Timur (Zanthoxylum armatum DC) Essential Oil May Cure Pneumonia

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• Introduction
  - Zanthoxylum armatum is a small xerophyte tree usually found in the Hilly region of Nepal.
  - The seed of Z. armatum is a very important spices and flavoring agent in Nepali kitchen.
  - Timur is highly demanded for tooth care purpose in South Asia.
  - Essential oil of Timur shows anti-inflammatory, antibacterial, antifungal, larvicidal, anticancer and hepatoprotective activity.

• Local people use timur against respiratory disease also.
• In this research work we have done extraction of essential oil of Timur from Kailash landscape area, chemical profiling of essential oil and antimicrobial activity of essential oil against pneumonia causing bacteria.

Material and Methods

Essential oil of dried seed was prepared by water distillation method using Clevenger apparatus. Two bacteria Salmonella typhi and Klebsiella pneumonia were used for the antibacterial test. These strains were cultured according to their specifications.

Essential oil was diluted with 50% DMSO and zone of inhibition was analyzed with positive and negative control. Chemical profiling of the essential oil was done using GCMS technique.

Results

<table>
<thead>
<tr>
<th>S. N.</th>
<th>Name of Bacteria</th>
<th>Zone of Inhibition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Klebsiella pneumonia</td>
<td>58 mm</td>
</tr>
<tr>
<td>2</td>
<td>Salmonella typhi</td>
<td>No inhibition</td>
</tr>
</tbody>
</table>

Conclusion:

According to GC-MS analysis, essential oil of Z. armatum contained 48.39% linalool, 20.36% limonene, 12.67% cinnamate, 6.35% alpha-Thujone as a major constituent.

Antimicrobial study of essential oil shows high inhibition against the Klebsiella pneumonia.

This research work shows Timur oil is also effective against pneumonia. Further study on the effectivity of Timur oil against the different bacteria of pneumonia will be very interesting work.

Reference: