Association of Paediatric Emergency Medicine

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EVALUATING THE IMPACT OF ANTIMICROBIAL STEWARDSHIP INTERVENTIONS IN A UK PAEDIATRIC EMERGENCY DEPARTMENT

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Background Antimicrobial resistance (AMR) poses a major threat to human health. Although rates of AMR have risen significantly in adults over the past few years, increasing rates of AMR are now being seen in children. Antimicrobial stewardship (AMS) is a highly effective approach to tackling AMR; however few paediatric AMS initiatives have focused on antibiotic prescribing in an Emergency Department (ED) setting. There are data to suggest that rates of antibiotic prescribing for respiratory tract infections (RTIs) is higher in children presenting to emergency departments than in those presenting with comparable disease severity to primary care.

Objectives The focus of this study was to evaluate the impact of two sequential antimicrobial stewardship interventions on antibiotic prescribing for children aged <16 years presenting with upper and lower respiratory tract infections to the Paediatric Emergency Department (PED) at Southampton Children's Hospital.

Methods Antibiotic prescribing data were collected over a 16 week period (03/08/2020–22/11/20). All children with a discharge diagnosis of upper respiratory tract infection (URTI), otitis media, tonsillitis, pneumonia and lower respiratory tract infection (LRTI) were included. Baseline data were collected between weeks 1–7. The 1st AMS intervention was a 15-minute educational session delivered either face to face or virtually to all PED clinicians by a PED consultant (DJ). The educational intervention used informational slide sets to reinforce the principles of judicious antibiotic use and appropriate antibiotic guideline adherence for RTIs through case-based learning scenarios and quizzes that facilitated group discussion. This intervention was repeated weekly between weeks 8–10, to ensure that all PEM staff were exposed to the intervention. The 2nd intervention, implemented on week 14, involved feedback of personalised antibiotic prescribing data, along with average antibiotic prescribing rates for the department, to each member of PED staff.

Results 502 children with RTIs presented during the study period. Antibiotic prescribing rates significantly decreased from 28.6% during the pre-intervention period to 20.5% at the end of the study ($p<0.05$). Antibiotic prescribing for a discharge diagnosis of URTI decreased from 9.3% to 4.8% ($p=0.11$), for otitis media from 78.9% to 53.8% ($p=0.13$), for tonsillitis from 71.8% to 48.8% ($p=0.03$) and for LRTI and pneumonia from 66.7% to 51.7% ($p=0.31$).

Conclusions The combination of an educational intervention and individualised feedback of prescribing data was associated with a significant reduction in overall antibiotic prescribing for children with RTIs managed in an ED setting. However, although reductions were seen for individual pathologies, statistical significance was not always reached. This may be due to the relatively small sample size; far fewer children were

recruited during the 16 week study period than predicted due to the impact of the COVID pandemic on rates of PED presentations. In general the interventions were easy to implement; however manual interrogation of patient notes was required to collect individual clinician prescribing data, this was labour intensive and would ideally be automated through the use of electronic prescribing systems. Further work is required to show if the findings from this study can be replicated in other settings and if this impact is sustained or requires repeated AMS interventions.

Association of Paediatric Palliative Medicine

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DISCUSSING ORGAN AND TISSUE DONATION BY CHILDREN WITH CANCER; IS THERE A TRAINING NEED?

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Background There is an ever-increasing demand for deceased organ donation in the UK with 198 paediatric patients awaiting a transplant as of February 2020. Conversely, in the year April 2019 - March 2020, just 3% ($n=50$) of all solid organ donors were children and young people under 18 years. Although the scope for donation by children with malignancy is small, organ and tissue donation (OTD) may be possible for some patients. Evidence shows that offering discussions around the topic might be beneficial to families, regardless of whether donation is achieved. However, there is little guidance or provision for training to support those professionals who may be involved in introducing these conversations outside of specialist teams.

Objectives This study sought to assess the understanding of organ donation after death in children and young people with malignancy amongst clinicians working in Paediatric Oncology and Haemato-oncology, Paediatric Intensive Care and Paediatric Palliative Care. The survey intentionally included those clinicians working with patients who would be ineligible for organ or tissue donation, as conversations regarding this topic may still arise and therefore demonstrate a training need.

Methods A 12-question online survey consisting of both quantitative and qualitative elements was constructed to identify common themes of understanding amongst clinicians in the specified departments. This was disseminated via a range of contacts, including national newsletters released by the Children's Cancer and Leukaemia Group and the Association for Paediatric Palliative Care. PICU clinicians were targeted via local contacts within London units. Additional responses were received from local requests to specialist paediatric palliative care teams and paediatric oncology centres within London.

Data was collated and analysed to reveal themes in clinician understanding, recognise barriers to discussion and identify a need for training in this area.

Results There were 22 responses collected, the majority from intensive care doctors (32%) and palliative care nurses (32%). Nearly half of respondents (45%) had been asked about OTD by patients or their families, mainly during palliation. While most were aware of the possibility of OTD

by children with malignancy (82%), nearly a third had never considered asking a patient or family if they would consider donation. The main barriers to having these conversations were recognised as lack of knowledge and training, and 36% cited concerns about initiating these conversations. Free text answers suggested the beneficial role in exploring this topic further and the majority of respondents felt online training such as webinars and E-learning would be most useful.

Conclusions Organ and tissue donation by children can feel a daunting topic of conversation by patients, their families and professionals alike. However, evidence shows that these discussions are beneficial in their own right, regardless of whether donation is achieved. Our survey shows there is a need to raise awareness of the concept of OTD amongst clinicians caring for children and young people with malignancy, with a view to supporting those introducing OTD to families who might otherwise regret the lost opportunity to understand this element of their child's journey with cancer.

British Society of Paediatric Endocrinology and Diabetes

1345 SHARP RISE IN NEW ONSET TYPE 2 DIABETES IN A LARGE DGH POST LOCKDOWN

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Background Type 2 diabetes in children is on the rise in the UK alongside childhood obesity. NPDA 2018/19 data reported that the percentage of children and young people with Type 2 diabetes managed in Paediatric Diabetes Units (PDU) in UK has risen from 1.3% in 2012/13 to 2.6% in 2018/19. Pietrobeli et al 2020 reported that after the first wave of lockdown in Italy, a rise in obesity was seen in Italian children due to a combination of less exercise, unhealthy eating and increased screen time.

We have noted a sharp increase in Type 2 diabetes among our local paediatric population and we hypothesise that this spike could be a consequence of the COVID-19 pandemic and lockdown.

Objectives To review the cases of children and young people with type 2 diabetes presenting to our local PDU since April 2020, identify any similarities in presentation/risk factors and any potential impact of the COVID-19 pandemic.

Methods A retrospective study was made of all patients diagnosed with diabetes in our local PDU over a 10 month period from April 2020 to February 2021. This included the presenting features, social circumstances, blood results and presence of risk factors.

Results There were five children and young people who were diagnosed with Type 2 diabetes during the period of study. All patients had a high BMI with most patients having signs of metabolic syndrome at presentation.

In case 2 and 3 lockdown had a clear impact on diet and level of physical activity. In case 2 in particular, timely help for new onset bed wetting was not sought and this could be due to anxiety over medical environments during the pandemic.

Abstract 1345 Table 1 Demographics and significant findings of the children diagnosed with type 2 diabetes during the study period

	Age and sex	Presenting BG	HbA1c	BMI percentile	Signs of metabolic syndrome	Social circumstances
1	17y F	Unwell with pyelonephritis, noted to have high blood glucose.	84	>99.6th	High cholesterol	Overweight since age 3. Previous gestational diabetes. Family history of diabetes.
2	12yM	Polyuria and polydipsia for 2 years and new bedwetting.	105	3SD > 99.6th	Acanthosis nigricans	ADHD. Previous neglect and obesity. Mother type 2 DM. Diet worsening in lockdown.
3	13yM	Polydipsia.	113	>98th	Dyslipidaemia and acanthosis nigricans	Father type 2 DM. Sports team cancelled in lockdown.
4	13yM	Abdominal pain.	57	3SD>99.6th	Dyslipidaemia and deranged liver function with Fatty liver disease.	ADHD and learning difficulty. Father type 2 DM.
5	7yF	Polydipsia and increased urinary frequency.	79	91–98th	Nil	Diplegic Cerebral palsy, anxiety. Family history of type 2 diabetes.

Conclusions All children were considerably overweight with a significant family history of diabetes as well as multiple risk factors. There was clear account of reduction in physical activity. The indirect impact of lockdown perpetuating and exacerbating lifestyle risk factors, on a background of possible genetic predisposition towards insulin resistance, may have likely led to the development of overt type 2 diabetes in these children and young people.

British Association of General Paediatrics

1346 A RETROSPECTIVE, FIVE-YEAR REVIEW OF PRESENTATION, INVESTIGATIONS AND MANAGEMENT OF ACUTE TESTICULAR PAIN IN PAEDIATRIC PATIENTS

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Background Testicular torsion (TT) is a urological emergency that must be considered in patients with acute testicular pain (ATP). The literature is conflicted on both distinguishing features in presentation of TT, compared to other causes of ATP, and the use of investigations in diagnosis