

Blood Pressure Control in Children **Ariana koldas***

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Abstract

Over the last three decades, elevated Blood Pressure (BP) has been recognised as a significant health risk in the paediatric population. According to the bulk of evidence, average blood pressure levels and the prevalence of hypertension have increased significantly among children in the Western world. Obesity, as well as other lifestyle variables such as physical inactivity, high calorie, high salt, and fast food intake, is likely to be to blame. Children's hypertension is increasingly recognised as a substantial risk factor for the development of adult cardiovascular disease later in life.

Introduction

Hypertension has been more common among children and adolescents in recent years, owing to an increase in the incidence of overweight and obesity, as well as changes in dietary habits [1-4]. When looking at adult data, it can be shown that the prevalence of hypertension, the most major risk factor and cause of cardiac disease death, reaches up to 40% after the age of 25. [4]. The causes of hypertension in adults can be traced back to childhood, and the prevalence of high Blood Pressure (BP) in adolescents increases by 7% every year, leading to hypertension [5,6]. New research on paediatric hypertension have been done as a result of these findings, and hypertension guidelines have been changed as a result of the new data. [1,2].

For children with hypertension, there are primarily two recommendations. The first is the European Society of Hypertension (ESH) guideline, which was established in 2009 and modified in 2016. [1,7]. The American Academy of Pediatrics (AAP) guideline, which was updated in 2017, is the other [3]. 30 main recommendations and 27 consensus opinions are included in the AAP guideline. Both guidelines drew a lot of attention and were hotly debated among scientists. The approach to paediatric hypertension in this article will be discussed in conjunction with the existing literature, which will mostly include these two guidelines.

The prevalence of hypertension in children is estimated to be 3.5%, while the prevalence of high blood pressure (blood pressure in the 90%-94% or between 120 mm Hg/80 mm Hg and 130/80 mm Hg in teenagers) is estimated to be between 2.2% and 3.5%.

[2]. In Turkey, there are just a few studies on the epidemiology of childhood hypertension. The prevalence of hypertension in children aged 6 to 15 years was observed to range between 8.5% and 15% in these investigations.

Obesity, sleep apnea syndrome, chronic renal illness, and preterm are all linked to an increased risk of hypertension. In 2013, the World Health Organization (WHO) reported 42 million obese or overweight children under the age of five years around the world. Obesity prevalence in Turkey climbed from 0.6 percent in 1990-1995 to 7.3% in 2011-2015, according to Turkish data. In overweight children, hypertension affects 4%-14% of them, while obesity affects 11%-23% of them. Excessive salt consumption in the diet is also a risk factor, particularly for obese and overweight children. Furthermore, having both hypertension and obesity raises cardiovascular risk factors (such as dyslipidemia and impaired glucose tolerance).

In children and adolescents with type 1 diabetes, the prevalence of hypertension is 4%-16%, and in children and adolescents with type 2 diabetes, the prevalence is 12%-31%; these prevalences are greater than in the general population. Because type 2 diabetes is linked to obesity, people with the disease are at an increased risk of end-organ damage. Another risk factor is sleep apnea syndrome, which has a prevalence of elevated blood pressure ranging from 3.6% to 14%. Hypertension affects 6.1% of children with neurofibromatosis-1, which is much higher than the overall population. Hypertension affects 50% of children and adolescents with chronic renal illness, and 20%-70% of these individuals have uncontrolled hypertension. In teenagers with end-stage renal illness, the frequency ranges from 48% to 70%.

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