

HYPERTENSION AMONG DENTAL PATIENTS ATTENDING TERTIARY HEALTH INSTITUTION IN EDO STATE, NIGERIA.

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ABSTRACT.

Introduction: Hypertension is one of the cardiovascular diseases which has been reported as one of the common causes of death worldwide. Some medical conditions including hypertension could alter the course of oral disease; modify dental treatment and response to such treatment.

Objective: This was to determine the prevalence of hypertension among dental patients and their common presenting oral complaint.

Method: Measurement of the blood pressure of all the patients aged 18-77 years who were attending the dental clinic was carried out using sphygmomanometer and stethoscope.

Results: The overall prevalence of hypertension among dental patients was 19.7% while that for unknown hypertension (hypertension detected at the dental clinic) was 10.3%. Acute periapical periodontitis and chronic marginal gingivitis were common clinical presentations.

Conclusion: Some dental patients were unaware of their blood pressure levels. It is important for all dental patients to be screened for hypertension to avoid the complications that may arise therefrom.

Keywords: Hypertension, Dental patients, Tertiary Health Institution.

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INTRODUCTION

Hypertension is one of the cardiovascular diseases which has been reported as one of the common cause of death worldwide^{1,2}. Hypertension can be diagnosed by measuring a patients blood pressure and once detected, treatment methods have reduced the risk of cardiovascular diseases and fatality to a reasonable level^{2,3}.

Since many patients do not routinely take their own blood pressure readings, hypertension often goes unnoticed and some of the hypertensive patients on treatment may not be controlled. The prevalence of hypertension in populations have been reported to differ geographically since it may be influenced by environmental factors⁴.

Adult patients with pre-hypertension and are at increased risk of progression to hypertension have been reported^{5,6}. This therefore makes the measurement and monitoring blood pressure for these patients mandatory. Some medical conditions including hypertension could alter the course of oral diseases⁷.

Since some of the dental patients may be unaware of their blood pressure levels and the fact that a dental setting is viewed as a stressful environment, makes it more important for all dental patients to be screened for hypertension. The stress of a dental visit may artificially raise the blood pressure induced by the anticipation and actual dental treatment⁸.

In a study of the prevalence of past medical problems in a population of dental patients, the highest percentage was hypertension^{8,9}. The nature and reported prevalence of hypertension suggests that its diagnosis and control should be of concern to all health providers including Dental surgeons and other members of the dental team^{9,10}. There is a consensus that for proper dental care, oral health care providers should understand the condition and its impact on the patients ability to undergo and respond to dental care¹¹.

This study became necessary because of the increasing number of hypertensive patients detected at the dental clinic. Not much work has been done in this study area to our knowledge. The study objectives were to determine the prevalence of hypertension among dental patients and their common presenting oral complaint.

The result of this study will assist in making recommendation that will be useful to both dental patients and the oral health provider with regards to the detection and management of hypertensive patients in the dental setting.

MATERIAL AND METHOD

This study was carried out at the University of Benin Teaching Hospital Dental Clinics. Those patients who were aged 18 - 77 years that attended the dental clinic while this study lasted (2003/ 2004) were included. The study protocol was explained to the patients and only those who agreed were allowed to participate.

Determination of blood pressure levels was carried out using sphygmomanometer and stethoscope with the patient in a comfortable sitting position. The blood pressure measurement was carried out on the patient's first visit and review visits to the dental clinic.

All known hypertensive were noted, their blood pressures were measured, recorded and followed up. Blood pressure measurements were repeated when the patients were less anxious so as to minimize the contribution of fear/anxiety of dental treatment to the increase of blood pressure. Examination of oral structures was carried out on the dental chair using the dental examination set and standard dental lighting. Diagnosis of the patients Dental condition was made and patients referred to specialized units for treatment.

Response to treatment was monitored by way of reviews as necessitated by treatment procedure administered. Patients whose blood pressure levels remained above 140/90 were considered

Table II: Hypertensive patients total by gender.

Gender	No. in Attendance	Hypertensive	% hypertensive
M	688	135	57.2
F	512	101	42.8
Total	1200	236	100.0

Table III: Hypertensive patients total by age

Age (years)	No. in attendance	No. hypertensive	Prevalence of hypertension Within age group (%)
18- 27	498	24	4.8
28 -37	163	39	23.9
38- 47	85	13	15.3
48 - 57	312	89	28.5
58 - 67	127	62	48.8
68 - 77	15	9	60.0

hypertensive while those whose levels were below 140/90 but above 100/70 were recorded as normal. All data collected were stored and edited in personal computer. Analysis of data collected was done using simple frequencies and percentages.

RESULTS

Out of a total of 1200 dental patients examined, 19.7% (236) were hypertensive. 52.5% (124) out of these hypertensive patients were detected on dental examination while the remaining 47.5% (112) were known hypertensive. 57.2% of the hypertensive patients were males while females accounted for 42.8%. The prevalence of hypertension among the 68 - 77 years age range was 60.0% while that of the 18 - 27 years age range was 4.8%.

Chronic marginal gingivitis was diagnosed in 62 (26.3%) of the hypertensive patients while 82 (34.7%) of the hypertensive patients presented with acute periapical periodontitis.

Table I: Normotensive vs Hypertensive patients

Blood pressure	No. of Patients	% of Total
Normal	964	80.3
Hypertensive	236	19.7
Total	1200	100.0

236 (19.7%) = Detected hypertensive (124) and Known hypertensive (112)

Table IV: Clinical presentation of hypertensive patients

Diagnosis	No. of pts	No. hypertensive	% of hypertensive
Chronic marginal gingivitis	554	62	26.3
Pericoronitis	76	8	3.4
Acute periapical periodontitis	282	82	34.7
Tooth mobility	58	18	7.6
Chronic periodontitis	95	46	19.5
Caries	135	20	8.5
Total	1200	236	100.0

DISCUSSION.

The prevalence of hypertension among Dental patients was 19.7%. This included those who were detected at the dental clinic and those with history of hypertension confirmed at the dental clinic. This explains why our result appears higher than reported figures otherwise the prevalence of undiagnosed hypertension which was detected at the dental clinic was 10.3%.

Patients aged 68 years and above were affected most (60%). Many studies have reported that blood pressure tend to increase with age of the patient^{9,10}.

Patients who are hypertensive are at risk each time they are treated without thorough examination, medical history and current blood pressure levels since dental care in these patients can be complicated. 34.7% of the patients were diagnosed to have acute periapical periodontitis. This condition on its own can be stressful and can therefore make a patient susceptible to an increase of an already elevated blood pressure with its attendant complications¹².

Chronic periodontitis was diagnosed in 19.5% of the patients even though it was difficult to say which came first since it has also been reported that hypertension can modify the course of the disease^{7,13}. This study did not record any significant difference in the prevalence of hypertension among males and females. The apparent difference can be explained by the difference in the number of males and females in the study population. Some studies have reported that more males are affected at younger age while more females are affected at older age^{14,15}. It is important for oral health care provider to be aware of the actions, interactions and adverse effects of the drugs the patients are on for the treatment of hypertension because of the dental considerations of these drugs.

CONCLUSION

Some Dental patients who were hypertensive were unaware of their blood pressure levels at the time of

presentation to the dental clinic. Levels of detection of hypertension needs to be improved upon since early detection and treatment would help to avoid the complications that may arise from dental treatment of these patients. It is important to be well educated about anxiety control particularly in hypertensive patients.

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