



## Correspondence

## Effectiveness of Mathulungadi Nasyam in the prophylaxis of COVID19 infection – Retrospective analysis of clinical data

Sir,

It's almost two years since the onset of the COVID 19 pandemic and the world is still grappling with the situation [1]. Even though a number of vaccines are in widespread use, a return to normalcy seems further delayed, owing to wave after wave of infections by newer variants like the Delta and Omicron and breakthrough infections by the original serotypes [2]. Also, vaccines are being rolled out cautiously for the 15 years–18 years age category due to concerns over effectiveness and safety [3]. This situation warrants the concomitant use of virus-independent alternative preventive strategies for the prophylaxis of COVID-19.

The Ayurvedic text Yogaratnākara prescribes two herbal formulations for medication through nasal route and gargling at the first stage of the treatment of sannipātājvara (Fever caused by disturbance of all three dosas) [4]. There is fair degree of agreement among Ayurveda experts that COVID-19 presents with features characteristic of sannipātājvara [5]. For infections affecting eyes, nose, throat, chest and heart, Sushruta Samhita prescribes Anjana (collyrium), Nasyam (medication through nasal route) and Gandusha (gargle) [6]. Mathulungadi Nasyam is an aqueous formulation prepared using extracts of Mathulunga (*Citrus medica*) and Ardraka (*Zingiber officinale*) with Thrilavana (three salts) in equal parts, prescribed by Yogaratnākara as the first medication through nasal route in the management of contagious fevers [7].

The insilico effectiveness of this preparation was demonstrated in a study we published in Future Journal of Pharmaceutical Sciences which identified the nature of interactions of the Phytocompounds in the formulation, with the spike protein of SARS COV-2 and ACE-2 receptor in nasal epithelium. The study showed strong binding/activity of a few ligands with both spike protein used by the virus and ACE-2 receptor which is the port of entry [8].

We further analysed the clinical data from Sreekrishna Ayurveda Chikitsa Kendram and Research Centre, where the Nasyam was administered to people seeking prophylaxis for COVID-19. The data is mostly from the second wave phase of Covid19 pandemic. People in quarantine and with high risk jobs used two drops of Mathulungadi Nasyam in the morning and evening. People who were not in quarantine were advised to use Nasyam before going out of home in the morning and after coming back home in the evening. People were advised to lie down in supine position with head and neck low position. Recommended dosage of Pratimarsha Nasya is two drops. And Pratimarsha Nasya was chosen as it can be used without any restrictions regularly [9]. Pinch the nose once and after

releasing, suck the Nasyam up. Spit when it reaches the throat. No diet or lifestyle recommendations were advised. Out of two hundred and seventy six people who received Nasyam, 90 people (32.61%) were from quarantine group who used Nasyam for 1 week to 2 weeks. And the rest of 186 people (67.39%) were from High risk job group.

Of the 276 Covid19 primary contacts to whom Mathulungadi Nasyam was administered as a prophylaxis, only 10 (3.62%) developed RTPCR positive infection. This figure is far less than the above 10% Test Positivity Rates (TPR) prevalent in the district during that period. To be sure, we compared this to 335 patients who were on other treatments for unrelated conditions, out of whom 52 (15.52%, P value < 0.0000) turned RTPCR positive during the same period. This finding warrants further studies of the formulation in preventing Covid 19 infection. Further, only two among the sixty-nine under 18 years age category people (2.9%) who used Mathulungadi Nasyam developed infection.

The limitation of the findings is that it is based on the retrospective analysis of clinical data and not a clinical trial. For this reason, the effect of other measures like vaccines, mask, social distancing etc. could not be accounted for. Published literature shows saline rinses to be effective in preventing nasopharyngeal colonisation of the Covid 19 virus [10,11]. As three salts are ingredients of Mathulungadi Nasyam, a study comparing it with saline rinses will help in assessing whether the additional herbal ingredients enhances its efficacy. Keeping this objective in mind, we are planning for a clinical trial of the Nasyam with saline and no nasal rinsing control groups. The study will also look into the effectiveness of the Nasyam among under 18 age group category and among those vaccinated. We will also compare severity of infection and duration of recovery between study group and control groups in those who become RT PCR positive during study period, to understand the disease modifying capacity of Mathulungadi Nasyam in clinical settings. We are expecting that concomitant use of Mathulungadi Nasyam with vaccines and other preventive measures will help in facilitating an early end to the pandemic.

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