Abstract 1532

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### 1536

**RENA L ANGINA INDEX PREDICTION OF SEVERE ACUTE KIDNEY INJURY IN CRITICALLY ILL CHILDREN WITH LIVER DISEASE – A SINGLE CENTRE, RETROSPECTIVE OBSERVATIONAL STUDY**

**Authors:**

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**Background:**

Children admitted to paediatric intensive care units (PICU) are at increased risk of developing acute kidney injury (AKI), which is associated with increased morbidity and mortality. Early recognition and management of AKI could improve outcomes. The renal angina index (RAI) is a risk stratification score, validated for early prediction of AKI in heterogeneous critically ill paediatric populations. Children with liver disease are a group at high risk of developing AKI. As far as we are aware, the assessment of RAI for the prediction of AKI in children with liver disease has not been reported.

**Objectives**

The aim of this study is to assess the efficacy of RAI in the prediction of AKI in children with liver disease.

**Methods**

60 patients admitted to PICU aged 1 month to 18 years with a liver condition between 01/01/2017–31/12/2019 were analysed retrospectively. Children who were admitted < 48 hours, received renal replacement therapy for non-renal reasons in the first 48 hours of admission and had a history of renal impairment or renal transplant were excluded. RAI is the product of renal risk score and renal injury score, yielding a score between 1 and 40. RAI positivity (RAI+) is defined as RAI ≥8 within 12 hours of PICU admission. The primary outcomes: the development of day 3 severe AKI (stage 2–3 AKI according to the Kidney Disease Improving Global Outcomes [KDIGO] criteria), length of stay, mortality and the effect of incorporation of international normalised ratio (INR), bilirubin and lactate, as liver-related biomarkers into RAI.

**Results**

Of the 60 eligible patients, 33% developed D3 sAKI. RAI was fulfilled in 67%. The incidence of D3 sAKI in RAI+ i.e., positive predictive value was 43% was higher than in RAI – (15%) and statistically significant (p-value 0.03). RAI fulfillment in our cohort had 85% sensitivity, NPV 85% and specificity of 43% (AUC=0.64). 50% of patients were admitted after liver transplant, with the majority having a RAI score of ≥10 on admission rendering them positive hence a high false-positive rate. On excluding patients admitted following a liver transplant, the specificity of RAI improved to 79% (AUC=0.76). INR showed an association with the development of D3 sAKI for the whole cohort (OR: 1.49, 95%CI 1.05–2.13, p-value: 0.02) but this association was not consistent on the exclusion of the liver transplant patients from the analysis. Combining bilirubin and lactate with RAI showed no improvement in D3 sAKI prediction with AUC= 0.64 for both. When combining INR with RAI, the predictive performance for D3 sAKI slightly improved with AUC=0.74. In the patient cohort excluding those admitted following a liver transplant, the combination of RAI with INR, lactate and bilirubin had AUC = 0.89, 0.77, 0.76, respectively.

**Conclusions**

RAI appears to be useful in predicting Day 3 sAKI in critically ill liver patients, however, it appears to be less efficient in patients admitted following a liver transplant. The combination of RAI with other parameters INR, lactate and bilirubin improved the prediction of D3 sAKI in critically ill children with liver disease.

**Objectives**

To assess the feasibility and effectiveness of delivering the PEEER youth Project virtually compared to face to face youth work.

**Methods**

From 1.1.20 – 31.7.20: CYP received PEEER youth worker support.

- **Group 1**: Pre-Covid-19 lockdown: (1.1.2020 – 23.3.2020). PEEER youth support delivered face to face (F2F).
- **Group 2**: Covid-19 lockdown: (23.3.2020 – 31.7.2020). PEEER youth support delivered virtually

**Both groups** CYP received 1:1 sessions, group activities and workshops.

Feedback was collected on the effectiveness of the sessions: enjoyment of activities, self-esteem, building friendship, improved mood, confidence and feeling good about themselves.

**Results**

- **Group 1** (N= 109); **Group 2** (N= 236).

  - Both Groups (table 1): 100% enjoyed the sessions, would like to attend future sessions, agreed with the statements: they felt part of a friendship group, the sessions allowed them to socialise with their peers, they felt more confident and more independent, the activities gave them the opportunity to learn/improve a skill and they felt good about themselves.

**Conclusions**

PEEER youth support delivered virtually on Zoom is effective in helping CYP build confidence and self-esteem, reduce sense of isolation, and develop independence.

Restrictions imposed by the pandemic have helped drive the development of a more widely accessible resource for patient benefit.

**Paediatric Critical Care Society**

**Abstracts**

**Abstract 1532 Table 1**

<table>
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<tr>
<th>CYPs mean Feedback Scores (1=strongly disagree, 6=strongly agree) for PEEER activities</th>
<th>Group 1</th>
<th>Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=109</td>
<td>N=236</td>
<td></td>
</tr>
<tr>
<td>I enjoyed this session</td>
<td>5.58</td>
<td>5.33</td>
</tr>
<tr>
<td>I would like to attend future sessions</td>
<td>5.53</td>
<td>5.50</td>
</tr>
<tr>
<td>This activity enabled me to feel part of a friendship group/team</td>
<td>5.24</td>
<td>4.33</td>
</tr>
<tr>
<td>This activity enabled me to feel confident</td>
<td>4.96</td>
<td>4.17</td>
</tr>
<tr>
<td>This activity gave me the opportunity to feel good about myself</td>
<td>4.88</td>
<td>4.00</td>
</tr>
<tr>
<td>This activity enabled me to feel independent</td>
<td>4.68</td>
<td>5.00</td>
</tr>
<tr>
<td>This activity gave me the opportunity to learn/improve a skill</td>
<td>4.46</td>
<td>4.00</td>
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