EVALUATION OF TOOTH LOSS AMONG THE EDOS IN NIGERIA

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ABSTRACT

Aim: The aim of this study was to identify the causes and effects of tooth loss among the Edos in Nigeria.

Methods: This cross-sectional study was conducted among 384 subjects of various age groups made up of male and female indigenes of Edo State. Data was collected using a self-administered questionnaire containing relevant questions directed to consenting individuals who met the inclusion criteria. Intraoral examination of all the participants was done. Data collected was analyzed using Statistical Package for the Social Sciences (SPSS), version 20.0.

Results: Dental caries topped the causes of tooth loss with 65% followed by periodontal disease with 32% and trauma 3%. An association was noted between tooth loss and socioeconomic status ($p<0.05$). The study did not reveal significant gender differences ($p>0.05$) in the causes of tooth loss. The findings revealed that an association ($p<0.05$) exists between educational status and tooth loss.

Conclusion: Dental caries is a major cause of tooth loss followed by periodontal disease amongst the Edos in Nigeria.

Keywords: Tooth loss, Dental caries, Periodontal disease

INTRODUCTION

There are several causes of tooth loss and these include dental caries, periodontal diseases, extractions that could be as a form of traditional practices or due to removal of 3rd molars, orthodontic treatment or trauma (Minneh, 2010). Several studies on the causes of tooth loss have taken place in Nigeria and other parts of the world (Sanya et al., 2004; Taiwo and Omokhoidon, 2006; Reddy et al., 2012). An interesting study on tooth loss was also done in Nigeria by Adeyemo et al., in 2008. The effects of tooth loss include loss of width and height of dentoalveolar bone leading to facial changes and this has psychosocial effects. Loss of teeth leads to drifting and supra eruption of the adjacent teeth. The consequence is orthodontic problems as well as alteration of the aesthetics of the patient. These changes may affect the prospects of future replacements with dental prostheses. Other effects of tooth loss include alteration of speech and eating habit. The sequalae also include clinical effects that may be experienced where other teeth may get affected depending on how the extraction was done (Minneh, 2010). The present study will motivate dental practitioners to give the best treatment possible. There is dearth of literature on the causes and effects of tooth loss among the Edos; hence there is need for this study. The aim of the present study is to identify the causes and effects of tooth loss among the Edos in Nigeria.

MATERIALS AND METHODS

A cross sectional survey method was employed in this observational study. The participants comprised of 384 consenting individuals with permanent tooth loss all of who are Edos. Sample size calculation was done using the formular:

$$N= \frac{Z^2 \times p(1-p)}{e^2}$$

Multistage sampling technique was employed in the present study. Verbal consent was obtained

from the study subjects. All participants in the study had lost one or more teeth. Data was collected using a self administered structured questionnaire containing relevant questions directed to consenting individuals who met the inclusion criteria. Intraoral examination of all the participants was done. The study was done in the month of June, 2015. Data collected was analyzed using Statistical Package for the Social Sciences (SPSS), version 20.0. The statistics involved the use of a 5% significance level (p<0.05) as well as frequency, cross tabulations and calculation of mean. The association between toothloss and gender as well as socioeconomic factors was analyzed using chi-square test. Ethical approval was gotten from the Research and Ethics Committee of Anatomy Department in the Delta State University, Abraka.

RESULTS

Table 1: Personal data of Respondents

Variables		Frequency (%)	Number of Correspondents (n)
Age	11 – 20	4.92	19
	21 – 30	31.87	123
	31 – 40	27.46	106
	41 – 50	25.39	98
	51 – 60	2.85	11
	61 – 70	5.70	22
	Above 70	1.81	7
Sex	Male	32	124
	Female	68	260
Educational Status	None	2	9
	Primary	5	20
	Secondary	58	220
	Tertiary	34	131

Table 2: Social economic characteristics of Respondents

Variables		Frequency (%)	Number of Correspondents (n)
Occupation	Privately employed	57	161
	Government employed	33	95
	Retired	10	28
Income per month	<₦ 9, 000	13	50
	₦9, 000 – ₦49, 999	59	228
	₦50, 000 – ₦149, 999	24	93
	₦150, 000 – ₦250, 000	2	9
	>₦250, 000	1	4

Table 3: The statistical analysis of the asociation between tooth loss and socioeconomic status using chi – square

	Value	df	P-Value
Chi-square	3.831[a]	1	< 0.05
No of Valid Cases	384		

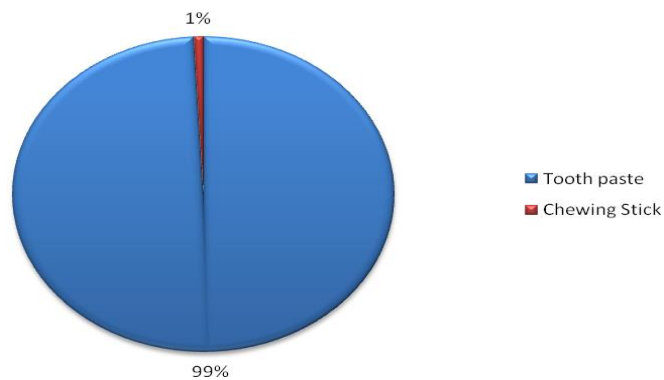An asociation was noted between tooth loss and socioeconomic status (p<0.05).

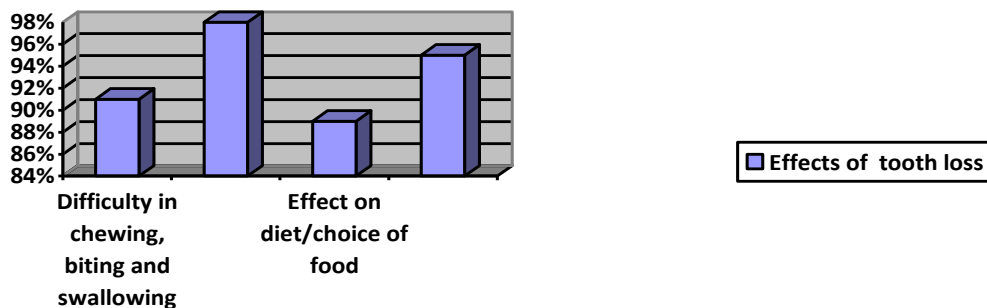Figure 1: Means for brushing of teeth

Figure 2: Effects of tooth loss

Most (98%) of the respondents did not take their oral health as a priority. The condition of mouth/teeth was bad in 59% of the research subjects. The study revealed that 77% of the respondents brushed once daily and the others brush twice daily. Findings showed that all (100%) of the respondents in this study have visited the dentist. Curiosity about reasons for visiting the dentist revealed that 40% of the respondents had holes in their teeth, 17% had pain, 17% had mobile teeth, 14% had bleeding gum, 9% suffered inability to chew, 2% had fractured teeth and 1% went for routine checkup. Considering the teeth more likely to be lost 60% of the lost teeth were in the mandibular posterior region. The maxillary posterior region came next with 35% and the mandibular incisors and canines are seldomly lost (2%). The maxillary incisors and canines are rarely lost (1%). The mandibular premolars are also rarely lost (1%). Report from this study showed that 48% of the participants have 2 teeth missing, 43% have only one tooth missing, 7% have 3 missing teeth, 1% has 4 teeth missing and 1% has more than 4 missing teeth. In this study, 65% of the respondents had their teeth extracted because of tooth decay, 32% because of

bleeding gum and 3% because of trauma to the face. History of the past or present illness suffered by the respondents revealed that 2%, 7%, 5%, 4%, 2% and 1% of respondents suffered from cancer, diabetes, obesity, peptic ulcer, respiratory diseases and cardiovascular diseases respectively. When asked if the tooth loss was a common trend in their family, 72% did not agree. In this study, 73% of the total respondents agreed to using tobacco products. It was noted that 16% of the respondents agreed consuming sugary food and sweets at normal rate, 5% regularly and 79% seldomly. The present study did not reveal significant gender differences (p>0.05) in the causes of tooth loss. The findings revealed that an association (p<0.05) exists between educational status and tooth loss.

DISCUSSION
The present study revealed that dental caries topped the causes of tooth loss with 65% followed by periodontal disease with 32% and trauma 3%. A study done in 2012 revealed that of the 62% of the tooth loss in the USA dental caries topped with 37.4% followed by a combination of periodontal disease and dental

caries with 12.2% (Reddy et al., 2012). Another study done in Nigeria revealed that the major cause of tooth loss was periodontal diseases with 98.7% then dental caries 0.7% and trauma 0.6% (Taiwo and Omokhoidon, 2006). In Kenya a study done showed that dental caries was the commonest cause of tooth loss with 52.6% followed by periodontal diseases at 27.6%, extractions as a form of traditional practices accounted for 12.3%, orthodontic treatment 2.2% and trauma 2.0% (Sanya et al., 2004). Some researchers concluded that dental caries was the commonest cause of tooth loss in adults in the United States (Dye et al., 2015). This study did not concur with Okiosor (1977) and Morita et al., (1994) who saw increasing trend of tooth loss as age progresses. The present study did not reveal significant gender differences (p>0.05) in the causes of tooth loss thus gender is not a predisposing factor associated with tooth loss. This finding is not in consonance with a study conducted in an urban population of Brazil (Hugo et al., 2007) and another by Nuttal et al., (2001). The present study concured with the findings of researchers who found out that gender had no association with tooth loss in a rural South African community (African and Ready, 2013). Socioeconomic status in this present study seemed to serve as a predisposing factor associated with tooth loss because an asociation (p<0.05) was noted. This agreed with the findings of Sheiham (1981) who concluded that the higher social class utilizes the dentist frequently than the lower social class (Sheiham et al., 1985). The present study noted an asociation (p<0.05) between educational status and tooth loss. This finding is in agreement with studies by Moreira et al., (2010) and Mendes et al., (2012). In the present study, most participants (98%) saw their oral health as a priority. This is at variance with a study by Zarb and Schmitt, (1997). According to the present study, the most affected teeth were the lower posterior teeth (60%). This concurred with studies conducted in Sri Lanka (Ekanayaka, 1994) and Saudi Arabia (Attieh, 2008). In the present study, subjects who brushed their teeth once a day were more susceptible to development of oral diseases and subsequent tooth loss compared to those who brushed their teeth twice a day. This finding from this study agreed with Nadia et al., (2012). The present study revealed that patients encountered speech impediments and became more anxious and self conscious subsequent upon the loss of their teeth. This is in agreement with the study of Burt et al., (2005). In the present study, patients avoided certain foods perceived as difficult to chew following the loss of their teeth. This correlated with the findings of Shigli et al., (2009).

CONCLUSION

Dental caries is a major cause of tooth loss followed by periodontal disease amongst the Edos in Nigeria.

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