receiving chelation therapy and are on regular transfusion therapy since last 2 years.

Results 51 Patients of beta thalassemia major were required for total sample size. It was further enhanced and rounded off to 75 patients, assuming 10% attrition/drop out/lost to follow up, equally divided into 3 groups. History, clinical examination and baseline investigations (FBC, renal function tests, and liver function tests) were done. Serum ferritin and baseline investigations were repeated at 3 months, 6 months and 1 year. Patients were clinically monitored for nausea, vomiting, abdominal pain, skin rashes, walking difficulty, hearing difficulty and vision impairment.

	Deferiprone Group	Deferasirox Group	Combination Group
Mean S. Ferritin reduction	1597.4±245.098 ng/ml	1503.72±332.36 ng/ml	1768.12 ±340.644 ng/ml
Raised Urea	4% of patient	8% of patient	4% of patient
Raised Creatinine	12%	20%	8%
Raised ALT	8%	40%	12%
Raised AST	8%	28%	20%
Neutropenia	12%	4%	4%
Agranulocytosis	4%	None	None
Thrombocytopenia	8%	4%	8%
Nausea/Vomiting/abdominal pain	None	4%	4%
Skin Rashes	None	4%	None
Arthropathy/Arthritis	8%	None	None
Jaundice/Difficulty in hearing/ Vision impairment	None	None	None

Conclusions Both deferiprone and deferasirox are highly effective in reducing serum ferritin, either single or in combination. Deferiprone and deferasirox combination is more effective in reducing serum ferritin than deferiprone alone or deferasirox alone. Both drugs either single or in combination are safe and well tolerated. Thalassemia patients on deferiprone chelation therapy should be monitored with absolute neutrophil count (ANC) and platelet count at regular interval. Those on deferasirox chelation therapy should be monitored with urea, creatinine, ALT, AST at regular interval.

Young People's Health Special Interest Group

894 MANAGED KAOS: MEDICAL AND SOCIAL COMPLEXITY OF ADOLESCENT INPATIENTS AT AN INNER-CITY TEACHING HOSPITAL, A TWO-YEAR EXPERIENCE

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Background Adolescence (10–19 years) and young adulthood (20–24 years) are often seen as the healthiest times of life, yet 22% of 16–24 year olds report living with a chronic condition, 45% of these conditions involve their mental

health. Adolescents in hospital are an under-researched cohort, they may be located on different wards across the hospital under paediatric and adult teams and are often invisible as a group.

To address this, in 2018 we created KAOS, an Adolescent Outreach Service where a youth worker team visits adolescent inpatients prospectively, supported by a clinical team, providing risk assessment, support, information and advocacy.

Objectives To review the two-year experience of KAOS in a large inner-city teaching hospital and regional referral centre.

Methods We collected cross-sectional data at the time of contact with KAOS (n=540 patients, 47% female). Stata was used to test correlation, with a Pearson rank coefficient, between borough Index of Multiple Deprivation (IMD) and number who had mental health or safeguarding need.

Results 540 inpatients (11–26 years) were seen by KAOS from April 2018–April 2020. 43% had a chronic physical or mental health condition, 63% had medical complexity, denoted by being under two or more clinical teams. Areas of adolescents' need identified included: 29% mental health, 12% safeguarding, 12% education or employment, 10% sexual health, 4% substance use. 43% came from two boroughs neighbouring the hospital. The borough IMD had a moderate positive association with the number who were inpatients ($r = 0.31$), the number who had safeguarding ($r = 0.38$) or mental health need ($r = 0.36$).

Conclusions In-hospital adolescents are medically complex and more socially vulnerable than their out-of-hospital peers. Clinicians may underestimate this and we advocate for an adolescent outreach team to proactively identify and address these needs.

British Paediatric Respiratory Society

895 ASSOCIATION BETWEEN ELECTRONIC CIGARETTE USE IN CHILDREN AND ADOLESCENTS AND COUGHING – A SYSTEMATIC REVIEW

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Background The use of electronic cigarettes (e-cigarettes) among adolescents is increasing worldwide. E-cigarettes are marketed as a safe alternative to other tobacco products with the aim of aiding smokers to quit and preventing non smokers from starting. However, there are concerns that e-cigarette use in adolescence may as a gateway to smoking later in life. Not much is known about the safety profile of e-cigarettes, particularly in children and adolescents. E-cigarettes have been linked to acute respiratory conditions resulting in hospitalisation but less is known about chronic effects and whether e-cigarettes can cause every day respiratory symptoms, similar to how coughing is seen with other tobacco products in adults and adolescents.

Objectives The aim of this systematic review is to evaluate whether e-cigarette use in children and adolescents can result in increased rates of coughing compared to non-users.

Methods Studies were identified through systematic searches of Excerpta Medica Database, Medline, Cumulative Index

to Nursing and Allied Health Literature, British Nursing Index, OVID Emcare, Health Management Information Consortium, PsycINFO and Allied and Complementary Medicine, The Grey Literature was also searched. Selected studies either contained only children and adolescents as study participants, or, if adults were included, the data for adolescents and children must have been presented separately.

Results Seven studies were selected from 104. Three studies compared e-cigarette users with non-users; two of these studies found a positive significant association between coughing and e-cigarette use in adolescence. Two studies looked at whether adolescents attributed symptoms they experienced to their e-cigarette use. One study reported that coughing was the most likely negative symptoms reported by adolescents who use e-cigarettes; the other study found that adolescents, on initiation of e-cigarette use, reported coughing. Two studies looked at the cases of children and adolescents who had presented to hospital after e-cigarette use and found coughing was a common presenting symptom.

Conclusions These studies suggest that children and adolescents who use e-cigarettes are likely to experience increased rates of coughing and there is an association between e-cigarette use and coughing in childhood and adolescents. Clinicians should consider e-cigarette use in teenagers who present with respiratory symptoms without a clear cause. Further research is needed to assess the more long term impact on the health of children and adolescents who use e-cigarettes to gain a more clear picture of the safety profile of e-cigarettes.

Paediatricians with Expertise in Cardiology Special Interest Group

896

PALIVIZUMAB POST-CARDIOPULMONARY BYPASS SURGERY

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Background Palivizumab is licensed for use in the prevention of serious lower respiratory tract disease caused by respiratory syncytial virus (RSV) in children under 2 years of age with haemodynamically significant congenital heart disease (CHD). The British National Formulary (BNF) and the American Academy of Pediatrics (AAP) guidelines state that all children on palivizumab should receive an additional dose of palivizumab post-cardiopulmonary bypass (CPB) surgery as serum palivizumab concentrations have been observed to decrease by more than 50% after CPB.

Objectives To compare the number of patients documented as being on a course of palivizumab in a tertiary paediatric cardiac centre receiving the recommended additional dose of palivizumab post-CPB surgery before and after the addition of a 'best practice advisory' alert highlighting the eligible patients on the computer healthcare system EPIC.

Methods **Pre-intervention:** 1. Identify all patients <2 years old who had cardiac surgery over a 9 week period in Nov-Jan 2019/2020 using EPIC. 2. Searching the records of these

patients using the search terms 'rsv', 'palivizumab', 'CPB', 'bypass' to identify the number patients documented as being on a course of palivizumab who had CPB surgery and received a post-bypass dose of palivizumab.

Intervention: Installation of a new alert on EPIC. For all patients who are documented as being on a course of palivizumab and subsequently are documented as having undergone CPB surgery, EPIC generates a patient 'best practice advisory' alert that informs clinician that the child needs a post-bypass dose of palivizumab prescribed.

Post-intervention: 1. Identify all patients <2 years old who had cardiac surgery over a 9 week period in Nov-Jan 2020/2021 using EPIC. 2. Searching the records of these patients using the search terms 'rsv', 'palivizumab', 'CPB', 'bypass' to identify the number patients documented as being on a course of palivizumab who had CPB surgery and received a post-bypass dose of palivizumab.

Results **Pre-intervention:** 8 patients over a 9 week period were documented as being on palivizumab. 12.5% (1/8) of patients received a post-bypass dose of palivizumab in hospital.

Post-intervention: 17 patients over a 9 week period were documented as being on palivizumab. 47% (8/17) of patients received a post-bypass dose of palivizumab in hospital.

Conclusions The addition of a computerized best practice advisory alert has seen an improvement in the number of patients receiving the recommended additional dose of palivizumab post-bypass from 12.5% to 47%.

Discussion Interestingly, the Joint Committee on Vaccination and Immunisation (JCVI) has issued no recommendations on the use of palivizumab post-cardiac bypass surgery. Our current local practice sees all patients who have started a course of palivizumab continue the course until the end of the RSV season, regardless of the outcome of their cardiac surgery. At least 40% of patients in this study, however, had no residual left to right cardiac shunt and no other possible indication for palivizumab raising the question of potential future cost-saving and the need for further, clearer guidelines from international bodies regarding the use of palivizumab in the post-operative cardiac patient.

Child Protection Special Interest Group

897

SUSPECTED NON-ACCIDENTAL INJURIES; WHICH BLOOD TESTS TO DO?

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Background The Child Protection Companion outlines an approach to haematological investigations in suspected non-accidental injuries, for children presenting with bruising or bleeding.

Objectives We audited records to see our compliance with the current guidelines.

Methods

- We audited electronic patient records of children referred with suspected non-accidental injuries to our hospital, over a 15-week period in 2019 and in 2020.
- A total of sixty-seven children, thirty in 2020 and thirty-seven in 2019, were referred with NAI concerns.