Parquat (PQ) is a highly toxic herbicide to humans. PQ poisoning is a grave concern globally, due to its high mortality rate. There is considerable inter-patient variability on factors which govern patient mortality and morbidity. Various methods to propose patients with PQ poisoning have been devised, from easier biochemical markers to complicated ones such as plasma level of parquat in blood. In this study, we explore the prognostic ability of a widely acceptable tool known as the Acute Physiology and Chronic Health Evaluation tool (APACHE II) used to propose critically ill patients, in PQ poisoning.

**RESULTS**

Study Characteristics

- 2524 patients with PQ poisoning, average of 126 participants
- All the studies were observational, 10 were prospective and 10 were retrospective
- Prevalence of mortality = 36.95% to 88.33%

Comparison of APACHE II scores between survivors and non-survivors

- MD: -5.96, 7.93, 3.60 (Fig. 2)
- A total of 16 studies reported significantly lower mean APACHE II scores in survivors than non-survivors.
- Sensitivity analysis revealed data stability
- Publication Bias
  - Funnel plot, Egger's test (p = 0.94) and the Begg's test (p = 0.75) did not reveal any publication bias

Prognostic accuracy of APACHE II score for predicting mortality

A total of 14 studies (out of 20) reported APACHE II cut-offs with 5 studies reporting cut-off of ≤ 9 and 9 studies reporting a cut-off of ≥ 9.

**CONCLUSION**

This meta-analysis depicted that survivors of PQ poisoning had APACHE II scores lower than non-survivors. Higher APACHE II values showed greater specificity in predicting mortality in these patients. Thus, APACHE II can be used as a functional tool in the hand of physicians to propose patients with PQ poisoning to aid clinical decision making.

**REFERENCES**


