

proportions meeting cut-off for HT or PreHT/Elevated BP (EBP) based on British vs AAP/ESH reference definitions.

**Methods** Between March 2019 and March 2020, 67 CYP who attended routine clinician-led appointments for ADHD medication review had their BP and Pulse measured with electronic sphygmomanometers. The equipment was regularly calibrated and clinicians followed standard procedures for checking BP and Pulse.

**Results** Of the 67 CYP, 85% were males, and the average age of the cohort was 12 years. Based on the British definition, 12 (18%) were recorded as PreHT while 7% met the criteria for HT. The corresponding proportion of CYP meeting the AAP/ESH definitions for EBP and HT were 15% and 7.5% respectively. The CYP with HT or PreHT were monitored with non-clinic based BP measurements at home or by the GP and all returned to normal in the following eight months.

**Conclusions** The proportions of CYP classified by the British or AAP/ESH reference as having HT or PreHT were different albeit with small margins. However these small differences in proportion could have population-level implications if mapped onto the full cohort of CYP with ADHD attending similar medication reviews in the UK. Also, the differences could lead to frontline clinicians using different thresholds for triggering remedial actions in CYP with suspected HT such as medication dose reduction or paediatric cardiology referral. Therefore, we recommend further review of these different reference points to avoid confusion among frontline clinicians. One potential reason for the differences is that the British reference does not consider the CYP's height. Perhaps, including height in the algorithm that determines all BP reference centiles for CYP would provide closer results.

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### LONGITUDINAL STUDY OF BLOOD PRESSURE AMONG CHILDREN AND ADOLESCENTS WITH ADHD SUGGESTS HIGH LEVELS OF STRESS AND ANXIETY DURING THE COVID-19 PANDEMIC LOCKDOWN

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**Background** The whole world is experiencing an unprecedented period of severe social disruption and economic downturn due to global spread of a rare new strain of Severe Acute Respiratory Syndrome (SARS) virus called Coronavirus. Children and Young people (CYP) are less likely to have severe symptoms from acute COVID-19 infections, but they are more prone to possible several adverse mental health outcomes. Social isolation (eg, marital status, number of close friends and relatives, religious or other group affiliations) is known to be a major cause of stress and risk factor for cardiovascular disease including elevated Blood Pressure (BP) and Heart rates (HR).

**Objectives** This study aimed to analyse the effect of the UK pandemic national lockdown on the cardiovascular health (CVH) of CYP with ADHD regularly followed up in a North West England Community Child Health Clinic. We compared the BP and HR measurements for the CYP before and after the COVID-19 pandemic lockdown (CPL) to assess its effects on their CVH.

**Methods** The CVH of 57 CYP with ADHD was prospectively studied during their clinic reviews, before and after the official commencement of the national UK lockdown on the 26th March 2020. Pre-Hypertension (PreHT)/Elevated BP (EBP) and Hypertension (HT) were defined using both the Great Britain reference charts (between 91st and 98th centile or above 98th centile for age) and the US-based recommendations (between 90th and 95th centile or above 95 percentile for gender, age and height) respectively. The centiles for HR measurements were derived from the published reference data from existing international studies of normal children. Student paired T-test was used for comparison of pre/post CPL BP/HR data.

**Results** The clinical characteristics of CYP seen before and after the CPL were similar in terms of average age, number of co-morbidities, use of medications and gender distribution.

The HR, diastolic and systolic BP of all the CYP with ADHD significantly increased during the CPL ( $p < 0.001$ ). There was two- to four-fold increase in the number of the CYP with HT, PreHT/EBP measured after the CPL (figure 1). Diastolic BP elevation accounted for 89% to 100% of the abnormal BP measurements. This increase in measured BP and HR could not be attributed to any prescribed ADHD medications as the patients had been on the same medications and unchanged dosage for an average of more than 16 months, all within the lower range of normal doses.

There was statistically significant correlation between the elevated systolic and diastolic BP, and the number of weeks from the inception of the CPL.

All the CYP with elevated BP are being closely monitored in the clinic and at home. The elevated BP measurements have gradually resolved as the lockdown was eased and no long-term negative consequences have been observed.

**Conclusions** We conclude that the CPL was associated with transient and reversible increase in the BP and HR of CYP with background diagnosis of ADHD and other co-morbid neurodevelopmental disorders. This is probably an indication of the psychological distress associated with the pandemic affecting CYP, as also previously described for adults.

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### BEFORE SCALING-UP, SPEAK WITH THE STAKEHOLDERS: LESSONS FROM A PRETERM PROJECT

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**Background** In 2019, the [1]National Catholic Health Service (NCHS) initiated the INTERPRACTICE-21st Study in Ghana: implementation of the [2]INTERGROWTH-21st (IG21) Pre-term Postnatal Growth Standards and Feeding Protocols within its hospitals.

#### Implementation included

1. Monitoring the growth of preterm babies with the IG21 standards, rather than the traditional growth charts for term babies.
2. Training health professionals involved with neonatal care to use the IG21 standards and evidence-based, feeding protocols (with their focus on the use of breast milk).