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### RESEARCH ARTICLE

#### PREVALENCE OF PRE-HYPERTENSION IN POPULATION OF SOUTH INDIA.

Dr. Shivasubramanyam<sup>1</sup>, Dr. CRPS Krishna<sup>1</sup>, Dr. K. Surya Pavan Reddy<sup>2</sup> and Dr. Rajendra Prasad<sup>3</sup>.

1. Asso. Prof. - Kamineni Medical College, Narketpalli, Telangana.
2. Prof. – Apollo Institute of Medical Sciences Chittoor, A.P.
3. Prof. - K.M.C, Warangal, Telangana.

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Pre-hypertension, hypertension,  
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#### Abstract

**Background:** Estimating the prevalence of pre-hypertension becomes important in population to take preventive measures and to decrease the burden of hypertension.

**Aim:** Aim of study was to estimate the prevalence of prehypertension and determine the factors associated with hypertension .

**Methods:** The study was conducted on 812 out patients. Data regarding basic demographic characteristics were collected anthropometric measurements including height and weight were measured, dietary habits addictions like smoking and alcohol were noted. Prehypertension is defined as systolic Blood pressure 120-139 mmHg and diastolic Blood pressure 80-89 mmHg.

**Results:** prevalence of pre hypertension is estimated to be 32.87%. Dietary factors like salt intake, alcohol consumption, family history of hypertension and diabetes mellitus had significant association with prehypertension.

**Conclusion:** Early intervention is need as prevalence of prehypertension is found to be very high and to decrease the burden of hypertension.

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#### Introduction:-

**Prehypertension** termed by JNC VII is the condition of a person's blood pressure being elevated above normal, but not to the level considered to be hypertension. Prehypertension is considered to be blood pressure readings with a systolic pressure from 120 to 139 mm Hg or a diastolic pressure from 80 to 89 mm Hg. Readings greater than or equal to 140/90 mm Hg are considered hypertension. Above classification is based upon two or more readings at two or more separate occasions with a gap of at least one week. The seventh report of the Joint National Committee (JNC 7) proposed the term Prehypertension for elevated blood pressure values below 140/90 to more accurately justify the tendency of blood pressure to rise with age. Now in JNC 8, there is no mention of the term "Prehypertension".

Prehypertension is a new entity coined by the Seventh Joint National Committee, but only a little work was done on the incidence and prevalence of prehypertension. The purpose of this study was to identify the prevalence and risk of hypertension in young adults 18 -35 years of age.

This work is a survey where 812 out-patient participants were selected and surveyed during (2014–2016). We compared the association of elevated BP, using the criteria set by the JNC.

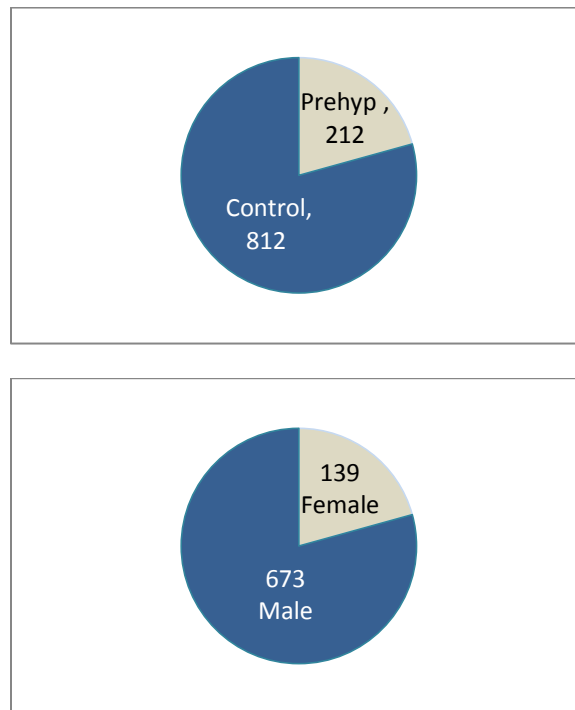
This study denotes the importance of detection of prehypertension and emphasizes the need for the need for early treatment or necessary lifestyle modifications and precautions to be taken so that many later complications can be avoided.

### Material and Methods:-

Usual sized BP cuffs were used to measure BP every 5 minutes, by qualified doctors using standardized mercuric-column sphygmomanometer, with the subject volunteer sitting and an average of the 3 BP measurements was used to find hypertension or prehypertension.

Specifically, BP was measured 3 times according to a standard protocol interval during a single visit. According to the guidelines set by the World Health Organization and the National Institutes of Health, hypertension should be assessed based on the average of  $\geq 2$  BP readings taken at  $\geq 2$  visits after an initial screening.

### Results:-



Among 812 subjects examined and analyzed in 212 subjects (32.87%) prevalence was found for prehypertension, Out of these Male: 176(83.03%) Female 36 (16.97%) And 23.28 % of subjects were obese.

### Discussion:-

JNC VII was not the only source for the term pre-hypertension or the BP range that defines it. In 1939 Robinson and bracer defined BP in the range of 120-139/80 to 89 mm of hg as pre – hypertensive when compared with normotensive individuals. Pre-hypertensive individuals are more likely to be overweight and obese to have other cardiovascular risk factors to progress to established HTN and to experience premature clinical CVD

Data from the 1999 and 2000 National Health and Nutrition Examination Survey (NHANES III) estimated that the prevalence of prehypertension among adults in the United States was approximately 31 percent. The prevalence was higher among men than women (39 %and 29% respectively).. At last 7 cohort studies documented a significant contributed of stage2 pre HTN to CVD risk.

High incidence i.e. 32.87% of prehypertension observed in this study was similar to that reported elsewhere in India ;Chennai 47.4%, West Bengal 50%, and Kerala 44.3%..

Elevated blood pressure develops gradually over many years usually without a specific identifiable cause. However, possible medical causes, such as medications, kidney disease, adrenal problems or thyroid problems, must first be excluded. High blood pressure that develops over time without a specific cause is considered benign or essential hypertension. Blood pressure also tends to increase as a person ages.

A primary risk factor for prehypertension is being overweight. Other risk factors include a family history of hypertension, a sedentary lifestyle, eating high sodium foods, smoking, and excessive alcohol intake. Blood pressure levels appear to be familiar, but there is no clear genetic pattern.

Prehypertension is often asymptomatic (without symptoms) at the time of diagnosis. Only extremely elevated blood pressure (malignant hypertension) can, in rare cases, cause headaches, visual changes, fatigue, or dizziness, but these are nonspecific symptoms which can occur with many other conditions. Thus, blood pressures above normal can go undiagnosed for a long period of time.

### Conclusions:-

Findings from the current investigations it must be considered within the context of the study's limitations. Specifically, BP was measured 3 times according to a standard protocol during only a single visit. According to the guidelines set by the World Health Organization and the National Institutes of Health, hypertension should be assessed based on the average of  $\geq 2$  BP readings taken at  $\geq 2$  visits after an initial screening.

Furthermore, the covariates for example, diet, anxiety and depression, and pharmacological treatment, which may have effects on these associations, were not included in this survey. Furthermore, the co-variants for example, diet, anxiety, and depression, and pharmacological treatment, which may have effects on these associations, were not included in this survey.

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