

**Original Article****Prevalence of Hypertension among Medical Students: A Cross-Sectional Study**

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**Abstract**

**Background:** Hypertension is a major chronic lifestyle disease and an important public health problem worldwide. Medical students may be susceptible to hypertension at an early age.

**Objective:** The present study was conducted to observe the prevalence of hypertension among medical students.

**Methods:** A cross-sectional study was conducted in the Department of Physiology, Jahurul Islam Medical College from January 2023 to January 2025, for this study, 200 medical students were enrolled. The systolic & diastolic blood pressures were measured.

**Results:** Out of 200 medical students who participated in the study, 130 (65%) were males and 70 (35%) were females. In this study, about 93% medical students were found to be normal body weight, 3.85% males and 2.85% females were found to be obese. In this study, 140 (70%) medical students blood pressure was normal, 50 (25%) students were prehypertensive and only 10 (5%) were stage 1 hypertensive. No students were found as stage 2 hypertensive.

**Conclusion:** The present study gives an idea about the high prevalence of hypertension among medical students in a medical college. This study reinforces the need for creating awareness regarding healthy diet, regular exercise, body weight management and monitoring of blood pressure among the future physicians.

**Key words:** Hypertension, Medical students.

**Introduction**

Hypertension is an important public health challenge worldwide because of its high prevalence and the concomitant increase in risk of other diseases. Hypertension is one of the most important modifiable risk factors for cardiovascular, cerebrovascular and renal diseases and one of the most preventable and treatable causes of premature deaths worldwide.<sup>1</sup>

Hypertension increases the risk for a variety of cardiovascular diseases including stroke & coronary artery disease. Hypertension accounts for an estimated 54 percent of all strokes and 47 percent of all ischemic heart disease events globally.<sup>2</sup> The younger age groups are at increased risk of developing hypertension due to excessive exposure to faulty food habits, academic stress & lack of physical exercise. During their educational period medical students are highly exposed to stress. Social isolation, pressure of examinations, discrepancies between expectations and reality, which could all contribute to psychological stress. This stress can be a risk factor for developing hypertension.<sup>3</sup> Blood

pressure was categorized as normal, <120/80 mmHg, Prehypertensive, 120-139/80-89 mmHg, Stage: HTN,140-159/90-99, Stage 2: HTN ≥160/ ≥100 mmHg.<sup>4</sup>

**Methods**

A descriptive cross sectional study was conducted in the department of Physiology, Jahurul Islam Medical College, Bajitpur, Kishoregonj from January 2023 to January 2025. The study population consisted of 200 medical students of first year. Both male and female medical students were enrolled. A written questionnaire was used to collect and record information on age, sex, weight, height, family history of hypertension, smoking. Systolic & diastolic blood pressures were measured of each subject in seating condition. Blood pressure was categorized into normal, prehypertension & stage 1 and stage 2 hypertension groups.

**Results**

A total of 200 medical students participated in the study. Table I shows categorization of blood pressure.

**Table I: Categorization of blood pressure according to JNC 8**

Category	Systolic blood pressure	and	Diastolic blood pressure
Normal	<120	and	<80
Prehypertensive	130 -139	and/or	80 -89
Stage 1 HTN	140 -159	and/or	90 -99
Stage 2 HTN	≥160	and/or	≥100

Table II showed the distribution of study subjects according to BMI. About 93% of medical students having normal body weight.

**Table II: Distribution of the study subjects according to BMI**

Classification	BMI (kg/m <sup>2</sup> )	Male	Female	Total
Underweight	< 18.5	0	0	0
Normal weight	18.5 -24.9	120(92.3%)	65(92.8%)	185
Overweight	25 -29.9	5(3.85%)	3(4.28%)	8
Obese	≥30	5(3.85%)	2(2.85%)	7
Total		130	70	200

Table III showed distribution of study subjects according to categorization of blood pressure. 140(70%) medical students blood pressure was normal, 50(25%) students were prehypertensive and only 10 (5%) students were stage 1 hypertensive. No students were found as stage 2 hypertensive.

**Table III: Distribution of the study subjects according to categorization of blood pressure**

Blood pressure category	Number	Percent (%)
Normal	140	70%
Prehypertensive	50	25%
Stage 1 HTN	10	5%
Stage 2 HTN	0	0 %

### Discussion

The main objective of this study was to assess the prevalence of hypertension among medical students. In the present study, the prevalence of prehypertension and hypertension was 25% and 10% respectively. In other study, the reported prevalence of hypertension was 8.1%.<sup>5</sup> Another study conducted in India showed that the prevalence of hypertension was 18.5%.<sup>6</sup> Another study showed a high prevalence of hypertension 17.6% was found in Indian population.<sup>7</sup> A cross sectional study was conducted regarding prevalence of high blood pressure among undergraduate medical students of a medical college showed that the prevalence was 11.69%.<sup>8</sup> All these findings indicates that hypertension is a major threat in medical students that needs serious consideration. This is like only the tip of the iceberg where many cases remain undetected. Knowledge & awareness regarding body weight, BMI, hypertension & cardiovascular disease are expected to be good among medical students. But it has been seen that medical students do not take good care of their health because of their busy class & item examination schedules. Sedentary lifestyle with high levels of stress, lack of exercise, lack of proper rest and irregular eating habits making them highly vulnerable to develop hypertension in future.

### Conclusion

Medical students are very important personnel for a country as they will be the future doctors. They will

play an important & vital role in the health sector of a nation. The health of medical students is of important because they must be physically & mentally healthy to perform their study optimally under challenging environments. Besides this lack of physical exercise & improper eating habit may be contributing factors to be prehypertensive and hypertensive. So every medical student should take some preventing measures to maintain healthy lifestyle. As it is a single centre study, further studies should be carried out with a large sample size in different institution to explore the overall situation.

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