



THE PREVALENCE OF HYPERTENSION AND THE RISK FACTORS IN SCHOOL GOING CHILDREN AGE 5-16 YEARS : A CROSS SECTIONAL STUDY

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ABSTRACT

Background: Hypertension in children is an emerging public health issue worldwide with Essential Hypertension being more common in children. In various studies, the Prevalence of hypertension in children is on a rising trend from as low <1% to as high as 16%. **AIM:** To estimate the prevalence of hypertension in school going children between 5- 16 years and to assess the risk factors associated with hypertension in these children. **Methodology:** A cross-sectional study conducted among 354 students of Kanachur Public school, Deralakatte Mangalore, between age group of 5-16 years. Multistage sampling was adapted. Three readings of blood pressures of each child was taken maintaining an interval of 2 minutes between the readings. Mean of the three readings was considered. **Results:** Out of 345 children, 11(3.1%) of children were found to have hypertension, of which females (4.6%) had higher prevalence of hypertension compared to males (1.7%). **Conclusion:** The rising sedentary lifestyle, poor dietary habits, and higher fat and salt intake may be potential contributing factors to this ongoing trend. Early detection can aid in preventing future complications associated with hypertension and related conditions.

KEYWORDS : Hypertension , School children , India , Elevated blood pressure , Systolic blood pressure , Diastolic blood pressure

INTRODUCTION

- Hypertension in children is an emerging public health issue worldwide.
- Data from diverse populations shows that elevated blood pressure in children and adolescents may be an early expression of essential hypertension in adulthood
- Essential(primary) hypertension is more common than secondary hypertension in children resulting from renal disease (which was earlier thought to be the most common) (1)
- In different studies of recent times, prevalence of hypertension in children is on rising trend from a low <1% to as high as 16.2%

Objectives

- To estimate the prevalence of hypertension in school going children

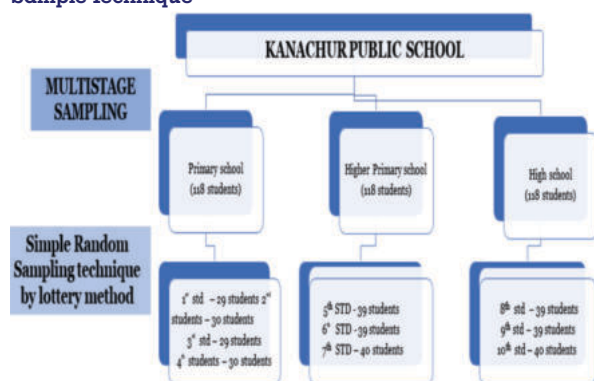
MATERIAL & METHODS

Study Design: A school based cross-sectional study

Study Area: Kanachur Public school, Deralakatte, Mangalore

Study Population: All the students studying in Kanachur school aged between 5-16 years

Sample Technique



Inclusion Criteria

- Apparently healthy school children in the age group of 5-16 years
- Students who were present on the day of visit

Exclusion Criteria

- Children with known case of hypertension
- Children with cardiac disorders, renal disorders, endocrinological disorders
- Children with any chronic illness or any history of drug intake known to influence blood pressure

Sample Size: The sample size was calculated based on pervious study were prevalence of hypertension among obese children was 64.29 % (2) at 95% confidence interval and 5% margin of error. Therefore, sample size calculated was 354 students.

Blood pressure: Data entry : Excel
Automatic digital blood pressure machine

Data analysis : SPSS
version 28

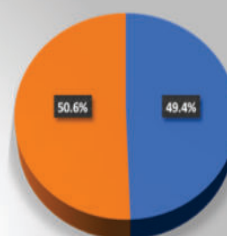
Statistical test used : Chi square test - to find the association between hypertension and age, sex of child.

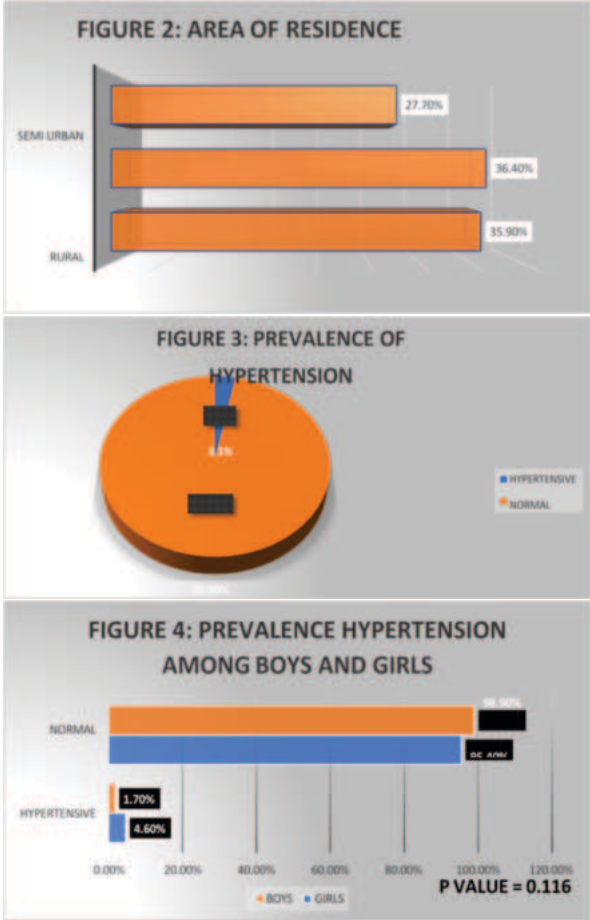
Three readings of blood pressures an interval of 20 minutes between the readings. Mean of the three readings was reported

Continuous variable P value < 0.05 is : mean and standard deviation, median and interquartile range,
categorical variable : frequency and percentage.

RESULTS

FIGURE 1: GENDER DISTRIBUTION





DISCUSSION

HYPER-TENSION	PRESENT STUDY	MADHIVANAN S et al., (2017)(2)	Srirama S et al., (2020)(3)
OVERALL PREVALENCE	3.1%	1.70%	8.9%
PREVALENCE FEMALE , MALE	4.6% , 1.7%	1.43% , 1.95%	8.4% , 9.3%
AGE	Significant Positive correlation	Significant Positive correlation	Not significant
PREVALENCE OBESE	31.80% (significant and positive correlation)	64.29%	18.75% (significant)
PHYSICAL ACTIVITY	Not significant	----	Not significant
FOOD DIET	Not significant		Not significant

Merits

- The study addressed an important and relevant issue- Hypertension among school students and its risk factors
- The finding of this study will help in introducing necessary interventions in future
- The study was conducted by trained professionals and standardised reliable tools were used for data collection.
- Risk factors among children were assessed by answers provided by parents in questionnaire format.

Limitations

- It's a cross sectional study with no follow up
- This study was conducted on small population
- The sample of the present study is limited with one geographical region and restricted to one school so generalisation of finding is limited

CONCLUSION

- Paediatric HTN is often undiagnosed and has a significant effect on long term cardiovascular outcomes.
- Preventing the development of risk factors is essential, especially in developing nations like India where non-communicable diseases are prevalent
- A school-based interventions such as yoga, meditation is recommended to lower modifiable risk factors and encourage healthy lifestyle choices.
- To conclude, screening and early detection of hypertension through strengthening of school health programme is of utmost importance to prevent future epidemic and complications of hypertension in this young segment of population.

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