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### Short report

# Prevalence, awareness, and control of hypertension in school teachers in warangal, andhra pradesh, India

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#### ABSTRACT

In Recent years, non-communicable diseases are important contributors to the burden of diseases in developing countries. Whereas, high blood pressure is a major public health problem in India. The study is population based cross-sectional study aimed to find out prevalence, awareness and control of hypertension in among school teacher in the state of Andhra Pradesh, in Warangal, India. The study was conducted over a period of 3 months from January to March 2013. A total number of 48 subjects were found to be normotensive of which 58 males screened 75% were normotensive of which 89 females screened and 16% were normotensive. Overall 90 subjects were found to be pre-hypertensive and 19% were males and 26% were females. A total number of 4% subjects were found to be hypertensive of which 3% were males and 2% were females. Our study suggest that, prevalence of hypertension found to be lower in the school teacher's population this could be due to the awareness regarding hypertension and maintaining quality of life style, dietary habits and physical activities. In future, medication adherence and role of anti-hypertensive drugs in the subjects should be perform.

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### 1. Introduction

Nowadays, non-communicable diseases are important contributors to the burden of diseases in developing countries at all stages of economic development. Whereas, high blood pressure (BP) is a major public health problem in India [1-4]. It is a major cardiovascular risk factor [5-7] and contributes significantly to cardiovascular mortality [8,9]. Prospective studies collaboration has reported that reducing blood pressure can substantially decrease cardiovascular risk and cardiovascular as well as all-cause mortality [10]. Dietary life style, regulatory, and pharmacological interventions can lower risk factors for cardiovascular disease. This risk reduction is steeper in younger subjects than in the older subjects and is more when baseline blood pressure levels are high. In a meta-analysis of 61 studies involving more than a million patients with hypertension and 12.7 million years of follow up it was observed that reducing systolic as well as diastolic BP reduced cardiovascular events [11]. Therefore, the study was conducted over three months in different public schools of telangana region, India and aimed to find out

1. The prevalence of hypertension among the school teachers
2. The family history of hypertension
3. The awareness of disease and
4. Percentage of patients on treatment

### 2. Materials And Methods

This study is population based cross-sectional study aimed that the school teacher's population in the state of Andhra Pradesh, in Warangal, India. The study was conducted over a period of 3 months from January to March 2013. The nature of the study was explained to those who concern were included in it. 200 persons participated in the screening test and their blood pressure was measured after the subjects tested for at least 10-30 min using a sphygmomanometer by four paramedical students i.e Pharm-D and data was recorded by M Pharmacy students according to the definition made by Indian heart association, hypertension was defined as systolic blood pressure of >140 mmHg and diastolic blood pressure of >90mmHg.

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Data of all the subjects examined was given to the health attendants at the individual persons. Those whose hypertension was out of control were asked to continue same medication. Newly diagnosed persons on those not controlled by treatment or not complying with the treatment were advised to consult the nearest government hospital.

### 3. Results:

The total number of participants in the screening programme was 200 out of which 95 male and 105 female were males 47 % and 52 % females. The mean systolic and diastolic pressures and standard deviation in males and females are shown in table .1 A total number of 48 subjects were found to be normotensive of which 15 (75%) were normotensive of which 89 females screened and 33 (16%) were normotensive. Overall 90 subjects were found to be prehypertensive and 38 (19%) were males and 52(26%) were females. A total number of 9 (4%) subjects were found to be hypertensive of which 5(3%) were males and 4(2%) were females. A statistical analysis was done by graph pad prism version 5.0. the student one sample 't' test was done and difference between blood pressure values of males and females was found to be statistically significant  $P < 0.0001$ . Table 2. Spearsman coefficient showed a significant correlation between systolic and diastolic blood pressure to be  $r^2 = 0.2634$  with P value of  $< 0.0001$  showed in Figure.1. Family history of hypertension was present in 62% subjects and awareness of disease was present in 86% patients who are on treatment of the 52% patient on treatment effective control of hypertension was found only in 27 of them.

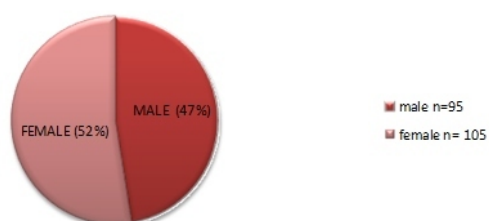
**Table 1. Descriptions of blood pressure among participants**

Blood Pressure	Gender	Mean	Standard Deviation	Minimum	Maximum	CI
Systolic	Male n =95	122.0	18.42	20	180	118.2 -125.7
	Female n =105	119.2	16.34	14	170	116-122.4
	Total n = 200	120.5	17.37	14	180	118.122.4
Diastolic	Male n =95	81.47	9.632	50	110	79.51-83.44
	Female n = 105	78.30	9.020	60	100	76.56-80.05
	Total n = 200	79.81	9.427	50	110	78.5-81.12

**Table 2 . Classification of blood pressure status among the participants for Male vs Female**

Blood Pressure	Gender		Total (%)
	Male (%)	Female (%)	
Normotensive <120/<80	15(75)	33(16)	48(24)
Pre-hypertension 120-139/80-89	38(19)	52(26)	90(45)
Hypertension $\geq 140/\geq 90$	5(03)	04(02)	09(04)
<b>Total</b>	<b>58</b>	<b>89</b>	<b>147</b>

**FIGURE1.GENDER BASED DISTRIBUTION OF THE PATIENTS**



### 4. Discussion:

During past decades hypertension has been identified as major risk factor in the development of CVS disease morbidity and mortality [12]. The most of the researchers report that South Asian are predisposed to hypertension and coronary artery disease. possibility due to the insulin resistance [13]. In India, hypertension has found to be independently affect cardiovascular disease adversely in past decades. It has been estimated that there are 1 million individuals with hyper tension world-wide [14] and 240 millions in India alone. In this study overall subject were (09) 04 % of the screened school teachers of Warangal school teachers in

Andhra Pradesh, India. The prevalence of hypertension observed in this status significantly lowered. Hence in our present study did not complete entire teaching population of Warangal. Researchers has been proved that reduction in blood pressure occurs in increase physical activity [15-17] and improve the exercise capacity and quality of life. [18]. The anti-hypertensive effect of exercise has proven to anti-hypertensive drug to larger extent [19]. The prevalence of hypertension was found to be high in male in this survey 3% than that of 2% in females were as coming to family history 31% individuals revealed a family history of hypertension in one or both parents. Association of family history of hypertension and its prevalence has been studied by other researchers and has been proved that the incidence of hypertension in twice as much as seen in those without family history [20]. Awareness of hypertension in our study only 86 (43%) individuals. We did not get any literature of national health morbidity survey of India of hypertension to discuss about awareness of hypertension. Medication adherence was performed by eight - item Morisky's medication adherence scale [21] but in our study we did not perform medication adherence scale since our motto of study is not matched.

##### 5. Conclusion:

The prevalence of hypertension found to be lower in the school teacher's population this could be due to the awareness regarding hypertension and maintaining quality of life style, dietary habits and physical activities. The study may reflect the health status among the community school teachers and to create the awareness about hypertension complication's such as cardiovascular disease, stroke, thyroid disease and retinopathy problems. In future, medication adherence and role of anti-hypertensive drugs in the subjects should be perform.

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