A large number of traditional herbal formulations are being used successfully for the treatment of a number of ailments as suggested by the growing body of literature related to scientific justification of traditional herbal medicine. With the modernization, a huge number of folklore traditional knowledge tends to be lost in near future unless properly document based upon scientific revisiting. That is why; it is becoming imperative to take upon researches and implementing the process of documentation.

In regards to above the present research work was aimed at contributing towards the knowledge database of medicinal plants in terms of clinical and therapeutic efficacy of extracts of N. Oleander L., a traditional ayurvedic ornamental medicinal plant. In the conclusion, this research work established several pharmacological activities of the studied plant by elucidating the molecular mechanisms of action. The efficacy of the plant extract extended towards hepatoprotective, CNS active, neuroprotective, anti-Alzheimer’s disease, and anti-inflammatory activity with COX inhibition as well as antibacterial efficacy. The plant extract was found to be a significantly effective hepatoprotective in animal model of hepatotoxicity. Hepatotoxicity induced by carbon tetrachloride was reversed by the treatment with the extract as suggested and confirmed by the biochemical and histopathological investigations. In a non classical Alzheimer’s disease model the plant extract showed significant neuroprotective efficacy. Biochemical and histopathological evaluations also demonstrated clearly the neuroprotection. In animal models of inflammation, the plant extract reversed significantly the carrageenan induced paw edema and also showed anti-inflammatory activity in exudative inflammation model. Decreased leukocyte migration as well as protein exudation further confirmed the anti-inflammatory efficacy of the plant extract. In the long run, the results of the present study clearly provided scientific justification to several folklore as well as traditional uses of N. oleander. The different pharmacological activities of the extract suggested that the plant can be a viable source of some bioactive compounds to be considered as lead in near future.