British Paediatric Respiratory Society

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IMPACT OF SMOKE-FREE VEHICLE LEGISLATION ON CHILDHOOD HOSPITALISATIONS FOR ASTHMA: SCOTLAND-WIDE STUDY OF 32,342 HOSPITALISATIONS OVER 19 YEARS

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Background In Scotland, childhood asthma hospitalisations fell in March 2006 following legislation to prohibit smoking in public places, and again in March 2014 following a mass-media campaign (Take It Right Outside TIRO). In December 2016, new Scottish legislation banned smoking in vehicles. It is unknown if this produced additional benefit.

Objectives To use interrupted time series analysis to determine the presence of a change in trend for asthma admissions to hospital in Scotland after the 'car ban' smoking legislation was introduced.

Methods Data were obtained on all asthma emergency hospitalisations in Scotland between 2000 and 2018 for individuals aged <16 years. Interrupted time series analyses studied changes in monthly incidence following the introduction of smoke-free vehicle legislation, taking account of TIRO (2014) and the smoke free public spaces legislation (2006). Sub-group analyses were undertaken by age and area-deprivation, and the analyses repeated for a control condition, gastroenteritis.

Results Of the 32,342 hospitalisations, 13,954 related to children <5 years old. After the smoke-free vehicle legislation there was a fall in the slope of asthma hospitalisations (1.49%/month [95% CI 2.69, 0.27]) among children <5 years, but not older children. Hospitalisations fell significantly among children living in the most affluent areas (2.27%/month [95% CI 4.41, 0.07]) but not those living in the most deprived areas. There was no change in gastroenteritis hospitalisations following the legislation.

Conclusions Legislation banning smoking in vehicles was associated with reductions in severe asthma attacks requiring hospitalisations among pre-school children, over and above those already achieved through previous interventions. The legislation may have benefitted children in more affluent communities.

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CLINICAL FEATURES OF CHILDREN PRESENTING WITH PROLONGED SEIZURES – A DATA LINKAGE STUDY FROM A SCOTTISH POPULATION COHORT

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Background Prolonged seizures (PS) are a common paediatric medical emergency. According to the International League Against Epilepsy (ILAE) PS are now defined as any seizure activity lasting over 5 minutes or where there is incomplete recovery in-between seizures with the recommendation to administer emergency medication at this time point.

PS result when the excitatory and inhibitory signals within the brain become unbalanced, resulting in a vast release of

electrical signalling. The developing brain is particularly susceptible to this. Whilst in the short-term PS can result in acute morbidity and even fatality, in the long-term they often lead to seizure recurrence, epilepsy and cognitive as well as behavioural impairment.

Objectives Despite this, PS are not yet well correlated to clinical data. Here we aimed to study the correlation between PS, clinical features and investigation data including MRI reports, EEG data and treatment details.

Methods This study draws on an existing cohort of children who presented with PS to a tertiary children's hospital in Scotland between January 2011 and December 2017. We conducted data linkage using a unique identifier (CHI-number). These were used to link A+E admission data with seizure clinic records, the EEG database and radiology reports of MRI scans. Each episode and duration of prolonged seizure was recorded from the A+E admission notes. Neurology clinic records were used to identify children with a diagnosis of epilepsy and specific epilepsy syndromes. The prescription of any regular seizure medication was also noted from these clinic notes.

Results There were 665 children with 1,234 presentations with PS. 57.30% of children were male. The median age was 3.65 years (IQR 6.33). 60.45% of admissions had a diagnosis of epilepsy, 24.40% were diagnosed before the PS and 75.60% after. Of these 61.88% were generalised seizures and 38.12% focal seizures. 55.67% had an EEG of which 30.28% were normal, 40.47% were abnormal and specific to epilepsy diagnosis and 29.26% abnormal but non-specific. 61.35% had an MRI scan of which 49.80% were normal, 41.08% were abnormal and associated with epilepsy, 7.40% were abnormal and possibly related to epilepsy and 1.72% were unrelated abnormal. 35.01% of patients were prescribed maintenance AED of which 43.35% were on polytherapy; the commonest AED prescribed was levetiracetam.

Conclusions This large cohort allows a detailed analysis of the clinical features and aetiology of PS through data-linkage. Epilepsy diagnoses (previously known or subsequently diagnosed) are the commonest group with PS. Hence it is important to investigate children presenting with PS. In those investigated further, EEG and MRI abnormalities were specific to epilepsy. Of those prescribed AED, a large proportion were on polytherapy suggesting worse seizure control and PS. Overall, this serves as a valuable prognostic factor and aid in planning a clear emergency care plan for managing PS. We will be continuing to follow this cohort to study the clinical and educational outcomes.

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SWEET TALK-OUT OF HOURS DIABETES RELATED PHONE ADVICE SERVICE FOR CHILDREN AND YOUNG PERSONS-AN EDUCATIONAL AND A SERVICE IMPROVEMENT INITIATIVE

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