CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Abrasion is defined as the pathological wearing of dental hard tissue through mechanical forces by repeated introduction of foreign bodies into the oral cavity, which are in contact with the teeth (Levitch et al., 1994; Imfeld, 1996). Some other school of thoughts have also defined abrasion as the non-carious, mechanical wears of tooth as a result of their contact with other objects other than tooth-tooth interaction. It most commonly affects the premolars and canines.

Abrasion may simply be described as an abnormal mechanical process that results in the loss of tooth structure (Zahara et al., 2011). This may be attributable to a number of factors such as the aggressive use of a toothbrush, toothpicks, dental floss, ill-fitting dental appliance, holding nails with ones' teeth, nail biting, chewing tobacco, lip or tongue piercing or chewing on pens, all with the capacity to affect the tooth surface in varying degrees (Zahara et al., 2011; Barlett et al., 2013; Faulkner, 1990; Gupta, 1990). Dental devices such as a partial-denture clasp can gradually and eventually abrade hard-tissue of abutment teeth, thus contributing to the aetiology of tooth abrasion (Ahmad et al., 1992).

Some occupational habits cutting of threads with teeth by tailors and shoemakers as well as non-occupational habits like opening of soft drinks with one's teeth, smoking of pipe have contributed to the aetiology of tooth abrasion.

The aetiology of tooth abrasion may be as a result of a single stimulus or, as in most cases, multifactorial. The commonest cause of tooth abrasion is a combination of chemical and mechanical wear. Tooth brushing has been identified as the commonest cause of tooth abrasion,

with the lesion developing along the margin of the gingiva, due to vigorous brushing at this site. The type of toothbrush, the technique used and the force applied when brushing can influence the occurrence and severity of resulting abrasion. Additionally, brushing for extended periods (beyond 2-3 min) in some cases, when combined with medium/hard bristled toothbrushes can result in abrasive lesions.

Medium and hard bristled toothbrushes are more inclined to cause dental abrasion. These bristles in combination with the force applied and technique used in brushing roughen the tooth surface result in tooth abrasion as well as aggravate the gums. Continuous irritation of the gingival margin can bring about gum recession which can expose the more susceptible root surface. In comparison, electric toothbrushes are less likely to induce dental abrasion.

Certain ingredients are utilized in the manufacturing of toothpaste to ensure the removal of bio-film and extrinsic stains, some of these ingredients have abrasive properties. Whitening toothpastes have been identified as one of the major type of abrasive toothpastes based on the Relative Dentine Abrasivity (RDA) scale. Research has also shown that in-home and clinical whitening of the teeth increases an individual's chance of having a dental abrasion. It is believed that tooth abrasion from this process is caused by a combination of both mechanical and chemical irritants. For example, using whitening toothpaste and at home bleaching kit.

Abrasion may also occur when porcelain opposes natural tooth structure. One other factor that can also contribute to the aetiology of dental abrasion is an alteration of pH levels in the saliva. This may be brought on my excessive or frequent consumption of acidic/sugary foods and liquids. It is believed that an increase in the acidity of the saliva can bring about demineralisation and thus expose the tooth structure to other abrasive factors such as tooth brushing or normal wear from mastication. The mineral content of the saliva can create some shallow depressions on

the enamel, which when brushed can cause irreparable damage on the tooth surface. This process can be further accelerated under the influence of dental acid erosion.

Clinically, abrasion usually appears as cervical concavities, often on buccally located teeth and at the cemento-enamel junction (Khan et al., 1999). The appearance may well vary depending on the aetiology of the abrasion. However, it most often presents as a V-shaped lesion with the surface of the tooth shinning rather than carious and at times the ridge is deep enough to reveal the pulp chamber within the index tooth (Zahara et al., 2011). Furthermore, abrasive lesions could also appear on the incisal and occlusal surfaces of teeth if caused by certain para-functional or occupational habits like blowing of wind-instruments, cutting of threads by tailors etc. (Jokstad et al., 2005; Barbour and Rees, 2006; Gupta, 1990; Kovacevic and Belojevic, 2006).

Research has demonstrated that abrasion is the most common causal factor for the development of non-carious lesions (NCCL). When teeth are worn by frictional forces brought on by food contact with the tongue, lips and cheeks during mastication, such a wear is termed ‘’masticatory abrasion’’ (Grippo et al., 2004).

Tooth abrasion is a form of tooth wear and the later has been described as an oral problem which can manifest as erosion, attrition, abrasion and abfraction lesions (Ibsen et al., 2009 & Metha et al., 2012). The difference between tooth abrasion from other oral lesions lies in the causative factors that lead up to both; while other oral lesions have their aetiological basis tracing back to either trauma or bacteria or even both, tooth abrasion neither has a traumatic nor bacterial aetiology (Metha et al., 2012 & Ganss et al., 2011). The frequently proposed etiological factors for tooth abrasion remain ingestion of acidic drinks and foods, bruxism, biting of nails, wrong tooth brushing technique, abrasive dentifrice and the use of toothbrush with hard bristle (Barlett D. W, 2005; Zahara et al., 2011; Xhonga FA, 1977 & Andy M, 2013).

There are a number of challenges that surfaces when managing tooth abrasion, thus complicating the treatment planning decision in such complex cases. These challenges are (Mehta et al., 2012c): i) identifying the underlying aetiology of the tooth abrasion and deriving an accurate diagnosis; ii) uncertainties in knowing the precise stage at which active restorative intervention is needed; iii) lack of understanding of how to restore severely worn dentitions with the aim of attaining a functionally and aesthetically stable restored dentition; iv) a lack of knowledge relating to the availability of contemporary materials and their respective techniques of application.

However, even with the present uncertainties in tooth abrasion restorative treatment, there seems to be a consensus on the main principles for managing tooth abrasion cases (Dietschi and Argente, 2011, Kelleher et al., 2012, Metha et al., 2012c). These principles emphasizes a comprehensive treatment approach that focuses on early intervention through: 1. Comprehensive history taking and identification of present risk factors, resulting in an appropriate differential diagnosis through extensive aetiological clinical/ special investigations, which may include: dietary analysis, intra-oral photographs, study models, sensibility testing, radiographs, referral to other healthcare professionals (Medical practitioner, Clinical psychologist, Nutritionist, etc.), assessment of OVD and RFH, phonetic evaluation and salivary analysis. 2. Understanding and acknowledgement of patient's wishes, expectations and treatment needs and discussion of various restorative treatment options available. 3. Knowledge of current choices of materials and treatment modalities present for managing tooth wear, from conventional full-mouth rehabilitation approaches to minimally invasive adhesive dentistry alternatives. 4. Appropriate treatment planning and execution, which may include: analysis of study models, diagnostic wax-ups, investigating changes to present Overall Vertical Dimension and smile-line. 5. Maintenance

of resultant restorative intervention through raising patient awareness, protective night guard/splint, application of fissure sealants/ adhesive bond on teeth, regular reviews, repair/replacement of defective restorations and/or addition of new ones.

Historically, restorative management of tooth wear involved highly invasive fullmouth rehabilitation approaches comprising of crown-lengthening, multiple crowns, bridges to restore aesthetics, function and form to patients' affected dentition (Lerner, 2008, Malkoc et al., 2009, Song et al., 2010). Conventional management might also involve the delivery of an interim fixed and/or removable prosthesis as a means of assessing altered OVD (Doan and Goldstein, 2007). All-Ceramic crowns, that require extensive removal of sound tooth structure, have also been employed to restore up to 28 teeth (Cortellini and Parvizi, 2003). Others have opted for extremely complex treatment approaches involving crown lengthening surgery, alveolar-bone remodelling, elective endodontic therapy with custom post cores, mini-implants for orthodontic anchorage, in-combination with metalceramic crowns and removable partial dentures to manage severe tooth wear (Moslehifard et al., 2012).

While the conventional approach might be the only restorative management alternative available, especially in severe tooth wear cases, however, a management trend is emerging that utilises less destructive modalities that are minimally invasive and maintain remaining sound tooth tissue and pulp vitality through the employment of adhesive restorative materials (Meyers, 2008a). This restorative management trend is based on biologically sensible aims, which are: the preservation of remaining tooth tissue, a pragmatic improvement in aesthetics and the restoration of patient confidence (Kelleher et al., 2012). The management approach might involve the use of composite restorations (Robinson et al., 2008, Schmidlin et al., 2009, Attin et al., 2012), and composite and gold veneers (Gresnigt et al., 2011, Eliyas and Martin, 2013). Posterior teeth can

either be accepted and monitored, or restored using indirect adhesive onlays (metal or composite) (Mehta et al., 2012a, Mehta et al., 2012b) Dietschi and Argente have also proposed specific treatment strategies for each anterior and posterior teeth based on individual tooth status, and supported the use of composites for build-ups and onlays (Dietschi and Argente, 2011), in agreement with other indices such as Vailati and Christoph Belser, 2010. The paper also proposed a 'biomechanical rule' based on the authors' clinical experience. The rule stated that a strict minimum of 1 mm of material is needed on the restored incisal edge of worn teeth to avoid mechanical failure and the need for frequent repairs. There is limited evidence on long-term survival rates of composite restorations in managing tooth wear cases, however, Hemmings et al. reported a success rate of 89.4% at thirty months in restoring anterior worn teeth (Hemmings et al., 2000). Redman et al., reported a median survival rate of 4 years and 9 months when all failures were considered (Redman et al., 2003), while Poyser et al. demonstrated that only 6% of composite restorations placed on mandibular anterior teeth at an increased OVD ranging between 0.5 – 5mm experienced complete failure over a 2.5 year follow-up (Poyser et al., 2007). On the other hand, Bartlett and Sundaram investigated the use of direct and indirect composite restorations in posterior teeth experiencing severe tooth wear (Bartlett and Sundaram, 2006). The study involved the placement of 32 paired direct or indirect composite restorations in premolars and molars of 16 tooth wear patients and compared them to 28 pairs placed in control patients. Over a 3-year follow-up period, 22% of restorations placed in tooth wear patients fractured and 28% were completely lost compared to an 80% survival rate in controls. The authors concluded that the use of direct and indirect composite to restore worn posterior teeth is contraindicated. Other clinicians have opted for a mixed approach combining conventional fullcoverage crowns on maxillary anterior teeth, composite build-ups and veneers on mandibular anteriors, with

adhesive ceramic and gold onlays on posterior teeth (Mizrahi, 2008). One of the greatest challenges when treatment planning tooth wear cases is the dynamic craniofacial changes in wear patients leading to loss of the Overall Vertical Dimension (OVD), with changes to Resting Face Height (RFH), and resultant dentoalveolar compensation (Berry and Poole, 1976, Zengingul et al., 2007). In cases where a considerable change to the OVD has occurred, clinicians are faced with the choice of conforming to the present OVD or altering it and aiming for a reorganised occlusal approach. The main reasons for altering the OVD are (Lerner, 2008): to gain space for the restoration of worn teeth; to improve aesthetics; or to correct the occlusal relationship. The rationale of increasing OVD to manage severe tooth wear was described and popularised by Dahl through the use of a removable cobalt-chrome anterior bite platform, retained by clasps on the canines and premolars, to raise the occlusal bite plane by 2-3 mm and allow non-contacting teeth to move passively into occlusion (Dahl and Krogstad, 1982).

This passive movement occurs through selective supra-eruption of non-contacting teeth concomitant with alveolar growth and intrusion of contacting teeth (Briggs et al., 1997). The altered OVD, with the newly established occlusal plane, is stabilised in 94-100% of patients over a period of 4-9 months (Poyser et al., 2005). The use of a removable appliance retained by clasps complicated patient compliance, hence, the preference of clinicians to use fixed restorations to alter the OVD, whether through the use of conventional crowns and bridges or adhesive, minimally invasive composites, veneers and onlays/inlays.

1.2 STATEMENT OF PROBLEM

Tooth abrasion is a global pandemic and remains a huge burden in developing countries where the resources to manage such condition are scarce and unaffordable by majority of their population. It is one of the avoidable causes of tooth morbidity and mortality in the world. Despite this, majority of individuals with tooth abrasion are ignorant of the preventive measures and possible causes.

The present challenge with the available studies on tooth abrasion is majorly cantered on the management approach including diagnosis and management. The absence of a definitive criteria for pathological and physiological tooth abrasion may obscure differential diagnosis of the condition (Young et al., 2008). The avalanche of non-standardized tooth abrasion indices with the utilization of varying nomenclature poses as a challenge to other researchers who may be willing to draw up some interpretation and make some comparison (Bardsley, 2008). A research carried out by Lambrechts et al. had earlier shown that the varied results of tooth abrasion studies may be attributable to an incorrect reproduction of technique such as impression taking and pouring, repositioning problems and restrictions of the measuring devices (Lambrechts et al., 1984).

In summary, the tool to estimate the progress of tooth abrasion as well as a standardize management approach is still lacking. Literatures that speak to the rehabilitative measures that can be employed in the overall management of patients with tooth abrasion are rather scarce. There is therefore a clear need for a well standardized and objective approach to the holistic

management of patients with dental abrasion to ensure their dental wellbeing. This approach needs to accessible and easy to apply by others, the progress of tooth abrasion results by researchers should be comparable. And it should have the capacity to enhance doctor-patient interaction on the subject matter as well as improve understanding and awareness of the condition.

1.3 JUSTIFICATION

The pattern of health and disease varies from country to country and this is more so in developing countries. This change has been attributed by some researchers to social, economic and technological advancement as well as supporting the fact that the world is in epidemiological transition. The diet of most individuals are changing and this is even more prominent in developing countries; the so called westernization of diet. One of the effect of this epidemiological transition and dietary metamorphosis is tooth abrasion, translating to an increased incidence and prevalence of the condition.

Interestingly, the knowledge and perception of individuals about the condition is suboptimal. It is therefore paramount to explore the perception and knowledge deficits and proofer possible solution.

Tooth abrasion and its varied types is gradually increasing, despite the fact that tooth mortality and morbidity from non-bacterial causes are to a great extent avoidable. Preventive strategies for tooth abrasion need to be at front of global health affairs.

A few studies reported that the prevalence of tooth abrasion is on the increase and this has been attributed to increase in population's age (Harpenau et al., 2003; Pettengill CA, 2011 & Amaechi et al., 2003). Many have attributed the increasing prevalence of tooth abrasion to the persistent

exposure of individuals to possible aetiological factors and this may be accounted for by the poor level of knowledge on the subject matter amongst the general population. This impacts negatively on the general oral health status in the country as well as contributes to the global burden by adding extra cost to the preventive strategy and management approach.

A research conducted by some researchers has shown that inadequate knowledge and poor perception can negatively influence the quality of life of people which consequently can result in oral diseases including tooth abrasion, thus, the need for this study (Lee & Eakle, 1984; Bartlett DW, 1977 & Bartlett et al., 1999). In addition, attitude and practice towards tooth wear are correlated to inflict awareness to prevent tooth wear diseases from becoming worse and thus reducing its prevalence (Pettengill CA, 20111; Lee & Eakle, 1984; Lussi, 2006). Therefore, knowledge and perception of the community is important to reduce the occurrence of this lesion

This study will help to increase the existing body of knowledge on the aetiological factors or contributors to tooth wear with emphasis on tooth abrasion.

It will also help improve public awareness of the subject matter thus improving relevant health awareness and educational programmes. This would also boost lifestyle modification which may be required in this environment and this study will culminate in recommendations on how this may be feasible. Findings from this study would enable the determination of an epidemiological baseline related to the patients' perceptions and attitudes regarding tooth abrasion.

Research has also shown that the knowledge of the risks and effects of tooth abrasion is poor in most developing countries, thus, the findings from this study will help increase the awareness of these risks and effects to help reduce the overall burden of tooth morbidity and mortality from tooth abrasion in the state and by extension the world.

The findings from this study will help enlighten doctors especially dentist on how best to advice and manage patients with tooth abrasion.

The findings from this study will aid oral health professionals in conducting effective evidence-based counselling methods for patients with tooth abrasion and preventive measures for those at risk.

1.4 RESEARCH QUESTIONS

1. What are the attitude of adult Nigerians towards tooth abrasion?

2. What is the knowledge level of Tooth Abrasion among adult Nigerians?

3. How aware and knowledgeable are adult Nigerians about tooth abrasion?

4. What is the prevalence of tooth abrasion among adult Nigerians?

1.5 AIMS AND OBJECTIVES

General objective

To assess the perception of tooth abrasion among adult Nigerians.

Specific objectives

1. To assess the attitude of adult Nigerians towards tooth abrasion
2. To ascertain the knowledge of tooth abrasion among adult Nigerians
3. To assess awareness and knowledge of tooth abrasion among adult Nigerians
4. To assess the prevalence of tooth abrasion among adult Nigerians

1.6 HYPOTHESIS TESTING

1. Tooth abrasion would be a common finding among adult Nigerians
2. Awareness of tooth abrasion among Nigerian adults will be low

CHAPTER TWO

LITERATURE REVIEW

2.1 EPIDEMIOLOGY OF TOOTH ABRASION.

2.1.1 PREVALENCE IN NIGERIA AND WORLDWIDE

Tooth abrasion is a common phenomenon in the general population of countries around the world (Schlueter and Luka, 2018). However, as a result of the variations in indices, sample sizes and general study designs, it is very hard to compare these various studies and to estimate the actual worldwide prevalence (Schlueter and Luka, 2018).

In a prospective study of patients with wear in Benin City, Nigeria to determine the prevalence of tooth wear it was found that the prevalence of tooth wear was 11.8% affecting more middle aged males (Ojehanon et al., 2010).

(Wetselaar et al., 2016). In a prospective study to access prevalence of tooth abrasion in adults found that low economic status participants showed higher tooth wear scores than high socio economic status participants, especially above the age of 55 for all types of teeth, except premolars and that mild and moderate tooth wear turned out to be common conditions, with prevalence of 13 and 80%, respectively, while severe tooth wear (with a prevalence of 6%) was rare.

2.1.2 AGE DISTRIBUTION.

A study amongst Dutch population using questionnaire with the aim of assessing the prevalence of tooth wear in the adults as a function of various factors showed more tooth wear in older age groups than in younger age groups for all types of teeth (Wetselaar et al., 2016).

(Bergström and Eliasson , 1988) found a high occurrence rate of cervical abrasion of 85% in subjects aged 21 to 60 years old

A recent systematic review from Kreulen et al. on tooth wear in adults showed that prevalence of severe tooth wear increases with age

2.1.3 GENDER DISTRIBUTION

In a prospective study amongst Dutch population using questionnaire with the aim of assessing the prevalence of tooth wear in the adults, men showed more tooth wear than women (Wetselaar et al., 2016).

2.1.4 TOOTH DISTRIBUTION

In a study to compare the associated risk factors between adults with tooth abrasion with a sample size of 50 participants with tooth wear using a questionnaire prepared to assess oral healthcare and consumption of erosive food and drinks it was found that some wear was seen on

buccal/labial surfaces of teeth, although the cervical surfaces of mandibular premolars and incisal surfaces of anterior teeth were the most affected(Atalay and Ozgunaltay,2018).Also of the factors investigated, tooth abrasion in the case group was correlated with consumption of acidic foods, lower salivary flow rate, and pH (Atalay and Ozgunaltay,2018)

(Brady and Woody, 1977) found 50/0 of 900 dentists showing cervical lesions, with premolars exhibiting the most frequency.

2.2 AETIOLOGY OF ABRASION

For a long time practitioners have believed that over excessive force and vigor while brushing and the use of abrasive toothpastes were the primary cause of tooth abrasion but (Lee and Eakle, 2013) postulated that tensile stresses created in the tooth during occlusal loading may also have a role in the aetiology of cervical abrasion.

(Wirdatul et al., 2010) did a study of tooth wear patterns and their associated aetiologies in adults in Kelantan, Malaysia and found that out of 29 (35.8%) adults with abrasion ,100% of them eat freshwater clams or 'etak' with 22 (75.9%) eating it at least once in a day, 4 (13.8%) taking it at least once in a month, and 3 (10.3%) eat it occasionally.

In Nigeria (Africa), where diet is more fibrous it was claimed to be the cause of tooth wear unlike in Europe where the food is more refined (Wirdatul et al., 2010). Occlusal wear has also

been reported and attributed to significant high bite force coming from habit such as crushing or biting bones (Wirdatul et al., 2010).

Occupational abrasion has also been reported as in coal workers in Tanzania, iron ore miners in Sweden and granite workers in Denmark with air borne particles thought to be the major culprit (Milosevic, 2017).

(Brady and Woody, 1977) concluded that horizontal brushing technique versus vertical roll and frequency (more than twice per day) had a strong correlation to abrasion, while brush stiffness and dentifrice abrasivity were weak. Hand et a178 found 560/0 of an elderly population exhibited cervical abrasions, 300/0 of which was described as greater than I mm deep. Premolars were more frequently affected, and data analysis implicated vigorous toothbrushing as the major etiologic factor. No significant differences were found with regard to toothbrush technique, nor dentifrices with different abrasivity. Furthermore, there was no significant difference between subjects using soft, medium, or hard bristles to the presence of cervical abrasions

2.3 CONSEQUENCES OF ABRASION

A study to identify the effects of tooth wear on patients' quality of life and satisfaction with their dentition using a Dental Impact on Daily Living questionnaire on 76 tooth wear patients and 76 control subjects was used to assess the affect of tooth wear on daily living and satisfaction with the dentition. An ordinal scale was used to assess the severity of tooth wear in a patient cohort.

The results showed that tooth wear has a measurable impact on patients' satisfaction with their appearance, pain levels, oral comfort, general performance, and chewing and eating capacity. Tooth wear was shown to have an impact on patients' satisfaction with their dentition regardless of tooth wear severity or personal factors (Al-Omiri et al., 2006).

2.4 SEVERITY OF ABRASION

(Xhonga and Valdmanis,1983) divided tooth abrasion into 4 levels by using periodontal probe: None, minor (less than 2 mm), moderate (up to 3 mm), and severe (greater than 3 mm). They further differentiated types of abrasion by morphologic descriptions such as wedge, groove, saucer, and atypical. However, they did not address the problem of inter- or intra-examiner variability

A morphology-based classification proposed by Micheal et al., classifies the abrasion cavities into five different categories: 'shallow', 'concave', 'wedge-shaped', 'notched', and 'irregular'. However, it does not clarify on the location and severity of the lesion.

2.5 INDICES FOR ACESSING ABRASION

(Eccles, 1979) presented a comprehensive qualitative index, grading both severity and site of erosion due to non-industrial causes, and is considered as one of the cardinal indices from which others have evolved. In essence, it breaks down into three classes of erosion, denoting the type of lesion, assigned to four surfaces, representing the surface where erosion was detected,

Eccles index for dental erosion of non-industrial origin (21).

(Eccles, 1979)

Restarski et alm., (1989) developed a six-point grading system to evaluate the severity of abrasion observed on the lingual surfaces of rat and puppy molars, but concerns were raised with regards to reproducibility.

A study using RDA scores showed that while the scores have a statistically significant correlation to the presence of abrasion, it is not the only contributing factor. (Walsh and Darby , 2014)

RDA SCORE	LEVEL
0-70	Low abrasive: safe for cementum, dentin and enamel
70-100	Medium abrasive: safe for enamel, dangerous for cementum and dentin
100-150	High abrasive: dangerous for cementum, dentin and enamel
150-250	Very high abrasive: harmful limit, damaging for teeth
250 and above	Not recommended

(Walsh and Darby, 2014)

2.6 AWARENESS OF TOOTH ABRASION AMONG ADULT NIGERIANS

Paucity of studies exist as to the awareness level of tooth abrasion in the Nigerian population. Few cross sectional studies carried out in the country have tended towards determining prevalence and associated factors of tooth abrasion. This study will show the awareness level of tooth abrasion in the given population.

2.7 PERCEPTION OF TOOTH ABRASION

A cross-sectional survey conducted from February 2014 to August 2015 after 261 samples were collected among randomly selected adult patients that visited the Dental clinic at Bahria University Medical and Dental College, Pakistan using single proportion formula to determine sample size and purposive sampling technique to gauge the perception of tooth abrasion among adult population. The results showed that majority of the subjects employed tooth brush as their means of cleaning their teeth and majority used the horizontal brushing technique without knowledge of it's effects on tooth abrasion (Hakeem et al.,2017).

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study area

The study was conducted in the university of Benin, Benin-city Edo state Nigeria. The University of Benin is a federal institution and the major tertiary institution in south-south Nigeria and has students from all regions in Nigeria and all ethnic groups and religions in Nigeria.

3.2 Study design

The study is a cross sectional prospective study.

3.3 Study duration

The study involved students across the humanities faculties with less chance of having had formal education about the topic which could affect their perception, along with patients seen during dental outreaches in the University of Benin between August and November 2019.

3.4 Study population

The study population was adult Nigerians between the ages of 18 to 75 years across the humanities in the University of Benin.

3.5 Selection criteria

3.5.1 Inclusion criteria

1. Students of the university of Benin.
2. Students within the target age group
3. Students of the Humanities departments.

3.5.2 Exclusion criteria

1. Students not in the humanities departments
2. Students not within the target age group
3. Students who met the inclusion criteria but were too ill or declined to participate in the study.

3.6 Method and tool of data collection.

Biodata and information on perception was obtained using fixed-alternative questionnaire tool of data collection. Biodata including age, gender, and course of study, past dental history and information on knowledge and perception of cervical abrasion was obtained from the questionnaires. Names of patients were excluded from the data collection.

The questionnaires were divided into five sets with each set having forty questionnaires. The sets were named from groups A-D. Each group had a corresponding clinical photograph of patients with cervical abrasion on different sets of teeth peculiar to the group. Group A had abrasion on the upper left central incisor only, group B on both upper central incisors, group C from upper lateral to lateral incisor, group D from canine to canine and group E had no cervical abrasion and served as the control.

3.7 Data analysis

Collected data was coded into variables and entered into IBM SPSS version 24. The entered data was cleaned and univariate analysis done for relevant variables that assessed the study objective.

3.8Ethical consideration

Ethical approval was sought from the ethical clearance committee of the university of Benin to carry out the research in the university of Benin. There was no major ethical issue to the research.

CHAPTER FOUR

RESULTS

TABLE 1 SOCIODEMOGRAPHIC VARIABLES OF RESPONDENT

VARIABLE					
AGE	A	B	C	D	E
	N(%)	N(%)	N(%)	N(%)	N(%)
<20	21(52.5)	18(45.0)	18(45.0)	0(0.0)	13(32.5)
21-25	18(45.0)	19(47.5)	19(47.5)	40(100.0)	20(50.0)
26-30	1(2.5)	3(7.5)	3(7.5)	0(0.0)	7(17.5)
TOTAL	40(100.0)	40(100.0)	40(100.0)	40(100.0)	40(100.0)
Means	20.93±2.12	21.60±2.41	21.45±2.77	22.70±1.62	22.10±3.34
GENDER					
MALE	19(47.5)	23(57.5)	21(52.5)	23(57.5)	20(50)
FEMALE	21(52.5)	17(42.5)	19(47.5)	17(42.5)	20(50)
TOTAL	40(100.0)	40(100.0)	40(100.0)	40(100.0)	40(100.0)
FACULTY					
AGRICULTURE	3(7.5)	2(5.0)	2(5.0)	1(2.5)	4(10.0)
ARTS	17(42.5)	18(45.0)	18(45.0)	13(37.5)	8(20.0)
EDUCATION	1(2.5)	2(5.0)	11(27.5)	7(17.5)	4(10.0)
ENGINEERING	4(10.0)	2(5.0)	1(2.5)	2(5.0)	7(17.5)
LAW	5(12.5)	3(7.5)	4(10.0)	5(12.5)	5(12.5)
LIFE SCIENCE	0(0.0)	2(5.0)	0(0.0)	1(2.5)	5(12.5)
MGT SCIENCE	5(12.5)	0(0.0)	4(10.0)	8(20.0)	2(5.0)

PHARMACY	1(2.5)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
PHYSICAL SCIENCE	0(0.0)	1(2.5)	0(0.0)	0(0.0)	2(5.0)
SOCIAL SCIENCE	4(10.0)	10(25)	0(0.0)	3(7.5)	3(7.5)
TOTAL	40(100.0)	40(100.0)	40(100.)	40(100)	40(100)
LEVEL					
100L	5(12.5)	9(22.5)	11(27.5)	2(5.0)	12(30.0)
200L	12(30.0)	12(30.0)	12(30.0)	10(25.0)	12(30.0)
300L	11(27.5)	10(25.0)	5(12.5)	9(22.5)	9(22.5)
400L	11(27.5)	8(20.0)	9(22.5)	16(40.0)	6(15.0)
500L	1(2.5)	1(2.5)	3(7.5)	3(7.5)	1(2.5)
TOTAL	40(100)	40(100.0)	40(100)	40(100.0)	40(100)

Twenty one (52.5%) of respondents in group A where less than 20, 19(47.5%) of respondents in group B where between 21-25 years of age, 19(47.5%) of respondents in group C where between 21-25 years of age, 40(100.0%) of respondents in group D where between 21-25 years of age and 20(50%) of respondents in group E where between 21-25 years of age.

21 (52.5%) of respondents in group A were females, 23(57.5%) of respondents in group B were males, 21(52.5%) of respondents in group C were males, 23(57.5%) of respondents in group D were males, 20(50.0%) of respondents in group E were males.

17(42.5%) of respondents in group A were in the arts, 18(45.0%) of respondents in group B were in arts, 18(45.0%) of respondents in group C were in arts, 13(37.5%) in group D were in arts and 8(20.0%) in group E were in arts.

12(30.0%) of respondents in group A where in 200 level, 12(30.0%) of respondents in group B where in 200 level, 12(30.0%) of respondents in group C where in 200 level, 16(40.0%) of

respondents in group D where in 400 level and 12(30.0%) of respondents in group B where in 200 level.

TABLE 1 CONTD SOCIODEMOGRAPHIC VARIABLES OF RESPONDENT

NUMBER OF CONTACTS IN A WEEK	A N(%)	B N(%)	C N(%)	D N(%)	E N(%)
0-25	16(40)	13(32.5)	12(30.0)	13(32.5)	12(30.0)
26-50	13(32.5)	13(32.5)	13(32.5)	13(32.5)	12(30.0)
51-75	8(20)	6(15.0)	9(22.5)	6(15.0)	6(15.0)
76-100	2(5)	5(12.5)	5(12.5)	7(17.5)	3(7.5)
>100	1(2.5)	4(10.0)	1(2.5)	1(2.5)	7(17.5)
TOTAL	40(100.0)	40(100.0)	40(100.0)	40(100.0)	40(100.0)

Sixteen (40.0%) of respondents in group A contact 0-25 persons in a week**,** 13(32.5%) respondents in group B contact 26-50 persons in a week, 13(32.5%) of respondents in group C contact 26-50 people in a week, 13(32.5%) of respondents in group D contact 0-25 persons in a week, 12(30.0%) of respondents in group E contact 0-25 persons in a week.

FIGURES SHOWING KNOWLEDGE OF CONDITION IN THE PICTURE

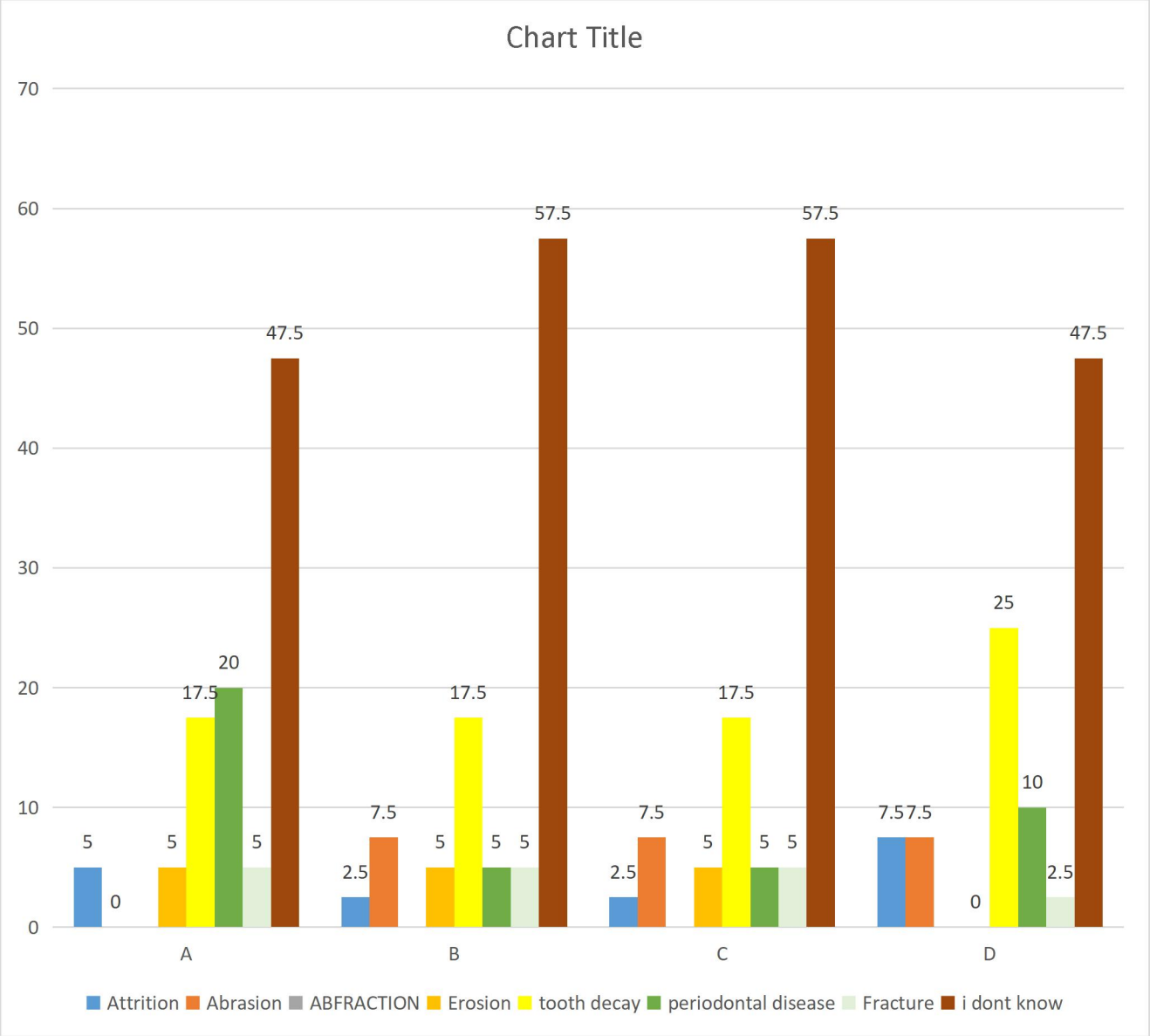

FIGURE 1 WHAT IS THE ORAL CONDITION IN THE PICTURE CALLED

Two persons (5%) in group A identified the condition as attrition, 2(5%)as erosion, 7(17.5%) as tooth decay, 8(20%) as periodontal disease, 2(5%) as fracture and 19(47.5%) not able to identify the condition.

One person (2.5%) in group B identified the condition as attrition, 3(7.5%) as abrasion, 2(5%)as erosion, 7(17.5%) as tooth decay, 2(5%) as periodontal disease, 2(5%) as fracture and 23(57.5%) not able to identify the condition.

One person (2.5%) in group C identified the condition as attrition, 3(7.5%) as abrasion, 2(5%)as erosion, 7(17.5%) as tooth decay, 2(5%) as periodontal disease, 2(5%) as fracture and 23(57.5%) not able to identify the condition.

Three persons (7.5%) in group D identified the condition as attrition, 3(7.5%) as abrasion, 10(25%) as tooth decay, 4(10%) as periodontal disease, 1(2.5%) as fracture and 19(47.5%) not able to identify the condition.

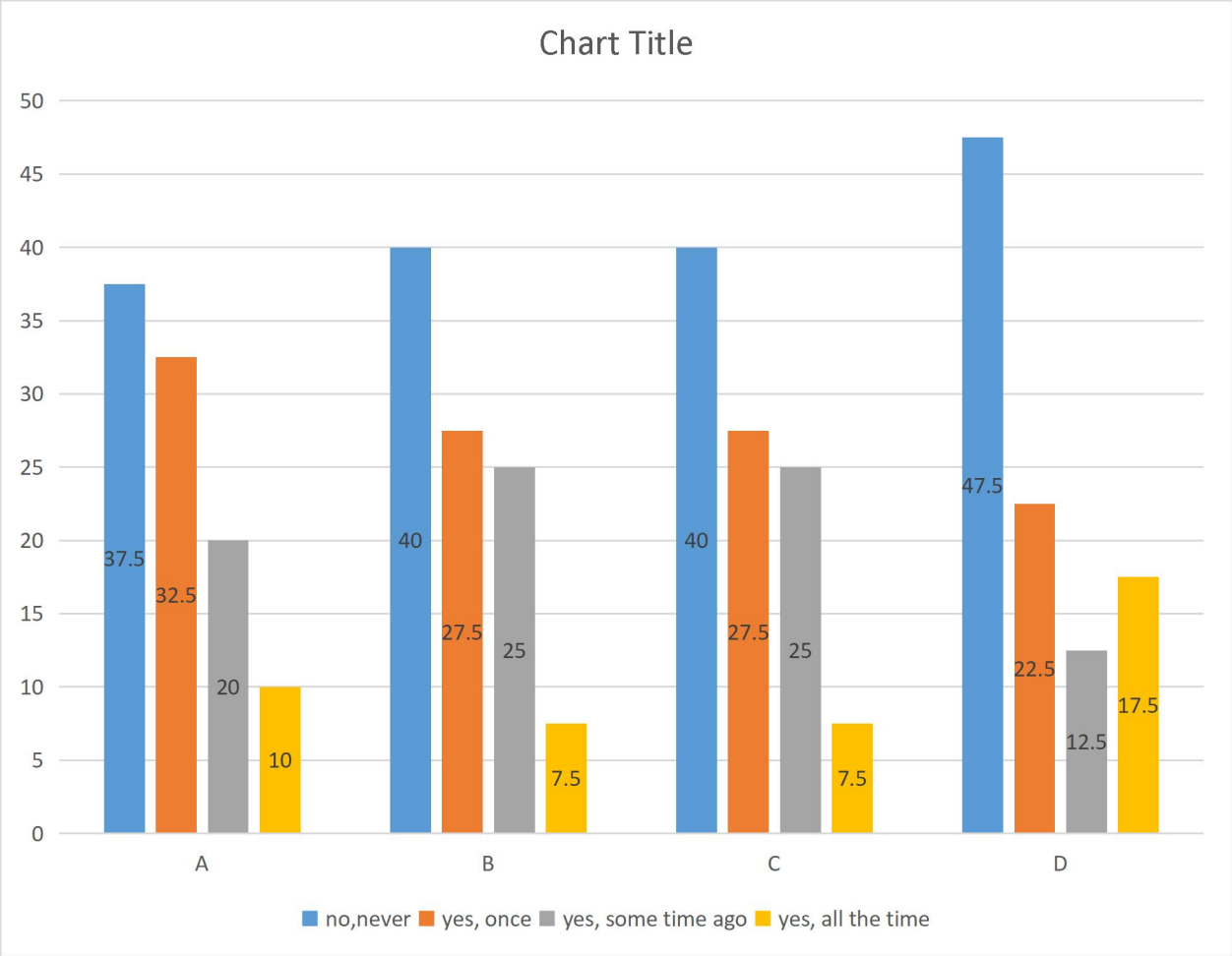

FIGURE 2 HAVE YOU EVER SEEN ANYBODY WITH THIS TYPE OF CONDITION

15(37.5%) of persons in group A had never seen people with this condition, 13(32.5%) had seen them only once, 8(20%) had seen them some time ago and 4(10%) see them all the time. 16(40%) of respondents in group B had never seen people with this condition, 11(27.5%) had seen them only once, 10(25%) had seen them some time ago and 3(7.5%) see them all the time.

16(40%) of respondents in group C had never seen people with this condition, 11(27.5%) had seen them only once, 10(25%) had seen them some time ago and 3(7.5%) see them all the time.

19(47.5%) of respondents in group D had never seen people with this condition, 9(22.5%) had seen them only once, 5(12.5%) had seen them some time ago and 7(17.5%) see them all the time.

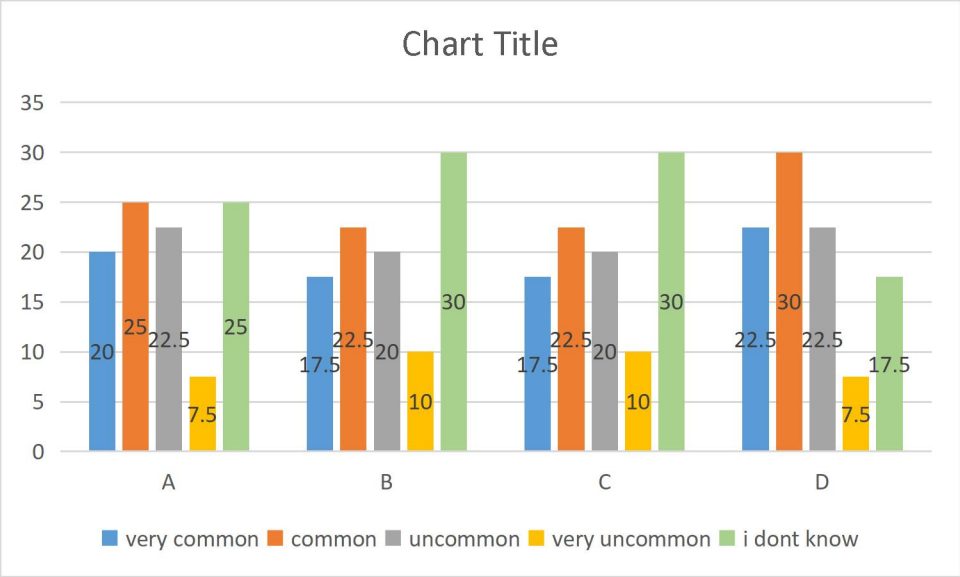

FIGURE 3 HOW COMMON DO YOU THINK THIS VERY CONDITION IS

8(20%) of respondents in group A think that the condition is very common, 10(25%) think that it is common, 9(22.5%) think it is uncommon, 3(7.5%) think it is very uncommon, 10(25%) do not know

7(17.5%) of respondents in group B think that the condition is very common, 9(22.5%) think that it is common, 8(20%) think it is uncommon, 4(10%) think it is very uncommon, 12(30%) do not know

7(17.5%) of respondents in group C think that the condition is very common, 9(22.5%) think that it is common, 8(20%) think it is uncommon, 4(10%) think it is very uncommon, 12(30%) do not know

9(22.5%) of respondents in group B think that the condition is very common, 12(30%) think that it is common, 9(22.5%) think it is uncommon, 3(7.5%) think it is very uncommon, 7(17.5%) do not know

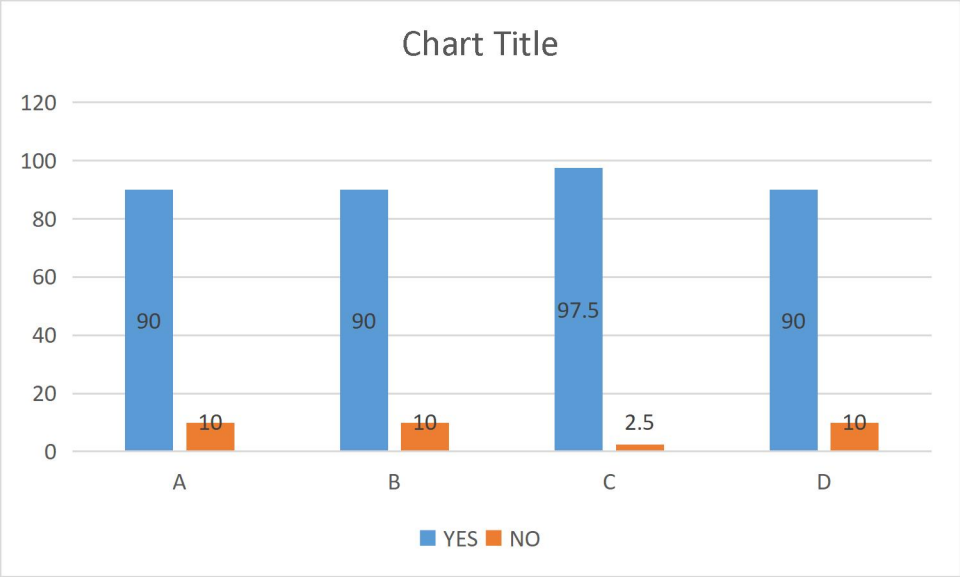

FIGURE 4 DO YOU THINK PEOPLE WITH THIS CONDITION LIVE IN NIGERIA

36(90%) of persons in group A believed that people with the condition live in Nigeria,

36(90%) of persons in group B believed that people with the condition live in Nigeria

39(97.5%) of persons in group C believed that people with the condition live in Nigeria

36(90%) of persons in group D believed that people with the condition live in Nigeria.

TABLE 2 KNOWLEDGE OF CONDITION IN THE PICTURE

VARIABLE				
How old in years do you think people with this condition will be	A N(%)	B N(%)	C N(%)	D N(%)
0-10	0(0.0)	0(0.0)	0(0.0)	3(7.5)
11-20	1(2.5)	5(12.5)	7(17.5)	6(15.0)
21-30	1(2.5)	9(22.5)	4(10.0)	9(22.5)
31-40	5(12.5)	7(17.5)	8(20)	6(15.0)
41-50	4(10.0)	2(5.0)	3(7.5)	3(7.5)
51-60	5(12.5)	6(15.0)	7(17.5)	6(15.0)
61-70	11(27.5)	11(27.5)	11(27.5)	7(17.5)
TOTAL	40(100.0)	40(100.0)	40(100.0)	40(100.0)
What sex do you think that this condition in this picture affects more	A N(%)	B N(%)	C N(%)	D N(%)
MALE	25(62.5)	31(77.5)	28(70.0)	20(50.0)
FEMALE	15(37.5)	9(22.5)	12(30.0)	20(50.0)
TOTAL	40(100.0)	40(100.0)	40(100.0)	40(100.0)

What level of education do you think most people with the condition would attain	A N(%)	B N(%)	C N(%)	D N(%)
no formal education	17(42.5)	15(37.5)	17(42.5)	17(42.5)
primary	9(22.5)	7(17.5)	5(12.5)	4(10.0)
secondary	4(10.0)	5(12.5)	5(12.5)	4(10.0)
Tertiary	10(25.0)	13(32.5)	13(32.5)	15(37.5)
TOTAL	40(100.0)	40(100.0)	40(100.0)	40(100.0)

What socio economic status do you think most people with the condition will be	A N(%)	B N(%)	C N(%)	D N(%)
Low	24(60.0)	24(60.0)	22(55)	3(7.5)
Middle	16(40.0)	13(32.5)	13(32.5)	10(25.0)
High	0(0.0)	3(7.5)	5(12.5)	0(0.0)
TOTAL	40(100.0)	40(100.0)	40(100.0)	40(100.0)

11(27.5%) of respondents in group A, 11(27.5%) of respondents in group B and 11(27.5%) of respondents in group C believed that the condition was most commonly affected than other age groups. 9(22.5%) of respondents in group D believed that those age 21-30 were most commonly affected of all age groups.

25(62.5%) of respondents in group A, 31(77.5%) of respondents in group B, 28(70.0%) of respondents in group C and 20(50.0%) of respondents in group D believed that males were more commonly affected with this condition.

17(42.5%) of respondents in group A believed that the condition was more common among people with no formal education, 15(37.5%) of respondents in group B believed that the condition was more common among people with no formal education, 17(42.5%) of respondents in group C believed that the condition was more common among people with no formal education and 17(42.5%) of respondents in group D believed that the condition was more common among people with no formal education.

24(60.0%) of respondents in group A believed that the condition was common among people with low income status, 24(60.0%) of respondents in group B believed that the condition was common among people with low income status, 22(55.0%) of respondents in group C believed that the condition was common among people with low income status, Ten(25.0%) of respondents in group D believed that the condition was common among people with middle income status.

TABLE 3 KNOWLEDGE ON CAUSE OF CONDITION

VARIABLE				
	A N(%)	B N(%)	C N(%)	D N(%)
Accident	1(1.6)	1(2.3)	5(9.25)	13(14.6)
Wrong Brushing Method	10(16)	7(16.3)	10(18.5)	9(10.1)
Witchcraft	1(1.6)	1(2.3)	1(1.9)	3(3.4)
Use of chewing stick	4(6.4)	1(2.3)	3(5.7)	3(3.4)
Spiritual Attack	1(1.6)	1(2.3)	1(1.9)	3(3.4)
Use of Hard toothbrush	5(8.0)	2(4.6)	1(1.9)	8(9.0)
Eating of Biscuit bone	4(6.4)	1(2.3)	1(1.9)	4(4.5)
Tobacco use	7(11.3)	5(11.6)	8(14.8)	7(7.9)
Alcohol consumption	11(17.7)	4(9.2)	6(11.1)	6(6.7)
Eating sugary foods	2(3.2)	5(11.6)	2(3.8)	12(13.5)
Not cleaning teeth enough	9(14.5)	8(18.6)	5(9.25)	15(16.9)

Not sure	7(11.3)	7(16.3)	11(20.4))	6(6.7)
TOTAL	62(100.0)	43(100.0)	54(100.0)	89(100.0)

*N=MULTIPLE RESPONSE

10(16%), 4(6.4%) and 5(8.0%) of responses in group A stated wrong brushing method, use of chewing stick, use of hard toothbrush were responsible for causing the condition.

7(16.3%), 1(2.3%) and 2(4.6%) of responses in group B stated wrong brushing method, use of chewing stick, use of hard toothbrush were responsible for causing the condition.

10(18.5%), 3(5.7%) and 1(1.9%) of responses in group C stated wrong brushing method, use of chewing stick, use of hard toothbrush were responsible for causing the condition.

9(10.1%), 3(3.4%) and 8(9.0%) of responses in group D stated wrong brushing method, use of chewing stick, use of hard toothbrush were responsible for causing the condition.

TABLE 4 COMPLICATION OF CONDITION

VARIABLE				
	A N(%)	B N(%)	C N(%)	D N(%)
Loss of tooth	6(8.5)	9(9.0)	14(10.2)	19(12.1)
Shocking sensation	8(11.3)	7(7.0)	13(9.5)	8(5.1)
Tooth breakage	13(7.5)	10(10.0)	11(8.0)	12(7.6)
speech problem	1(1.4)	3(3.0)	9(6.6)	11(7.0)
Loss of friends	3(4.2)	5(5.0)	7(5.2)	17(10.8)
Social Isolation	3(4.2)	9(9.0)	11(8.0)	15(9.5)
Eating problem	5(7.0)	4(4.0)	8(5.8)	8(5.1)
tooth ache	11(15.5)	12(12.0)	23(16.8)	14(8.9)
Damaged gum	7(9.9)	16(16.0)	17(12.4)	20(12.7)
Shaking tooth	3(7.5)	7(7.0)	9(6.6)	7(4.4)
Mouth Odour	11(15.5)	18(18.0)	15(10.9)	27(17.1)

TOTAL	71(100.0)	100(100.0)	137(100.0)	158(100.0)

*N=MULTIPLE RESPONSE

8(11.3%), 11(15.5%), 7(9.9%) of responses in group A stated that shocking sensation, tooth ache and damaged gum were the complications of the tooth condition.

7(7.0%), 12(12.0%), 16(16.0%) of responses in group B stated that shocking sensation, tooth ache and damaged gum were the complications of the tooth condition.

13(9.5%), 23(16.8%), 17(12.4%) of responses in group C stated that shocking sensation, tooth ache and damaged gum were the complications of the tooth condition.

8(5.1%), 14(8.9%), 20(12.7%) of responses in group D stated that shocking sensation, tooth ache and damaged gum were the complications of the tooth condition.

TABLE 5 OPINION OF RESPONDENTS ON TREATMENT OF CONDITION

VARIABLE				
	A N(%)	B N(%)	C N(%)	D N(%)
No it cannot be prevented	3(5.6)	6(11.8)	3(4.6)	4(5.4)
Yes by proper teeth cleaning	19(35.2)	25(49)	16(24.6)	23(31.1)
Yes by proper feeding	3(5.6)	1(2.0)	7(10.8)	7(9.5)
Yes by proper dental check	19(35.2)	15(29.4)	27(41.5)	23(31.1)
Yes by using soft or medium toothbrush	7(13.0)	4(7.8)	8(12.3)	9(12.2)
Yes by drinking herbal medicine	1(1.9)	0(0.0)	2(3.1)	3(4.1)
Immunization of all children	1(1.9)	0(0.0)	1(1.5)	2(2.7)

Yes by birth control	1(1.9)	0(0.0)	1(1.5)	3(4.1)
TOTAL	54(100.0)	51(100.0)	65(100.0)	74(100.0)

7(13.0%) of respondents in group A believe it can be prevented by using soft or medium toothbrush. 4(7.8%) of respondents in group B believe it can be prevented by using soft or medium toothbrush, 8(12.3%) of respondents in group C believe it can be prevented by using soft or medium toothbrush 9(12.2%) of respondents in group D believe it can be prevented by using soft or medium toothbrush.

TABLE 6 OPINION OF RESPONDENTS ON PREVENTION OF CONDITION

VARIABLE				
	A N(%)	B N(%)	C N(%)	D N(%)
NO, IT CANNOT BE TREATED	2(5.0)	0(0.0)	7(17.5)	8(20.0)
YES, IT CAN BE TREATED BY MEDICAL DOCTORS	5(12.5)	4(10.0)	3(7.5)	3(7.5)
YES, IT CAN BE TREATED BY HERBALIST /NATIVE DOCTOR	33(82.5)	3(7.5)	2(5.0)	1(2.5)
YES, IT CAN BE TREATED BY	0(0.0)	1(2.5)	0(0.0)	1(2.5)

PASTORS OR IMAMS				
TOTAL	40(100.0)	40(100.0)	40(100.0)	40(100.0)

5(12.5%) of respondents in group A 4(10.0%) of respondents in group B, 3(7.5%) of respondents in group C and 3 (7.5%) of respondents in group D believe that the condition can be treated by medical doctor.

VARIABLE	RATING	N(%)	N(%)	N(%)	N(%)	N(%)
How will you rate the cleanliness of the mouth of someone with this condition.		A	B	C	D	E
	1	12(30.0)	8(20.0)	11(27.5)	14(35.0)	7(17.5)
	2	(25.0)	12(30.0)	13(7.5)	7(17.5)	5(12.5)
	3	8(20.0)	(25.0)	5(12.5)	9(22.5)	9(22.5)
	4	3(7.5)	6(15.0)	5(12.5)	7(17.5)	8(20.0)
	5	4(10.0)	4(10.0)	2(5.0)	1(2.5)	6(15.0)
	6	2(5.0)	0(0.0)	3(7.5)	1(2.5)	5(12.5)
	7	1(2.5)	0(0.0)	1(2.5)	1(2.5)	0(0.0)
How will you rate the character of a person with this condition.	1	7(17.5)	7(17.5)	7(17.5)	5(12.5)	3(7.5)
	2	8(20.0)	9(22.5)	8(20.0)	13(7.5)	7(17.5)
	3	13(7.5)	9(22.5)	7(17.5)	4(10.0)	9(22.5)
	4	8(20.0)	12(30.0)	13(7.5)	11(27.5)	12(30.0)
	5	2(5.0)	2(5.0)	1(2.5)	7(17.5)	5(12.5)
	6	1(2.5)	1(2.5)	3(7.5)	0(0.0)	3(7.5)
	7	1(2.5)	0(0.0)	1(2.5)	0(0.0)	1(2.5)
How attractive will you consider someone with this condition.						
	1	12(30.0)	9(22.5)	8(20.0)	12(30.0)	4(10.0)
	2	10(25.0)	14(35.0)	11(27.5)	14(35.0)	14(35.0)
	3	10(25.0)	6(15.0)	9(22.5)	7(17.5)	6(15.0)
	4	4(10.0)	9(22.5)	8(20.0)	7(17.5)	7(17.5)
	5	1(2.5)	2(5.0)	3(7.5)	0(0.0)	3(7.5)
	6	0(0.0)	0(0.0)	0(0.0)	0(0.0)	4(10.0)
	7	3(7.5)	0(0.0)	1(2.5)	0(0.0)	2(5.0)

How pleasant will you consider someone with this condition.						
	1	9(22.5)	5(12.5)	3(7.5)	10(25.0)	3(7.5)
	2	11(27.5)	10(25.0)	12(30.0)	11(27.5)	12(30.0)
	3	6(15.0)	12(30.0)	14(35.0)	10(25.0)	5(12.5)
	4	10(25.0)	11(27.5)	8(20.0)	6(15.0)(15.0)	7(17.5)
	5	2(5.0)	2(5.0)	3(7.5)	3(7.5)	9(22.5)
	6	0(0.0)	0(0.0)	0(0.0)	0(0.0)	3(7.5)
	7	2(5.0)	0(0.0)	0(0.0)	0(0.0)	1(2.5)
How satisfied with life will you consider someone with this condition.						
	1	10(25.0)	7(17.5)	9(22.5)	13(32.5)	2(5.0)
	2	7(17.5)	11(27.5)	9(22.5)	9(22.5)	10(25.0)
	3	13(7.5)	9(22.5)	12(30.0)	5(12.5)	7(17.5)
	4	4(10.0)	10(25.0)	7(17.5)	7(17.5)	10(25.0)
	5	2(5.0)	3(7.5)	2(5.0)	6(15.0)	6(15.0)
	6	0(0.0)	0(0.0)	0(0.0)	0(0.0)	2(5.0)
	7	4(10.0)	0(0.0)	1(2.5)	0(0.0)	3(7.5)
How would you rate the Saggressiveness of someone with this condition .						
	1	10(25.0)	5(12.5)	7(17.5)	4(10.0)	2(5.0)
	2	5(12.5)	9(22.5)	7(17.5)	10(25.0)	12(30.0)
	3	5(12.5)	11(27.5)	8(20.0)	8(20.0)	12(30.0)
	4	8(20.0)	8(20.0)	10(25.0)	7(17.5)	9(22.5)
	5	4(10.0)	7(17.5)	6(15.0)	8(20.0)	3(7.5)
	6	2(5.0)	0(0.0)	2(5.0)	2(5.0)	2(5.0)
	7	6(15.0)	0(0.0)	0(0.0)	1(2.5)	0(0.0)
How intelligent would you						

TABLE 7 ATTITUDE OF RESPONDENT TO THIS CONDITION

consider someone with this condition.	1	7(17.5)	4(10.0)	3(7.5)	6(15.0)	1(2.5)
	2	5(12.5)	9(22.5)	7(17.5)	5(12.5)	4(10.0)
	3	8(20.0)	13(7.5)	8(20.0)	10(25.0)	14(35.0)
	4	9(22.5)	8(20.0)	12(30.0)	12(30.0)	13(7.5)
	5	5(12.5)	4(10.0)	8(20.0)	3(7.5)	5(12.5)
	6	3(7.5)	1(2.5)	2(5.0)	3(7.5)	3(7.5)
	7	3(7.5)	1(2.5)	0(0.0)	1(2.5)	0(0.0)
How friendly would you consider someone with this condition.						
	1	7(17.5)	5(12.5)	6(15.0)	4(10.0)	4(10.0)
	2	5(12.5)	7(17.5)	5(12.5)	12(30.0)	7(17.5)
	3	6(15.0)	9(22.5)	7(17.5)	8(20.0)	11(27.5)
	4	14(35.0)	10(25.0)	13(7.5)	8(20.0)	13(7.5)
	5	6(15.0)	4(10.0)	7(17.5)	5(12.5)	4(10.0)
	6	0(0.0)	1(2.5)	2(5.0)	2(5.0)	1(2.5)
	7	2(5.0)	4(10.0)	0(0.0)	1(2.5)	0(0.0)
If you intend to date a person would you be willing to date a person with this condition.	1	16(40.0)	15(37.5)	13(7.5)	17(37.5)	6(15)
	2	11(27.5)	9(22.5)	10(25.0)	8(20.0)	10(25.0)
	3	2(5.0)	11(27.5)	4(10.0)	5(12.5)	7(17.5)
	4	6(15.0)	3(7.5)	8(20.0)	8(20.0)	5(12.5)
	5	5(12.5)	1(2.5)	3(7.5)	2(5.0)	6(15.0)
	6	0(0.0)	0(0.0)	2(5.0)	0(0.0)	5(12.5)
	7	0(0.0)	1(2.5)	0(0.0)	0(0.0)	1(2.5)

Attitudes of respondents in group A showed that 12(30.0%) ranked one to the question how would you rate cleanliness, 13(32.5%) ranked 3 to the question how would you rate character, 12(30.0%) ranked one to the question how attractive would you consider the person, 11(27.5%) ranked two the question how pleasant will you consider the person, 10(25.0%) ranked one to the question how satisfied would you be with a person who has this condition ,10(25.0%) ranked one to the question would you consider someone with this condition aggressive. 9(22.5%) ranked four to the question would you consider someone with this condition as intelligent. 14(35.0%)

ranked four when asked the question would you consider someone with this condition friendly, 16(40.0%) ranked one when asked the question if they would intend to date a person with the condition

Attitudes of respondents in group B showed that 8(20.0%) ranked two to the question how would you rate cleanliness,12(32.5%) ranked 4 to the question how would you rate character, 14(35.0%) ranked two to the question how attractive would you consider the person, 12(32.5%) ranked three the question how pleasant will you consider the person, 11(27.5%) ranked three to the question how satisfied would you be with a person who has this condition, 11(27.5%) ranked three to the question would you consider someone with this condition aggressive, 13(32.5%) ranked three to the question would you consider someone with this condition as intelligent. 10(25.0%) ranked four when asked the question would you consider someone with this condition friendly, 15(37.5%) ranked one when asked the question if they would intend to date a person with the condition.

Attitudes of respondents in group C showed that 13(32.5%) ranked two to the question how would you rate cleanliness,13(32.5%) ranked 4 to the question how would you rate character, 11(27.5%) ranked two to the question how attractive would you consider the person, 14(35.0%) ranked three the question how pleasant will you consider the person, 12(30.0%) ranked three to the question how satisfied would you be with a person who has this condition, 10(25.0%) ranked four to the question would you consider someone with this condition aggressive, 12(30.0%) ranked three to the question would you consider someone with this condition as intelligent. 13(32.5%) ranked four when asked the question would you consider someone with this condition friendly, 13(32.5%) ranked one when asked the question if they would intend to date a person with the condition.

Attitudes of respondents in group D showed that 14(35.0%) ranked one to the question how would you rate cleanliness,13(32.5%) ranked two to the question how would you rate character, 14(35.0%) ranked two to the question how attractive would you consider the person, 11(27.5%) ranked two the question how pleasant will you consider the person, 12(30.0%) ranked two to the question how satisfied would you be with a person who has this condition, 13(32.5%) ranked one to the question would you consider someone with this condition aggressive, 12(30.0%) ranked two to the question would you consider someone with this condition as intelligent. 8(20.0%)

ranked four when asked the question would you consider someone with this condition friendly, 17(42.5%) ranked one when asked the question if they would intend to date a person with the condition.

Attitudes of respondents in group E showed that 9(22.5%) ranked three to the question how would you rate cleanliness,12(30.0%) ranked four to the question how would you rate character, 14(35.0%) ranked two to the question how attractive would you consider the person, 12(30.0%) ranked two the question how pleasant will you consider the person, 10(25.0%) ranked two to the question how satisfied would you be with a person who has this condition, 12(30.0%) ranked two to the question would you consider someone with this condition aggressive, 14(35.0%) ranked three to the question would you consider someone with this condition as intelligent. 13(32.5%) ranked three when asked the question would you consider someone with this condition friendly, 10(25.0%) ranked two when asked the question if they would intend to date a person with the condition.

TABLE 8 EMPLOYER ATTITUDE TO CONDITION

VARIABLE	RATING	A N(%)	B N(%)	C N(%)	D N(%)	E N(%)
If you were an employer would you refuse to employ someone with this condition.	1	8(20.0)	15(37.5)	8(20.0)	18(45.0)	10(25.0)
	2	10(25.0)	13(32.5)	11(27.5)	3(7.5)	9(22.5)
	3	8(20.0)	6(15.0)	11(27.5)	7(17.5)	9(22.5)
	4	3(7.5)	4(10.0)	5(12.5)	7(17.5)	5(12.7)
	5	5(12.5)	2(5.0)	1(2.5)	1(2.5)	3(7.5)
	6	3(7.5)	0(0.0)	3(7.5)	4(10.0)	4(10.0)
	7	3(7.5)	0(0.0)	1(2.5)	0(0.0)	0(0.0)
If you were an employer would you refuse someone with this condition promotion.	1	11(27.5)	10(25.0)	9(22.5)	17(42.5)	10(25.0)
	2	12(30.0)	16(40.0)	13(32.5)	8(20.0)	9(22.5)
	3	11(27.5)	13(32.5)	10(25.0)	4(10.0)	5(12.5)
	4	3(7.5)	1(2.5)	5(12.5)	7(17.5)	11(27.5)
	5	1(2.5)	10(25.0)	1(2.5)	3(7.5)	2(5.0)
	6	1(2.5)	0(0.0)	1(2.5)	1(2.5)	1(2.5)
	7	1(2.5)	0(0.0)	1(2.5)	0(0.0)	2(5.0)
If you were an employer would you sack	1	10(25.0)	15(37.5)	9(22.5)	15(37.5)	12(30.0)
	2	15(37.5)	13(32.5)	9(22.5)	11(27.5)	6(15.0)
	3	5(12.5)	9(22.5)	13(32.5)	8(20.0)	11(27.6)
	4	3(7.5)	3(7.5)	5(12.5)	4(10.0)	8(20.0)
	5	5(12.5)	0(0.0)	2(5.0)	2(5.0)	1(2.5)

someone with this condition from your company.	6	1(2.5)	0(0.0)	1(2.5)	0(0.0)	2(5.0)
	7	1(2.5)	0(0.0)	1(2.5)	0(0.0)	0(0.0)

The largest proportion of respondents; Ten(25.0%) in group A, 15(37.5%) in group B, 11(27.5%) in group C and 9(22.5%), ranked two while 7(17.5%) of group D ranked three on the rating scale of refusing to employ individuals with the condition.

The largest proportion of respondents; 12(25.0%) in group A, 16(40.0%) in group B, 13(32.5%) in group C ranked two while 17(42.5%) in group D ranked one and 11(27.5%) in group E ranked three on the rating scale of refusing to promote individuals with the condition.

The largest proportion of respondents; 15(37.5%) in group A ranked two, 15(37.5%) in group B, 15(37.5%)in group D ranked one and 13(32.5%) in group C, 11(27.5%) in group E ranked three on the rating scale of sacking individuals with the condition.

TABLE 9 DISCRIMINATORY ATTITUDE TOWARDS CONDITION

VARIABLE	RATING	A N(%)	B N(%)	C N(%)	D N(%)	E N(%)
Would you treat someone with this condition with less courtesy than other people.	1	12(I3.0)	10(25.0)	15(37.5)	15 (37.5)	11(27.5)
	2	8(20.0)	17(42.5)	12(30.0)	10(25.0)	8(20.0)
	3	9(22.5)	9(22.5)	5(12.5)	3(7.5)	10(25.0)
	4	7(17.5)	2(5.0)	7(17.5)	8(20.0)	9(22.5)
	5	2(5.0)	1(2.5)	0(0.0)	2(5.0)	0(0.0)
	6	0(0.0)	1(2.5)	1(2.5)	0(0.0)	1(2.5)
	7	2(5.0)	0(0.0)	0(0.0)	2(5.0)	1(2.5)
Would you treat someone with this condition with less respect than other people	1	9 (22.5)	17(42.5)	15(37.5)	17(42.5)	15(37.5)
	2	13(32.5)	14(35.0)	11(27.5)	8(20.0)	6(15.0)
	3	9(22.5)	3(7.5)	8(20.0)	5(12.5)	8(20.0)
	4	3(7.5)	1(2.5)	5(12.5)	4(10.0)	6(15.0)
	5	4(10.0)	3(7.5)	0(0.0)	4(10.0)	4(10.0)
	6	0(0.0)	2(5.0)	0(0.0)	1(2.5)	1(2.5)
	7	2(5.0)	0(0.0)	1(2.5)	1(2.5)	0(0.0)
Would you offer someone	1	15(37.5)	18(45.0)	17(42.5)	17(42.5)	17(42.5)
	2	7(17.5)	10(25.0)	13(32.5)	9(22.5)	7(17.5)
	3	10(25.0)	8(20.0)	6(15.0)	4(10.0)	3(7.5)

with this condition poorer service than other people at restaurants or stores	4	3(7.5)	3(7.5)	3(7.5)	5(12.5)	10(25.0)
	5	2(5.0)	1(2.5)	0(0.0)	2(5.0)	3(7.5)
	6	2(5.0)	0(0.0)	0(0.0)	2(5.0)	0(0.0)
	7	1(2.5)	0(0.0)	1(2.5)	1(2.5)	0(0.0)
Would you think that someone with this condition is not smart						
	1	11(27.5)	13(32.5)	13(32.5)	14(35.0)	14(35.0)
	2	10(25.0)	15(37.5)	9(22.5)	6(15.0)	6(15.0)
	3	8(20.0)	7(17.5)	9(22.5)	10(25.0)	6(15.0)
	4	5(12.5)	2(5.0)	3(7.5)	7(17.5)	9(22.5)
	5	3(7.5)	2(5.0)	3(7.5)	2(5.0)	2(5.0)
	6	1(2.5)	1(I2.5)	1(2.5)	0(0.0)	3(7.5)
	7	2(5.0)	0(0.0)	2(5.0)	1(2.5)	0(0.0)
Would you be afraid of someone with this condition						
	1	13(32.5)	16(40.0)	16(40.0)	11(27.5)	11(27.5)
	2	8(20.0)	13(32.5)	9(22.5)	9(22.5)	5(12.5)
	3	10(25.0)	5(12.5)	4(10.0)	5(12.5)	8(20.0)
	4	2(5.0)	3(7.5)	5(12.5)	10(25.0)	10(25.0)
	5	4(10.0)	2(5.0)	3(7.5)	1(2.5)	2(5.0)
	6	3(7.5)	1(2.5)	1(2.5)	1(2.5)	3(7.5)
	7	0(0.0)	0(0.0)	2(5.0)	3(7.5)	1(2.5)
Would you consider						
	1	13(32.5)	14(35.0)	17(42.5)	16(40.0)	8(20.0)

someone with this condition as dishonest	2	12(30.0)	15(37.5)	7(17.5)	10(25.0)	12(30.0)
	3	8(20.0)	7(17.5)	7(17.5)	6(15.0)	6(15.0)
	4	4(10.0)	3(7.5)	5(12.5)	5(12.5)	9(22.5)
	5	2(5.0)	1(2.5)	2(5.0)	0(0.0)	5(12.5)
	6	1(2.5)	0(0.0)	1(2.5)	2(5.0)	0(0.0)
	7	0(0.0)	0(0.0)	1(2.5)	1(2.5)	0(0.0)
Would you think that someone with this condition is not as good as he/she is.						
	1	9(22.5)	13(32.5)	14(35.0)	16(40.0)	9(22.5)
	2	14(35.0)	12(30.0)	12(30.0)	11(27.5)	5(12.5)
	3	10(25.0)	9(22.5)	3(7.5)	4(10.0)	9(22.5)
	4	1(2.5)	4(10.0)	6(15.0)	5(12.5)	9(22.5)
	5	2(5.0)	2(5.0)	5(12.5)	4(10.0)	4(10.0)
	6	2(5.0)	0(0.0)	0(0.0)	0(0.0)	4(10.0)
	7	2(5.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Would you insult someone with this condition						
	1	13(32.5)	21(52.5)	20(50.0)	17(42.5)	15(37.5)
	2	12(30.0)	13(32.5)	9(22.5)	10(25.0)	6(15.0)
	3	10(25.0)	5(12.5)	5(12.5)	6(15.0)	10(25.0)
	4	2(5.0)	1(2.5)	5(12.5)	6(15.0)	8(20.0)
	5	2(5.0)	0(0.0)	0(0.0)	1(2.5)	1(2.5)
	6	1(2.5)	0(0.0)	1(2.5)	0(0.0)	0(0.0)
	7	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Would you						
	1	11(27.5)	18(45.0)	22(55.0)	20(50.0)	17(42.5)
	2	14(35.0)	14(35.0)	10(25.0)	7(17.5)	5(12.5)

threaten or harass someone with this condition	3	8(20.0)	6(15.0)	6(15.0)	4(10.0)	7(17.5)
	4	2(5.0)	1(2.5)	2(5.0)	6(15.0)	8(20.0)
	5	2(5.0)	1(2.5)	0(0.0)	3(7.5)	3(7.5)
	6	2(5.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
	7	1(2.5)	0(0.0)	0(0.0)	0(0.0)	0(0.0)

Table shows that highest proportion of respondents 15(37.5%) in C and D ranked one to the question would you treat people with this condition with less courtesy, 17(42.5%) in group B ranked one to the question would you treat people with this condition with less respect, 18(45.0%) in B ranked one to the question would you offer poorer services to people with this condition at the restaurant, 15(37.5%) in B ranked two to the question would you think that someone suffering this condition is not smart, 16(40.0%) in B ranked one to the question would you fear someone suffering with this condition, 16(40.0%) in D ranked one to the question would you consider dishonest someone suffering with this condition, 16(40.0%) in D ranked one to the question would you think someone with this condition is not as good as she/he is, 17(42.5%) in D ranked one to the question would you insult someone with this condition, 22(55.0%) in C ranked one to the question would you threaten or harass someone with this condition

CHAPTER FIVE

DISCUSSION

This cross sectional survey was carried out to determine the perception of tooth abrasion amongst adult Nigerians. The survey respondents were students of university of Benin which is a tertiary institution. Two hundred respondents were randomly selected across ten faculties of the university to be surveyed. Respondents were assigned a group with each group consisting forty respondents making a total of five study groups. Groups A-D were given the dental condition; abrasion with group A having the mildest form and D having the most severe form of abrasion of all the groups. Group E was the control group with no form of the condition.

As regarding the knowledge of condition, only 7.5% of the respondents in groups B, C and D identified correctly the condition abrasion. No respondent in group A identified the condition correctly. Across all groups A-D, the largest proportion of respondents had never seen the condition (37.5% in group A, 40% in group B and C and 47.5% in group D). Respondents from group A had the highest proportion of those who had ever seen the condition. This statistic indicates a poor knowledge of tooth abrasion as a reasonable proportion of individuals who had ever seen the condition may not be able to identify it let alone know the causes and risk factors for the condition and how to prevent it. With regards to how common the condition is, one third of individuals in group D estimated that the tooth condition was common as compared to one fourth in group A, B and C who estimated the tooth condition to be common. Studies by Okeigbemen et al 2015 conducted amongst dental clinic attendees of the university of Benin teaching hospital however contrasts this belief as prevalence rates for abrasion in this study was found to be 11%. Similar studies conducted by Ibiyemi et al 2010 amongst 200 adult males in Igbo Ora showed prevalence of abrasion alone as 8.5% of the study population.

Majority of the respondents also believed that this condition was common in Nigeria. There is paucity of data as to how common tooth abrasion conditions exists in Nigeria as the few studies tend available tend to consider tooth wear conditions as a whole. Within the group of tooth wear lesions even as demonstrated by the study of Ibiyemi etal 2011 and Okeigbemen et al 2015, demonstrated attrition as the more common toothwear condition. More prevalence studies are needed to determine the level of tooth abrasion in the Nigerian population. Data from this study demonstrated that the greater proportion of the respondents in groups A, B and C perceived the condition to occur commonly amongst those above 60 years of age. This contrasts group D were the greatest proportion of respondents believed that those within the age range of 21-30 years were more likely to be affected with the condition than all other age groups. Members of group D also believed that condition occurred equally amongst both sexes compared with other groups who believed that the tooth condition was more common amongst male sex. This study also demonstrated that respondents across all groups believed that low socio economic status and lack of formal education were more likely to have the tooth condition.

This study showed (16%, 6.4% and 8.0%) of group A respondents compared to (16.3%, 2,3% and 4.6%) of group B respondents, (18.5% 7.5% and 1.9%) of group C respondents, and (10.1%, 3.4% and 9.0%) of respondents in group D believed that the cause of the condition in the picture was wrong brushing method, use of chewing stick and use of hard toothbrush respectively. Overall, group A had the greater proportion of respondents with correct response to the cause of the condition. Abrasion is a mechanical method by which a tooth wears. It occurs through tooth brushing, through mechanical forces by repeated introduction of foreign bodies into the oral cavity, which are in contact with the teeth. (Levitch et al., 1994; Imfeld, 1996).

Findings from this study shows that respondents in study group B had the highest proportion (11.8%) of individuals who believed that the condition cannot be prevented. Prevention by use of soft toothbrush accounted for 13% of respondents in group A and 7.8% in group B. Proper dental check accounted 41.5% in group C and made up the largest proportion of all responses. Prevention of abrasion will rest largely on reducing those factors (mechanical or chemical) such as use of soft and well adapted dental tooth brushes as well as use of tooth paste with low dental abrasivity and elimination of habits such as chewing of tobacco.

On attitudes of respondents to condition the survey showed that the control group had higher ratings than other groups to the questions of considering people more pleasant and deriving more satisfaction from people with the condition. Those in group D ranked the list and where likely to be least satisfied and pleased with people having this tooth condition. Members of group A where more likely than other groups to consider these individuals as aggressive and group B members were more likely to underrate the intelligence level of those with this condition. Interestingly, group B members were also more likely to consider them more friendly. Group A and D where most unlikely to date individuals who had this condition. The data proportions from this study only show slight attitudinal differences tilted towards negative between the study groups A-D and controls. It also does not show a marked difference in attitude as condition gets worse. The survey leads also to conclude that there may be a slightly negative perception between individuals in those with severe forms of the condition as in group D against controls. Perhaps better tests of statistical associations will be necessary to effectively delineate with all statistical certainty the difference in perception of the population towards those who have this tooth condition in varying degrees.

With regards to employer perception of individuals with this tooth condition, it is interesting to note that group A rated high in the scale (15.0% combining ranks 6 and 7) as the group most unlikely to employ individuals with this condition. There was however no difference in attitude towards sack as groups A, C and control had equal ranking. The control group had highest rating with regards to refusal of promotion. This implies that the condition did not affect employer decision to promotion of worker. The data provided demonstrated overall that the employer perception was not influenced negatively by the condition and there was no difference in attitude between other groups and control.

General discriminatory attitude of respondents in this study to individuals with this condition was also low. Clear differences could not be ascertained to most of the questions assessing the attitudes between control group and study groups. However, groups A and D (7.5%) were more likely to offer poorer restaurant services than other groups.

Overall, it can be concluded from this study that there is a general low level of knowledge with regards to tooth abrasion. There is a slightly negative perception to dental abrasion. There is no difference between employer perception of individuals with this condition and case control group. Discriminatory attitudes to individuals with the tooth condition is low amongst respondents.

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