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BACKGROUND

COVID-19 is often a mild, or asymptomatic, respiratory disease in children. Only 2.2% of SARS-CoV-2 infections have been in children aged 0-5.

COVID-19 accounted for 21,741 hospital admissions in children under 5 since February 2020. There was large increase in COVID-19 related hospital admissions in young children during the Omicron wave.

Community testing in England has been freely available since June 2020 however testing behaviour has been shown to socio-demographically determined. It is important to know how testing, infections and hospitalisation differ between groups for future research in post COVID-19 outcomes.

METHODS

Using a nationally representative birth cohort, which covers 95% of births in England, we calculated:

1) Incidence rates in each variant period for:
   • SARS-CoV-2 Testing (PCR and LFT)
   • PCR-confirmed SARS-CoV-2 infections
   • COVID-19 related hospital admissions

2) Monthly incidence rates of:
   • COVID-19 related hospital admissions

OBJECTIVE

Describe the rates of SARS-CoV-2 testing, PCR confirmed infections and COVID-19 related hospital admissions in children under 5 by ethnic group during the wild-type, alpha, delta and omicron variant waves.

DATA SOURCES AND LINKAGE

National Birth Cohort

✓ Singleton children
✓ Born in NHS hospitals
✓ Mothers resident in England
✓ Born between February 2016 and January 2022

COVID-19 Second Generation Surveillance System (SGSS)
Hospital testing

COVID-19 Antigen Testing Results (Pillar 2)
Community testing

Hospital Episode Statistics (HES)

In patient hospital admission records

COVID-19 related hospitalisations (per 100,000 child months)

SARS-CoV-2 Testing
• Black children had the lowest testing rates during all waves.
• White children had the greatest testing rates during all variant waves.

PCR-confirmed Infections
• South Asian children had the highest rate of PCR-confirmed infections during the wild-type and Alpha waves, despite higher testing rates in White children.

RESULTS

KEY FINDINGS & DISCUSSION

• We included data from 3,435,887 children under 5.
• Ethnic minority children were infected at greater rates during the earlier variant waves.
• The substantial increase in hospitalisation rates in all ethnic groups in late 2020 can be linked to the Omicron variant.
• Future work will assess factors explaining variations of COVID-19 outcomes by ethnic group.

Stratified by ethnic group

COVID-19 related hospital admissions per 30,000 child months by ethnic group and variant wave

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