

# The Effect of Blood Pressure on Snoring

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## ABSTRACT

The purpose of the present study was to know the effect blood pressure on the Snoring if any present. We were hopeful that there would be some relation between the blood pressure and Snoring. Two hundred students participated in this research. These two hundred students were belonging to Bahaudine Zakariya University Multan Pakistan. The unpleasant sound produced by snoring at night during sleep. The snoring is an intolerable for bed companion. We want to know whether there has any kind effect of blood pressure on snoring. The blood pressure is variable factor but normal value is also known. The blood pressure of person vary person to person according to their age. The people of different age have different blood pressure due change in metabolic activity with person's age. So, we can suppose that blood pressure of different age group has different effect. In order to know relationship between blood pressure and snoring, we prepared the questionnaire about project. For research purpose we have asked the question to students. They have given the answer according to their blood pressure which was measured by sphygmomanometer. We then got final results by comparing the different blood pressure with snorer person.

## Introduction

When blood flow inside the blood vessels it exerts the force, which dilate the blood vessels is known as blood pressure. There is two type of blood pressure known as Systolic and diastolic [1-4]. when blood exert the force on the vessel during heart contraction or beating create blood pressure which known as systolic blood pressure. The 120mmHg is the normal and optimum systolic blood pressure. While diastolic pressure is minimal arterial blood pressure which is produced during the relaxation of heart's ventricle and filling of heart with blood takes place through this process. The 80mmHg is normal diastolic blood pressure in normal healthy person. Blood is connective tissue which transport the food, nutrients and oxygen to all parts of body. For this purpose, normal and suitable blood pressure also required. But there are many medical problems are associated with abnormal blood pressure [5]. High blood pressure and low blood pressure there are two medical problem which spread many other medical complications. The five blood pressure ranges are given by American Heart Association. The first is a normal range. The blood pressure less than 120/80 mmHg is normal range it is the sign of good health of heart.

Elevated is the second range in which blood pressure consistently remain above the 120/80 mmHg. Systolic range is 120 to 129 mmHg and diastolic range is less than 80mmHg. If proper precaution and action not taken then person may go to high blood pressure disease. Hypertension stage 1 is the 3rd range [6]. In this range systolic blood pressure may remain above the 130 to 139 mmHg and diastolic blood pressure range is 80 to 89. At this stage person's life style should be change and doctor may prescribe medicine according to risk of Heart attack or stroke. Hypertension stage 2 is the 4th range of blood pressure. 140mmHg or more is systolic pressure and 90mmHg or more is diastolic pressure. The change in lifestyle as well as medicine are must require during the high blood pressure. Hypertensive crisis is the last and fifth range in which systolic pressure is more than 180 mmHg and diastolic pressure is more than 120mmHg. It is an emergency condition in this situation call the doctor.

Due to high blood pressure heart attack, brain stroke, kidney disease, limb disease. The low blood pressure symptoms dizziness,

fainting, blurred vision, nausea. Snoring is a sound produced by the vibration due to turbulent air movement. When we speak vocal cords vibrate to produce voice like that snoring is a voice which is produced at the night during sleep. Snoring is an unpleasant sound for bed partner [7]. It is not very serious in general. Snoring is a general condition that can affect anyone but especially it affects the man who has high weight. It has a tendency to increase with increase of age. Many people snore during the allergy seasons. Abnormal structure like deviated septum or nasal fluids cause obstruction that's why snoring is produced. A long soft palate may narrow the opening from the nose to the throat. When these structures vibrate and move against one another then the airway becomes obstructed which causes snoring.

## Material and Method

Stethoscope and sphygmomanometers, there are three types of sphygmomanometer used: digital mercury, aneroid. Here we use the mercury sphygmomanometer. It is made up of an inflatable cuff which is wrapped around the arm to measure the blood pressure. The device which measures the blood pressure recognizes the cuff's pressure. There is a bulb which moves the air into the cuff which inflates the cuff. The stethoscope is used to detect the sound of flow of blood in arteries [8]. When the heart as a whole contracts, it produces the pressure, which is known as systolic blood pressure and decreases when the heart relaxes and prepares for the next heart beat, which is known as diastolic pressure. We wrapped the cuff around the person's arm and then the cuff is inflated by using a bulb which creates the air pressure in the cuff and the cuff is inflated. The cuff is inflated at a maximum range for getting the expected systolic pressure. Then the valve of the bulb is opened, the pressure of the cuff is released or decreased slowly for getting an appropriate result. Then the stethoscope is placed on the vessels of the arm. When the systolic pressure became equal to the cuff's pressure, then it created the blood flow sound which is produced due to blood flow turbulence. This sound we heard through the help of the stethoscope, then we recorded the cuff's pressure. This sound can be heard till the cuff's pressure falls below the arteries' pressure or diastolic, when the sound stops, it indicates the diastolic pressure [9-10]. We write down the diastolic pressure on the note book. In this way we measured the blood pressure of 200 students of Bahauddine Zakariya University Multan, Pakistan, for research purposes. All students have varied blood pressure according to their health condition. The purpose for measuring blood pressure was to correlate snoring with blood pressure.

## Project Designed

A questionnaire was prepared to know what the effect of blood pressure on snoring is. In this project, two hundred students participated.

## Statistical Analysis

Statistical analysis was done by MS EXCEL. The SAS (statistical analysis software) was used. In this project, the p-value less than .05 was considered as a significant value.

## Result and Discussion

We put our gathered data in the MS Excel. These data values were blood pressure of different students. Two hundred students participated in this project. These students have different blood pressures. There were thirty students who do snoring during sleep. It means that 30 students' systolic and diastolic blood pressures were different but they said that they snore during sleep. The other 170 students also have different blood pressures but they did not feel snoring. The .005 p-value is known as a significant standard value.  $P > .05$ , it means that there is no effect of blood pressure on snoring. We know that the standard value of p is .05 but our results are more than the standard value.

The students whose average systolic blood pressure (Table 1) was 121.0465 mmHg were snorers but they were 25 out of 200 students. But average systolic blood pressure 123.0525 mmHg had no snoring issue. They were 175 students who had no snoring problem. In Table 2, it has shown that the average diastolic blood pressure 74.75 had snoring issues but the matter is that they were small in number. They were 25 students. But in contrast, the average diastolic blood pressure has 75.75 mmHg were no snorers. They were in massive quantity. They were 175 students. Some research reveals that snoring has some relation with high blood pressure because snoring can cause high blood pressure but high blood pressure has no relation with snoring, it means that blood pressure doesn't cause snoring.

**Table 1:** The mean value of systolic blood pressure + standard deviation value.

Snoring	No Snoring	P Value
121.0465 ± 16.16302	123.0525 ± 14.19243	0.62707

**Table 2:** The mean value of diastolic blood pressure + standard deviation.

Snoring	No Snoring	P Value
74.79795 ± 8.948832	75.75922 ± 8.862749	0.4865

## Conclusion

It was concluded from the above research that the maximum average systolic and diastolic pressures have no relation with snoring but minimum average systolic and diastolic blood pressures show a relationship with snoring. Finally, it was concluded from the present study that there is no effect of blood pressure on snoring. Some research is present here that shows snoring can increase blood pressure but blood pressure has no significant effect on snoring.

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