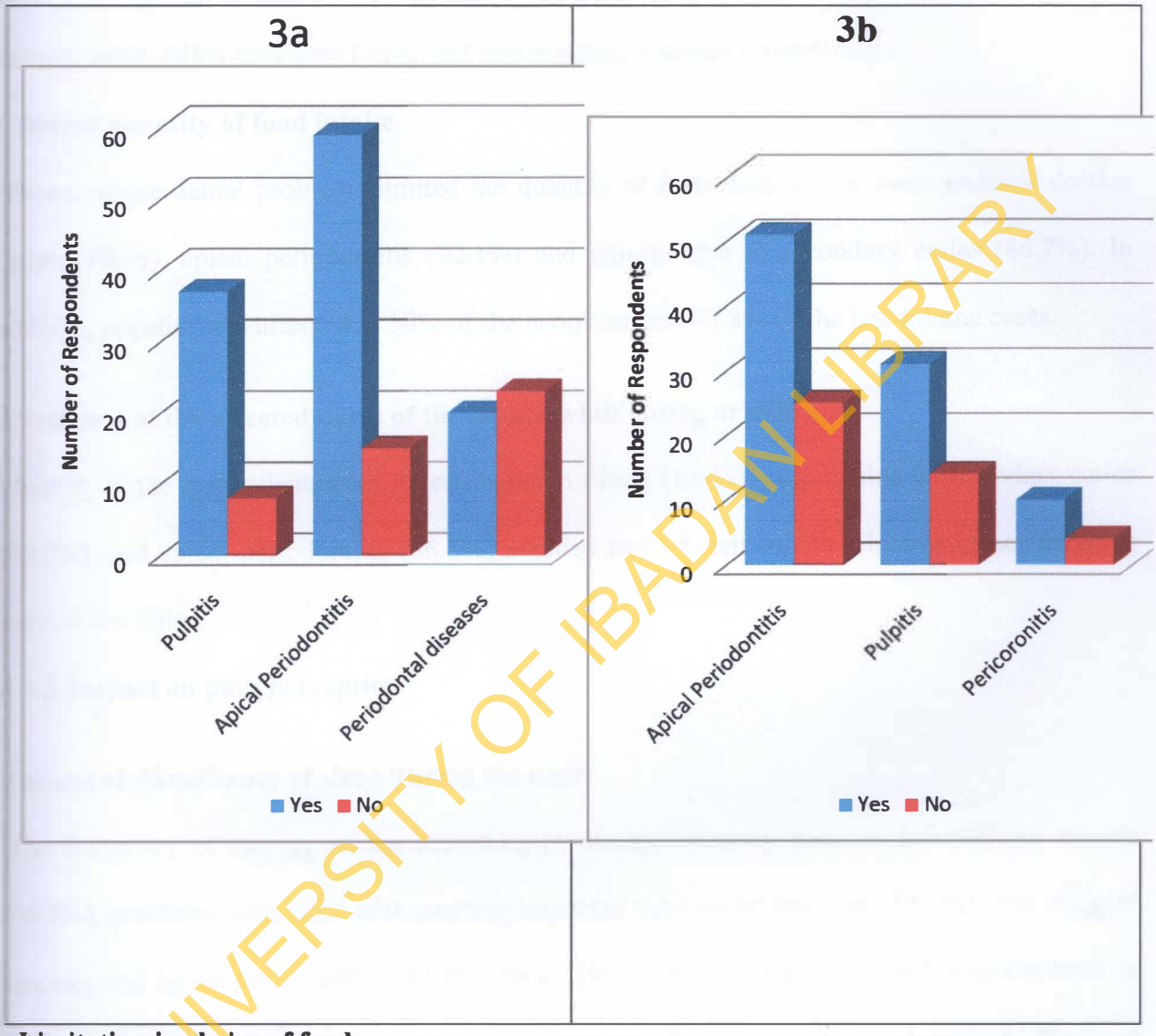
Productivity at work

Majority of respondents claimed that dental problems had little or no impact on their daily activities; the order of these low impacts is as follows - 88.4% periodontal disease, 87.5% enamel/dentine caries and malocclusion, 80% missing teeth. However, cases of third molar eruption problems, apical periodontitis, and jaw trauma had their activities greatly affected, with (42.9%, 42.1% and 39.1% of respondents being affected respectively). Out of these groups, 5.7% were affected all the time, whereas 26% were occasionally affected.

Eating and enjoying food.

All the participants with failed amalgam fillings had difficulty with eating and enjoying food. 37(81.8%) of the pulpitis cases, 59(77.6%) apical periodontitis cases and 20(46.5%) of the periodontal disease respondents had the highest frequency of difficulty with meals. However, those whose oral problems caused them the least difficulty in eating and enjoying food were the entire halitosis group, and 15(65.2%) of dental trauma respondents. (Figure 3a)

Figure 3: Distribution of respondents (a) with difficulty with eating and enjoying food (b) limitation of regular food intake.



Limitation in choice of food

The majority of respondents were limited in their choice of food and drink because of oral problems. Mostly affected were all those with jaw trauma and failed amalgam fillings (100%), 51(67.1%)of apical periodontitis cases, 31(68.2%) of pulpitis cases and 10 (71.4%) of third molar eruption problem cases (Figure 3b). However, all the halitosis cases and 12 (80%) of those with missing teeth rarely experienced meal disturbances.

Reduced frequency of food intake

Out of the group that claimed that dental problems affected their regular food intake, frequency and quantity of meals were more affected than appetite for meals. All respondents with jaw trauma and malignant lesion had reduced frequency of meals, in addition to 80% of those with missing teeth, failed amalgam filling and oral mucosal diseases respectively.

Reduced quantity of food intake

Those, whose dental problems limited the quantity of their food intake, were enamel/ dentine caries (100%), apical periodontitis (92.1%) and pulpitis due to secondary caries (86.7%). In addition, appetite was affected in 50% of the neoplasm and 33.3% of the jaw trauma cases.

Avoidance of the affected parts of the mouth while eating or drinking

Majority of the respondents with failed amalgam filling (100%), pulpitis due to secondary caries (90.9%), and apical periodontitis (86.8%) avoided part of their mouth while eating or drinking most of the time.

4.9.2. **Impact on pain perception**

Impact of disturbance of sleep during the night

The frequency of staying awake according to disease category were as follows; jaw trauma (66.7%), problems associated with erupting/impacted third molar eruption (57.1%), oral mucosal diseases and apical periodontitis (47.7%) each. However, all respondents with missing teeth or fractured denture, failed amalgam filling and majority of those with malocclusion (87.5%), and 82.6% of those with dental trauma never stayed awake at night due to dental problem (Figure 4).

Table VI Distribution of specific dental conditions among the respondents

Diagnosis	Frequency (N)	Percentage (%)
Caries	24	8.0
Pulpitis	45	15.0
Apical periodontitis	76	25.3
Dental fracture	23	7.7
Periodontal disease	44	14.7
Third molar eruption problems	14	4.7
Oral mucosal diseases	23	7.7
Malocclusion	8	2.7
Jaw fractures	3	1.0
Neoplasms	8	2.7
Missing teeth/ fractured denture	15	5.0
Failed dental fillings	2	0.7
Bad breath	3	1.0
Dentine sensitivity	2	0.7
Retained baby teeth	4	1.3
TMJ disorders	3	1.0
Allergy	1	0.3
Cleft lip/ palate	1	0.3
Vascular malformation	1	0.3

Pain during speech

Almost all the respondents claimed that it is very important to speak clearly without pain. All patients with dental trauma, 97.7% of those with pulpitis, 95.3% of those with gingival inflammation, and 94.7% with apical periodontitis were happy and satisfied with their speech. To the contrary, only a minority 2.3% of periodontal disease cases were unable to speak without pain.

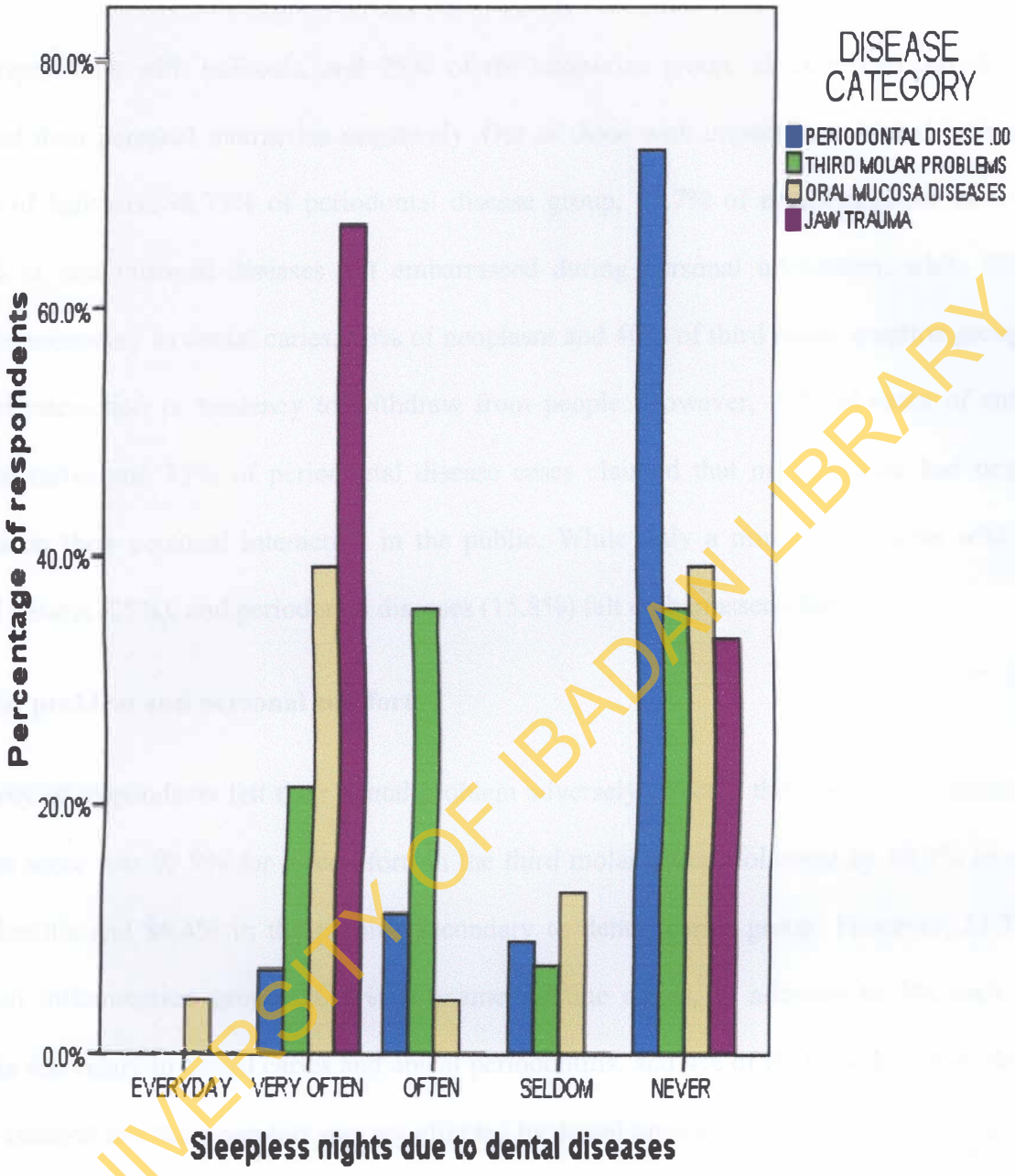


Figure 4: Frequency of oral diseases associated with sleepless nights

4.9.3 Impact on socio-psychological discomfort or disability

Mouth odour and personal interaction

All respondents with halitosis, and 25% of the neoplasm group, claimed that mouth odour affected their personal interaction negatively. Out of those with impact on personal interaction, 100% of halitosis, 98.75% of periodontal disease group, 91.7% of enamel/dentine caries and 66.7% of oral mucosal diseases felt embarrassed during personal interaction; while 80% of pulpitis secondary to dental caries, 50% of neoplasm and 40% of third molar eruption group had limited interaction or tendency to withdraw from people. However, 50% of cases of enamel/ dentine caries and 35% of periodontal disease cases claimed that mouth odour had negative impact on their personal interaction in the public. While only a minority of those with mild dental trauma (25%), and periodontal diseases (15.8%) felt embarrassed often.

Dental problem and personal comfort

Majority of respondents felt their dental problem adversely affected their personal comfort. The highest score was 92.9% for discomfort, in the third molar group, followed by 88.2% in apical periodontitis and 86.4% in the pulpitis secondary to dental caries group. However, 23.3% of gingival inflammation group, 20.8% of enamel/dentine caries, in addition to 5% each from pulpitis secondary to dental caries and apical periodontitis, and 4% of those with enamel/dentine caries claimed that their comfort was not affected by dental problems

Missing teeth and public embarrassment

The majority (76.9%) of those with missing teeth or fractured denture felt embarrassed often or very often in public. However, majority of those with other lesions claimed that they were never

or were only seldom embarrassed in the public. This group includes 80% of those with enamel/dentine caries and apical periodontitis and all oral mucosal lesion cases.

Satisfaction with dental conditions in the last three months

Concerning satisfaction with recent dental condition, majority (68.2%) of those with pulpitis secondary to dental caries, (61.8%), apical periodontitis, and gingival inflammatory diseases (58.1%) were barely satisfied. However, those satisfied with their dental conditions were 65.2% of dental trauma and 20.9% of gingival inflammation cases.

CHAPTER FIVE

DISCUSSION

More female than male respondents participated in this study, this is in keeping with similar studies within and outside Nigeria. (Varenne et al, 2005; Afolabi et al, 2010; Ajayi and Arigbede, 2012; Sistani et al, 2013). Kolude and Gbadebo, (2013) had earlier associated more female attendance at the dental clinic with better health seeking behaviour and lower pain threshold. However, Idris et al (2012) in Pakistan during a world oral health day camping programme reported a male preponderance, probably because more males were in attendance at the camp and possibly due to religion which restricts female movement. Mack et al, (2005) in Pomerania, Germany also observed a male preponderance in their studies, which was attributed to the official inhabitant lists used in sampling the population in the area of the study.

Majority of participants who came to the Oral Diagnosis Clinic, UCH, Ibadan for treatment were adolescents and young adults in the 2nd and 3rd decades of life, this is similar to the findings of Bamise et al, (2008); Omitola and Arigbide, (2010), and Novak et al, (2013) who observed the peak age groups of 21-25 years, 17-29 years, and 20-29 years respectively in their studies.

The age profile of attendees in the present study may be a reflection of the study location which is within the vicinity of a foremost tertiary institution, with a lot of university undergraduates and allied training health institutions such as schools of nursing, medical laboratory and health technology schools in attendance. Students from these constitute a significant proportion of those residing close to the dental centre. The academic environment may also partly explain the high proportion of graduate and postgraduate attendants who may be employed members of staff in these institutions or their well motivated close associates.

In this study, more than half of the respondents were of Yoruba origin, followed by the Igbos and other tribes. This is definitely a reflection of the population, since the study centre is located in an ancient Yoruba city. This pattern was replicated in the study of Afolabi et al, (2010) at Ondo, a Yoruba speaking town in western Nigeria.

The percentage of married and single respondents in this study was in keeping with previous study at this centre by Ajayi and Arigbide, (2012), and elsewhere by Afolabi et al, (2012) and Manzoor et al, (2009). The reason for the slight edge of the married respondents over the single could be due to the peer effect of spouses resulting in positive health-seeking behaviour of their partners. Most of the respondents lived in Ibadan. This study took place in a state capital and at one of the foremost tertiary health facilities in Nigeria which is in keeping with the observation of Akpata (Akpata 2004) in his study of oral health in Nigeria that most dental facilities are located in urban areas to the disadvantage of rural dwellers.

Students and professionals formed a substantial proportion of respondents in this study. This may be related to the location of the study centre. In addition, the high level of student attendance may be related to their level of educational awareness about personal aesthetics and dental care. Furthermore, this study observed that professionals who are in the middle or high social class could afford the cost of dental care more readily than the lower class, in keeping with the observation of other studies such as reported by Varenne et al, (2006); Muirhead, et al, (2009) where the low income group of office assistants and labourers constituted the least attendees at the dental clinic.

The most common reasons for dental consultation in this study were toothache, broken tooth, tooth decay, inability to chew and swollen jaw or gum, and the need to have fillings done.

Kikwilu et al, (2008) in Tanzania, Brennan et al, (2008) in Australia, Muirhead et al, (2009) in Canada, Kolude and Gbadebo, (2013); in Nigeria, had similar observations in their studies. Although, pain was also the main reason for dental visit in the studies by Varenne et al, (2005); Telino de Lacerda et al, (2004), in Brazil; Omitola and Arigbede, (2010); and Novak et al, (2013), but the percentage of respondents with dental pain was lower in these studies than the present study.

It was also observed that other reasons for presentation such as check up, scaling and polishing, dental fillings, and replacement of teeth were related to the social class. Those in the high and middle socio-economic class came mainly for check up, cleaning, and fillings and orthodontic treatment, while the low socio economic class came for periodontal treatment and tooth replacements most of the time. This is in keeping with the findings of Brennan et al, (2008) and Sabbah et al, (2007) that income and education gradients exist in perceived oral and general health. The research report of the Australian government (2007) also agrees with this observation.

Unlike other studies where cost, fear of dental treatment and long waiting time, were the commonest reasons for not utilizing dental facilities (Bamise et al, 2008, Ajayi and Arigbede, 2012 and Opeodu et al, 2012), this study observed lack of perceived oral problem, the thought that pain will go on its own with time, lack of time for visits and use of self medication as the major reasons for not visiting the dental clinic. This is similar to Omitola and Arigbede's study where cost of treatment, thought that pain will disappear on its own and self-medication were the main reasons for delay in utilization of dental facilities.(Omitola and Arigbede, 2010)

Considering the attitude of the respondents to oral health care, majority agreed to the importance of regular dental check up of at least twice a year. However, their actual practice contradicted the positive attitude as only very few reported for dental check up in a period of one year prior to the study. The most common reason for this poor turnout was lack of perceived need for dental care. This is a reflection of poor understanding of the importance of the asymptomatic nature of the early stages of most oral problems. Taiwo et al, (2006) and Ajayi and Arigbede, (2012) in Ibadan, Zhu et al, (2005) in China also made similar observations of poor dental check up by respondents. The explanation given for this was low awareness of oral health. (Zhu et al, 2005). However in an Australian study by Brennan, majority (57%) of the respondents reported for regular dental check up. This could be as a result of government subsidy on oral health care to eligible pensioners and unemployed persons who were regarded as socio-economically disadvantaged. In addition to this, the introduction of government's funded private insurance subsidy schemes must have favoured higher income groups to make more dental check up visits. (Brennan et al, 2005)

Respondents acknowledged the importance of seeking appropriate help at the dental facilities regularly and when necessary. This was evident in this study as majority claimed that self-medication (defined as selection and use of medicine by an individual to treat self recognized or self diagnosed conditions or symptoms) was not enough to cater for their dental problems. In Tanzania, Kikwilu et al, (2008) observed that self-medication was frequently practiced by rural dwellers that had poor access to health facilities which were mostly situated in urban areas. Arikpo et al, (2009) made a similar observation in a Nigerian study with 99.45% of rural dwellers depending on self-medication for their oral health needs. However, studies on self-medication carried out in urban areas of Nigeria and India report different reasons for the

practice of self medication which was mainly by the educated. The reasons included; lack of time to visit the doctor, knowledge of previous prescription related to new symptoms and the need to reduce cost (Adedapo et al, 2010; Afolabi et al, 2012; Bennadi, 2013).

The perceived benefits of self medication in various studies included; increased access to medicine and relief to patients and active participation of patients in their personal health care. However, it is not safe to practice self medication since it has potential risks such as; delays in seeking medical advice when needed, infrequent but severe adverse reactions, dangerous drug interactions, incorrect dosage and choice of therapy as well as masking of severe disease, risk of dependence and abuse. (Ruiz, 2010)

Majority of the respondents in this study, were apparently vulnerable to alternative means of caring for their health, since they were aware of the consequences of using the services of the traditional healers. The alternative means included the use of battery water, cow urine, "Touch and Go" and other cheap concoctions for the relief of symptoms (Afolabi et al, 2010). Previous studies by Kikwilu et al, (2008) and Butani et al, (2008), in Africa had observed the high patronage of traditional healers who reside mainly in the rural areas.

The present study, observed that oral health practices such as use of toothpicks was very common as majority still practiced it occasionally. In China, Zhu et al, 2005 observed regular use of tooth pick after meals by their respondents. The tooth pick is one of the oldest instruments for teeth cleaning and is well known in most cultures. Before the advent of toothbrush, teeth were cleaned with hard or soft dental woods. The tooth pick is usually made of wood, plastic or metal and may have one or two sharp ends which are used to remove food debris between the

teeth (Sanoudos and Christen, 1999). The sharp ends could damage the gum causing pain and gingivitis.

Smokeless tobacco habit and smoking of cigarettes was observed in a small number of respondents. (0.3% and 2% respectively). Folayan et al, (2013) also observed a low prevalence of smoking in their study among dental students in Nigeria. This could be attributed to increased publicity on its many and diverse adverse health implications. It has been established as the most important avoidable cause of morbidity and untimely death (Adeyemi et al, 2011; Olowokere et al, 2014). Smokeless tobacco habit has also been associated with oral mucosal lesions and dryness of the mouth, (which could lead to increased incidence of dental caries, poor oral hygiene and periodontal disease. (Petersen, 2003). There is strong evidence that use of tobacco is related to many disease conditions such as heart attacks, circulatory problems, lung cancer, cancer of the mouth and throat, sleeping problems, gum disease and tooth decay. (Patil et al, 2013). It is also linked to adult periodontal diseases especially in diabetics, and congenital defects (cleft lip and palate) in children whose mothers smoked while pregnant. It also suppresses the immune system's response to oral infections, thus compromising the healing of wounds. These oral consequences of tobacco use impact negatively on quality of life. (Petersen, 2004)

Like in most other studies, the use of tooth brush and tooth paste in cleaning the teeth appears to be adequate practice, as this was practiced by almost all our respondents. The use of tooth paste increases the effectiveness of cleaning the teeth because of the detergent and abrasive polish effect. This is similar to what was observed by Ifesanya et al, (2010); Abiola et al, (2011) and Okeigbemen et al, (2012). This was also observed by Cheah et al, (2010) in a study in Malaysia. The habit of cleaning the teeth twice a day as advised by dental practitioners was not observed in

this study as most respondents cleaned their teeth once a day. However, Omili et al, (2013) in their study among prison workers in Abuja, Nigeria observed that most of their respondents cleaned their teeth twice a day; such trend was attributed to the fact that more than half of the study group had a positive attitude to oral health care.

Tongue cleaning, a positive oral hygiene measure which contributes to reduction of mouth odour was also practiced by majority of respondents. However, the uses of adjuncts such as dental floss for inter dental cleaning was not popular as evident in this study. Dental floss is a cord or flexible strand of filaments which is used to remove food debris and dental plaque from inter proximal surfaces of the teeth. As an adjunct to tooth bushing, flossing, should be done prior to tooth brushing to allow the fluoride from the tooth paste reach the cleaned inter proximal surfaces, thus oral hygiene is improved leading to a decrease in gingivitis, tooth decay and halitosis.(Sanoudos and Christen, 1999).

The majority of the respondents in this study were in the middle socioeconomic class. This is in contrast with the study of Opeodu et al, (2009) and Manski et al, (2002) where the high socio-economic class constituted more of the dental clinic attendees. The explanation could be that the high social class was more in the older age group where periodontal disease which usually cause mild discomfort or pain, was more prevalent since his study was focused on periodontal disease. Also, the different scales of social class assessment in the two studies may partly explain the different findings. Socioeconomic status has great influence on attendance as confirmed in this study because most of the respondents in the middle and high social classes, reported previous history of visits whereas majority of the low socioeconomic class had never visited the dental clinic. Sabbah et al, (2007) and Mashoto et al, (2010) had observed the existence of social gradient in oral as well as general health service utilization.

In the study by Sabbah et al, it was also observed that higher levels of education and income were significantly associated with higher levels of health-enhancing behaviours and with lower levels of health-risk behaviors (Sabbah et al, 2009). Health insurance coverage did not make much impact on dental clinic attendance in this study; this may be due to poor understanding of the oral health part of the NHIS (Sofola, 2010) However, Manski et al, (2002) and Muirhead et al, (2009), observed that the effect of health insurance was to reduce perceived high price of oral health care, thus holders of health insurance policy were more likely to visit dental facility when necessary, They also observed that the low socioeconomic class and rural dwellers were less likely to visit dental facilities than urban dwellers due to lack of health insurance cover.

It has been stated severally that oral diseases affect the quality of life of the individual with regard to performance of daily activities. (Varenne et al, 2006; Kakoei et al, 2013; Mohebbi et al, 2014). An appreciable number of respondents in this study experienced one or more oral impacts due to their oral problems. This is in agreement with the studies of Wilson and Opie, (2009), Priya et al, (2011) Lawal, et al, (2013) and Mohebbi, et al, (2014).

Concerning the impact of oral diseases on quality of life -. Lawal et al, (2013) in Nigeria reported the following order; difficulty with eating and enjoying food (69.6%), difficulty with sleeping and relaxing (49.0%) and difficulty with cleaning teeth (41.7%). In Uganda, Astrom et al 2003, observed the following order: difficulty in eating (44%), cleaning teeth (35%), speaking and doing major work (34%). In Tanzania, Wilson and Opie, 2009 observed the following order; difficulty in eating (36.3%), cleaning teeth (31.8%) and sleeping (17.6%). Moeintaghari et al 2013, in Iran reported an order of difficulty in eating (48.8%), difficulty in cleaning teeth (33.5%) and sleeping (24.3%). Priya, et al, 2011 in India in their study among university students

observed the greatest impact on eating (36.6%), difficulty in cleaning teeth (28.5%) and smiling without embarrassment (21.8%),

Richards and Ameen, (2002) in the UK used the subjective oral health status indicators (SOHSI) scale and observed the following impacts: inability to eat (30%), inability to speak (13.2%). Discontent (54.7%), worry (98.7%) and dissatisfaction (38.4%), which affected the ability to socialize. Okunseri et al, (2005), in Nigeria used the OHQoL-UK scale and observed 82.0% in difficulty with eating and enjoying food, 63% with difficulty with sleeping and relaxing and 77% with difficulty in smiling. Muirhead et al, (2009), in a study in Canada, reported oral health impacts of 36% associated with pain, 32.4% with difficulty in chewing. Others are sleep (17.4%), work (12.4%) and discomfort or embarrassment caused by the appearance or the condition of the mouth or teeth (27%).

In this study, difficulty with eating and enjoying food had the highest impact (61.7%), followed by absence from work due to oral problems (44.4%) and difficulty in sleeping (42.2%). These results are similar to the reports of Lawal et al, (2013) in Nigeria but their third most frequent impact was with difficulty with cleaning teeth. It is also similar to the report of Astrom et al, (2003) in Uganda, missing work ranked second in this study. The result in this study is in keeping with the observation in Iran where difficulty in sleeping was the third most frequent impact.

The ability to be able to speak clearly and limitation in personal interaction due to mouth odour had the least impacts in this study. In the Iranian study, the least impacts were on working at home and emotional disturbance, whereas in India, according to Priya et al, (2011) the least impact was on enjoying social interaction with other people and doing major college work

In this study, it was observed that those with serious pain due to dental problems such as apical periodontitis, pulpitis secondary to dental caries, jaw trauma and third molar eruption problems had their work schedule and night sleep mostly affected. Priya et al, (2011) also observed that next to difficulty in eating, college work was affected by oral problems amongst Indian university students.

The frequency, quantity and choice of food intake were greatly affected by the dental conditions of respondents. Consequently restriction in choice of food invariably led to impaired food enjoyment. This could be due to inability to chew well especially for those with missing teeth without prosthetic replacement. The importance of eating, and survival cannot be overlooked. This is in agreement with the study of Okunseri et al, (2005) in Nigeria, Wilson et al, (2009) in Tanzania, Muirhead et al, (2009) in Canada, Mohebbi et al, (2010) in Iran and Priya et al (2011) in India where they observed the highest impacts on eating, sleeping, smiling and interaction with close associates. Speech is very important to most people and almost all respondents in this study expressed their delight in speech without pain.

Considering the impact of mouth odour, about 27.3% of respondents had serious inhibition on their social relations such as smiling, interaction and close contact with associates. Most respondents in this study were not satisfied with their teeth due to the discomfort they experienced from them. Most of these discomfort resulted from pain as many of these patients experienced pain from dental caries and its sequelae, or third molar eruption problems. This is in keeping with the study of Muirhead et al, (2009), in Canada where an appreciable percentage of respondents, reported discomfort or embarrassment with the condition of the mouth.

CHAPTER SIX

CONCLUSION

The trend in the present study is in keeping with previous works at our study centre that showed pain as the most common reason for presentation, followed by tooth decay and the need to have fillings done. The least frequent reason was bad breath. Awareness and good attitude toward dental care by the predominantly educated respondents, was moderate. Smoking which is a risk factor in many general and oral diseases was only practiced by a very small percentage of respondents. In previous studies, fear of dental treatment, fear of dental equipment and cost of dental consultation and treatment were the hindrances to utilization. However, the present study highlighted lack of perceived need for oral care as reflected in irregular attendance for check up. Retained habit of tooth pick use and less frequent oral hygiene habits were the negative findings observed in our study. Socio economic status had a high impact on type of dental care received, with the lower class attending more for curative care such as tooth extraction and dentures, while more of the middle and high social class attended for preventive care and placement of fillings. The greatest impact of oral diseases were noted on eating and enjoying food (61.7 %,) difficulty with sleeping (42.2%) and work disturbance (44.4%). However, the least impact was on interaction with close associates (11.0%) and speech disturbance (2%).

6.1 **Recommendations**

1. The expensive nature of dental consultation deterred many from visiting regularly for checkups, which provides opportunity for early detection of problems. The coverage of the National Health Insurance Scheme (NHIS) should be expanded to include

unemployed and the low socio economic class. This will likely increase attendance at dental clinics.

2. There is need to increase oral awareness on prevention rather than curative care in low socio economic class through oral health campaigns.
3. Campaigns on hazards of self medication and use of traditional healers should be intensified.
4. There should be establishment of oral health education as part of school curriculum to promote better knowledge.
5. A similar study on children should be done for intervention at early age.

6.2 **Limitations of the study**

1. The study period was short and therefore some dental conditions were poorly represented in the study sample.
2. Follow up study of impact of treatment on quality of life could not be documented.
3. The study centre is not a true reflection of the populace, therefore a similar study that is community based is recommended.
4. There could be recall bias on the question of patients' perception of past oral health care services.

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QUESTIONNAIRE

Dear respondent, this questionnaire is meant to assess the type of problems patients present with at the oral diagnosis clinic of U.C.H, the factors that affect them and the quality of life of these patients. No name is required in this study, Kindly give sincere responses to the questions as this will be treated with confidentiality. Thank you in anticipation of your co-operation.

SECTION A –Socio-Demographic characteristics

1 Serial no ..... 2 Gender - Male/Female 3 Age last birthday (years) .....

4 Tribe - Yoruba/Hausa/Ibo/Others (please specify) .....

5 Marital Status: single/ married/ divorced/ separated/ widowed/ widower

6. Location: urban/ rural..... (Please specify residential address) .....

7. Highest level of education: none/ primary/ secondary/ tertiary/ postgraduate

8. Main occupation: _____

SECTION B -Clinic Attendance

1 Have you been to the dental clinic before? Yes/No

2 If yes, what was the reason for your last visit?

3 What treatment did you receive? - Fillings/cleaning (scale& polish) /extraction/x-rays/denture/others (specify)

4 What problem brought you to the clinic today? Reasons for consultation _____

5 How long have you had the problem? _____

6 what did you do when you first noticed the problem?

(a) Waited for the pain to disappear (b) Took self administered drug (c) Consulted a nearby patent medicine/ traditional healer (d) went to dental clinic (e) prayed about it.

7. Have you been to the dental clinic in the last one year? Yes/ no. If yes, why?_____

If no, why?

(A) Lack of money to pay for dental treatment (B) Self medication

(C) Thought that pain will disappear on its own with time (D) Lack of money to pay for transport to the clinic (E) Treated by traditional healer (F) Dental visits are expensive

(G) I have no dental problem (H) There is no dental clinic near my residence

SOCIO CULTURAL SECTION

8. Have you had previous treatment by a traditional healer before? YES/NO

9. Do you have health insurance cover? YES/NO

ORAL EXAMINATION

10. Oral hygiene status - Good/Poor

11. For dentate patients - DMF record

12. Clinical Diagnosis .....

ATTITUDE SECTION Please respond to the following questions with appropriate option
Strongly agree= SA; Agree= A; Not sure= NS; Disagree= D; strongly disagree= SD

	SA	A	NS	D	SD
13. Dental check up is necessary every six months					
14. Untreated dental pains often disappear after a while					
15. Most dental problems can be handled with self medication					
16. Consultation of traditional healer is often adequate					
17. Consultation of traditional healer is cheaper than dentist					

ORAL HEALTH PRACTICES (Please tick the appropriate option)
Do you use tooth pick? Yes/no; if yes, how frequently?

During meals	After every meal	Every day	Occasionally	Never

Do you chew or snuff tobacco? Yes/no; If yes how often?

Always	After meals	Once every day/night	Occasionally	Never

Do you smoke cigarettes? Yes/ no; If yes how often?

1 packet/ day	1 packet/ week	A few sticks/ day	A few sticks/ week	never

Which of the following do you use for cleaning your teeth /mouth ?

Salt and water	Chewing stick	Tooth brush	Chewing stick & brush	Tongue scraping	Dental floss

How often do you clean your teeth and mouth?

After every meal	Twice a day	Once daily	Occasionally	Never

Do you go for regular check up visits? YES/ NO; If yes, how frequently?

Every 3 months	Every six months	Every year	Occasionally	Never

PATIENT'S PERCEPTION OF ORAL HEALTH CARE SERVICES

Are you satisfied with your last dental visit? Yes/No. If No, which is not satisfactory? (You may select more than one)

(a)Cost of treatment

(b) Long waiting time for registration

(c) Long waiting time for consultation

(d) Duration of the treatment

(e) Conduct of the personnel

(f) Skill of the personnel

(g) Cleanliness of the treatment environment

(h) Adequacy of treatment materials

ASSESSMENT OF ORAL HEALTH RELATED QUALITY OF LIFE

	everyday	Very often	often	seldom	never
How often do you miss work due to dental problems?					
How often do you stay awake at night due to dental problem?					
Do you have missing teeth? Yes/ no If yes, how often does it embarrass you in the public?					

Do you have bad mouth odor? Yes/ No; If yes, how does it affect your personal interaction?				
Causes embarrassment	I feel shy	Causes withdrawal	Limited interaction	No effect

Does your dental problem limit your regular food intake? Yes/No; If yes, which of the following does it affect?

(i) Frequency of your meals. Yes/No

(ii) Quantity of meals. Yes/ No.

(iii) Appetite for meals. Yes/No

1. How important is it for you to speak very well?
   (a) Not at all important (b) just important (c) very important
2. How happy are you with your ability to speak clearly without pain?
   (a) Unhappy (b) barely happy (c) very happy (d) indifferent
3. How satisfied have you been on the whole with your teeth in the last 3months?
   (a) Not satisfied (b) barely satisfied (c) satisfied
4. What effect do you think your teeth or dentures have on your feeling comfortable?
   (a) Good effect (b) bad effect (c) no effect
5. Has problems with your teeth or gums affected your daily activities like work or hobby? Yes/ no
6. If yes, how frequently? (a) all of the time (b) sometimes (c) never
7. In the past 6months, have dental problems caused you any difficulty in eating and enjoying food?
   (a) Yes (b) No
8. How often was the difficulty in the past 6months? (a) quite often (b) often (c) rare
9. Using a scale from 0 to 5, score the difficulty with daily eating and enjoying food.
   (a) 0 (b) 1 (c) 2 (d) 3 (e) 4 (f) 5
10. Does your dental problem affect your choice of food or drink? Yes/ No
11. How often did you limit the kinds or amount of food you eat because of problems with your teeth or dentures? (a) always (b) often (c) rare (d) never
12. Do you avoid any part of your mouth while eating or drinking because of pain? Yes/ No.

INFORMED CONSENT FORM

IRB Research approval number: UI/EC/13/0396

This approval will elapse on: 20/03/2014 - 19/03/2015

Title of the research: Pattern of presentation and quality of life of patients at the oral diagnosis clinic UCH Ibadan.

Name of researcher: Dr W.C. Okolo of the Faculty of Dentistry, University of Ibadan.

Sponsor of research: Self- sponsored.

Purpose of research: The purpose of this study is to find out the factors that affect presentation of patients at the Oral Diagnosis Clinic of UCH, Ibadan and the effect of oral diseases on quality of life.

Procedure of research, what shall be required of each participant and appropriate total number of participants that would be involved in the research:

A questionnaire will be used to collect some information from you. Your mouth will be examined to record the problem you have at the same visit. In total we expect to recruit 300 participants into this study.

Expected duration of research and of participant(s)' involvement: we expect you to be involved in this research only on the first day of presentation. About 30 minutes will be sufficient for this.

Risk(s): There is no risk associated with this, since you will only be asked some questions and your mouth will be looked into. You will not be given any medicine or injection, also samples (eg blood, saliva, urine etc) will not be taken from you.

Costs to the participants, if any, of joining this research: You participation in this research will not cost you anything apart from your time.

Benefit(s): The result of this research will enable better planning for oral health in the community.

Confidentiality: All information collected in this study will be given code numbers and no name will be recorded. This cannot be linked to you in any way; your name and any identifier will not be used in any publication or reports from this study.

Voluntariness: Your participation in this study is entirely voluntary.

Alternatives to participation: If you choose not to participate, this will not affect your treatment in this hospital in any way.

Due inducement(s) : You will not be paid any fees for participating in this research. Tooth paste or tooth brush will be given to you in appreciation of your co operation and time.

Consequences of participants' decision to withdraw from research and procedure for orderly termination of participation: You can choose to withdraw at any time without any negative effect on treatment.

Modality of providing treatment and action(s) to be taken in case of injury or adverse event(s): We don't expect any injury since only your mouth will be examined to know the problems you have but if you suffer any injury as a result of your participation in this research, you will be treated at UCH and the research will bear the cost of the treatment.

What happens to research participants and communities when the research is over: each participant will be advised based on findings in their mouth. Also, the outcome of this research will be made known through publications.

Statement about sharing of benefits among researchers and whether this includes or excludes research participants: This research is self sponsored and there are no benefits for sharing.

Any apparent or potential conflict of interest: No conflict of interest.

Statement of person obtaining informed consent:

I have fully explained this research to ---------- and have given sufficient information, including about risks and benefits, to make an informed decision.

DATE:_____ SIGNATURE:_____

NAME:_____

Statement of person giving consent:

I have read the description of the research or have had it translated to the language I understand. I have also talked it over with the doctor to my satisfaction. I understand that my participation is voluntary. I know enough about the purpose, methods, risks and benefits of the research study to judge that I want to take part in it. I understand that I may freely stop being part of this study at any time. I have received a copy of this consent form

DATE:_____ **SIGNATURE:**_____

NAME:_____

WITNESS' SIGNATURE (if applicable):_____

WITNESS NAME (if applicable):_____

Detailed consent information including contact address, telephone, fax, e-mail and any other contact information of researcher(s), institutional HREC and head of the institution:

This research has been approved by the Ethics Committee of the University of Ibadan and the Chairman of this committee can be contacted at Bode Building, Room 210, 2nd Floor, Institute For Advanced Medical Research and Training, College of Medicine, University of Ibadan, Ext: 2451, E-mail: **uiuchirc@yahoo.com**. In addition, if you have any question about your participation in this research, you can contact the principal investigator:

Name: Dr Okolo WC Department: Oral Pathology.

Phone: 08033254402 E-mail: **werig215@yahoo.com**

IWE IFI ERO OKAN ENI HAN

Nomba Igbase ise iwadi ti (IRB): UI/EC/13/0396

Nomba Igbase yi yio wa so pin ni: 20/03/2014 - 19/03/2015

Akori ise iwadi ijeyo ati pipeye igbe si aye awon alaisan ti o n wa fun itoju enu ni eka itoju sisoro.

Oruko oni ise iwadi: Ise iwadi yi je eyi to Dokita W.C Okolo ti fakooti ti Dentistri, eka (itoju Eyin) ni ile iwosan U.C.H, Ibadan.

Olugbowo ise iwadi: o je eyi ti Dokita W.C Okolo se onigbowo fun rare.

Pataki ise iwadi yi: Lati se iwadi o hun to se okunfa bi awon alaisan se n wa fun itoju enu ni eka itoju ibanisoro ni ite ikose isegun UCH ati ipare lori igbaye gbadun awon Laisan.

Bi a se fe gbe ise iwadi yi jade, ohun ti a fe ki enikookan ninu olukopa se ati gbogbo awon olokopa se ninu ise iwadi yii.

A o lo iwe ibeere kookan fun olukopa: Lati gba oro sile, a o se ayewo enu re a o si ko aisan tabi arun ti o ba wa nibe sile ni igba ti o ba kopa,:

Lapapo ao se ayewo bi olukopa 300

Igba ti a lero pe o le gba o lati kopa, a lero pe o gbodo kopa ni igba akoko ti o ba wa si ile itoju, ko si ni gba o ju ogbon iseju lo (30 min)

Ewu: Ko si ewu Kankan ti o ro mon ise iwadi yii, a o kan beere awon ibeere, lowo re asi tun woe nu re Lasan, a ko ni fun o ni ogun Kankan lo, a ko si ni gba ito, eje, tabi ito re sile rana.

Ohun ti o le naa o lati kopa, ko ni naa o ni nkankan ju asiko re die lo.

Anfaani: aba jade ise iwadi yii yio je ki won le piyamon daradara fun itoju enu ni awujo.

Ohun ipamon: gbogbo alaye ti a ba gba lati enu yin je ohun ipamon nitori gbogbo re ni a o fun ni nomba ti oruko ko si ni je gbigba sile.

Ifinnu findo: Ki ko pa re ninu ise iwadi yii je ifinnufindo.

Ona miran ti o ba fe kopa: ti o ba pinu lati ma ko pa ko ni se akoba fun gbigba itoju re ni ile iwosan yii

Sise Koriya: A ko ni san owo tabi fun o ni ose ifoyin fun kikopa ati fifowo sowopo ninu ise iwadi yii.

Ohun to le sele ti o ba dekun kikopa ninu ise iwadi yii, o le pinu lati jawo ninu kikopa ninu ise iwadi yii ni igba ti o ba wu e laisi wahala.

Bi a se le se itoju re ninu ijamba to ba wa ye ni igba ti o ba n ko pa.

A ko gbero pe o ye ki ijamba Kankan waye ni igba ti o ba n ko pa nitoripe enu re nikan ni a o ye wo sugbon ti ijamba ba waye a o se itoju re ni ile iwosan UCH a o si sanwo gbogbo iwosan naa.

Kin ni yio sele si olukopa ati awujo ni igba to ise iwadi yii ba pari: a o gba olukopa ni imoran lori ohun ti a ba ri ni enu re, abajade ise-iwadi yii yio je mimon si awujo nipa atejade.

Pipin anfaani laarin awon onise iwadi boya yio kana won olukopa: ise iwadi je ifowo ara eni se ko si aye fun pipin anfaani.

Nje ede aiyede Kankan wa: ko si ede aiyede Kankan.

Oro eni ti o n fowo si iwe i fi ero okan eni han.

Won ti se alaye tolo fun mi _____ won si ti fun mi ni alaye kikun ninu ewu, anfaani, ti o le wa lori ise iwadi yii ti o to fun mi lati pinnu lati kopa.

DEETI _____ SIGINASO _____

ORUKO _____

Oro eni ti o n fi ero okan han mo ti ka apejuwe ise iwadi mo ti ka eda re ni ede mi o si yee mi. mo ti ba ba dokita mi soro lori re o sit e milorun lati kopa.

Mo mon pe kikopa mi je ifinufindo, mo won to nipa ona ti ise naa maa gba, ewu, ati anfaani to wa ninu ise iwadi lati mo bi mo ba ma kopa tabi mi ko ni kopa, mo fe ko pa ninu re, mo mon pe mo le jawo ninu kikopa ninu ise iwadi yii ni igba kuugba ti o ba wumi.

Mo ti gba eda iwe ifi ero okan han yii.

DEETI _____ SIGINASO _____

ORUKO _____

SIGINESO EMI TI O SOJU RE _____

SIGINESO ENI TI O SOJU RE_____

Akojopo iwe ifi ero okan eni han, pelu adiresi, telefon, faks, emeeli ati awon bi a se le kan si oni iwadi, instituson HREC ati olori institution:

Ise iwadi yii je eyi ti a ti gba ase lowo etik komiti to unifasiti Ibadan ati alaga koniti yii je eyi ti a le kansi ni ile Biode, yara 210, ajakeji, (IMRAT.) Instituti for advance Medical Reasearch and training, College of medica, University of Ibadan telefon – agbegbe 2451, E-meel: uiuchir@yahoo.com, ni afikun, ti e ba ni ibeere Kankan lori ati kopa ninu ise iwadi yii, e le pe oga oluwadi

ORUKO: Dokita Okolo WC NI EKAN: Ora Pattoloji

TELEFON NOMBA: 08033254402 E-MEEL: werig215@yahoo.com

INSTITUTE FOR ADVANCED MEDICAL RESEARCH AND TRAINING (IAMRAT)
COLLEGE OF MEDICINE, UNIVERSITY OF IBADAN. IBADAN, NIGERIA.

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Tel: **08023038583, 08038094173**

E-mail: **aogunniyi@comui.edu.ng**

UI/UCH EC Registration Number: **NHREC/05/01/2008a**

NOTICE OF FULL APPROVAL AFTER FULL COMMITTEE REVIEW

Re: Pattern of Patient Presentation and Quality of Life of Patients Presenting at the Oral Diagnosis Clinic, UCH, Ibadan

UI/UCH Ethics Committee assigned number: UI/EC/13/0396

Name of Principal Investigator: **Dr. W. C. Okolo**

Address of Principal Investigator: Department of Oral Pathology,
University College Hospital, Ibadan

Date of receipt of valid application: 22/11/2013

Date of meeting when final determination on ethical approval was made: **20/03/2014**

This is to inform you that the research described in the submitted protocol, the consent forms, and other participant information materials have been reviewed and *given full approval by the UI/UCH Ethics Committee.*

This approval dates from 20/03/2014 to 19/03/2015. If there is delay in starting the research, please inform the UI/UCH Ethics Committee so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. *All informed consent forms used in this study must carry the* UI/UCH EC *assigned number and duration of* UI/UCH EC *approval of the study.* It is expected that you submit your annual report as well as an annual request for the project renewal to the UI/UCH EC early in order to obtain renewal of your approval to avoid disruption of your research.

The National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the UI/UCH EC. *No changes are permitted in the research without prior approval by the* UI/UCH EC *except in circumstances outlined in the Code. The* UI/UCH EC *reserves the right to conduct compliance visit to your research site without previous notification.*

UI/UCH EC
20 MAR 2014
APPROVED

Professor A. Ogunniyi
Director, IAMRAT
Chairman, UI/UCH Ethics Committee
E-mail: uiuchirc@yahoo.com