

Traditional Medicine to Homeopathy: Review on Pulsatilla

Nigricans

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Abstract

Pulsatilla nigricans is a traditionally used medicinal plant used for ailment of various disorders such as vaginitis, urethritis, vulvar itching, rhinitis, dyspepsia, anxiety and many other infectious diseases. It is a commonly used plant since the time of Hippocrates due to its various pharmacological activities. In homeopathic system of medicine *Pulsatilla nigricans* is mixed with alcohol to get the mother tincture for preparation of more strengths. The aim of this review is to highlight the pharmacological potential, traditional and homeopathic uses of the plant *Pulsatilla nigricans*. The review is comprised of taxonomy, ethnopharmacology,

phytoconstituents, pharmacological activity and homeopathic uses of *Pulsatilla nigricans*. The review paper concluded that *Pulsatilla nigricans* possesses a wide range of medicinal uses and has been well studied for its antimicrobial and anti-inflammatory activities, while its therapeutic potential for gut, airways and gynecological disorders remains to be explored.

Keywords

Pulsatilla nigricans, homeopathic, pulsatile

1. Introduction

Pulsatilla nigricans is a herbaceous plant that is used for treatment of several disorders including anxiety, inflammation

and infectious diseases. In homeopathic system of medicine, alcohol is mixed in plant to get the mother tincture for preparing more strengths. *Pulsatilla* is a perennial and ornamental herb, gaining height of 1.5 m. Stem is rounded and simple erect. Roots are spindle-shaped, dark brown in color with several headed root (Kranjčev, 2003). Leaves are dissected, radical, and petiolate, with linear segments, surrounded by several ovate, lanceolate coverings at the base (Kurilenko, 1968). Flowers are dark purple in color, bell-shaped pendulous with deeply cutted petals (Varma and Vaid, 2002). *Pulsatilla nigricans* is native to Russia, Europe, North America and Asia. It grows in open field and plains in dry sunny and sandy soils (Melnik, 1996;Gibson, 1964). The aim of this review is to highlight the pharmacological potential, traditional and homeopathic uses of the plant *Pulsatilla nigricans*. The review is comprised of taxonomy, ethnopharmacology, phytoconstituents, pharmacological activity and homeopathic uses of *Pulsatilla nigricans* (Table 1).

Table 1 Taxonomical Classification of *Pulsatilla nigricans*

Source	Vegetable kingdom
Order	Ranunculales

Family	<i>Ranunculaceae</i>
Genus	<i>Pulsatilla</i>
Species	<i>Pulsatilla nigricans</i>
Synonyms	English: Wind flower French: Pulsatille German: Kuchenschelle
Part used for preparation of homeopathic mother tincture	Whole plant when it is flowering
Homeopathically proved by	Dr. Hahnemann in 1805

2. Methodology

All the related articles and journals were searched through databases including Science Direct and MEDLINE (PubMed). Key words used were *Pulsatilla nigricans*, homeopathic and pulsatille. A total of 26 full text articles were reviewed. The inclusion criteria for the articles were that all articles must be in English language. Abstracts that contain one or more of the key search terms were identified. On the other hand, studies not meeting the said criteria were excluded.

3. Results and Discussion

3.1 Active Constituent of *Pulsatilla nigricans*

Phytochemical analysis of *Pulsatilla nigricans* has revealed that the plant contains flavonoids, tannins, carbohydrates, glucoside pulsatoside and steroids. A

number of secondary metabolites are also produced by *Pulsatilla* species. Triterpene saponins have been isolated from *P. nigricans* and other *pulsatilla* species (Dasetal, 2013).



Fig 1 *Pulsatilla nigricans* Plant

3.2 Method for Preparation of Mother Tincture

Whole plant of *Pulsatilla nigricans* is used to make its mother tincture. 100 g of *Pulsatilla nigricans* in coarse powder, 300 ml of purified water and 730 ml of strong alcohol are required to make one litre of the mother tincture (Varma and Vaid, 2002).

3.3 Traditional Uses of *Pulsatilla nigricans*

Traditionally *Pulsatilla nigricans* was used to treat nervousness, physical and mental restlessness, headache, acute meningitis, conjunctivitis, opacity of the cornea, cataract,

rhinitis, coryza, coughs, otitis, dyspepsia, cutaneous affections, amaurosis, ovaritis, ovaralgia, uterine affections, epididymitis, orchitis, prostaticorrhoea, spermatorrhoea, urethral irritation and pain associated with debility caused by acute inflammation (Wachtel-Galor, 2011). It was also used as taeniafuge. It was used to reduce morbid sexual excitement with improvement of normal sexual power. In traditional system of Chinese medicine, *Pulsatilla nigricans* roots was used as detoxifier and blood-cooler. Multiple formulations have *Pulsatilla nigricans* for the treatment of infectious dysentery. Some formulations of *Pulsatilla nigricans* were used to reduce the intensity psychological and physical problems related to normal and premature menopause, vaginal discharge along with itching, redness and burning micturition. It was also used to treat insomnia (Mishraetal, 2011).

3.4 Pharmacological Activities of *Pulsatilla nigricans*

Pulsatilla nigricans effects several systems of the body through the cerebro-spinal nervous system such as mucous membranes, eyes, ears, stomach, intestines, urogenital system (both male and female), venous system, synovial membrane, skin and spina

cord (Patil, 2002). Motor nerves are affected by use of the mother tincture leading to tremors, twitching and a state of erythrim. Sensory nerves are affected and the extract caused chills, hyperesthesia and neuralgia of gastrointestinal and reproductive organs. All mucous membrane of the body are affected by *Pulsatilla nigricans*. They become inflamed, with abnormal dry surface and produce excessive mucous discharges of yellow to green followed by ulceration. *Pulsatilla nigricans* affect eyes chiefly eye lids which become inflamed and agglutinated in the morning due to excessive mucous discharge. Aching pain in the eyeballs and vision problems such as fiery circles, feelings of hanging something over the cornea after sleeping has been reported. Ears are affected more than eyes. Excessive purulent discharge is produced along with inflamed concha and external meatus in some provers. Some provers suffered from various kinds of noises, deafness and jerking pain. Digestive organs and mucous membrane of alimentary canal are affected by the action of pulsatilla. Abnormal gastric and intestinal secretions cause indigestion, nausea, vomiting, regurgitation of food, abnormal taste of mouth, flatulence and mucous stool or diarrhea. Skin is also affected by pulsatilla and show miliary

eruption of bluish red color on legs, ankles and back with intolerable itching especially at night. Urticaria is characteristic indication of pulsatilla. Blood circulation of kidneys increase causing catarrhal inflammation of the kidneys and bladder followed by painful micturition of urine with copious mucous discharges. It also cause varicocele, inflammation of spermatic cord and testis in male. In female, uterus, ovaries and mammary glands are affected. Atonic state of the ovaries is produced followed by delayed and scanty menstruation with much hyperaesthesia and neuralgia. Nape of the neck, knee, ankles and small joints of the hands and feet suffered from rheumatic-gouty inflammation with pains due to its action on synovial membranes. Varicose like state was produced when it affect the veins (Nandyetal, 2018; Nayaket al, 2013).

3.5 Pharmacological Activities

Group of homeopathic medicines including *Pulsatilla nigricans* were evaluated for their effects in management of acute tracheobronchitis. Patients with the symptoms of coryza, oppression chest, irritable dry or productive cough, and neutrophillicleucocytosis were treated by 14 trial medicines in 6C potency with repeated doses according to symptoms similarity.

Significant reduction of symptoms were occurred in 24 hours after administration of medicine. Study expressed 91% results. Among all Phosphorous cured 58 patient, Arsenicum album cured 52%, Bryoniaalba cured 21% and Pulsatilla nigricans cured 16% of patients. Results indicated the positive role of homeopathy in acute tracheobronchitis management (Ruckmanietal, 2012).

In a randomized, controlled pilot study, two systems of medicine were compared in acute otitis media. Among 81 patients, 40 patients were treated by homeopathic medicines (Arsenicum album = 1, Calcarea carbonica = 1, Chamomilla = 4, Cina = 1, Heparsulphuratum = 1, Lycopodium clavatum = 3, Mercurius solubilis = 7, Pulsatilla nigricans = 14, Silicea = 6, Sulphur = 2) and 41 patients were treated by conventional medicines including antipyretics, analgesics and anti-inflammatory drugs. Conventional group was expressed 100% results while homeopathy group expressed 95% results with 13/14 patients were cured by *Pulsatilla nigricans*. This study expressed the effectiveness of homeopathy and suggested for further investigation on large scale (Samadderetal, 2012).

In a multi-centric open clinical trial study, thirteen predefined homeopathic medicines were evaluated for their curative effects in children suffering from acute rhinitis. The usefulness of 13 predefined homeopathic medicines in the management of acute rhinitis in children. 408 male children and 384 female children with age of 6 months to 15 years were treated with tested homeopathic medicine. Medicines were selected after the repertorization in dilution 6c and repeated according to the condition of the patient. These medicines were followed by placebo or alternate medicine or dilution in case of aggravation or amelioration. Among 13 medicines, 12 medicines expressed excellent results in management of acute rhinitis without complications. This study proved the efficacy and effectiveness of homeopathic medicine in acute rhinitis and suggested for further investigations of homeopathic medicines. In different studies, homeopathic *Pulsatilla nigricans* (3x and 6x) and various extracts of *Pulsatilla nigricans* were evaluated for their anxiolytic effects. These studies expressed excellent anxiolytic/ anti-anxiety potential of *Pulsatilla nigricans* and these effects were comparable with diazepam (standard anxiolytic drug) (Oberaietal, 2013; Andradeetal, 1991).

3.6 Homeopathic Uses

Pulsatilla nigricans frequently proves a useful remedy in headache of various types. Methanol extract of *P. nigricans* roots has been included in number of pharmaceutical formulations used for treatment of periodontal disease (antimicrobial effect), dysentery, and in cosmetic composition for skin fairness effect. Formulations of *P. nigricans* have been used to alleviate the physical, physiological and psychological problems associated with normal and premature menopause, vaginal discharge, and its associated problems such as itching, redness and burning micturition. Homeopathic medicines of *P. nigricans* have been used for the treatment of clinical cases of bovine-mastitis. *P. nigricans* 200 CH has been reported to decrease total sperm defects, increased sperm motility and number of doses of semen produced in infertile nelore bull. A homoeopathic complex containing *Calcareaphosphorica* 30C, *Aletrisfarinosa* 30C, *Pulsatilla* 30C, *Aurum muriaticumnatronatam* 30C, *Sepia* 30C and *phosphorus* 30C (15 pills twice daily orally for 10 days) induced oestrus in anoestrus cows, and reported to increase serum estradiol concentration (Samadderetal, 2012).

3.7 Relationship with Other Homeopathic Medicine

Complementary medicines of *Pulsatilla* are Sil.,Fl-ac., Sul-ac. and Arg-n. Sep is inimical of *pulsatilla*. Antidotal remedies of *pulsatilla* are Chin. and Lyc. *Pulsatilla* is antidotal remedy of Cham.,coff., Ign. And Nux-v (Nayaket al, 2010).

4. Conclusion

It is evident from the literature that *Pulsatilla nigricans* possesses a wide range of medicinal uses and has been well studied for its antimicrobial and anti-inflammatory activities, while its therapeutic potential for gut, airways and gynecological disorders still remains to be explored. Critical analysis revealed that the plant has the good potential for pharmaceutical and nutraceutical application, with some indications for the presence of synergistic and /or side effects neutralizing combinations of activities.

Competing interests

Authors have declared that no competing interests exist.

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