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Introduction

- Acute kidney injury (AKI) has been associated with various viral haemorrhagic fever (VHF) [Lima et al], with increased morbidity and mortality, especially among hospitalized children.

- Previous studies reported prevalence of 0.9% - 14.2% of AKI among Dengue fever [Laoprasopwattana et al, Mallhi et al], 28% Lassa Fever (LF) [Okokhere et al] and 50% Ebola patients [Dickson et al, Hunt et al].
Introduction

- However, there is paucity of data on the prevalence of AKI and its impact on outcome among paediatric patients with LF.

- The objectives of this study were to assess the prevalence and severity of AKI among children with LF.
Methodology

- It was a retrospective cross-sectional study

- Medical records of 58 LF confirmed cases treated at Irrua Specialist Teaching Hospital (ISTH), between 2009 and August 2017 were reviewed.

- AKI was diagnosed and staged with KDIGO criteria using only serum creatinine [Khwaja].
Methodology

- They were managed with Ribavirin and other supportive treatments as required.

- Proportions were compared between groups using Chi square or Fisher’s exact test as appropriate, and odds ratios (OR) and the 95% confidence intervals (CI) calculated.
Results

- 40 of the 58 cases reviewed had complete data for analysis of AKI status.
- Age: 2 months – 15 years.
- 16/40 (40%) had KDIGO criteria-defined AKI.

Case fatality among AKI versus no AKI:

- 9/16 (56.3%) among children with AKI and 1/24 (4.2%) among those without AKI died (OR [95% CI] of death among children with AKI = 29.57 [3.17, 275.7], \( p < 0.001 \)).

Stages of AKI: stage I in 5 (31.3%), stage II in 4 (25.0%) and stage III in 7 (43.7%).
Results

The distribution of case fatality with the stage of AKI is illustrated in Figure 1.

Figure 1: The distribution of case fatality with the stage of AKI in paediatric LF

$p <0.001$ for case fatality in II/III versus 0/I
Results

Case fatality with severity of AKI:

- 9/11 (82%) among children with stage II/III AKI and 1/29 (3.5%) among those with stage I or no AKI died with Odds Ratio [95% Confidence Interval] of death in KIDGO stage II/III AKI = 126 (10.19, 1558), \( p < 0.001 \).
Discussion

- The 40% prevalence of AKI in this study is higher than 0.9% - 14.2% previously reported among children and adults with Dengue fever [Laoprasopwattana et al, Mallhi et al] and 28% reported among predominantly adult patients with LF [Okokhere et al] but lower than 50% separately reported among Ebola patients [Dickson et al, Hunt et al].

- The high CFR of 56.3% among children with AKI is consistent with the increased mortality associated with AKI complicating VHF's such as dengue fever [Basu et al, Mallhi et al] LF [Okokhere et al] and Ebola [Dickson et al].
Conclusion and Recommendation

- The prevalence of AKI is high in paediatric patients with LF and associated with increased case fatality, especially high stage-related case fatality.

- The availability of programs for its early detection and appropriate treatment could improve survival.
Acknowledgment
Reference