

## Correlation of body mass index with laryngopharyngeal reflux causing change in voice

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### Abstract

**Introduction:** Voice provides us with the framework on which speech is constructed. Studies have recently shown that our body structure plays a key role in production of voice. The aim of this study is to evaluate the influence of body structure in patients with dysphonia occurring due to laryngopharyngeal reflux. Laryngopharyngeal reflux causes chronic non-specific laryngitis which leads to pathological phonation. The condition has been clinically more commonly seen in patients who are over-weight and obese. Body mass index serves as the tool to measure body structure. This study aims to understand and identify, if any correlation between the two entities- body mass index and laryngopharyngeal reflux. This will help patients to make relevant lifestyle adjustments and avoid recurrence in patients presenting with dysphonia due to laryngopharyngeal reflux. It also will provide the ENT practitioner a basis for early diagnosis and prevention.

### Aims:

1. Study risk factors that cause laryngopharyngeal reflux.
2. Understand the structural and functional changes of vocal folds that are associated with laryngopharyngeal reflux.
3. Find correlation between BMI and voice change due to the chronic laryngitis.

### Methodology:

**Study Design:** This is an analytical observational study done within our hospital premises. It is a case-control study design in which the study sample is selected from the patients that came to the OPD during a period of one year.

**Hypothesis:** The occurrence of raised/deranged body mass index is higher in patients with laryngo-pharyngeal reflux.

**Sampling:** Simple random sampling of cases and controls were done in this study. A total of 142 individuals participated. The sample group sized 71 patients who were diagnosed with laryngo-pharyngeal reflux in the OPD. The control group consisted of 71 random persons with normal vocal fold anatomy with no signs of laryngo-pharyngeal reflux who live in and around the same geographic area from where the cases are taken.

### Exclusion criteria:

- All persons with mid-membranous vocal fold lesions were excluded from the study.
- Patients with history of smoking were also not taken into consideration owing to the fact that smoking will act as a major confounding factor in this study.
- We have also excluded individuals with co-morbidities- particularly diabetes and hypertension.

Diagnosis of laryngopharyngeal reflux shall be done by using 2 established questionnaires- Baylor Institute's reflux symptom index and Belafsky's reflux finding score.

Body mass index will be calculated using the standard formula, which is body weight divided by square of the body height and expressed in kg/m<sup>2</sup>. Each participant will be categorized as per the WHO classification as underweight (<18.5), normal (18.5-24.9) overweight (25-29.9) and obese (>30). Only the persons above the normal BMI; that is overweight and obese categories are considered as part of the 'deranged' BMI group. Thereafter, the data collected will be evaluated and interpreted.

**Results and Conclusion:** Dysphonia has significant effect on quality of life. Chronic laryngitis is a common cause of abnormal phonation. Lifestyle modifications are a rational approach for its management. This study provides better understanding of the causative factors by attempting to correlate body structure with laryngopharyngeal reflux causing voice change. This will help patients to make relevant lifestyle adjustments and avoid recurrence as well as provide a basis for early diagnosis and prevention.



### Biography

Asitama Sarkar completed her MBBS from K. J. Somaiyya Medical College and Research Center, India followed by MS(ENT) in Sanjeevan Medical Foundation, India. Currently she is working in BMC ENT Hospital, Mumbai, India and has keen interest in laryngology.

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