

## TOXICITY OF *HYLOCEREUS POLYRHIZUS* SEEDS USING BRINE SHRIMP ASSAY

**M.R. Kalidha Farween<sup>\*</sup>, D.K.D. Jayani, H.D.T. Madhuranga and D.N.A.W. Samarakoon**

Department of Biomedical Science, Faculty of Health Sciences, KAATSU International University, Sri Lanka.

<sup>\*</sup>kiu.b56217@kiu.ac.lk

*Hylocereus polyrhizus* is grown commercially in Asian countries and belongs to the Cactaceae family. The plant has shown many medicinal properties in previous studies. Even though the medicinal value of *Hylocereus polyrhizus* has been extensively studied, no toxicity assays are related to *Hylocereus polyrhizus* seeds. The objective was to identify the minimum toxic concentration of the crude extract of *Hylocereus polyrhizus* seeds using a brine shrimp assay. The brine shrimp lethality assay of the aqueous extracts of the *Hylocereus polyrhizus* seed was used to determine the toxicity of the seed's aqueous extract. The air-dried plant material was powdered, and 36g seed powder was poured into the 108ml distilled water and extracted using the maceration technique. The dilution series was prepared with two-fold dilution, starting from  $1 \times 10^6$  ppm to  $2 \times 10^3$  ppm concentration. Their ability to kill a cultured larva (nauplii) was observed. Ten larvae were exposed to plant extract for 24 h. The number of live larvae was observed using the naked eye, and the mortality percentage and LC<sub>50</sub> (the median lethal concentration) were calculated using GraphPad Prism software. The study was triplicated. The mortality percentage and LC<sub>50</sub> were calculated using GraphPad Prism according to a log concentration and percentage mortality graph and compared with Meyer's or Clarkson's toxicity scale (if LC<sub>50</sub> < 1,000 µgml<sup>-1</sup> is considered toxic, if LC<sub>50</sub> > 1,000 µgml<sup>-1</sup> is considered as non-toxic). The resulting LC<sub>50</sub> was = 0.0406 gml<sup>-1</sup> for the aqueous extract. The results confirmed that the seed extract is toxic, and the minimum toxic concentration of *Hylocereus polyrhizus* seeds in the brine shrimp assay was 0.0406 gml<sup>-1</sup>.

**Keywords:** Brine shrimp assay, *Hylocereus polyrhizus* seeds, Toxicity