
Epidemiology

3.5 Prevalence of Hypertension and Urinary Abnormalities in an Indian Paediatric Population

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Introduction. Hypertension and nephropathies are becoming a major problem even in low-income countries, but data relating to child population are limited. In high-income countries paediatric hypertension is associated with overweight (OW) and obesity (OB), conditions rarely found in poor countries.

Aim. To determine the prevalence of hypertension and/or urinary abnormalities in children living in a rural area south of Kolkata.

Methods. We measured arterial blood pressure and tested the presence of haematuria and/or proteinuria (Comburtest, Roche) in 1200 children between 5-12 years (average age 8.35 ± 1.4 , 592 males). Children were defined hypertensive when values of systolic (SBP) and/or diastolic blood pressure (DBP) were > 95 th percentile and pre-hypertensive those with values of SBP and/or DBP > 90 th and < 95 th percentile according to age, gender and height. OW and OB children were identified by the International Obesity Task Force standards.

Results. Prevalence of hypertension was 3.0%, without differences in the two genders, 0.8% were pre-hypertensive. Prevalence of excess weight was low: OW = 1.4% and OB = 0.4%. Prevalence of hypertension in normal weight (NW) subjects was significantly lower than that of OW or OB children (NW = 2.7%, OW = 23%, OB = 25%, $p < 0.001$). The percentage of subjects with hypertension was similar in the two genders in the NW, but between excess weight children the hypertension prevalence was slightly higher in females (4/13F vs 0/9M, $p = 0.06$). Microhaematuria was present in 124 subjects (10.3%), only one of which was also hypertensive. Proteinuria was found in 25 children (2.1%), none of whom had hypertension. In 6 subjects there were both microhaematuria and proteinuria (0.5%).

Conclusions. (i) even if the excess weight of the sample studied is low, the prevalence of hypertension is similar to that of high income countries; (ii) when present, excess weight is significantly associated with hypertension; (iii) the prevalence of urinary abnormalities is high, although not associated with hypertension. Our data suggest a high prevalence of primary hypertension in Indian children. Alternatively, unidentified factors conditioning hypertension might be present in this population.