FOCUS ON PAEDIATRIC HYPERTENSION

Hypertension in children and adolescents: a growing concern we can't ignore

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We are excited to share some key findings from our recent study on hypertension in children and adolescents, published in The Lancet Child & Adolescent Health.[1] Our work sheds light on the growing global prevalence of hypertension in children and adolescents, a topic that's deeply concerning but often overlooked in public health discussions.

Over the past two decades, the world has seen rapid urbanization, economic growth, and shifts in lifestyle and nutrition. While these changes have brought many benefits, they've also contributed to rising obesity rates in children and adolescents, which is closely linked to hypertension. In fact, our study found that the prevalence of hypertension almost doubled between 2000 and 2020.This trend should ring alarm bells for parents, healthcare providers, and policymakers alike.

Why is childhood hypertension a big deal?

Hypertension in children often flies under the radar. Unlike adults, children with high blood pressure rarely show obvious symptoms, which makes it harder to detect. This "silent" condition may not seem pressing at first glance, but it can lead to serious long-term health problems, including heart disease and stroke, if left untreated. What's worse, children who develop hypertension are much more likely to carry it into adulthood, amplifying their risk of future complications.[2]

Our work highlights another important issue: the way blood pressure is measured has a big impact on how many children and adolescents are diagnosed with hypertension. Traditional methods, which rely on multiple in-office blood pressure readings, might underestimate the true burden.[3-4] That's why we also explored the role of out-of-office measurements, such as ambulatory or home blood pressure monitoring, in identifying children with hypertension.

What did we find?

We conducted a meta-analysis of data from 96 articles, involving over 440,000 children and adolescents from 21 countries. Here are some of the key findings:

Using the in-office approach, blood pressure was measured in a clinical setting and confirmed on at least three separate occasions. Through this method, we estimated that approximately 4.28% of children and adolescents worldwide have hypertension. Hypertension becomes more common as children age, peaking around 14 years old. This underscores the importance of screening during adolescence. Alarmingly, we found that hypertension affects about 18.77% of obese children – nearly eight times the rate seen in children with a healthy weight. It's clear that tackling childhood obesity is a key step in preventing high blood pressure. Hypertension in children and adolescents was further classified by both severity (prehypertension, stage 1 hypertension, or stage 2 hypertension) and phenotype (systolic, diastolic, isolated systolic, isolated diastolic, or systolic–diastolic hypertension). In terms of severity, stage 1 hypertension (blood pressure between the 95th and 99th percentile plus 5 mmHg) was

the most common, affecting 4.02% of children, while stage 2 hypertension (blood pressure above the 99th percentile plus 5 mmHg) was less prevalent, at 0.83%. Among phenotypes, isolated systolic hypertension (elevated systolic but normal diastolic blood pressure) was the most frequent, affecting 1.78% of children.

The combination approach, which integrates in-office and out-of-office measurements (e.g., ambulatory or home blood pressure monitoring), provided further insights. When this combined approach was applied, the prevalence of sustained hypertension increased to 6.67%. One of the most concerning findings was the prevalence of masked hypertension – normal blood pressure in the clinic but elevated readings outside. This condition affected 9.22% of children, indicating that routine in-office measurements alone might miss these cases entirely. Conversely, white coat hypertension, where blood pressure is elevated in clinical settings but normal outside, was observed in 5.17% of children. These findings underscore the importance of incorporating both in-office and out-of-office measurements to improve diagnostic accuracy and reduce the risk of misdiagnosis.

What can we do?

The nearly twofold increase in childhood hypertension over just 20 years is a wake-up call. But there's good news: we can take action now to address this growing problem. Early detection is key, and improving access to both in-office and out-of-office blood pressure monitoring can help ensure no child slips through the cracks.

Prevention is equally important. Encouraging healthy eating habits, promoting physical activity, and tackling childhood obesity can go a long way in reducing the risk of high blood pressure. Schools, healthcare providers, and policymakers all have a role to play in creating environments that support healthy lifestyles for children and adolescents.

For healthcare providers, it's time to rethink diagnostic strategies. Relying solely on traditional in-office blood pressure readings might not give us the full picture. Incorporating out-of-office monitoring, such as home or ambulatory blood pressure measurements, can improve accuracy and ensure timely intervention.

Summary

Childhood hypertension is more common than we once thought, and its impact can no longer be ignored. As a global community, we need to prioritize early detection, prevention, and treatment to reduce the long-term burden of high blood pressure. Our study provides a foundation for future research and policy development, and I hope it inspires action to protect the health of the next generation.

References:

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