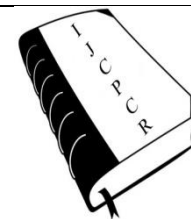




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HYPERTENSION PREVALENCE IN YOUNG ADULTS IN THE GUNTUR DISTRICT OF ANDHRA PRADESH, INDIA

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ABSTRACT

High blood pressure is not studied in young adults because they are believed to have a low risk of developing complications. To develop intervention strategies, it is necessary to study disease prevalence and its relation with lifestyle habits. This study aimed to assess hypertension prevalence among young adults in the Guntur district of Andhra Pradesh and to study lifestyle habits such as tobacco use and alcohol consumption. Two hundred college students aged 18 or older were surveyed by means of a cross-sectional survey. The study included anthropometric measurements, blood pressure recordings, and sociodemographic characteristics. A total of 75 out of 200 students (37.5 %) had high blood pressure, with 10 students (5.01%) having hypertension. The majority of these students had recently been diagnosed (65%). Female students had a lower prevalence of high blood pressure (36.29%) than male students (40.52%). Out of all the students, 33.85% were prehypertensive and 5.12% were hypertensive. People who had a history of smoking or drinking alcohol had a higher prevalence of hypertension. The majority of students with hypertension (hypertensive stage) had not been diagnosed previously. Prehypertension was prevalent in a large percentage of students. High blood pressure can be reduced in productive age through early identification and appropriate intervention.

Key words: Life style complications, hypertension, young adults.

INTRODUCTION

Globalization, industrialization, urbanization and economic development have occurred rapidly in developing countries. Consequently, living standards have improved, but inappropriate dietary habits and physical inactivity have increased [1]. Young adults in the reproductive age group of the present generation will be affected by this health transition. It is estimated that India has a prevalence of hypertension ranging between 17.7% and 29.8% [2]. Nearly 31% of all global deaths are caused by cardiovascular diseases. 17.5 million of these deaths were caused by cardiovascular disease, 7.4 million by stroke. The risk of cardiovascular disease is increased by high blood pressure [3]. Half of all stroke and heart disease deaths are due to high blood pressure, according to the WHO's World Health Statistics Report 2012. Global disease burden from hypertension is 4.5 percent [4]. There has been an increase in young adults' hypertension. There are several factors that contribute to stress, including changed lifestyle and education patterns. School and

college screenings are necessary to improve detection rates [5]. When compared with developed countries, development countries have a lack of widespread early diagnostics and treatment for cardiovascular diseases [6]. There are a wide range of diseases in developing countries, including hypertension, stroke and coronary artery disease. Study purpose was to determine if college-going young adults had hypertension according to JNC-VII guidelines [7]. Young adults with high blood pressure are not well studied, so there is a lack of data.

METHODOLOGY

Study Area

A cross-sectional study was conducted in the Guntur district of Andhra Pradesh of students between the ages of 18 and 25. There were 204 students who volunteered to participate in the study, and 200 completed the survey questionnaire.

Collection of Data and Sample

To reach the required sample size, all eligible students were randomly selected. After obtaining clearance from the college authorities, participants were asked to provide written informed consent. In addition to the physical examination, the investigator completed part of the questionnaire

Measurement of blood pressure

We measured blood pressure on the right arm of all eligible students in a relaxed state. This study used a mercury sphygmomanometer with a cuff fit for adults. A final blood pressure reading was taken by taking two readings five minutes apart. The blood pressure status of those with hypertension was informed to them and they were referred to the hospital medicine OPD.

In a relaxed position and standing erect with feet 25-30 cm apart, waist circumference was measured using a measuring tape at the mid-point between costal margin and iliac-crest after normal expiration. With arms by the side and feet together, the hip circumference was measured with measuring tape at the level of greater trochanters (widest portion of the hip). As waist circumference divided by hip circumference, the waist-hip ratio was calculated [8].

Criteria on Diagnosis Hypertension

It was considered hypertension if the student had previously been diagnosed and or was receiving treatment

OR if the systolic blood pressure was more than 140mm mercury or the diastolic pressure exceeded 90mm mercury.

Obesity

The waist hip ratio greater than 1 and the waist circumference more than 80 cm indicates central or abdominal obesity, respectively, whereas waist circumference more than 94 cm are considered truncal obesity [9,10].

Data Analysis

We analyzed data with R statistical software and performed Chi-square tests to determine if different variables are associated with hypertension.

RESULTS

There were 204 questionnaires included in this study. The questionnaire was filled out by 200 people. It is estimated that ninety percent of the students were under the age of twenty, primarily between 18 and 19. There was an equal contribution from males (51.4%) and females (44.6%). It was found that 10 out of 200 students had hypertension (prevalence 5.1%) and 65 percent of these were newly diagnosed. Male students (6.7%) suffered from hypertension at a higher rate than female students (3.29%). The prehypertension level of 33.85% of subjects was also higher than the norm. Students with a history of smoking and drinking were more likely to smoke (52.5%) and drink (30.3%).

Table 1: Participants characteristics

Variables	Number (n=200)	Percentage (%)
Age (in yrs)		
18-20	150	75
21-24	50	25
Gender		
Male	105	52.5
Female	95	47.5
Religion		
Hindu	145	72.5
Muslim	35	17.5
Christian	20	10

Table 2: Hypertension prevalence

Gender	Students examined	Students with hypertension	Prevalence in percentage (%)
Male	105	7	70
Female	95	3	30
Total	200	10	100

Table 3: History on patients with hypertension addicted with smoking and alcohol habits

History	Students examined	Students with hypertension	Prevalence in %
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Tobacco consumption			
Present	65	6	60
Absent	135	4	40
Total	200	10	100
Alcohol intake			
Present	62	6	60
Absent	138	4	40
Total	200	10	100

DISCUSSION

Childhood, adolescence, and adulthood can all be affected by high blood pressure. In adolescence, high blood pressure measurements predict adult hypertension [11]. To prevent hypertension from developing, young adults should monitor their blood pressure regularly. Participants in this study were found to have a high prevalence of elevated blood pressure. Studies conducted on the same age group have reported similar results [12]. Since 35% of the study participants were prehypertensive, young adults should keep a regular check on their blood pressure.

There are several factors that contribute to the development of hypertension in young adults as identified in previous studies. There was the strongest association between obesity and hypertension among various factors. Indicators of obesity, such as waist circumference and waist height,

are significantly related to blood pressure (systolic and diastolic) [13-16]. Our study found no association between alcohol consumption and hypertension.

CONCLUSION

High blood pressure is highly prevalent among teenagers and young adults. Many cases of this disease go undiagnosed at the start. Patients with prehypertension need to be monitored regularly. In this manner, it is possible to identify hypertension early, which enables the patient to receive treatment earlier, thereby reducing complications later on, such as cardiovascular damage. Hypertension in young adults needs to be researched further in order to formulate the right preventive strategies at the right time.

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