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Linking Maternal Risk Factors to Child Physical Abuse: Insights from Welsh Hospital Data

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Objectives

To explore maternal factors associated with child exposure to physical abuse (CPA) in Wales. This analysis aims to inform early intervention strategies by identifying maternal profiles linked to higher CPA risk, providing insights that can enhance child protection policies through targeted support and prevention efforts.

Methods

We conducted a retrospective cohort study using the Patient Episode Database for Wales (PEDW) to identify children aged one month to five years hospitalised for CPA between 2013 and 2021. CPA was identified using a validated algorithm based on ICD-10 codes. Maternal profiles were examined using linked data sources, including maternal health records and social determinants derived from READ codes. We analysed CPA incidence rates, maternal health conditions, and socioeconomic risk factors. Descriptive statistics were used to summarise findings, and trends were assessed using Cochran–Armitage tests.

Results

The average incidence rate of CPA hospitalisations in Wales was 33 per 100,000 infants per year. Notable fluctuations were observed over time, with a significant increase during the COVID-19 pandemic, coinciding with a decline in overall hospital admissions. Maternal profiles revealed a high prevalence of mental health conditions, including depression (35%) and anxiety (28%), compared to the general maternal population. Additionally, substance misuse (15%) and recorded social vulnerabilities, such as exposure to domestic violence (20%) and socioeconomic deprivation, were prevalent. Mothers of children hospitalised for CPA were more likely to have recorded mental health diagnoses compared to the general maternal population. Variations in ICD-10 coding practices may have influenced incidence reporting.

Conclusion

Findings highlight the need for targeted interventions addressing maternal mental health and maternal social vulnerabilities to protect and prevent child physical maltreatment. By utilising linked datasets across health, social care, and public health agencies, this study demonstrates the potential of national-level data integration to enhance early surveillance and intervention strategies.

