

SCREENING THE THERAPEUTIC EFFECTIVENESS OF MUKIA MADERASPATNA LINN (ROEM) FRESH LEAF SAP ON BRONCHIAL ASTHMA

C.R. Thempamala¹, S. Sivaganeshan², N. Varnakulendran³

¹ Intern Medical Officer, Department of Ayurveda, Sri Lanka.

christachelva@gmail.com

² Department of Biochemistry, University of Peradeniya, Sri Lanka

³ Unit of Siddha medicine, Trincomalee Campus, Sri Lanka

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Mukia maderaspatna is a well reputed herb of Cucurbitaceae family and it is known as Mosumosukai, and Hin kekiri in Sri Lanka. The Mosumosukai plant is literarily recommended and used in practice for various respiratory disorder treatments such as cough, sinusitis and Bronchial asthma. But the effectiveness does not prove scientifically for Bronchial asthma. This makes the researcher to carry out the present study to scientifically emphasize the therapeutic effectiveness of *mukia madaraspatana* for the treatment Bronchial asthma in the form of fresh leaf sap at a dose of 45ml daily by oral route and it is taken only in the morning.

This study aims to evaluate the change in severity of selected significant symptoms of bronchial asthma during the administration of Mosumosukkai fresh leaf extract under controlled condition. The positive output of this

study will be beneficial to people suffering from Bronchial asthma. The study was conducted on a 46 years old female patient who was attending to the Siddha teaching Hospital, Konesapuri, Trincomalee. The effectiveness of the leaf sap was measured by subjective and objective clinical parameters such as breathing difficulty, level of wheezing, frequency of Cough, general wellbeing of the patient, Respiratory rate, Rhonchi and Peak expiratory flow rate (PEFR). The data obtained by interrogation, clinical examination and investigation with the assistance of my research supervisor by means of changes in the severity of clinical manifestation for consecutive 15 days using globally recognized Likert (five points) scale and it was statistically analyzed by SPSS/16 software. The diet and other regimens which could aggravate the Bronchial asthma were well instructed to the patient.

The criteria for assessment of the patient:

| Variable Score | 1 | 2 | 3 | 4 | 5 |
|-----------------------------|----------------------|--------------------|----------------------|---------------------|---------------------|
| Breathing difficulty | Very difficult | Difficult | Neutral | Easy | Very easy |
| Wheezes | Much worse | about the same | somewhat worse | somewhat better | much better |
| Cough | Never | Rarely | Sometimes | Often | Always |
| General well being | Not at all satisfied | Slightly satisfied | Moderately satisfied | very much satisfied | Extremely satisfied |

| Output of the clinical trial | | | |
|------------------------------|----|--------|----------------|
| Variable | N | Mean | Std. Deviation |
| Breathing difficulty | 15 | 3.80 | 1.568 |
| Wheezes | 15 | 4.60 | .737 |
| Bouts of cough | 15 | 1.87 | 1.246 |
| General wellbeing | 15 | 3.53 | .915 |
| PEFR | 15 | 213.00 | 13.862 |

The test herbal sap shows statistically significant to markedly reduce the overall clinical manifestation of Bronchial asthma as per the mean value of difficulty in breathing 3.80 ± 1.50 , comparison of wheezing 4.60 ± 0.73 , bouts of cough 1.87 ± 1.24 general well being 3.53 ± 0.91 and the mean of the PEFR was 213 ± 13.826 also concordance with it. The result of the clinical study suggests that daily administration of the fresh leaf sap of *Mukia maderaspatana* could be used as an effective treatment for Bronchial asthma. It's a commonly available, inexpensive and an efficient pure simple herbal remedy with no adverse effects to the patient

Because of the unavailability of experimental facility to evaluate the anti-asthmatic property and since the

author is a preliminary researcher, decided to evaluate the anti-inflammatory activity under the Anti-asthmatic activity. It is known that bronchial asthma caused by inflammation of airways caused via various stimuli. Also this study is designed to evaluate the analgesic activity since patients with Bronchial asthma complains of pain may due to cough and chest tightness. Anti inflammatory and analgesic activity which plays certain significant role to relieve pain related symptoms of asthma.

The anti-inflammatory activity of *Mukia maderaspatna* leaf sap at a dose of 200mg/kg was evaluated against the standard drug of Brufen at a dose of 30mg/kg. Adult albino mice of either sex of two numbers of each group was

undertaken for the study and evaluated by cotton pellet granuloma method. In the present study it is quite apparent that leaf extract of *Mukia madaraspatana* possesses better anti-inflammatory activity compatible to the standard drug.

Analgesic activity of the *Mukia maderaspatna* leaf sap at a dose of 200mg/kg was evaluated against the standard drug of Diclofenac at a dose of 30 mg/kg. Adult albino mice of either sex of two numbers of each group was undertaken for study and evaluated by hot tail immersion method. The leaf extract of *Mukia madaraspatana* possesses better anti-inflammatory activity compatible to Brufen and significant analgesic effect (P value 0.005) against different stimuli. This is evidenced by significant increase in the reaction time to stimuli in different experimental models.

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