

## **Assessment of Level of Sedation and Associated Factors Among Intubated Critically Ill Children in Pediatric Intensive Care Unit of Jimma University Medical Center: A Fourteen Months Prospective Observation Study, 2023**

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**Abstract :** Background: Sedation can be provided to facilitate a procedure or to stabilize patients admitted in pediatric intensive care unit (PICU). Sedation is often necessary to maintain optimal care for critically ill children requiring mechanical ventilation. However, if sedation is too deep or too light, it has its own adverse effects, and hence, it is important to monitor the level of sedation and maintain an optimal level. Objectives: The objective is to assess the level of sedation and associated factors among intubated critically ill children admitted to PICU of JUMC, Jimma. Methods: A prospective observation study was conducted in the PICU of JUMC in September 2021 in 105 patients who were going to be admitted to the PICU aged less than 14 and with GCS >8. Data was collected by residents and nurses working in PICU. Data entry was done by Epi data manager (version 4.6.0.2). Statistical analysis and the creation of charts is going to be performed using SPSS version 26. Data was presented as mean, percentage and standard deviation. The assumption of logistic regression and the result of the assumption will be checked. To find potential predictors, bi-variable logistic regression was used for each predictor and outcome variable. A p value of <0.05 was considered as statistically significant. Finally, findings have been presented using figures, AOR, percentages, and a summary table. Result: in this study, 105 critically ill children had been involved who were started on continuous or intermittent forms of sedative drugs. Sedation level was assessed using a comfort scale three times per day. Based on this observation, we got a 44.8% level of suboptimal sedation at the baseline, a 36.2% level of suboptimal sedation at eight hours, and a 24.8% level of suboptimal sedation at sixteen hours. There is a significant association between suboptimal sedation and duration of stay with mechanical ventilation and the rate of unplanned extubation, which was shown by  $P < 0.05$  using the Hosmer-Lemeshow test of goodness of fit ( $p > 0.44$ ).

**Keywords :** level of sedation, critically ill children, Pediatric intensive care unit, Jimma university

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