labelled maximum dose and replacing with new inhalers too late for both reliever and controller medications. This is of clinical concern. The use of adhesive count stickers can help patients keep track of remaining doses objectively in a simple manner, with a good safety margin shown above. The use of the medication in the pMDIs can also be maximised with minimal wastage.

427 IMPROVING COMPLETION RATES OF ELECTRONIC DISCHARGE SUMMARIES

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Background Annual Trust data and previous audits in our department revealed a massive number of incomplete electronic discharge summaries (EDSs) over the last three years. This posed a great risk to patient safety as important information about the patients' diagnosis, management and follow up arrangements are not shared with the GP, other healthcare professionals or the patients themselves when the EDS is not completed before discharge from hospital. Previous attempts to address this issue had been unsuccessful or temporarily effective.

Objectives We aimed to improve EDS completion rates in our Department and sustain this improvement through time, thus achieving enhanced patient care and safety.

Methods This is an ongoing project involving all inpatients discharged from the Paediatric ward of our District Hospital and all staff involved in their discharge process. Using the methodology of the Institute for Healthcare Improvement (IHI), multiple, small sample, Plan- Do- Study- Act (PDSA) cycles were performed monthly from September 2020. Changes were introduced gradually, and their effect tested with each cycle, as described below:

Cycle 1: Introduced ban on patients' departure from the ward without a hard copy of the EDS, via asking the nursing team to no longer facilitate this, nor expect the EDS to be mailed to them.

Cycle 2: Introduced the monthly EDS completion rates competition: each week's and weekend's ward leading Consultants were scored according to the EDS completion rates achieved during their week. Results were illustrated in a poster in the doctors' office, emailed to the Consultants and shared in the Junior Doctors' whatsapp group. The top performing leaders were commended on and rewarded with a chocolate prize.

Cycle 3: Increased study sample (days audited). Learning points about possible alterations in everyday work that could enhance EDS completion, shared with the team.

Cycle 4: Illustrated the month's results in a themed, eye-catching poster and circulated to the team comparison between the first and this month, demonstrating great improvement.

Cycle 5- currently ongoing: monthly audit of completed EDSs and information sharing with the team via means established during the previous cycles.

Results Significant improvement in the EDS completion rates (from 73% on average for each Consultant team on their worst audited day, to 95%) was demonstrated throughout and has been so far sustained. Prolonged ward rounds and hand-overs, diminishing the time available to the team to complete

EDSs, were identified as possible factors for poor performance. Ambulating patients and mental health patients were most frequently the ones discharged without an EDS. Involving the Consultant body and turning the project into a game/competition, while including both nurses and doctors, seemed to boost staff engagement in the process and minimise resistance to change.

Conclusions Early team involvement, at all levels of seniority, can enhance the success of quality improvement projects addressing longstanding day-to-day clinical problems. Continuous positive reinforcement and information sharing lead to better results and sustained improvement.

428 ANCHOR PROGRAMME: PILOT HOME VISITATION PROGRAMME FOR CHILDREN WITH ADVERSE CHILDHOOD EXPERIENCES (ACES)

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Background Early childhood is a critical period for brain and biological development. Children with adverse childhood experiences (ACES) including maltreatment are at a high risk of developmental, behavioural and health problems lasting into adulthood. Anchor, a home visitation programme was commenced to support these children aged 0–3 years old who have been maltreated and their families.

Objectives 1.To review the uptake of the families into the programme 2. To understand the profile of the children and their families enrolled into the programme

Methods Children enrolled into the programme undergo baseline evaluation of their health, development and behavior through ASQ-3 (Ages and Stages Questionnaire, Third Edition), ASQ: SE 2 (Ages and Stages Questionnaire: Social Emotional, Second Edition), CBCL (Child Behavior Checklist), YCPC (Young Child PTSD Checklist) and M-CHAT (Modified Checklist for Autism in Toddler, Revised). The primary caregiver undergoes evaluation of mental health through PHQ-9 (Patient Health Questionnaire-9) and GAD-7 (General Anxiety Disorder-7), and an assessment of bonding with the child using PICCOLO (Parenting Interactions with Children: Checklist of Observations Linked to Outcomes). After multidisciplinary team discussion of the above assessments, cases are tiered. The frequency of home visitation is determined based on the tiering of the case and the intervention plan is developed in discussion with the family using the principles of family centered practice. Their needs are identified early and supported with relevant home-based interventions. These children and their caregivers are also referred to medical and community services, as deemed necessary.

Results By December 2020, a total of 121 cases were referred to Anchor. 57 (42%) of these cases are actively followed up by the programme. Approximately 15% of the referred families were not keen on the programme, while 3 of the families withdrew from Anchor. The remaining cases includes those that are pending enrolment and those rejected by the team as the family was being supported through other services. Physical abuse was the most common reason for referral. Approximately 50% of the children had a significant developmental delay (2 standard deviation) in at least 1 developmental

domain and a third of them had delays in 2 or more domains on the ASQ-3 assessment. Based on ASQ: SE, 33% of these children were reported to have mild to significant social-emotional developmental delays. 48% of the children were reported with behavioral and emotional concerns in CBCL assessments. 30% of the children had incomplete vaccination. A third of caregivers had mental wellness concerns as indicated by PHQ-9 and GAD-7 scores. M-CHAT and PICCOLO results are being analysed and will be presented in the conference.

Conclusions Anchor programme and its holistic evaluation showed that children with ACES and their families are a vulnerable group with high needs. It is imperative that these needs are identified in a timely manner to ensure that targeted support services are provided through home visitation and inter-agency collaboration.

429 EFFICACY OF WEARABLE PHYSICAL ACTIVITY TRACKERS, FUNCTION AND PARTICIPATION MEASURES IN CHILDREN WITH CEREBRAL PALSY; REVIEW OF THE EVIDENCE

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Background Cerebral Palsy is the primary cause of early physical disability in children and affects approximately 110,000 people, with a prevalence of 2–2.5 per 1000 live births in the United Kingdom. Young people with Cerebral Palsy have reduced physical fitness with an estimated, maximum aerobic capacity of 15–28% less than healthy peers. This may lead to health consequences, such as hypertension and obesity.

The UK physical activity guidelines for healthy children (5–18 years), advise 60-minutes of daily moderate-intensity-physical-activity (MIPA). However, these guidelines do not include children with long-term conditions such as Cerebral Palsy. Additionally, appropriate outcome measures are required to record the effects of interventions on physical activity, functional-mobility, and participation in children with disabilities.

Objectives To review the evidence for the use of the physical activity, functional-mobility, and participation measures for young people with Cerebral Palsy.

Methods The current research was screened using the key search terms Cerebral Palsy, exercise, and physical activity, to critique the literature for physical activity, functional mobility, and participation measures for young people with Cerebral Palsy. These included wearable physical activity trackers (WPAT), the Physical Activity Questionnaire for Older Children (PAQ-C), the Timed-up-and-Go (TUG) and the Child and Adolescent Scale of Participation (CASP).

Results Physical activity can be measured subjectively or objectively. WPAT can be used to track objective PA in children with chronic diseases to record health-outcomes. Furthermore, a benchmark of 12,000–16,000 steps-a-day, has been suggested to meet the recommended daily PA (60-minutes). However, the articles indicate limitations in the variability of devices, placement, duration, activity, and environment.

The PAQ-C papers demonstrated some evidence for acceptable psychometric properties and provided normative scores for recording PA levels. However, the impact of different seasons, school holidays, and recruiting healthy children samples,

needs to be considered to record subjective PA levels, in children with disabilities.

The TUG has been used to measure balance, postural control, mobility, and function in children with CP. The literature suggests high reliability and minimal detectable change and minimal clinical important difference values of the TUG in children. However, the small sizes used this research must be acknowledged.

The research reviewed for the CASP were predominantly used in TBI and arm-injuries and suggested some preliminary evidence for the psychometric properties in children with neurological conditions.

Conclusions The literature review indicates preliminary evidence for the use of WPAT, PAQ-C, TUG, and CASP to record the effects of interventions in children with disabilities, such as Cerebral Palsy. However, future research should focus on the feasibility, and applicability, of public health guidelines for physical activity, intended for children with CP, to improve and maintain health and well-being.

430 X-LINKED ICHTHYOSIS, AN UNDER DIAGNOSED GENETIC SKIN DISORDER IN CHILDREN-CASE REPORT

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Background X-Linked Ichthyosis is the second most common cause of ichthyosis in children. It is due to deficiency of steroid sulfatase (STS) either due to deletion or mutation of the STS gene at Chromosome Xp22.3. Considering this condition in severe cases of eczema is important in patient management and genetic counselling.

Objectives

Methods We report a male infant born to non-consanguineous parents who had dry skin since birth. He was born at 40+1 weeks of gestation by emergency caesarean section due to variation in foetal heart rate. He had a stormy beginning to life, needing full resuscitation at birth and 6 days of ECMO for severe PPHN. He was noted to have dry scaly skin since which got worsened over time and was refractory to treatment. A genetic study was sent as part of the initial workup which later showed micro deletion at chromosome Xp22.31 commonly associated with STS deficiency. This result correlated with his clinical condition and a genetic referral was made for carrier state detection and counselling.

Results

Conclusions X-linked recessive Ichthyosis is exclusively manifested in males and females are asymptomatic carriers. STS gene located at chromosome Xp 22.3 is defective either by deletion or point mutation resulting in deficiency of steroid sulfatase which normally keeps the skin moisturised. Deficient STS results in accumulation of cholesterol sulfate in stratum corneum of skin leading to ichthyosis. There can be associated corneal opacities and rarely cryptorchidism. The deficiency of enzyme can result in reduced production of maternal estriol during late pregnancy, which may affect induction of labour and delivery. We do not know whether his genetic condition had any contribution to is stormy neonatal period and need for ECMO. It would be a useful research if find similar associations in other children with X-linked Ichthyosis. However it is a very rare condition and should be considered in the differential diagnosis of dry