[ID-P#153] A Retrospective Study of Accidental and Deliberate Pesticide Poisoning Among Adults in Malaysia: Cases Reported to Malaysian National Poison Centre (NPC)

Halilol Rahman Mohamed Khan[a], Nur Najihah Izzati Mat Rani[a], Nur Azzalia Kamaruzaman[b], Noor Afiza Abdul Rani[b], Ahmad Shalihin Mohd Samin[b], Sulastri Samsudin[b], Adilah Mohamed Ariff[b] and Asdariah Misnan[b]

[a]Universiti Kuala Lumpur, Royal College of Medicine Perak; [b]National Poison Centre, Universiti Sains Malaysia

Background/Aims: Pesticide poisoning remains a significant public health issue worldwide. This study aims to analyze the patterns and trends of pesticide poisoning cases reported to the Malaysian National Poison Centre (NPC) between 2016 and 2021, focusing on demographic characteristics and exposure details.

Methods: This retrospective study utilized data from the NPC to assess pesticide poisoning incidents. Variables included demographic information, route and amount of exposure, and symptomatic manifestations. Statistical analyses, including chi- square tests and logistic regression, were performed to determine significant associations and predictors of poisoning incidents. Adjusted Odds Ratios (AOR) were calculated to assess the likelihood of intentional poisoning incidents across different demographic groups and between the likelihood of exhibiting symptoms across different exposure characteristics.

Results: A total of 4,282 pesticide poisoning cases were analyzed. Based on reported poisoning incidents, herbicides accounted for the highest number of cases with 2,209 incidents (52%), followed by insecticides with 1413 incidents (33%). Rodenticides were involved in 344 cases, while household insecticides accounted for 165 incidents. Males were disproportionately affected, with a higher prevalence of both intentional and unintentional poisoning (68.5%, n=2,934). Age groups 30-39 years exhibited the highest incidence rates (28.0%, n=1199). Among the age groupings, the 18–24 age group's AOR showed a higher (2.40 times) likelihood of deliberate pesticide poisoning occurrences. Among racial groups, the Indians reported the highest rate of pesticide poisoning among all races which accounted for 36.2%, followed by the Malays, 22.4% and the Chinese,9.9%. Ingestion was the predominant route of exposure (87.8%) and significantly associated with exhibition of symptoms particularly gastrointestinal tract (55.1%), central nervous system (14.5%) and respiratory symptoms (5.7%). Higher amounts of pesticide exposure were significantly correlated with an increased likelihood of symptomatic poisoning, with the severity and outcome primarily influenced by the quantity ingested.

Conclusion: The study highlights the critical impact of demographic factors and exposure characteristics on the incidence and severity of pesticide poisoning. Notably, a decreasing trend in pesticide poisoning cases was observed over the study period, potentially attributed to improved regulatory measures and public health interventions. The findings underscore the need for targeted interventions and enhanced public awareness to mitigate the risks of pesticide poisoning in Malaysia.