Paediatric Mental Health Association

935 EMERGENCY HOSPITAL ADMISSIONS FOR STRESS-RELATED PRESENTATIONS AMONG SCHOOL-AGED ADOLESCENTS DURING SCHOOL TERM VERSUS HOLIDAY TIME IN ENGLAND IN 2014–2018

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Background Stress experienced by adolescents, as measured by psychometric tools, has been associated with risky health behaviours and poorer subjective mental and physical functioning. School can be a source of both social support and stress for adolescents. Previous research has demonstrated that hospital admissions for stress-related presentations are higher during term-time compared to school holidays (e.g., non-specific abdominal pain and health behaviours relating to self-harm). However, these findings are based on small, sub-national studies and focus on specific types of stress-related presentations. Evidence is lacking about the burden of broader stress-related presentations that result in an emergency hospital admission for young people in England and how stress-related presentations vary between term-time and school holidays and by demographic characteristics, such as age and gender.

Objectives

1. Quantify rates of emergency hospital admissions with a stress-related presentation for adolescents aged 11–17 years
2. Compare differences in rates between term-time and school holidays and by demographic characteristics

Methods We defined a stress-related presentation as a hospital admission with at least one sign or symptom indicating a manifestation of stress recorded. We identified relevant stress-related signs and symptoms in school-aged adolescents based on iterative mapping of the research literature and developed a codelist with review from a clinical psychologist. We included International Classification of Disease version 10 (ICD-10) codes reflecting mental illness, self-harm behaviours, and pain or potentially psychosomatic symptoms (e.g., fatigue). Using Hospital Episode Statistics (HES) data for England, we described the characteristics of adolescents with a stress-related presentation in 2017/18 and estimated the cumulative proportion with a presentation between the ages of 11 and 17 years. We then explored the association with the school calendar by estimating incident rate ratios (IRRs) for weekly emergency admissions with a stress-related presentation in term-time versus holiday periods for adolescents aged 11–17 years in 2014/15 to 2017/18 using negative binomial regression models.

Results In 2017/18, 23,441 girls and 12,813 boys aged 11–17 years were admitted with a first stress-related presentation. From this, we estimated that 7.9% of girls and 4.1% of boys had at least one admission with a stress-related presentation between 11–17 years of age. Between 2014/15 and 2017/18, we identified 305,491 stress-related presentations in 171,013 school-aged adolescents which accounted for 31% of all emergency hospital admissions for this age-group. The highest weekly rates were found in girls aged 14 and 15 years. Weekly admission rates with stress-related presentations were higher in term-time than holidays for all ages and were more

pronounced for girls. For example, the IRR for term-time compared to holidays was 1.34 for 15-year-old girls versus 1.23 for 15-year-old boys.

Conclusions Our estimates suggest that in a typical classroom of 25 students, 2 girls and 1 boy were admitted to hospital with a stress-related presentation between the ages of 11 and 17 years. Stress-related presentations were evident in almost one-third of all emergency hospital admissions for adolescents and occurred more frequently in term-time than holiday periods. Better understanding of school factors that contribute to stress-related presentations is needed to design and evaluate interventions to reduce stress among adolescents.

RCPCH Trainees Committee

938 KNOWLEDGE IS POWER: REDEPLOYMENT LESSONS TO BUILD RESILIENCE

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Background Feeling unprepared in an unfamiliar environment contributes significantly to the stress felt by trainees starting a new rotation. This feeling was magnified in 2020 for paediatric trainees redeployed to a new specialty, often at short notice, to respond to the rapidly changing demands of the SARS-CoV 2 pandemic. As a group of neonatal intensive care doctors we were redeployed, with limited preparation time, to a variety of adult departments. Despite the unfamiliarity of the pathologies, the diverse needs of particular patient cohorts and alarmingly high doses of lorazepam, our neonatal skills and knowledge were often transferrable to adult medicine (including the case of an encephalopathic patient who required regular stimulation to remember to breathe). However, whilst a clinically necessary move, we felt the communication and information provided could have been enhanced to improve our readiness for redeployment.

Objectives To improve well-being and readiness for redeployment by creating a trainee led induction framework.

Methods As a neonatal cohort, together with our College Tutor and following our experience of redeployment, we identified the following specific training needs and challenges faced by paediatric trainees in our trust:

1. New environment – Building, wards, logistics
2. Different IT systems
3. Training eg. ALS
4. Unfamiliar escalation processes
5. Adult medicine: ceiling of treatment, guidelines, medications and conditions
6. Different resilience requirements – breaking bad news, death rate, drugs and alcohol.
7. HR processes eg leave, rotas.

Results We produced an electronic package to address these areas which outlined information and signposted to resources and training. This was the first collection of all relevant information drawing on multiple trust sources, discussions with adult colleagues, independent research and our own experience. This was registered as a QI project and presented to

hospital management for use in future inductions. We received excellent feedback and the areas we highlighted were used as a basis to frame induction requirements in subsequent redeployments.

Conclusions Paediatric trainees have much to gain from the redeployment experience. As a trainee group we have sufficient medical training to revert to adult medicine and have the procedural, situational awareness and communication skills to thrive in unfamiliar settings. However, uncertainty can adversely impact well-being whilst preparedness allows trainees to both better cope and to excel in new environments. From our experience of redeployment we identified key areas of uncertainty and addressed them in a framework that can be translated to other trusts and for other specialities. We believe that providing structured information to trainees moving out of their comfort zone helps them to best support their adult colleagues, to take advantage of development opportunities and builds resilience.

British Society of Paediatric Endocrinology and Diabetes

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GENETIC VARIATIONS CAUSING NEONATAL DIABETES MELLITUS

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Background Neonatal Diabetes Mellitus (NDM) is rare with an approximate incidence of 1:100,000. More than 80% of cases have a genetic origin. We present 4 patients with NDM occurring within one health board.

Objectives Our aims were to compare and contrast the characteristics of our cases and to discuss the genetic variations causing them with a view to developing a mechanism for early detection and management. We also sought to share information more widely about this highly unusual condition.

Methods This was a retrospective case series analysis. The study period was 2007 to 2021. Data were collected from BadgerNet and health board clinical records

Results Case 1 was born at term. Growth restriction and oligohydramnios had been identified antenatally and birth weight was 2060g. Apgars were 1, 5 and 10 at 1, 5 and 10 minutes respectively. A blood sugar measured on day 2 was 17.3mmol/l. The infant was admitted to NICU and due to persistent hyperglycaemia was commenced on intravenous sliding scale insulin. This was switched to an insulin pump and the infant was discharged home after 38 days. Genetic analysis showed a 6q24 duplication. Cases 2 and 3 were siblings, one born at 34 weeks gestation and the other at term. Both were growth restricted in utero and developed hyperglycaemia on days 2 and 4 respectively. They also had congenital hypothyroidism and pancreatic/renal cysts. They were found to have homozygous partial GLIS 3 gene deletion. Both were discharged after prolonged hospital stay on pump delivered insulin. Case 4 born at term with a birth weight of 2030g and known to have been growth restricted in utero with low liquor volume, presented at 3 weeks of age with diabetic ketoacidosis. He was discharged on an insulin pump and had STAT 3 mutation.

Conclusions The most common cause of transient NDM is chromosome 6q24 duplication but there are more than 20 genetic disorders associated with permanent NDM. Chromosome 6q24-related transient NDM is characterized by intrauterine growth restriction and low birth weight, with neonatal hyperglycemia resolving by 18 months and an increased risk for type 2 diabetes in adulthood. GLIS3 is a protein with roles in β cell survival and insulin secretion. Mutation in GLIS 3 is associated with neonatal diabetes, congenital hypothyroidism, polycystic kidney disease and liver fibrosis. Signal transducer and activator of transcription 3 (STAT3) is vital to the development of a normally functioning pancreas. STAT3 mutation causes neonatal diabetes through premature induction of pancreatic differentiation. In all 4 of our cases of NDM the infants were known to be growth restricted antenatally, with low birth weight postnatally and hyperglycaemia developed from the second day of life onwards. It is remarkable that this cluster with 3 distinct genetic causes occurred in a small geographical area. An infant born with lower than expected birth weight for gestational age will usually be monitored for hypoglycaemia. If higher than average levels of glucose are detected, there is a need to consider NDM with involvement of the specialist diabetes molecular genetics team.

British Association of General Paediatrics

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A RESEARCH JOURNEY IN THE TIME OF CORONA VIRUS DISEASE (COVID-19)

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Background COVID-19 has seen a global research effort to address the pandemic and U.K has been at its forefront with flagship trials such as RECOVERY trial which have transformed COVID-19 management. RECOVERY trial involved hospitals and healthcare professionals in research in an unprecedented scale and provided opportunities for trainees to engage in research.

While children have been relatively spared from acute COVID-19, emergence of the novel hyperinflammatory condition Paediatric Inflammatory Multisystem Syndrome Temporally associated with Severe Acute Respiratory Syndrome Coronavirus 2 (PIMS-TS) was a diagnostic and treatment dilemma. Commencement of treatment trials for PIMS-TS in the paediatric arm of RECOVERY trial coincided with the roll out of NIHR Associate PI scheme, which is an opportunity for trainees to gain experience in research.

Objectives We aim to describe the trainee experience of research during COVID-19, as part of the RECOVERY trial team at a specialist children's hospital.

Methods Interviews were undertaken with non-consultant grade paediatricians involved with the RECOVERY trial as Associate PIs, regarding their research journey.

Results Undertaking the Associate PI scheme was a structured introduction to research, requiring completion of the training and familiarity with trial protocol. As a specialist children's hospital with a regional paediatric intensive care unit, the number of patients eligible to participate in the trial increased rapidly during the peaks of the pandemic. The increment in numbers meant that Associate PIs had to be skilled up quickly in all the aspects of this 'platform trial' which evaluates