



CLINICAL PROFILE AND OUTCOME OF PATIENTS PRESENTING WITH ORGANOPHOSPHORUS POISONING AT A TERTIARY CARE CENTRE

Dr Jaywant Ahirrao

HOD And Professor Dept Of Medicine.

Dr Nirmal Chaudhari

Associate Professor Dept Of Medicine.

Dr Rohan Kulkarni

Associate Professor dept of medicine.

Dr. Dipak Khore

Associate Professor Dept Of Medicine.

Dr. Sushil Navsare

Assistant Professor Dept of Medicine.

Dr Meet Shah*

Junior Resident Dept Of Medicine. *Corresponding Author

ABSTRACT **Background:** Organophosphorus (OP) compounds are widely used agricultural pesticides in India and constitute a common cause of poisoning. Easy availability and inadequate regulation have led to a high incidence of both suicidal and accidental poisoning. The Peradeniya Organophosphorus Poisoning (POP) scale is a validated clinical tool for assessing severity and prognosis.

Objectives:

To study the clinical profile of patients presenting with acute organophosphorus poisoning.

To correlate POP scale severity with clinical outcome.

Materials And Methods: A cross-sectional observational study was conducted at a tertiary care hospital in Maharashtra. A total of 100 patients aged more than 12 years presenting with acute organophosphorus poisoning were included. Severity was assessed using the POP scale, and patient outcomes were documented. **Results:** The majority of patients were young males. Based on POP scoring, 44% had mild, 36% moderate, and 20% severe poisoning. Increased severity was significantly associated with delayed hospital presentation. Overall recovery rate was 89%, while mortality was 7%. **Conclusion:** Organophosphorus poisoning predominantly affects young males. The POP scale is a reliable prognostic tool, and early diagnosis with prompt treatment significantly improves outcomes.

KEYWORDS : Organophosphorus poisoning, POP scale, pesticide poisoning, clinical profile, outcome**INTRODUCTION**

Organophosphorus compounds are extensively used as insecticides and herbicides in agricultural practices and also as industrial chemicals. In developing countries like India, organophosphorus poisoning remains a major public health problem due to easy accessibility, low cost, and inadequate regulation.

These compounds inhibit acetylcholinesterase, resulting in accumulation of acetylcholine at muscarinic, nicotinic, and central nervous system synapses. Clinical manifestations range from mild gastrointestinal symptoms to severe complications such as respiratory failure, seizures, and coma. Early assessment of severity is crucial for effective management and prognostication. The Peradeniya Organophosphorus Poisoning (POP) scale is a simple and effective clinical tool for grading severity and predicting outcomes.

OBJECTIVES

- To study the clinical profile of patients with acute organophosphorus poisoning.
- To correlate POP scale severity with patient outcomes.

MATERIALS AND METHODS

Study Design: Cross-sectional observational study

Study Setting: Tertiary care hospital, Maharashtra, India

Study Duration: _____

Sample Size: 100 patients

Inclusion Criteria

- Patients aged >12 years
- History of acute organophosphorus poisoning
- Suicidal, accidental, or homicidal exposure

Exclusion Criteria

- Chronic exposure to organophosphorus compounds
- Non-organophosphorus poisoning

- Brought dead cases
- Severity Assessment

Severity was assessed using the Peradeniya Organophosphorus Poisoning (POP) scale:

Mild: 0–3

Moderate: 4–7

Severe: 8–11

Statistical Analysis

Data were analyzed using appropriate statistical methods. The Chi-square test was applied, and a p-value <0.05 was considered statistically significant.

RESULTS

Table 1 : Distribution Of Study Participants According To POP Severity Grade

POP Severity Grade	POP Score	Number of Patients n (%)
Mild	0–3	44 (44.0)
Moderate	4–7	36 (36.0)
Severe	8–11	20 (20.0)
Total	—	100 (100)

Table 2 : Association Between POP Score and Clinical Outcome

POP Severity	Improved	Death	DAMA*	Total
Mild	43	0	1	44
Moderate	34	1	1	36
Severe	12	6	2	20
Total	89	7	4	100

Chi-square value = 16.1

p-value = 0.0028 (Statistically Significant)

DISCUSSION

The present study demonstrates a clear male predominance and higher

incidence among young adults, consistent with previously published literature. The POP scale was effective in predicting severity and clinical outcome. Delayed hospital presentation was significantly associated with increased severity and mortality, highlighting the importance of early medical intervention.

CONCLUSION

Organophosphorus poisoning predominantly affects young males. Severity and mortality increase with delayed presentation. The POP scale is a simple, reliable, and effective prognostic tool. Early diagnosis and prompt treatment significantly improve patient outcomes.

REFERENCES

1. Tripathy SK et al. Int J Adv Med. 2018;5:50–56.
2. Upadhyay KJ et al. IAIM. 2019;6(11):29–34.
3. Shah NM, Mundhra SH. Int J Med Sci Public Health. 2016;5:1621–1625.
4. Senanayake N, de Silva HJ. Hum Exp Toxicol. 1993;12:297–299.