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CRITICAL REVIEW OF DISEASES DUE TO KSHAVATHU VEGANIGREH FROM A MODERN PERSPECTIVE

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ABSTRACT

This review aims to provide a comprehensive analysis of the pathophysiological effects associated with *Kshavathu Veganigreh* (holding the sneeze reflex). *Kshavathu* is one the urges that should not be held in any circumstance. *Acharya Charak* has explained several diseases like headache, weakness of sense organs, facial paralysis in person holding sneeze reflex. Sneezing is a natural and involuntary reflex designed to expel irritants from the nasal cavities. However, actively suppressing or holding back a sneeze can lead to detrimental consequences. By analyzing multiple studies, which includes computational fluid dynamics model study and reports of sneeze-related injuries, this review explores the risks and potential harm caused by the inhibition of sneezing. Understanding the pathophysiological effects of holding the sneeze reflex can help raise awareness about the potential hazards associated with this practice.

KEYWORDS: *Kshavathu*, sneeze reflex, computational fluid dynamics, injury, respiratory tract.

INTRODUCTION

In *Ayurveda Acharya Charak* has explained *Kshavathu* as one of the *Adharneeya Vega* i.e., it should not be suppressed at any cost else it will lead to a group of diseases like *Shiroshool* (Acute headache), *Ardita* (Facial paralysis), *Ardhavbhedhak* (Migraine or Hemicrania),

Manyasthambh (Torticollis). As we know if a *Veganigreh* is done the *Vaat Dosha* is the one which is vitiated foremost.[1]

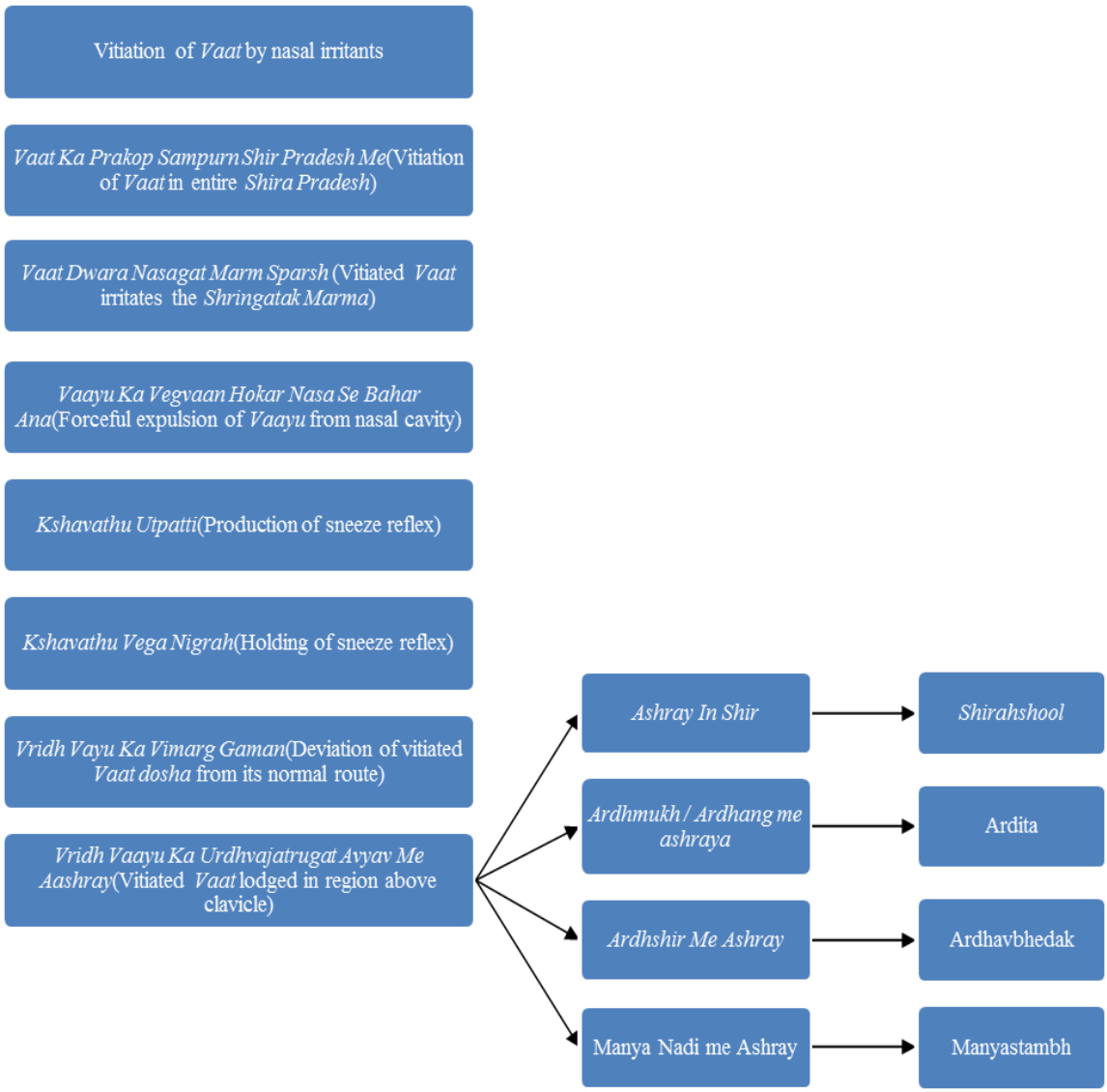
Sneezing is a reflexive response that occurs when our nasal passages are irritated. It is a common occurrence experienced by nearly everyone. The process of sneezing involves the buildup of pressure within the chest, specifically in the thoracic region, while the opening between the vocal cords (glottis) remains closed. This pressure buildup is followed by a sudden release, expelling air forcefully through the upper airways.

However, actively trying to suppress or inhibit a sneeze can have negative consequences. When we consciously intervene to limit or stop a sneeze, it can lead to significantly higher airway pressures. The natural autonomic control of sneezing involves a moderate buildup of pressure against the closed glottis, resulting in a burst of air at around 1 kilopascal (kPa) through the upper airways.[2]

In contrast, when we actively try to prevent a sneeze by forcibly closing our airway, the airway pressures can increase significantly. These increased pressures can exceed 20 times the normal levels experienced during a natural sneeze. Such excessive pressures can have various adverse effects on our body. The high airway pressures resulting from forcefully inhibiting a sneeze can lead to a range of untoward events. These events may include damage or injury to the delicate tissues of the upper airways, throat, or nasal passages.[3]

This review aims to validate the diseases mentioned due to *Kshavathu Vega Nigreh* by analyzing and reviewing the modern literature associated with holding of sneeze reflex and explore the underlying pathophysiology.

The pathophysiology of *Kshavathu* and *Kshavathu Vega Nigreh* is described below,[4,5,6,7,8]



When the vitiation of *Vaat Dosha* occurs by nasal irritants It enters into *Shira Pradesh* and irritates *Shringaatak Marma*. Due to irritation forceful expulsion of *Vaayu* occurs from nasal cavity. Thus production of sneeze reflex occurs.

If a person holds this forceful reflex of *Vaat Dosha*. It is deviated from its normal route and it gets lodged in supraclavicular (*Urdhava Jatrugata*) region. If it enters *Shir Pradesh Shirashool* or *Ardhavbhedak* occurs, in facial (*Mukha)* region *Ardita* occurs, in arteries and veins of neck or trachea then *Manyasthambha.*

METHODS

A comprehensive literature review was conducted of both *Ayurveda* and modern science. Reports of sneeze-related injuries were analyzed to identify trends and gain insights into the risk associated with it.

DISCUSSION

Studies utilizing computational fluid dynamics models of the upper airways have provided insights into the airflow dynamics during sneezing. Simulations have shown that normal sneezing can generate pressures reaching approximately 7000 Pa in the trachea, significantly higher than the pressure observed during high activity exhalation. Holding the nose or closing the mouth during a sneeze leads to a substantial increase in pressure differentials within the respiratory tract, with the pressure rising between 5 to 24 times compared to a normal sneeze.[9]

In a similar study, using a real human upper airway model, the pressure and velocity of the air flow, generated in the tract during the sneezing, was investigated. Moreover, using a spirometer device, the outlet flow rate from the mouth during the sneezing was obtained. The simulation results indicated that the inlet pressure to the tract, existing in the bronchus region, reached a maximum of 14 kPa. By having such pressure input, the highest deformation, created in the upper airway, was calculated using the fluid–structure interaction method and it has been confirmed that the majority of the deformation our delicate tissues in region above the neck were severely affected by the pressure of this amount.

By analyzing the given studies and correlating it with the diseases as mentioned in the *ayurvedic* literature. It is very much a possibility that under pressure of 14kPa damage to delicate blood vessels, neural structure can occur and the damage can further cause weakened sense organs (*Indirya Daurbalya*), *Manayastambh* (Torticollis), *Shiroshool* (Headacahe), *Ardita* (Facial paralysis).

RESULT

The comprehensive analysis of the pathophysiological effects of holding the sneeze reflex (*Kshavathu Veganigreh*) revealed that actively inhibiting a sneeze can result in significantly increased airway pressures, far exceeding the pressures generated during a natural sneeze. Computational fluid dynamics studies demonstrated that the pressure differentials within the respiratory tract can rise between 5 to 24 times compared to a normal sneeze when the reflex

is actively suppressed. These increased pressures have the potential to cause damage to delicate tissues, including blood vessels and neural structures, leading to various adverse effects such as weakened sense organs, Torticollis, Headache, and Facial paralysis.

CONCLUSION

The practice of holding the sneeze reflex should be approached with caution due to its potential pathophysiological consequences and increased risk of injuries. It is recommended to allow sneezing to occur naturally without intervention to prevent associated adverse events. Raising awareness about the hazards of inhibiting a sneeze is crucial, and further research is needed to better understand and mitigate the risks involved.

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