



## EVALUATION OF EFFECT OF *SHAKTIVARDHAK YOG* IN UPPER RESPIRATORY TRACT (URT) INFECTIONS

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### ABSTRACT

Upper respiratory tract (URT) infection is one of the common causes of physicians visit for children and associated with significant morbidity. Children with recurrent respiratory tract infections represent a great challenge for the paediatrician, from both therapeutic and preventive standpoints. Still in the modern and Ayurvedic world of treatment there is no permanent cure for common cold exist, but the symptom can be treated accordingly. Thus proposed study aims to study effect of immune booster *Shaktivardhak yog* to reduce frequency of occurrence of URT infections in order to improve general health condition. Present study includes 30 clinically diagnosed children of URT infection of both the gender having age group 3-5 years. Children were selected randomly and treated with immune booster. *Shaktivardhak yog* as immune booster *yog* was given for 12 weeks and follow up taken monthly. It is observed that number of incidences of occurring URT infections decreases significantly as  $p < 0.0001$  in comparison with the frequency of occurring URT infections on admission with the help of paired "t" test analyzed by statistical software prism 444. Finding of study shows that *Shaktivardhak yog* reduces frequency of incidence of URT infections in significant manner.

**KEYWORDS:** *Shaktivardhak yog*, Upper respiratory tract, Immune booster.

### INTRODUCTION

Children are the future of our nation. In paediatric respiratory tract infections are one of the most common reasons for physician visits and hospitalisation, and are associated with significant morbidity and mortality. Children with recurrent respiratory tract infections represent a great challenge for the paediatrician, from both therapeutic and preventive standpoints.<sup>[1]</sup> It is well known that intra-annual mortality exhibits a pronounced winter peak in locations with seasonal climate,<sup>[2]</sup> mortality arising from respiratory disease is 50% higher in winter than in summer.<sup>[3]</sup> According to the site of infection respiratory diseases are divided into two categories, i.e.

upper respiratory tract (URT) infections and lower respiratory tract infections. The most common and first symptom of the respiratory diseases are cold and cough irrespective of the causative organism. In upper respiratory diseases Sinusitis, Common cold, Rhinitis, Influenza, pharyngitis, laryngitis are seen mostly. According to Ayurveda these all diseases can be included under the heading of *Pratishyaya*.<sup>[4]</sup>

URT infections are more commonly seen in routine practices. 10-15% of children have at least 12 episodes per year.<sup>[5]</sup> The incidence of illness decreases by adult hood up to 2-3 episodes. Commonly the symptoms resolve in seven to ten days, but in 35-40% of cases the

cough lasts for more than ten days and in 10% of cases it continues for more than 25 days.<sup>[6]</sup> These recurrent infections occur because of host-derived factors or as a result of increased environmental exposure. Host-derived factors may be non-immunological or related to host immunodeficiency. The leading cause of recurrent respiratory tract infections throughout the world is increased environmental exposure in children attending school or day care centres.<sup>[7]</sup> Acute respiratory diseases cannot be expected to be effectively controlled by vaccines for a variety of reasons but largely because of the great multiplicity of causative agents.<sup>[8]</sup> Still in the modern and Ayurvedic world of treatment there is no permanent cure for common cold exist, but the symptom can be treated accordingly. Bhavamishra describe *Shaktivardhak yog* with principal content *Swarna bhasma*, it implies for *Bala vriddhi* (strength) and *Ayu vriddhi* (life span). Thus proposed study aims to study the effect of *Shaktivardhak yog* as immune booster to decrease the frequency of occurrence of URT infections.

#### AIMS AND OBJECTIVES

To study the effect of *Shaktivardhak yog* as immune booster for reducing the frequency of URT infections in children.

- To improve the general health condition of children.

#### MATERIALS AND METHODS

Total 30 diagnosed children of URT infection were selected randomly from the college OPD of *Kaumarbhritya* in the month of July 2013 to September 2013 after taking permission from institutional ethical committee and oral consent from their parents. General examination of each child was carried out as per hospital case paper. This fundamental research study includes the number of incidences of URT infections occurring before and after treatment.

#### Diagnostic Criteria

Patients were diagnosed clinically with the help of following sign and symptoms. Children having the *Kasa* (cough), *Nasastrava* (running nose), difficulty in swallowing, *Galshool* (soreness of throat) *Netralalima* (redness of eye), *Jwar* (fever) (with or without) and *Ashrustrava* (lacrimation) (with or without) of eyes since 2-5 days were diagnosed as URT infections.

#### Follow up

First follow was taken after 4 weeks of regular administration of *Shaktivardhak yog* to the children. Similarly second, third and fourth follow up was taken after 8<sup>th</sup> week, 12<sup>th</sup> week and 24<sup>th</sup> week respectively. During each follow up protocol was followed strictly, clinical examination and parent reporting was done promptly. Drug compliance was checked properly. Concomitant medicine record was maintained.

#### Inclusion Criteria

- Children of age group 3-5 years having the history of minimum 2 episode of URI per month.
- Children of both genders will be selected.

#### Exclusion Criteria

- Child has recurrent diarrhea, chronic pulmonary infections and severe anemia.
- Child has known for hepatic or renal infection, heart diseases and any metabolic infection.
- Child has known for hereditary or congenital anomalies.
- Child denies complying with the protocol.

#### Shaktivardhak yog

Contents - According to Bhavamishra *Shaktivardhak yog* is *Swarnakalp* (gold preparation). It includes *Sauvarnasukrita* (i.e. *Swarnabhasma*), *Kushta* (*Sassuria lappa*), *Vacha* (*Acorus calomus*), *Madhu* (honey) and *Ghrita* (cow's ghee).

**Preparation:** *Shaktivardhak yog* was prepared in *Rasashala* of institute under all aseptic precaution.

For preparation of *Shaktivardhak yog* honey and cow ghee are mixed up till the formation of homogeneous mixture is formed then *Vacha* and *Kushta ghana* was added. Lastly *Swarnabhasma* was added to this mixture, then mixture was again triturated until the formulation becomes homogeneous and stored in sterilized glass bottle. Required quantity of drugs involved in preparation of *Shaktivardhak yog* is *Swarnabhasma* 10 mg, *Vacha ghana* 2 gm, *Kushta ghana* 2 gm, cow's ghee 5 gm, honey 25 gm.<sup>[9]</sup>

#### Dose

Dose was decided on the basis of quantity of *Swarnabhasma* content in the *yog*. That is 0.25 mg/kg of body weight.

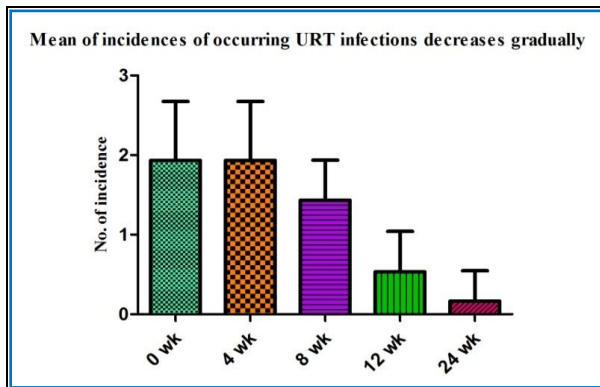
*Shaktivardhak yog* was given on every alternate day for twelve weeks to the children. On every visit, each child was assessed clinically.

*Aushadha sewan kala - Shaktivardhak yog* was advice to give in *Rasayana kala* (early morning on empty stomach)

**RESULT AND DISCUSSION**

**Table 1. Mean of Incidences of Occurring URT Infections Decreases Gradually**

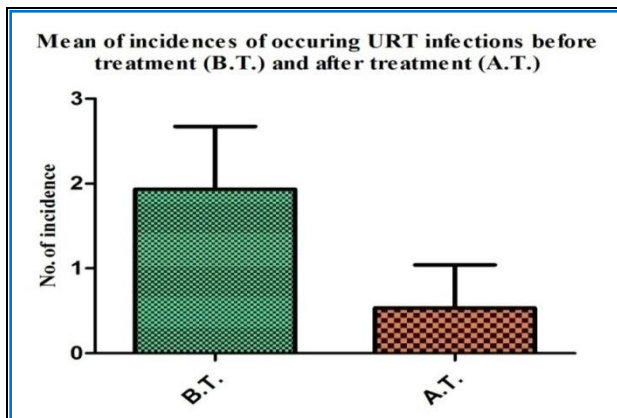
Mean of incidences of occurring URT infections decreases gradually					
Week	0 week	4 week	8 week	12 week	24 week
Mean	2.77	1.93	1.43	0.53	0.17



**Fig 1 - Mean of incidences of occurring URT infections decreases gradually.**

**Table 2. Statistical Analysis of Frequency of URT Infections before and after Treatment**

Week	SD	Mean	p value
0 week	0.68	2.77	P<0.0001 t=21.52 df=29
12 week	0.51	0.53	



**Fig 2 - Mean of incidences of occurring URT infections before treatment (B.T.) and after treatment (A.T.)**

During treatment at 4<sup>th</sup> week mean of incidences of URT infection occurrence is 1.93, at 8<sup>th</sup> week it is 1.43, at 12<sup>th</sup> week it is 0.53. After treatment at 24<sup>th</sup> week it is 0.17. (Table 1, Fig 1) The number of incidences of occurring URT infections decreases significantly as p<0.0001 assessed by statistical tool paired t test. (Table 2, Fig 2)

Childhood is the *Kapha* predominance state of life. Thus many *Kapha* predominant diseases are seen in the paediatric age group. Malnourished children have impaired cellular immunity and are particularly sensitive to opportunistic infection.<sup>[10]</sup> According to modern science gold particles have the antioxidant property and increases T - lymphocyte activation and thus involve in regulation of antigen specific immune response.<sup>[11]</sup> This effect of *Swarna* may decrease the frequency of illness in children and helps to grow healthily. Recurrent infection is due to low phase of general immunity of the person. We saw the positive effect of this medicine on the frequency of URT infections in children.

Under the heading of *Shaktivardhak prayogana*, this *yog* is described in the *Bhavprakash samhita* which is use to boost the *Vapu* (sharir), *Medha* (intellegence) and *bala* (immunity). Properly made *Shaktivardhak yog* contains the *Swarna bhasma*, *Vacha*, *Kushtha*, *Madhu* and *Ghrita*. *Swarna bhasma* is sheet (cold) in *Virya*, *Madhura* (sweet) in *Vipak* and *Madhur* (sweet), *Tikta* (bitter), *Kashaya* (astringent) in *rasa*. It provides *Bala* (strength) to the body. It shows *Bruhana karma* (bulk promoting action)<sup>[12]</sup> hence in general examination it is observed that weight of children also increases. So we can use *Shaktivardhak yog* in malnourished children also by assessing their *Agni* and *Koshtha* examination. Also the *Dipana karma*<sup>[13]</sup> of *Ghrita* is well known which improves digestion and metabolism of the body which keep the *Tridoshas* in balance state. Thus the child is free from seasonal variances. Honey and ghee acts as a vehicle for the *Swarna bhasma*, *Vacha* and *Kustha* powder.<sup>[14]</sup> *Medhya karma* of *Vacha* is known by all, researches also proved it as neuroprotective hence this *yog* can use in retaining power of brain but more work is needed in this direction.

This study was carried out in the month of July to September which is assumed as pick period for URT infections. Follow up was taken in the month of December and January which is considered as healthy period for URT. This may



be one of the cause which reduces the frequency of occurrence of URT infections.

This study lacks the haematological parameters as WBC, RBC, HB which are key components of the immune system, so further study should be arranged with all these parameters.

## CONCLUSION

Finding of the study shows that *Shaktivardhak yog* act as immune booster and maintain the general health condition of the children by reducing the frequency of incidence of occurring URT infections in significant manner. By decreasing the incidence of URT infections prime goal of maintaining the general health condition of the child is achieved. Approach of this study was limited to local area hence it is possible to vary result according to region, season, age and many more. This study considered only the subjective approach, in future objective analysis of each and every symptom can be done by researchers.

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