Evaluation of Antidepressant Activity of *Nerium Oleander* Flower Extract in Albino Mice

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1. Introduction

Depression is one of the major mental disorders, it characterized with symptoms such as regular negative moods, decreased physical activity, feelings of helplessness, sluggish thought, and cognitive function¹. According to the World Health report, approximately 450 million people suffer from a mental or behavioral disorder. This amounts to 12.3% of the global burden of disease, and will rise to 15% by 2020²,³,⁴.

*Nerium oleander* L. is an important medicinal material numbers of pharmacological activities are determined by different scientists. Its main active constituents are polysaccharides, cardenolides, glycosides, and triterpenoids. The important pharmacological activities are antinociceptive, anti-inflammatory, anti-depressant, antibacterial and anticancer activity. Commonly known as an Indian Oleander.

2. Objective

To evaluate antidepressant activity of *Nerium oleander* flower extract in albino mice

3. Materials and Methods

**Animals:** Male Albino mice

**Solvents:** Normal Saline

Distilled water

**Drug:** *Nerium Oleander* flower extract

Imipramine (Depsonil)

**Extraction:** 50% Ethanolic Etract

Coarse crushed *Nerium Oleander* Flowers + Ethanol + Distilled Water → Soxlet Apparatus → Boiled at 50ºc → Extract Filtered & Dried → Stored in air tight container.

**Antidepressant Activity**

**Tail Suspension Test**

Male Albino mice, weighing 25-30 grams were used.

Grouping of Animals: They were divided into 5 groups with 6 animals (30 mice).

Group 1: Normal Control 10ml/kg (Distilled Water),

Group 2: Imipramine 10mg/kg,

Group 3: *Nerium Oleander* Flower Extract 50mg/kg,

Group 4: *Nerium Oleander* Flower Extract 75mg/kg,

Group 5: *Nerium Oleander* Flower Extract 100mg/kg.

The total duration of immobility induced by tail suspension was measured according to the method described by Steru *et al*⁵. Tail Suspension Test (TST) is carried out for duration of 5 min. Each drug was administered initially to individual groups of mice. After 30 min & 60 min of drug administration each mice was suspended on the edge of a shelf 58 cm above the floor by the adhesive tape placed approximately 1 cm from tip of the tail. Mice are considered immobile only when they hang passively and are completely motionless for at least 1 min. The duration of immobility time was recorded⁶,⁷.
### All the values are expressed as Mean ± SEM

<table>
<thead>
<tr>
<th>Groups</th>
<th>Parameters</th>
<th>Total Duration of Immobility After 30 min</th>
<th>After 60 min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Control 10ml/kg</td>
<td>Mean±SD 2.94±0.51</td>
<td>1.92±0.43</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SEM</td>
<td>-</td>
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</tr>
<tr>
<td>Imipramine 10mg/kg</td>
<td>Mean±SD 1.63±0.35**</td>
<td>0.84±0.29**</td>
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<tr>
<td></td>
<td>SEM</td>
<td>0.14</td>
<td>0.11</td>
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<tr>
<td>NOFE 50mg/kg</td>
<td>Mean±SD 2.96±0.36</td>
<td>2.17±0.10*</td>
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</tr>
<tr>
<td></td>
<td>SEM</td>
<td>0.14</td>
<td>0.04</td>
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<tr>
<td>NOFE 75mg/kg</td>
<td>Mean±SD 2.34±0.19*</td>
<td>1.36±0.20**</td>
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<td>SEM</td>
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<tr>
<td>NOFE 100mg/kg</td>
<td>Mean±SD 1.95±0.40**</td>
<td>0.86±0.28**</td>
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<td>SEM</td>
<td>0.16</td>
<td>0.12</td>
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</tbody>
</table>

*P value<0.05, **P value<0.01.

### References


