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Knowledge And Awareness About Hypertension Among Dental Students In Government Dental College Srinagar

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ABSTRACT:
Hypertension is one of the most common disease worldwide and is a major risk factor for chronic diseases like stroke, myocardial infarction, vascular diseases and chronic kidney disease in India. Recent studies from India have shown that the prevalence of hypertension is increasing and there is low awareness and control among Indian population. According to WHO estimates the prevalence of raised blood pressure in India is 32.5% (33.2% in men & 31.7 % in women)[1]. Due to associated morbidity and mortality preventing and treating hypertension is an important public health challenge. Quiet a few of the hypertensive cases are diagnosed in the dental clinic. So referral to the general physician is must if patient is hypertensive. The disease require proper diagnosis, lab testing and treatment by the medical professional.
Knowledge on hypertension is not only necessary among the health care professionals, patients but should also be conveyed to the general population, as it is vital to realize the seriousness of hypertension as a disease.
AIM & OBJECTIVES: The aim of this research study was to evaluate the knowledge about hypertension among dental students working in Govt. dental college Srinagar.
MATERIALS AND METHOD: A questionnaire was formulated and was given to 100 dental undergraduate students to assess there awareness, basic and comprehensive knowledge about hypertension and its risk factors.
RESULTS: The knowledge possessed by dental students pertaining to hypertension was found to be of moderate level.
CONCLUSION: The awareness among the dental students was found to be of moderate level, making it necessary to motivate and educate them on hypertension on a regular basis in the curriculum.

KEY WORDS: Hypertension (HTN), CVD (cardiovascular disease), LVH(Left ventricular hypertrophy).

INTRODUCTION:

Hypertension is one of the most common worldwide disease affecting humans and is a major risk factor for stroke, myocardial infarction, vascular diseases and chronic kidney disease. According to WHO estimates the prevalence of raised blood pressure in India is 32.5% (33.2% in men & 31.7 % in women).[1] Population studies reveal that among patients with high BP, 78% were aware they were hypertensive , 68% were being treated with anti hypertensive agents and only 64% treated individuals had controlled hypertension.[2] Hypertension also called high blood pressure is a long-term medical condition in which the force of blood against artery walls is too much. The following staging system, which are based upon appropriately measured blood pressure, were suggested in 2017 by the American College of Cardiology/American Heart Association (ACC/AHA) [3];

●Normal blood pressure – Systolic <120 mmHg and diastolic <80 mmHg
●Elevated blood pressure – Systolic 120 to 129 mmHg and diastolic <80 mmHg
●Hypertension:
•Stage 1 – Systolic 130 to 139 mmHg or diastolic 80 to 89 mmHg
•Stage 2 – Systolic at least 140 mmHg or diastolic at least 90 mmHg

If there is a disparity in category between the systolic and diastolic pressures, the higher value determines the stage. The diagnosis of hypertension requires integration of home or ambulatory blood pressure monitoring (ABPM) in addition to measurements made in the clinical setting. The following diagnostic criteria were suggested by the 2017 ACC/AHA guidelines; meeting one or more of these criteria using ABPM qualifies as hypertension [3].

●A 24-hour mean of 125/75 mmHg or above
●Daytime (awake) mean of 130/80 mmHg or above
●Nighttime (asleep) mean of 110/65 mmHg or above

Both white coat hypertension and masked hypertension are conditions that can be defined based upon the comparison of out-of-office blood pressure measurements (ABPM and home) with office-based blood pressure measurements.

White coat hypertension — White coat hypertension is defined as blood pressure that is consistently elevated by office readings but does not meet diagnostic criteria for hypertension based upon out-of-office readings. **Masked hypertension** — Masked hypertension is defined as blood pressure that is consistently elevated by out-of-office measurements but does not meet the criteria for hypertension based upon office readings. Patients found to have an

office blood pressure of ≥130/≥80 mmHg but an out-of-office blood pressure (either mean daytime or mean home) of <130/<80 mmHg have **white coat** hypertension rather than true hypertension [3]. Patients with white coat hypertension should undergo reevaluation with out-of-office blood pressure monitoring at least yearly since these patients can develop hypertension over time.
Patients who have office readings of 120 to 129/75 to 79 mmHg and established cardiovascular disease, known renal disease, or elevated cardiovascular risk should also undergo out-of-office blood pressure measurement [3]. Patients with office blood pressure <130/<80 mmHg but an out-of-office blood pressure (either mean daytime or mean home) ≥130/≥80 mmHg have **masked** hypertension.
Hypertensive urgency and emergency — Severe hypertension (usually a diastolic blood pressure above 120 mmHg) with evidence of acute end-organ damage is defined as a hypertensive emergency [3]. Hypertensive emergencies can be life-threatening and require immediate treatment, usually with parenteral medications in a monitored setting .

Hypertension is leading cause of death both in developed and in developing countries. The estimated risk of hypertension around the world is increasing leading to increased economical burden on the patient. To prevent the hypertension one should have thorough knowledge about it, its risk factors and how can it be cured. The knowledge is important both for the patients and the general population.[4,5] It becomes very important to recognize it at very early stage before the complications like coronary hearth diseases, stoke or renal failure occurs.[5,6,7]

MATERIAL & METHODS :

The cross sectional study was undertaken on undergraduate BDS students to access their basis knowledge about hypertension, it risk factors and complications. The study was done on 100 undergraduate students of Govt. dental college Srinagar. The students were given questionnaire regarding hypertension and were asked to fill the questions ranging from the etiology, diagnosis, complications and treatment of hypertension. The data was analyzed using SPSS software(version : 19) .

RESULTS :

This study determined that the knowledge among undergraduate students about hypertension, its etiology, diagnosis, risk factors and complications was found to be moderate , varying between 57-84%, the results of our study are similar to another study, which assessed the knowledge of etiologic factors of high blood pressure among under graduate students done by sheikh et al in 2011.[8]

Table no. 1: Knowledge about etiology & risk factors hypertension among dental students

Risk factor	Knowledge (number)	No knowledge (number)
Age	80	20
Obesity	76	24
Family History	60	40
Race	50	50
High sodium diet	26	74
Physical inactivity	62	38
Gender	50	50
Psycho social stress	43	57

Table no.2: Knowledge about diagnosing & management of hypertension among dental students

Diagnosis & Management	Knowledge	No knowledge
History	62	38
Physical examination	73	27
Laboratory testing	43	57
Types of hypertension (white coat , masked)	54	46
Diagnosis	42	58
Non-pharmacological management	23	77
Pharmacological management	32	68

Table no.3: Knowledge about complications resulting from hypertension among dental students

Complications	Knowledge	No knowledge
Hypertensive crisis (emergencies & Urgencies)	23	77
Left ventricular hypertrophy (LVH)	25	75
Heart failure	30	70
Ischemic stroke	47	53
Intracerebral hemorrhage	21	79
Ischemic heart disease	27	73
Chronic kidney disease and end-stage renal disease	43	57

DISCUSSION:

Hypertension is a chronic disease in which the blood pressure in the arteries is persistently elevated to a level that places patients at increased risk for target organ damage in several vascular beds. There are lot of factors which leads to hypertension ranging from obesity, decreased physical activity, stress, kidney problems, smoking, alcohol consumption or idiopathic causes.[9,5]Males suffer more from hypertension than age matched women because of predominant sympathetic response seen in males. Blood pressure also rises with age. Zafaer et al[5] based on a questionnaire showed effect of smoking among non hypertensive and hypertensive patients [10,11,12].The public health burden of hypertension is enormous, and data from Framingham study have shown that hypertensive patients have four fold increase in CVA as well as six fold increase in CHF when compared to normotensive control subjects. Disease associated mortality and morbidity increase with higher levels of systolic and diastolic blood pressure.[13] For providing better treatment modalities to patients and prevent complications associated with hypertension, dental students should be aware and have comprehensive knowledge about hypertension. There is no standardized tool to assess HTN knowledge, awareness, and attitudes. We used the existing literature, practicing physicians, and experts in the field of HTN to design a questionnaire that would be comprehensive and detailed. To achieve the ultimate goal of improving health by controlling HTN, it is important to fully understand the current status of patient knowledge, awareness, and attitudes with respect to HTN. It is necessary to understand these patient factors to develop effective strategies and interventions that enlist the patient as a participant in the management of their health.[14,15]

In the present study the knowledge responses of the dental students on hypertension were assessed and found to be moderate, which is similar in a study which assessed the knowledge of risk factors of hypertension among entry level students in a medical university and associated with B.P, physical inactivity, family history of CVD, and socioeconomic variables. [1] in the present study 21-79% of students considered smoking to be a major risk factor for hypertension. Same results were seen in a study by lopez et al [9] Primary prevention aims to reduce or modify the risk factors through appropriate educating programs to increase the awareness among people. So this study was done to assess the levels of knowledge, attitude and practice among the undergraduates about hypertension and its prevailing complications. The gap in knowledge regarding both risk factors and prevention was identified and thus demonstrated that comprehensive knowledge is lacking among the dental students.

CONCLUSIONS:

Although the awareness among the dental students is moderate, the comprehensive knowledge, attitude and awareness on the risk factors, medications and lifestyle practices is lacking. Comprehensive knowledge should be included in the curriculum of dental students as well. Limitations of our study : we should have compared awareness in different years of course as well as with medical students.

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