

# Therapeutic Applications of Nux Vomica in Homoeopathy and Ayurveda: A Comprehensive Review

**Dr. Bianghunlang Nongsiej<sup>1</sup>, Dr Verity Markhap<sup>2</sup>, Dr Harlin Swer<sup>3</sup>,  
Dr. Jarusha Buturi<sup>4</sup>**

<sup>1</sup>Assistant Professor, Department of Practice of Medicine North Eastern Institute of Ayurveda and Homoeopathy, NEIAH, Meghalaya

<sup>2</sup>Assistant Professor, Department of Samhita & Siddhanta, North Eastern Institute of Ayurveda and Homoeopathy, NEIAH, Meghalaya

<sup>3</sup>Assistant Professor, Department of Rasa Shastra & Bhaisajya Kalpana North Eastern Institute of Ayurveda and Homoeopathy, NEIAH, Meghalaya

<sup>4</sup>Homoeopathic Physician, Kadapa District, Andhra Pradesh. India

## ABSTRACT:

Homoeopathy and Ayurveda are different system of medicine whose aim is to treat the patient as a whole and not just the disease state. There are various medicinal plants which are used both in Ayurveda as well as Homoeopathy. Here we describe the various therapeutic action and application of the Medicine Nux Vomica. In Homoeopathy Nux Vomica is a polychrest medicine in which majority of the symptoms correspond in similarity to the commonest and most frequent human diseases. The medicinal properties of the crude drug are made dynamically active by the process of potentization and succussion. In Ayurveda Nux Vomica is categorised under *Upavisha*, semi poisonous drug and is administered only after undergoing specific purification procedure (*Shodana*) to mitigate toxicity and enhance therapeutic efficacy. The phytochemical was found like Alkaloids, triterpenes, oils, lipids, phenols, tannins, and flavonoids. In various modern publications, nux-vomica or its alkaloids have been reported to have analgesic, anti-inflammatory, anti-oxidant, anti-tumor, anti-snake venom, anti-diarrheal, and hepatoprotective properties. Because of its sharp and easily penetrate in the body properties it is utilized in Indian and other medical systems' formulations for their rapid effect. Despite the toxic effects of this drug, its medicinal property has been made active by the process of drug potentization which is used successfully in the treatment of various medical disorders involving gastrointestinal disorders, sedentary lifestyle disorders its role in managing stress-related disorders, supporting detoxification processes, and enhancing overall vitality.

**KEYWORDS:** Nux Vomica, *Kuchala*, Strychnine, Homoeopathy, Ayurveda.

## INTRODUCTION:

The traditional systems of medicine are well known for the utilisation of plant-based medicine in numerous diseases. *Strychnos nux-vomica* also known as Nux Vomica or *Kuchila* or *Vishamushti* in Ayurveda holds

a significant position due to its multiple therapeutic uses and potent physiological effect. Common Names are Nux, Poison Nut, Dog Button, quaker buttons, Semen strychni, Quaker Buttons, Bachelor's buttons, Vomit nut, Crow fig. The name "nux vomica" derives from Latin, meaning "nut that induces vomiting".<sup>1</sup> Nux Vomica belongs to the family Loganiaceae. In Homoeopathy and Ayurveda, it has been widely used in carefully regulated dose and processed preparation with good results, despite being known to be toxic in its raw form.

In Homoeopathy Nux Vomica is considered a major polychrest remedy in the Materia medica and is prepared through the process of potentization, a method involving serial dilutions and succussion. It is widely indicated in gastrointestinal disturbance, lifestyle related disorders, stress associated complaint and conditions marked by irritability and hypersensitivity. The Homoeopathic understanding of Nux Vomica is primarily derived from drug proving and is based on the principle of Similia Similibus Curentur "let likes be cure by likes".<sup>2</sup>

In Ayurveda Nux Vomica is categorised under *Upavisha*, semi poisonous drug and is administered only after undergoing specific purification procedure (*Shodana*) to mitigate toxicity and enhance therapeutic efficacy.<sup>3</sup> Classis Ayurvedic texts describe its use in conditions such as *Agnimandya* (digestive impairment), *Vata* (Body constitution which cause neurological disorders), neuromuscular condition and certain chronic ailments. Its pharmacodynamic properties are interpreted through the Principle of *Rasa* (taste), *Guna* (property), *Virya* (potency), *Vipaka* (Stage after digestion) and *Karma* (Function).<sup>4</sup>

Given its therapeutic prominence in both Ayurveda and Homoeopathy a comprehensive review is essential to understand its traditional processing method, pharmacological attributes and clinical application across the system of medicines. This article aimed to critically examine and sensitize the available literature of Nux Vomica from both Homoeopathy and Ayurveda perspective.

Strychnine is a powerful alkaloid obtained from the seeds of *Strychnos Nux Vomica* and other *Strychnos* plant. The ripe fruit contains poisonous seeds which are hard and flat about 2cms in diameter and 0.5cm in thickness, they are yellowish brown in color with a shiny hard outercoat with fine silky hair covering and are intensely bitter in taste<sup>5</sup>. Constituents of Nux Vomica are- Alkaloids, Indole Alkaloids, Strychnine & Brucine, Monoterpenoid Glycoside (Loganin),  $\alpha$ ,  $\beta$ -Colubrine, Vomisine.<sup>3</sup> Phytochemical examination of the extract yielded the extraction and identification of five phenolic components Alkaloids, triterpenes, oils, lipids, phenols, tannins, and flavanoids were discovered.<sup>5</sup> *S. nux vomica* leaves extract yielded five compounds: kaempferol-7-glucoside 1,7-hydroxy coumarin 2, quercetin-3-rhamnoside 3, kaempferol 3-rutinoside 4, and rutin 5 and contain active principles strychnine, brucine, loganin.<sup>5,7</sup> These alkaloids are convulsant poison which are lethal for most animals and may even be used as a rodenticide. Strychnine being the most toxic with Brucine of a milder degree and Loganin being least due to the small quantity in the seeds. The action of this drug is that it lowers the threshold for stimulation of spinal reflexes by blocking inhibitory pathways exerted by Renshaw cells over the motor cells in the spinal cord. Thus, any slight stimulus such as noise, light or even breeze causes a violent reflex action producing general contraction of the muscles.<sup>5</sup>

The seeds if taken as a whole has no action due to the hard outer covering which cannot be dissolved by the digestive juices. However, if we chew or the seeds broken there is a bitter taste and symptoms may appear in some time. If the alkaloid is swallowed, the symptoms occur very rapidly. Due to the alkaloid the patient is anxious and restless and complain of stiffness of muscles before typical strychnine convulsions occur, the duration of convulsion varies from half to 2 minutes. These convulsions are at first clonic (intermittent) and then tonic (sustained). All the muscles are affected simultaneously, beginning

with the victim's neck and face. Arms and legs begin to spasm next, and the spasms become worse. During this stage, the muscles become stiff and rigid, so that the body is thrown into an arch. This condition is known as **opisthotonus**. Difficulty in breathing with signs of cyanosis occurs. Blood-stained froth may be seen at the mouth. The contraction of muscles of the face causes widening of the mouth as the angles of the mouth are drawn wide apart with creases appearing in and around the eyelids (a state known as risus sardonicus). The eyes appear prominent and staring, and pupils become dilated. Consciousness is not lost, and the mind usually remains clear till death. In fatal cases, the convulsions rapidly succeed one another and increase in severity and in duration. Hypoxia causes medullary paralysis and death.<sup>5</sup>

**FATAL DOSE AND FATAL PERIOD** The fatal dose of strychnine is about 15–50 mg, i.e. the alkaloid content of one seed of nux vomica. The usual fatal period is a few hours.<sup>5</sup>

**MEDICOLEGAL ASPECTS** Most fatalities from strychnine poisoning are accidental. Strychnine poisoning has occurred through mistakes in prescriptions. Homicide with strychnine is rare because of its intensely bitter taste and the convulsions that follow rapidly after ingestion. Suicide with strychnine is rare because of painful death.<sup>5</sup>

## MATERIALS AND METHODS

The contents and procedures are adapted from Classical Ayurvedic and Homoeopathy texts such as Bhavamishara Nighantu, Materia Medica Pura, etc., and various research pieces.

Ayurveda suggested that Kupeelu be administered only after cleansing in various mediums such as cow urine (*Go mutra*), cow milk (*Go dugdha*), cow ghee (*Go ghrta*), Kanji (*sour gruel*), and so on. Other methods in the purification of *Kupeelu* seeds are by using castor oil (*Eranda taila*), ginger juice (*Ardraka swarasa*).<sup>8</sup>

In homoeopathy the medicine Nux vomica the parts used are the seeds, this is done after proper homoeopathic identification and following correct procedures for preparing the medicines. The method of preparation Nux vomica mother tincture with drug strength 1/ 10 is nux vomica in moderately coarse powder 100g+ purified water 200ml+ Strong alcohol 824 ml. This will make one thousand millilitres of the mother tincture. To make potencies 2X and higher we used dispensing alcohol.<sup>9</sup>

## DISCUSSION

Hahnemann introduced Nux Vomica in homoeopathic practice in 1805 Allen encyclopedia Materia Medica, Vol VII, 83<sup>8</sup>. By the process of potentization, the medicine curative power is activated which helps in stimulating the vital force of an individual. In § 22 Hahnemann explained the totality of the symptoms of the disease to be cured, a medicine must be sought which has a tendency to produce similar or opposite symptom. Drug Potentization: It is the process of bringing out the inherent property of drug by process of trituration and succussion.<sup>10</sup>

**HOMOEOPATHIC MATERIA MEDICA:** Various literature is found in the Homoeopathic Materia Medica, Nux Vomica is an important polychrest remedy has been shown to be adapted in anxious, zealous, fiery, hot temperament, or of a malicious, wicked intoxication with vertigo and swaying in brain, and heaviness of the head. Squeezing headache with drawing and tearing pain worse on touching, the inner canthi is painful as if excoriated and rubbed raw, smarting and burning in eyes as if from salt, ringing and hissing in ears, with painful desquamation of lips, swelling of gums with looseness of teeth, pain as if rough and sore in throat with heartburn, scraping and scratching feeling in the throat such as remains in heartburn with increase saliva and sour taste in mouth. Bitter and putrid taste in mouth with food and drink

tasting normal, repugnance of food, frequent hiccup and nausea in morning. Contractive pain in abdomen with distension of abdomen. Severe cutting pain in abdomen with nausea, ineffectual urge to stool. Sensation of burning inward heat through the whole body. Cannot bear any noise or speaking.

The symptoms of Nux are better after undisturbed sleep; worse when sleep is disturbed.<sup>11</sup>

Keynote symptoms are the symptoms which are most peculiar to a drug. In Nux Vomica “Spasm” is the first keynote and the second is “exaggerated sensitiveness.” The third keynote is Chilliness. Nux is one of Grauvogls chief hydrogenoids, and is a great remedy in intermittents— intermittent fevers, periodic neuralgias. The irritability and excessive sensitiveness of Nux depicted in the tetanic seizures and drawn facial expression applies to mind as well as body.<sup>12</sup>

Nux-v. is especially adapted to digestive disturbances, portal congestion and hypochondriacal states depending thereon. Convulsions with consciousness, worse touch, moving. Zealous fiery temperament. Nux-v. patients are easily chilled, avoid open air, etc. Nux-v. always seems to be out of tune inharmonious spasmodic action. The typical Nux-v. patient is rather thin, spare, quick, active, nervous and irritable. It affects the nerves, causing hyper-sensitiveness and over impression-ability mentally and physically. Produces digestive disturbances, partial congestion and hypochondriacal states. Dyspeptic persons who select their food for experimenting, that is digested little. He is subject to spasms, convulsions and fainting.<sup>13</sup>

In a study conducted to analyze the content of strychnine and brucine in NUX Vomica, a homeopathic drug, using ultra-performance liquid chromatography-tandem mass spectrometry to determine if its use or overdose can result in significant toxicity, it was found that the amount of strychnine in homeopathic Nux Vomica products is not likely to result in clinically significant strychnine toxicity.<sup>14</sup> Nux vomica is a polycrest remedy. In a series of experiments conducted by Atheni Konar et al. it was demonstrated that potentized Nux vomica has anti-alcoholic effect on toads.<sup>15</sup> In homeopathy, Nux vomica is typically used to treat digestive complaints, such as indigestion, constipation, and bloating and it is used to decrease symptoms of hangovers and overindulgence in food or alcohol. In homeopathy, Nux vomica is believed to have therapeutic properties that can help treat a range of conditions, including insomnia, anxiety, and indigestion. Homeopathic preparations of Nux vomica are diluted in such that they contain only trace amounts the active ingredient, making them relatively safe for human consumption.<sup>16</sup>

In a study by Anjana Goel et.al, to investigate the antiepileptic effect of homeopathic remedy Nux vomica and its comparison with standard therapeutic diazepam in mice. BALB-c mice were taken and divided into three groups comprising ten mice in each group. The first group was treated as control; the second group received standard therapeutics (diazepam, i.p.) and the third group received Nux vomica CH7. All groups were treated with strychnine intra peritoneally. It was found that Nux vomica CH7 homeopathic preparation was found effective in suspending onset of convulsions ( $P < 0.01$ ), and extending survival time until death ( $P < 0.01$ ) in comparison to control mice. It also increased percentage survival in comparison to control as well as diazepam treated animals.<sup>17</sup>

Nux vomica's significance in Homoeopathy practice is deeply rooted in its miasmatic actions mainly the psoric miasm. Its action in treating gastrointestinal, neurological, respiratory, and psychological conditions illustrate its broad therapeutic potential.<sup>18</sup>

Strychnos nux-vomica seed offers functional recovery promoting effects following a mechanical injury to the Sciatic nerve and the possible reasons behind this effect can be reduced oxidative stress and improved glycaemic control.<sup>19</sup>

Homoeopathic medicine Nux vomica 30C and 200C showed its efficacy in treating Paracetamol induced liver injury where when the levels of liver enzymes and histopathology were compared, groups treated with Nux vomica has showed marked improvement in liver enzyme levels than the negative control group. When compared between intervention groups Nux vomica 30C and 200C, Nux vomica 200C. The results were analysed statistically. Histopathological features of liver tissue were also compared between groups and negative control group shows extensive hepatic necrosis than treated groups.<sup>20</sup>

In various modern publications, nux-vomica or its alkaloids have been reported to have analgesic, anti-inflammatory<sup>21</sup>, anti-oxidant<sup>22</sup>, anti-tumor,<sup>23</sup> anti-snake venom<sup>24</sup>, anti-diarrheal<sup>25</sup>, anti-diabetic<sup>26</sup> and hepatoprotective properties.<sup>27</sup>

The principal chemical ingredients of nux vomica (strychnine and brucine) have been linked to harmful consequences.<sup>28</sup> Specific Shodhana (purification) procedures have been adopted for the purification of nux vomica seeds, which are either stated in Ayurvedic literature or practiced traditionally.<sup>29,30,31,32</sup> In Ayurveda, the concept of Shodhana (purifying) refers not only to the act of purification and detoxification, but also to the enhancement of the drug's potency and efficacy.<sup>33</sup>

Purified *Kupeelu* is also reported to be a strong anti-aging medicine, particularly suggested during senility as a *Rasayana* (antioxidant).<sup>34</sup> Several techniques have been employed to analyze and quantify strychnine and brucine in raw and processed seeds. *Kupeelu* seeds cleansed with *Ardraka swarasa* may be considered a superior method of purification in terms of poisonous alkaloids.<sup>35,36,37,38,39</sup>

#### PROBABLE MODE OF ACTION GIVEN IN AYURVEDA CLASSIC

*Kupilu* has been given several pharmacological characteristics. *Tikta* (bitter), *Katu* (pungent) and *Kashaya* (astringent) *Rasa* (taste), *Laghu* (lightness), *Ruksha* (dry), *Teekshna* (sharp) *Guna* (property), *Ushna* (hot) *Virya* (potency), and *Katu* (pungent) *Vipaka* (stage after digestion) are all present in its seeds. Its ripe fruits have *Guru* (heavy) and *Vishada* (non slimy) *Guna* (property) with *Madhura* (sweet) *Vipaka* (stage after digestion), whereas its unripe fruits are *Sheeta* (cold) *Virya* (potency). *Bastishathilya* (urinary flaccidity) decreases as a result of all these *guna karmas* (property and function), which eventually lessens symptoms like *Shotha* (oedema), *Sahadaha* (burning sensation all over the body), and *Bindu Mutrapravritti* (drop by drop urine). Consequently, *Mutravaha Srotas Dushti* (vitiated urinary system) has been updated. Despite being poisonous, it plays a significant role in the pharmacopeia of Homeopathy and Ayurveda. It is a fundamental component of many ayurvedic formulas. *Visha dravyas* (Poisonous drugs) like *Kuchala* spread quickly throughout the body because of qualities like *Ashukaritwa* (Spread and absorb quickly), *Ushna* (hot), and *Teekshna* (sharp). Therefore, they are utilized in Indian and other medical systems' formulations for their rapid effect.<sup>5,40,41</sup>

#### CONCLUSION:

In Homoeopathy, Nux Vomica is a polychrest medicine in which majority of the symptoms correspond in similarity to the commonest and most frequent human diseases. The medicinal properties of the crude drug are made dynamically active by the process of potentization and succussion despite the toxic effects of this drug, its medicinal property has been used successfully in the treatment of various medical disorders involving gastrointestinal disorders, sedentary lifestyle disorders its role in managing stress-related disorders, supporting detoxification processes, and enhancing overall vitality. Although it is a poisonous drug in Ayurveda, it is changed through the process of shodhana to make it non-toxic and is used in various formulations to treat many sorts of ailments, including vata neurological disorders.

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