

**Title: Impact of Pre-hospital care on the outcome of the children presenting to Pediatric Emergency with acute respiratory illness (ARI) in a tertiary care center from South India.**

## **Abstract**

### **Background:**

Data on impact of Pre-hospital care in pediatric emergencies are limited.

### **Objectives:**

To study the impact of pre-hospital care and transport among children admitted in Paediatric Emergency Services (PES) with ARI.

### **Methods:**

Prospective observational study including children of age >1 month to <16 years admitted in PES with ARI between January and June 2017. The effect of pre-hospital care among the “adequately treated” and “inadequately treated” was measured using PRESS score, respiratory support given and nature of admission.

### **Results:**

Of 152 children included, 80(64%) were infants. Majority (79.7%) reached PES after 48 hrs of illness. While 125 (82%) were inadequately treated, 27(18%) were adequately treated. More children in the “adequately treated” group had PRESS-severe score as compared to the inadequately treated group (18/27 vs 58/125,  $p = 0.05$ ). A significantly higher number of patients in the adequately treated group required high flow oxygen (HFO) (26% Vs 16%,  $p = 0.042$ ). No difference was

found in the rates of advanced airway placement between the two groups (7.5% vs 1.6%,  $p=0.145$ ). PHDU and PICU admission rates were not significantly different (11.1% vs 9.6% & 7.4% vs 2.4%,  $p=0.396$ ).

Ambulance was the mode of transport in 11(7%) children. Of the 76 with severe PRESS score, 10% used ambulance (8/76 vs 68/79,  $p=0.07$ ). 18.5% of children requiring HFO and 25% needing advanced airway were transported by ambulance (1/4 vs 3/4,  $p$  value = 0.042).

### **Conclusion:**

Severe PRESS score and HFO requirement were significantly high among the adequately treated group. Ambulance utilisation was significantly less even among those with severe PRESS score and requiring advanced airway.

**Key words:** Pre hospital care, pre hospital transport, ARI, PRESS, PALS

### **Abbreviation and definition:**

**ARI** -acute respiratory illness, **PRESS** - Pediatric Respiratory Severity Score, **PALS** –Pediatric Advanced Life Support guidelines. **PHC**-Primary health center **NIL** group- Children not received Prehospital care, **OP** group -children received prehospital care on outpatient basis, **IP** group-children received Inpatient hospital care, **Inadequately treated** -NIL+OP groups, **Adequately treated** -Inpatient group