neurodevelopmental, emotional, behavioural or intellectual disorders (NDEBID). 50% to 80% of children and adolescents with NDEBID experience various types of insomnias. There is a complex relationship between sleep disorders and childhood neurodevelopmental disorders. Chronic sleep deprivation is known to significantly aggravate externalising and internalising behaviour disorders, including depression, suicide and self-harm behaviors, impaired cognitive development and learning abilities. It can also cause disorders of the cardiovascular, immune and metabolic systems, including growth disorders. It negatively impacts on the child's academic performance, personal and wider family emotional and social wellbeing.

Objectives To review the most recent published research literature and develop a practical guidance on managing sleep disorders in children and adolescents with NDEBID along with a flowchart.

Methods We carried out a literature review of the latest research on the use of cognitive-behavioural strategies and pharmacotherapy in the management of sleep problems among children with neurodevelopmental disorders such as ADHD, ASD, Epilepsy and Learning disorders using several databases including the OVID, EMBASE, CINHAL and Cochrane's Databases.

Results Treatment options for paediatric sleep insomnias include parent psychoeducation/training, sleep hygiene (modifiable daytime, bedtime, and night-time practices), behavioural strategies and pharmacological treatment for selected cases. Cognitive behavioural therapy (CBT) is also effective for adolescents.

We provide an outline of evidence-based clinical guideline for clinicians managing CYP with diverse NDEBIDs in 4 sections, including overview of sleep disorders, special circumstances, transition to adult care, shared care and appendix of definitions, online resources and easy-to-use flowchart.

Every CYP with sleep difficulties should have detailed medical and sleep history, including any possible underlying sleep apnoea, other physical explanations for insomnia including obesity, emotional problems or sources of discomfort, complemented by use of screening questionnaires, sleep diary and actigraphy (if available). This should lead to identification of specific sleep disorder type, consideration of differential diagnosis and formulation of a sleep plan with the parents or carers.

Stepwise introduction of behavioural and pharmacological treatment options are outlined, including mandatory follow-up for effectiveness, side-effects and trial of discontinuation.

Conclusions This clinical guideline and the accompanying flowchart is expected to help clinicians provide a more uniform holistic evidence-based management for every child presenting with co-morbid sleep problems associated with complex emotional behavioural and neurodevelopmental disorders. It will likely lead to less risks of patient/parent dissatisfaction with individual clinicians and help the individual NHS Trusts to identify potential areas of cost saving involved in melatonin prescriptions, as well as identifying an integrated commissioning of further services such as Behavioural/parent training interventions. We plan to pilot the guidelines among a small number of CCH clinics.

British Association of Perinatal Medicine and Neonatal Society

1140

CHANGES IN SURGICAL MANAGEMENT FOR NECROTISING ENTEROCOLITIS AND THE IMPACT ON MORTALITY

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Background Necrotising enterocolitis (NEC) remains one of the leading causes of morbidity and mortality in preterm infants and affects 1–5% of all neonatal intensive care admissions. Surgical intervention is required for those who don't respond to medical management or develop pneumoperitoneum.

There has been a general trend towards performing more surgery on the Neonatal Intensive Care Unit (NICU) rather than in theatres. This is typically reserved for those who are acutely unstable, requiring more than first line inotropic support, are acidotic with a lactate > 5, or on high frequency oscillatory ventilation (HFOV).

Objectives

- To compare NEC cases and their outcomes according to surgical location
- To review NEC related deaths and determine whether the number of infants who received medical versus surgical management has changed over time

Methods The badgernet system was used to identify infants who received surgical management for NEC between 1st January 2018 to 28th April 2020. The following search terms were used; 'Necrotising enterocolitis-confirmed, suspected, perforated', 'Stoma formation, closure', 'major surgery', 'explorative laparotomy', and 'Closure of stomach, small intestine, ileal, jejunal perforation'. For each infant identified, their discharge letter was used to confirm the diagnosis prior to their notes being requested.

Results There were 2025 neonatal admissions during the study period, 60 were diagnosed with suspected or medically managed NEC with an additional 28 undergoing surgical intervention. 7/28 (25%) were born $\leq 24^{+0}$ weeks gestation.

For those managed surgically, 18/28 (64.3%) had pneumoperitoneum at the time of their first laparotomy. 8/18 (44.4%) were operated on in theatres and 10/18 (55.6%) on the NICU. The majority of infants undergoing surgery on the NICU were born at <25 weeks gestation (8/10, 80%) with 6/10 (60%) born at $\leq 24^{+0}$. The remaining two (25^{+1} , birth weight 570g and 27^{+2}) were both clinically very unstable requiring HFOV and inotropic support. In comparison, infants that went to theatre were clinically more stable and 6/8 (75%) were born at $>25^{+0}$.

The majority of infants without perforation underwent surgery in theatres (6/10, 60%). For those who remained on NICU, 3/4 (75%) were clinically very unstable and found to have NEC totalis at laparotomy.

Of those with surgically managed NEC, 11/28 (39%) died, all of whom had extensive disease at laparotomy. 10/11 (91%) of these infants underwent surgery on the NICU. Between 2012 and 2019, the total number of deaths from NEC has remained relatively static (7 vs 9). However, the number of deaths from medically managed NEC has decreased (71.4% to

11%) whilst there has been an increase in deaths amongst those managed surgically (28.6% to 88.9%).

Conclusions Despite an increasing number of extremely pre-term infants receiving survival focused care, the overall number of deaths from NEC has remained relatively static over the last 8 years. Providing surgery on the NICU has enabled intervention in the most premature and unstable infants whose ceiling of care would have previously been limited to medical management.

Paediatric Clinical Leaders: Service Planning, Provision and Best Practice

1143 TREATING BIG PEOPLE- REFLECTIONS FROM A PAEDIATRIC AND ANAESTHETIC REGISTRAR WORKING TOGETHER TO LOOK AFTER ADULT COVID ITU PATIENTS ON A CONVERTED PICU

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Background The world has been turned upside down by COVID19. For so many, working lives have changed, roles have been adapted or learnt at lightning speed and working outside your 'comfort zone' has become part of the 'new normal'.

Conversion of a PICU to an adult COVID ITU allowed both adult teams and paediatricians to work closely together and provide a chance to see how each other functions. And invaluable, an opportunity to learn from each other. This reflective piece looks at the key learning points taken from each team.

Objectives To highlight the main learning points that were gained from both paediatric and adult teams during conversion of a PICU to an adult COVID ITU. Learning points applicable not only to working during the COVID-19 pandemic but that transcend to other aspects of paediatric and adult medical practice.

Methods Reflection from both paediatric and adult medical staff who worked together during the COVID-19 pandemic in a PICU turned adult ITU.

Results Key themes were found after discussion. Handover, communication with patients and relatives, attachment to patients and teamwork were the main areas where the largest learning points were seen. Upon reflection there were ways in which both the adult and paediatric doctors' practice had changed and influenced their future practice.

Conclusions There is vast amounts of learning that can be taken from joint adult and paediatric working. Not just whilst managing adult COVID ITU patients during a pandemic but practices that can be translated into every day working lives. Perhaps more cross covering and working more closely with our adult colleagues, especially during the teenage transition years can improve not only patient care but working lives of future paediatricians. With ideals for future practice suggesting paediatricians may be looking after young adults very much over the age of 18 perhaps this is the time to be learning

from experiences like these and introduce more parallel working between adult and paediatric colleagues.

Association of Paediatric Emergency Medicine

1144 MAKING PAEDIATRIC ECG INTERPRETATION IN THE PAEDIATRIC EMERGENCY DEPARTMENT EASIER AND SAFER BY INTRODUCTION OF AN ECG CHECKLIST

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Background The accuracy of reporting electrocardiograms by trainees in paediatric emergency medicine has been shown to increase with experience. However, most paediatric trainees will only spend 3–6 months in the emergency department with limited opportunity to improve skills in electrocardiogram reporting.

Interpretation in the emergency department has been shown to be relatively inaccurate and additional reporting of emergency department electrocardiograms by a consultant paediatric cardiologist increases the diagnostic accuracy. As a result, in many paediatric cardiac units the burden of electrocardiogram reporting is placed on the cardiology team, resulting in a significant workload. In addition, time taken for electrocardiograms to be reviewed by reporting teams may result in delay to clinic referral for patients with electrocardiogram abnormality.

A previous study has shown that even amongst paediatricians, accuracy at interpreting paediatric ECGs is only around 60%. Although, there are accepted normal ranges and values for paediatric electrocardiograms, these are often presented in busy tables that can be complex and daunting to use, especially in a time pressured clinical environment.

We hypothesised that a diagnostic aid, in the form of an electrocardiogram checklist, could assist in electrocardiogram interpretation, helping to screen for electrocardiograms that needed to be reviewed by a cardiologist and reducing the time to cardiology review for patients with electrocardiogram abnormalities.

Objectives We set out to assess the use of a simple checklist and guideline to aid interpretation of paediatric electrocardiograms in the paediatric emergency department.

Methods An electrocardiogram interpretation checklist and guideline were implemented in the emergency department. Abnormal electrocardiograms identified by the checklist were reviewed by a paediatric cardiologist and patients appointed to a cardiology outpatient clinic. The process was prospectively evaluated over six months to determine the ability of the checklist to detect abnormal electrocardiograms. The emergency department clinicians were sent a questionnaire to evaluate their experience with the checklist.

Results Between May and November 2018, 600 electrocardiograms were performed in paediatric emergency department. 48 electrocardiograms of patients known to cardiology services or discussed with the on-call team