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PEETHA SAIREYAKA (*BARLERIA PRIONITIS* LINN.) IN THE MANAGEMENT OF CHRONIC TONSILLITIS IN CHILDREN: A PHARMACOLOGICAL APPRAISAL

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ABSTRACT

Tonsillitis is infection to tonsils and is common in children between the age group of 5 to 10 years. About 30 million children develop tonsillitis with frequent exposure to bacterial and viral infections. Recurrent attack of tonsillitis makes the disease chronic and vulnerable. The use of Peetha saireyaka, a famous folklore practice in coastal Karnataka, having effectiveness in opposing the Doshic configuration of Tundikeri (chronic tonsillitis), has proved beneficial in various type of Tonsillitis and was effective in reducing the number of attacks of Chronic Tonsillitis[7]. This paper is intended in giving the details of the rationale on using Peetha saireyaka (*Barleria prionitis* Linn.) in combating chronic tonsillitis with the backup from pharmacology.

Keywords: Ayurveda, Peetha saireyaka, chronic tonsillitis, *Barleria prionitis* Linn., Tundikeri

INTRODUCTION

Tonsillitis is the most common presenting condition of children of 5-10 years of age.[1] Recurrent tonsillitis occurs when a person suffers from multiple episodes of tonsillitis in a year while chronic tonsillitis has symptoms persisting beyond two

weeks.[2]Chronic tonsillitis represents the most frequent lesions within pharynx inflammatory pathology with multiple complications both local-regional (acute median otitis, catarrhal otitis, fibro-adhesive otitis, suppurative otitis with hypoacusis, chronic muco pruritus rhinitis, ocular and lachrymal pathways infections, sinusitis, descending respiratory infections) and at the distance (glomerulonephritis, joint rheumatism, appendicitis, endocarditis, enteritis, persistent albuminuria, etc.).[3]The tonsils get infected because of bad oral hygiene, unhygienic eating habits, constant post nasal discharges, mouth breathing & irritable eatables.[4-5]About 30 million children develop tonsillitis with frequent exposure to bacterial and viral infections.[6] Any infection in a growing child usually hampers the immune system and also the routine growth as well as development.[7]Apart from medical management with antibiotics, surgical removal is the only other option remaining with around 200000 tonsillectomies being done annually in India.[8] Surgical removal of tonsils with administration of antibiotics and NSAIDs lead to GI tract disturbances as well as affects the immune system.[9] So, there is a need of hour to look out other traditional medicine system for management of chronic tonsillitis. Ayurveda has a variety of natural medication in the treatment of chronic tonsillitis in children.

According to World Health Organization, more than 80% of world's population relies on traditional medicine for their health care needs.[10] Plant derived substances have recently become of great interest owing to their resourceful applications. It has been estimated that 14- 28% of higher plant species are used in the medicinal purposes and that 74% of pharmacologically active phytochemicals components were revealed after following up on ethno medicinal exploit of the plants.[11]In the last couple of decades, a new progress in the research and promotion of plants-based drugs has become increasingly towards the herbal medicines.[12]The root powder of *Barleria prionitis* Linn. is a famous folklore practice in coastal Karnataka to reduce the number of attacks of Chronic Tonsillitis in paediatric population.

Distribution

Barleria prionitis Linn. also known as the porcupine flower is native to India, also distributed widely throughout Asia, Yemen and tropical Africa, Eastern, Southern and Central Africa.[13]*B. prionitis* is distributed throughout the hotter parts of India and commonly grown in gardens as a hedge plant.[14-15] In India it is commonly found in Tamil Nadu, Delhi, Andhra Pradesh,

Assam, Bihar, Chhattisgarh, Uttarakhand,Diu and Daman, Gujarat, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Goa, Andaman and Nicobar Islands Orissa, Pudhucherry, Rajasthan, Uttar Pradesh,Laccadive and Maldiv Islands and West Bengal.

Habitat

*Barleria prionitis*Linn. is a perennial herb[16]well known by various names in Ayurvedic, Sidda, Unani and other traditional systems as Sahachara, Baana, Kurantaka, Kuranta, Koranda, Korandaka, Shairiya, Pita-Saireyaka, Chemmulli.[17] In folk medicine it is popularly known as jhinti,piyaabasaaand ketsariyaa. It is also identified as 'vajradanti' because of its antiodontalgic property.[18]

Taxonomy

Kingdom – Plantae

Division – Magnoliophyta

Class – Magnoliopsida

Order – Scrophulariales

Family – Acathaceae

Genus – *Baleria*

Species – *prionitis*

Morphology[19-20]

*B. prionitis*Linn. is an erect, perennial, prickly, and evergreen shrub, usually single-stemmed, growing to about 1.5 m in height from a single taproot. The stems are glabrous, erect and branched with tapering and cylindrical branchlet. The flowers are yellow coloured, sessile, and spictate in the upper axils and regularly single in the lower axils. The flowering occurs during August – October months. The fruits are ovoid and capsular. The fruit capsule is ovoid, 2 seeded and about 1.5-2 cm long and 0.6-0.8 cm wide. The leaves are elliptic to elliptic-ovate, 6 to 12 centimeters long, narrowed, and pointed at both ends. The stems are light tan or grey coloured stiff, round, cylindrical and glabrous. Leaves are smooth, opposite, ovate-elliptic to obovate, acuminate, tapering to base, bristle-tipped and about 6-15 cm long and 4-6 cm wide. The petioles are about 0.5-3 cm long. The seeds are oval-oblong, covered with silky copper-brown apprised hairs and measuring about 7.4-8.5x6-6.8 mm. The seeds of *B. prionitis*are flattened, covered with tangled hairs, about 8 mm long and 5 mm wide. Bracts are acute, linear-lanceolate, foliaceous, about 1-1.5 cm long and 0.2-0.8 cm wide with bristle tipped. The corolla is bright, golden yellow in colour with pubescent outside and glabrous inside and measuring 1.5 cm long. The stamens include two fertile stamens and twostaminoid stamens. The fertile stamens are exerted away from the corolla tube while the staminod stamens are very short. The filaments are hairy and about 2-2.5 cm long, glandular-pubescent and yellowish in

colour. The anthers are yellow in colour with 3 mm long.

CHEMICAL CONSTITUENTS

The hydromethanolic extract of B. prionitis whole plant indicated presence of flavonoid, glycoside, saponin, tannins and steroid.[21]It's arial parts contains a large quantity of glycosides (6-o-trans-p-coumaroyl-8-oacetylshanzhiside methyl ester, barlerinoside, shanzhiside methyl ester, 6-o-trans-p-coumaroyl8-o-acetylshanzhiside methyl ester, barlerin, acetylbarlerin, 7-methoxydiderroside, and lupulinoside), terpenoid (lupeol), pipataline, balarenone and 13,14-seco-stigmasta-5,14- diene-3-ol identified by NMR.[22]Chromatographic examination of the alcoholic extract of the leaves and stems of Barleria prionitis Linn. revealed the presence of iridinoid glycosides such as acetyl barlerin and barlerin.[23] The leaves were reported to contain 6-hydroxyflavones, melilotic acid, synergic acid and scutellarein.[24] Total phenolic and flavonoid content of the *B. prionitis*was 0.33±0.1 mgGAE/g and 0.9±0.5 mg of Quercetin equivalent per gram of dry extract respectively.[25] The total polyphenols content in the EtOH and H2O extract of *B. prionitis*Linn. showed 43.71 and 35.58 GAE/mg, respectively.[26] The total phenolic content of *B.prionitis*MeOH extract of leaf was found maximum (103.51±0.38mg/g) followed by ethyl acetate (44.31±0.45 mg/g), H2O (32.82±0.31 mg/g) and n- Haxane (8.33±0.21 mg/g).[27] Stem extract showed maximum with MeOH (94.37±0.18 mg/g) followed by ethyl acetate (44.31±0.45 mg/g), H2O (32.82±0.31 mg/g) and n-Hexane (8.33±0.21 mg/g), respectively.[27] It was reported that *B. prionitis*showed some antibacterial bioactive compound that include with balarenone, pipataline and 13, 14-seco-stigmasta-5, 14-diene-3-a-ol have been isolated from the ethanolic extract.[28] These phytochemicals showed potent antibacterial activity against *P. aeruginosa* and *B. cereus*. Flowers contains significant phytochemicals including flavonoid, glycoside and neohesperidoside.[29] New compounds such as hydroxy-2, 7-dimethyl-3, 6-dimethoxy anthraquinone, 1,3,6,8-tetra methoxy-2,7- dimethyl anthraquinone and 7- rhamnosylglucoside are isolated from Barleria prionitis.[30]

TRADITIONAL AND ETHNOBOTANICAL USES

The leaf juice given in stomach disorder, urinary affections, fever and ulcer.[31] The leaf juice is applied to lacerated soles of feet in rainy season.[32] The application of leaf juicemixed with coconut oil is seen effective to ward of pimples.[21]The leaves and flowering tops used as diuretic, in toothache, fungal infections and

rheumatism.[33]Its bark is used as diaphoretic and expectorant.[34]The root paste is applied over boils and glandular swelling.[35]The ash obtained from whole plant is used in the treatment of bronchial asthma along with honey.[33]The plant oil extract is suggested for arresting greying of hair.[14] The flowers are used internally for the treatment of internal abscesses, urethral discharges, migraine, seminal disorders and to reduce obesity.[14] The whole plant is used in stiffness of limbs, enlargement of scrotum, sciatica, jaundice, hepatic obstruction and dropsy.[36] The plant formulation is prescribed in dysuria, sinusitis, internal abscesses and nervine disorder.[14]The root extract is used locally on skin to expel out spine from the skin and decoction is taken orally for the cure of snakebite.[37-38] In a study it was reported that *B.prionitis*root podwerwith goat milk can be effectively used to treat rheumatic fever.[39]

The paste of fresh leaves of *B.prionitis*is widely used in the treatment of Scabies in rural Karnataka state.[40]In Maharashtra state of India, crushed leaves of *B.prionitis*made use in the treatment of wound for application.[42] In a ethnomedicinal survey conducted in Andhra Pradesh state, revealed that local residents use *B. prionitis*to increase vitality. They consume the seed extract daily once for fortnight to increase vitality.[42] In Gujarat state, the residents of village use to apply leaf ash along with butter in leucoderma.[43]In medico-botanical survey of villages of Bulandshar district of Uttar Pradesh, India the plant is referred as Kala Bansa or Piya-Bansa and is widely used in treatment of asthma as well as whooping cough.[44]

PHARMACOLOGICAL AVTIVITIES

Barleria prionitis plant exhibits wide range of pharmacological actions.

Antioxidant and Free Radical Scavenging Activity:

The whole plant was investigated for the antioxidant activity using DPPH radical, ABTS scavenging activity, hydroxyl radical scavenging activity, reducing power assay and nitric oxide scavenging activity.[45] In vitro result showed that ethanol extract showed more potent antioxidant activity than aqueous extract.[46]The result indicated that the phenolic contents were higher in methanolic extracts of leaf and stem.[47] The MeOH extract of root leaves and stems showed potent antioxidant activity.[48]The antioxidant activity of MeOH extract of leaf and stem were showed IC50 values 63.41±0.32, 81.69±0.40, respectively.[27] MeOH leaf extract showed significant high antioxidant activity (61.73) in 6000 ppm concentration followed by PET bark extract (59.11).[49]The chemical constituentsof aerial parts of Barleria prionitis such as barlerinoside, phenylethanoid glycoside,

iridoid glycosides, 6-o-trans-p-coumaroyl-8-o-acetylshanzhiside methyl ester, barlerin, acetylbarlerin, shanzhiside methyl ester, 7-methoxydiderroside and lupulinoside exhibited different free radical Scavenging activities.[50]

Antibacterial activity

The bark extracts such as Acetone, methanol, ethanol, aqueous screened for in vitro antimicrobial activity against four oral bacteria Streptococcus mutans, Staphylococcus aureus, Pseudomonas sp. and Bacillus sp..[51]The Zone of inhibition and minimum inhibitory concentration all the extracts showed that ethanolic extract had more antimicrobial as compared to the aqueous extract.[21] The antimicrobial activity of leaf, stem and root of B. prionitis by using solvent chloroform, acetonitrile and ethanol was studied. Antimicrobial activity was done by gradient plate technique. Leaf, stem and root extracts of B. prionitis showed the significant antimicrobial activities.[51] It was also reported that among the extracts, MeOH bark extract showed potential antibacterial activity against all the pathogens.[52] Crude MeOH extract revealed good antibacterial activity against MDR (multidrug resistance) *E. coli* with 12 mm of inhibition zone. In vitropropagated shoot tips and leaves of *B. prionitis*with EtOH, ether and CHCl3 extracts showed the antibacterial activity. The antimicrobial potential of *B.prionitis*bark against *Bacillus sp.* was comparable with the standard antibiotic drug ciprofloxacin.[35] Acetone, ethanol, methanol extract of bark and ciprofloxacin showed significant activity against Streptococcus mutans (14.95±1, 11.94±1, 15.65±0.57 and 27.32±0.57 mm), Staphylococcus aureus (14.31±0.57, 14.0±0, 16.32±0.57 and 34.66±0.57 mm), Pseudomonas sp. (18.32±0.57, 17.65±0.57, 19.32±0.57 and 33.66±0.57 mm) and Bacillus sp. (27.32±0.57, 23.97±1, 28.65±0.57 and 29.65±0.57 mm) in well diffusion method.[53]

Anti-inflammatory activity[54-55]

The aqueous extract showed significant inhibition of edema as compared with reference drug indomethacin.[51] The methanol extract of *Barleria prionitis*Linn. showed significant anti-inflammatory activity comparable to control and standard drug indomethacin. Ethanol extract of flower and phenylbutazone showed 48.6 and 57.5% inhibition in carrageenin-induced paw edema in rat model. Extract at 50, 100 and 200 mg/kg decreased granuloma weight from 15.32 to 36.4% gradually where phenylbutazone exposed 36.1% inhibition in cotton pellet granuloma rat model. Aqueous extract of root showed significant percentage inhibition of rat paw edema (52.56% & 55.76%) at a dose of 200

& 400 mg/kg respectively after 4 hr treatment. Hydroalcoholic extract whole plant (10 µg/ml) reduced rat mesenteric mast cells degranulation up to 64.91% and prevented hypotonic solution induced hemolysis of rat erythrocytes by 27.10%.[51]

Anti-arthritic activity

The aqueous Fraction from the methanol-water extract of *Barleria prionitis*Linn. was evaluated for anti-arthritic activities against different acute and chronic animal test models.[56] Significant anti-arthritic activity was observed in adjuvant-induced polyarthritis test in rats.[32] The aqueous fraction showed inhibition of vascular permeability and leucocytes migration. The ethyl acetate fraction of *B. prionitis*leaves extract possesses antiarthritic activity in Sprague Dawlys rats following OECD 420 guidelines.[56]

Hepatoprotective activity[57]

Isolated iridoid from ethanol-water extract of aerial parts (leaves and stems) afforded significant hepatoprotection against carbon tetrachloride, galactosamine and paracetamol induced hepatotoxicity. Silymarin was used as standard drug. The oral administration of iridoid fraction significantly reduced the hepatotoxin induced elevated levels of serum alanine aminotransferase (ALT), aspartate transaminase (AST), alkaline phosphatase (ALP), bilirubin and triglycerides in a dose dependent manner. The fraction was also increased the hepatic glutathione content and reduced the hepatic lipid peroxidation in response to the hepatotoxicity in mice and rats.

Antifungal activity

Methanolic extract of *B.prionitis*bark showed much more potent activity against all the tested oral fungi than the standard drug amphotericin-B thus having a great potential to control candidiasis and other oral fungal infections.[58]Antifungal activity of *B. prionitis*were reported against *C. neoformans, C. albicans, C. vaginitis, B. dermatidis*using CHCl3, acetonitrate and EtOH extract of stem, leaves and roots. It was also revealed that PET, dichloromethane and EtOH stem and root extracts of *B. prionitis*showed fungistatic and fungicidal properties against *C. albicans*.[59]

Antiviral activity[60]

The antiviral activity and cytotoxic effects of the isolated compound and control antiviral compound were determined by using viral cytopathic effect inhibition assay. 6-o-trans-p-coumaroyl-8-o-acetylshanzhiside methyl ester and 6-o-cis-p-coumaroyl-8-o-acetylshanzhiside metyl ester showed potent *in vitro* activity against respiratory syncytial virus.

Anti-diabetic activity[61]

The antidiabetic activity of alcoholic extract of leaf and root of B. prionitis was evaluated by using alloxan monohydrate. B. prionitis leaves showed significant decrease in blood glucose level, glycosylated haemoglobulin and significant increase in serum insulin and liver glycogen level. B. prionitis root showed moderate but non-significant anti-diabetic activity in experimental animals.

Mast cell stabilization activity[24]

Membrane stabilization and mast cell protection activity of hydroalcoholic extract of B. prionitis whole plant was studied. In-vitro membrane stabilization was performed by using hypo saline erythrocyte membrane hemolysis and mast cell degranulation was induced by compound 48/80.The hydro alcoholic extract significantly inhibited hypo saline induced erythrocyte membrane hemolysis and the compound 48/80 induced mast cell degranulation in dose dependent manner.

Anthelmintic activity[62]

Anti-helminthic activity of *B. prionitis*whole plant extract was reported in dose dependent manner. It was showed that *in vitro* EtOH and H2O extracts were significantly paralyzed the *P.posthuma*, a worm at 50, 75 and 100mg/mL-1 and also comprised with a standard drug albendazole. The extracts of *B. prionitis*caused death above 100 mg mL-169.

Antifertility activity

The oral administration of MeOH root extract reduced the sperm formation in male albino rats.[63] Root extract decreased the formation of round spermatids, sperm motility, spermatogonia, preleptotene spermatocytes population and mature leyding cells.[64]

Immunomodulatory activity

Immunomodulatory activities of the iridoids fraction i.e. n-butanol fraction of methanol extract from Barleria prionitis aerial parts was studied by using in-vitro nitroblue tetrazolium test and neutrophils candidacidal assay and in vivo immunomodulatory activity on cellular and humoral immune responses to the antigenic challenge by sheep red blood cells and by neutrophil adhesion test, phagocytic activity and cyclophosphamide-induced myelosuppression.[65] Iridoids fraction i.e. n-butanol fraction of methanol extract showed significantly increased the intracellular killing activity.[65]Iridinoid fraction was found that potent immunotimulant, stimulating both the specific and nonspecific immune mechanisms.[65]

Antidiarrheal activity

Butanol fraction of *B. prionitis*leaves showed significant anti-diarrheal activity.

Iridoid rich fraction of leaf extract possess dose dependent anti-diarrhoeal activity at the concentration of 25-100 mg/kg in rats against castor oil induced diarrhoea.[66] The butanol fraction also reduced the gastrointestinal motility in response to charcoal-induced gut transit changes.

Antihypertensive activity

Antihypertensive activity of methanolic extracts of leaves of B. prionitisLinn determined by using desoxycortecosterone acetate salt induced antihypertensive model.[67] Hypertension was induced by injecting desoxycortecosterone acetate salt twice a week for six weeks with sodium chloride. Systolic and diastolic blood pressure was measured every week. Enalapril, methanolic extracts at 200 and 400 mg/bw of leaf possessed antihypertensive effect as 136.5±2.51, 146±2.21 and 143±3.11 mm Hg on systolic blood pressure and 103±2.54, 100.5±2.74 and 105.5±2.35 mm Hg diastolic blood pressure after six weeks treatment.[67]

Gastroprotective activity

Maximum protections were found to be 66.26% and 59.42% by iridoid fraction (200 mg/kg) in PLinduced ulcer and CRS-induced ulcer rat model.[68] Iridoid fraction from leaves reduced ulcer index. In ethanol induced gastric ulcer rat model, methanolic extract of leaf (500 mg/kg bw) and ranitidine provided 67.7and 75.5% inhibition of ulcer. Same dose of extract and drug displayed 70.3 and 62.2% inhibition in indomethacin induced gastric ulcers model. Extract also showed efficacy against indomethacin induced gastric mucosal damage and increased liver enzymes in ethanol induced ulcer rat model.[69]

Antipyretic activity

Antipyretic activity of methanolic extract of B. prionitis was studied by using Brewer's yeast induced pyrexia and paracetamol used as standard drug.[70] Neck and rectal temperature were recorded by using digital thermometer and compared with control group.[70]

Diuretic activity

The oral administration of flower H2O extract (200 mg kg-1) was significantly increased the urination (dieresis) and sodium removal but not potassium in rats. The diuretic effect of flower extract (200 mg kg-1) was comprised and statistically significant with drug furosemide (20 mg kg- 1). Aqueous root extract (100 mg/kg) produced significant diuresis (12.58±0.80 urine volume in 24 hr) compared with furosemide at 20 mg/kg (12.58±0.80 urine volume in 24 hr) and increased sodium elimination.[71]

Anti-dental decay activity

The crude extract of *B. prionitis*Linn. reported good antimicrobial activity against

dental decay pathogens.[32] It was reported that MeOH extract of bark showed much more potent activity against oral pathogens like *S. mutans, S. aureus, Pseudomonas* sp*., Bacillus* sp. and *C. albicans, S. cerevisiae*.[32]

Enzyme inhibitory effects[72-73]

The MeOH extracts of leaf, stem and root of *B. prionitis*exhibited AChE inhibitory performance and the leaf and stem extracts exhibited higher potency of inhibition in compare the root extract. Several glycosides compounds showed different levels of AChE inhibitory activity. Prioniside B and prioniside C also showed GST inhibitory activity of which prioniside B and prioniside C were more potential GST inhibitors. Isolated balarenone, pataline, lupeol and 13,14- seco-stigmasta-5,14-diene-3-α-ol from ethanolic extract of BP exhibited inhibitory activity against GST (IC50 value was 160µg/ml). Derivative biochemical compound named 8-amino-7- hydroxypipataline exhibited AChE inhibitory activity where IC50 value was 36.8 µm.

Central nervous system depressant activity

Ethyl acetate portion (at dose concentration of 125 and 250 mg/kg) and diclofenac (4 mg/kg) treatment significantly increased fall off time of motor co-ordination in rota rod test.[74]Etahnolic extract of leaf showed fluoxetine stimulant activity in mice as 91.93% whereas the test drug stimulated the animal only by 49.72% using acto-photometer.[75]

Toxic effects[61]

The alcoholic extract of roots and leaves of *B. prionitis*did not reported any toxic effects in adult albino rats. One study reported that the iridoidglucosides rich aqueous portion of *B. prionitis*did not produced any signs of abnormalities or any mortality up to the single oral administration of 3000 mg kg-1 dose in mice during the 15 days of study period.

Antinociceptive activity/analgesic activity[76]

In vivostudy showed that the flower extract dose dependently provided a significant increase in the analgesio-meter-induced force and exhibited significant resistance against pain in mice. It also inhibited acetic acid induced pain as 30.6% where phenylbutazone (100 mg/kg) presented 34.6%. At a dose concentration of 50 mg kg-1 body weight, the flower extract provided statistically significant reduction of writhing by 5.24%.

Anti-cataract activity

The administration of EtOH leaves extract of *B.prionitis* significantly restored the glutathione and malondialdehyde levels.[77] Oral administration of *B.prionitis* significantly late the onset and progression

of cataract in selenite as well as galactose induced cataract.[77]

AYURVEDIC PHARAMACODYNAMIC PROPERTIES[78]

Rasa: Tiktha, Madhura

Guna: Laghu

Veerya: Ushna

Vipaka: Katu

Karma: KaphaVata Hara, Kesha Ranjaka, Kushtaghna, Kandughna, Vishaghna, Shophahara, Trishnahara, Dahahara, Deepana, Twakdosha Nashaka

Rogaghnatha: Vataraktha, Kandu, Visharoga, Kushta, Palithya, Kalithya

Part Used: Moola, Patra

DISCUSSION

Peetha saireyaka, being Tiktha Madhura Rasa Pradhana, UshnaVeerya, Laghu Ruksha Guna, KatuVipaka acts as KaphaVata Shamaka. It has Deepana Karma, which may primarily act upon the Mandagni Avastha, increasing appetite. The extracts and isolated phytochemicals from this plant have been found to possess wide range of pharmacological activities including antimicrobial, anthelminthic, antioxidant, anti-inflammatory, antiarthritic, cytoprotective, hepatoprotective, antidiarrheal activities, antifungal, antiviral, antidiabetic, antifertility, antihypertensive, antipyretic, antidental decay, antianalgesic, anticataract, diuretic, gastroprotective, Central nervous system depressant, mast cell stabilization and enzyme inhibitory effects, without any toxic effects. Chronic tonsillitis (Tundikeri)[79] presents with symptoms such as Ragata (Hyperemia), Galoparodha (Dysphagia), Katina shotha (Enlarged tonsils), Mukhadaurgandhya (Halitosis) and Enlargement of lymph nodes.

Katina Shotha, Ragatwa, Galoparodha[80]**–**The shothaharaactivity of the drug may help in reducing the shotha of the tonsils, by which Ragatwa appearing as a result of inflammatory process also reduces. The plant is anti–inflammatory and used in ulcers. It is especially well known for treating bleeding gums and toothache. Methanol extract is found to be anti–inflammatory and hence the root paste is used externally to disperse boils and glandular swellings. It also may help in Galoparodha, as the size of tonsils reduces and gives space for food to pass through. This may reduce the pain produced by obstruction. Moreover, the drug has Shoolahara Karma which may help in reducing Galoparodha.

Mukha Daurgandhya[81]**-** Being Deepaka, the drug may help in Agni Deepthi, by which Daurgandhya produced by Ama reduces. The drug also has Pitta Hara property by its Rasa Panchaka, which may help in reducing Mukha Daurgandhya.

CONCLUSION

The practice of administration of Peetha saireyaka (*Barleria prionitis* Linn.) can be considered as an effective and safe medicine for chronic tonsillitis in children. Numerous plant-based folklore practices have potential to offer scientific remedy for various diseases with proper pharmacological understanding. Exploring such hidden recipes and propagating them among the Ayurvedic community is the need of the hour.

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