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Investigating the relationships between chronic ill health and educational outcomes in children

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Objectives

This population wide record linkage study linked Scottish education data to a number of administrative health datasets to explore the impact of childhood chronic ill health on subsequent educational and health outcomes. Chronic conditions investigated in this study were diabetes, asthma, epilepsy, ADHD and depression. Specific educational outcomes of interest were academic attainment, school leaver destination, absence levels, exclusions and record of special educational need (SEN). Children were also followed up for hospital admissions and all-cause mortality.

Approach

Pupil census data and associated education records for all children attending primary and secondary schools in Scotland between 2009 and 2013 were linked to national prescribing data, hospital admissions (acute, psychiatric and cancer), death records and their mother's maternity records to enable a range of different chronic conditions to be studied whilst controlling for various confounders. Specific drugs are prescribed for some particular chronic conditions therefore children identified from prescribing data as receiving these drugs at the time of the school census were assumed to have these conditions. Hospital admissions and death records provided information on subsequent admissions and mortality. Linking all children to their mother's maternity records provided ability to control for a range of obstetric factors, birth outcomes and maternal antecedents.

Results

Diabetes, asthma, epilepsy, ADHD and depression were significantly associated with increased numbers of absences at school

and increased risk of SEN. All of the conditions with the exception of diabetes were significantly associated with poorer subsequent educational grade attainment. ADHD and depression were significantly associated with increased numbers of exclusions at school whilst asthma was significantly associated with less exclusion. Epilepsy, ADHD and depression were significantly associated with poorer leaver destination 6 months after leaving school.

Conclusion

Compared to peers, children who had ADHD or depression were most adversely affected experiencing poorer educational outcomes in all five of the educational domains investigated. Children with epilepsy experienced poorer outcomes across four domains. Children with diabetes and asthma experienced more absence and increased SEN and asthmatic children experienced poorer attainment. Children who have these chronic illnesses at school appear to be at an educational disadvantage therefore further understanding of the intricate relationships between health and education is an on-going important area of public health.

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