



Comparisson of Ph Prism and PELOD in Predicting Outcome in Pediatric Intensive Care

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KEYWORDS	pH, acidosis, PRISM, PELOD, children, outcome.

Objective: Comparing pH prism and PELOD as tool measuring morbidity and mortality in PICU.

Setting: The study is performed I UHC Mother Teresa Pediatric Hospital PICU.

Patients 84 patients underwent to ABB in admission time and evaluated for PRISM score and PELOD and death rate when discharged.

Main result: Prism score had the highest sensitivity and specificity in predicting morbidity and mortality. Values >10 are more prone to use as a Tool for predicting outcome.

pH had higher sensitivity, but not sufficient specificity to be used as a single tool.

Conclusions: ABB and prism score can be a good predictor in assessing children in PICU.

Material: 84 patients from 1 month to 14 years old admitted to PICU are evaluated clinically and submitted blood gas analysis, and calculated Prism and PELOD randomly.

Results: Social demographic data of patients

	N	(%)	p
Metabolic Acidosis	34	40.5	
Metabolic Alkalosis	12	14.3	
Respiratory Acidosis	25	29.8	
Normal AB balance	13	15.5	
			< 0.01
Gender			
Males	43	51.2	
Females	41	48.8	
			0.9
Age (in years)			
0 - 4	71	84.5	
5 - 9	7	8.3	
10 - 14	6	7.1	
			<0.01

We noticed a statistically significant diference related to number of patients in relation to disbalance shift.($\chi^2=15.7$ p < 0.01).

43 patients or 51.2% were males 41 or 48.8% were females without any significant difference between them ($\chi^2=0.01$ p = 0.9). The age of patients is not.... normal distribution. Median age is 1 year and interquartilar range 0-4 years.

We noticed a dominance of group age 0-4 years old with 71 patients or 84% of all, having a statistically significant difference to other group ages($\chi^2=99$ p<0.01).

Rock curves are used to compare three tools (pH, Prism, Pelod)

Area under curve (AUC)

Variables	Area	Standard error	p	95% CI
Prismus	.793	.064	.000	.668 - .917
ph	.695	.059	.007	.578 - .811
PELOD	.864	.045	.000	.776 - .951

All three variables : Prismus, pH and PELOD are significant(p<0.05).

1. Prismus curve

Sensitivity = 68.2%
 Specificity= 90.3%
 Criteria: >10, affects the (outcome-in) of patients.

2. pH curve

Sensitivity= 95.5%
 Specificity= 40.3%
 Criteria: degree 1, 2 and 3
 (7.28-7.35 degree 1)
 7.0-7.28 degree 2)
 <7.0 degree 3)
 for acidosis, affects the outcome of patients.

(7.46-7.55 degree 1)
 7.56-7.65 degree 2)
 >7.65 degree 3)
 for alkalosis, affects the outcome of patients.

1. PELOD curve

Sensitivity = 63.6%
 Specificity= 96.8%
 Criteria: >21, affect the outcome of patients.

Discussion:

The most optimal days measuring PELOD are 1,2,5,8,12,16,18. These are the days more associated to high percentage of deaths.[5]

PRISM and PELOD had shown a better predictive performance. Results are in accordance to Martha VF and Slater A, which have shown a good performance of Prism in PICU on developing countries.

pH shows not such a good performance compared to Prism and PELOD, a high sensitivity, but a low specificity.

Conclusion: Prism score is the most valuable tool in predicting morbidity and mortality in PICU, followed by PELOD and than pH, which is not commonly used as a single tool.

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