

# Nasal Airway Obstruction and the Quality of Life

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## Abstract

The objective of this study was to estimate the prevalence of nasal airway obstruction among patients attending the dental clinic of Ajman University of Science & Technology (AUST) (Fujairah Campus/UAE) and how it affects their quality of life. A sample of 100 patients attending the dental clinic of (AUST) was examined for nasal obstruction. Demographic data, history taking, along with patient assessment of nasal obstruction with a nasal speculum and radiographs, were recorded. Quality of life (QOL) was assessed using a questionnaire. The subjects 58% males and 42% females were 10-59 years old. 34% of the patients have nasal obstruction and 15% had history of trauma to the nose. 28% have difficulty in breathing through their nose. Nasal septal deviation accounted for the majority of the cases 94.1%. Nasal obstruction is a precipitating factor of quality of life, 61.7% of the patients were reported to have mild obstruction, 17% moderate obstruction and 2.9% severe obstruction. The study showed that 52% have habitual snoring and the effect of posture was reported to be 8.8%.

**Keywords:** Nasal obstruction; Quality of life (QOL).

## 1. Introduction

There has been a growing awareness that nasal obstruction may impair various daily and social activities.[1] Research has shown that air breathed through the nose is quite different to the body than air breathed through the mouth, because it contains nitric oxide that increase host defense, regulation of pulmonary function, blood flow [2].

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Nasal obstruction (due to: deviation of nasal septum, hypertrophy of turbinates, adenoids, Choanal atresia) affects the oral and general health, facial growth pattern, and the overall well being [3,4].

It results in dry mouth, oral ulcers, periodontal diseases, apnea, and may affect the shape of the face, jaws and alignment of the teeth [5].

Nasal obstruction is most commonly defined as a patient symptom or discomfort manifested as a sensation of insufficient airflow through the nose. Thus defined, nasal obstruction is a subjective complaint [6].

However, some authors have considered the word "obstruction" to imply the existence of an obstacle in the nose, thus suggesting the term to have an objective importance [6].

It often elicits symptoms, including headache, shortness of breath, fatigue, sleep disturbance, lack of care, and thus a decline in health-related quality of life [7].

The nose functions as a portal for air to enter the respiratory system, serving to warm, humidify, and cleanse air as it passes through. The nose also aids in control of infection in the airway.

What one patient considers being nasal obstruction may bother other patients very little, as with nasal secretion and sneezing. Thus, it is difficult to obtain a realistic estimate of how common nasal obstruction is. On the other hand, there have been many reports regarding the prevalence of different nose diseases or disorders in which nasal obstruction is very common or an obligatory symptom. Therefore, an evaluation of how common these diseases are might yield an approximate figure for the frequency of nasal obstruction [6].

The aim of this research is to estimate the prevalence of nasal obstruction among patients attending the dental clinic of Ajman University (Fujairah Campus) and to determine how it affects their quality of life.

## **2. Materials & Methods**

100 patients who attended the dental clinic of AUST were examined for nasal obstruction.

Routine nasal examination with a nasal speculum was done for each patient. Radiological findings (Water's view) were studied in relation to the type of nasal obstruction.

A questionnaire formula was prepared for data collections for all patients and the following parameters were registered: file number, name, age, gender, nationality and occupation. History of trauma to the nose and any difficulty in breathing were also registered.

Clinical findings were recorded.

Quality of life was assessed using the questionnaire.

The data was entered onto a software program and were subsequently processed and analyzed.

### 3. Results

By questionnaire, 100 patients were examined for nasal obstruction. The percentages of males were 58% and females were 42%. See (Figure 1). The age range was between (10-59) years. See (Figure 2).

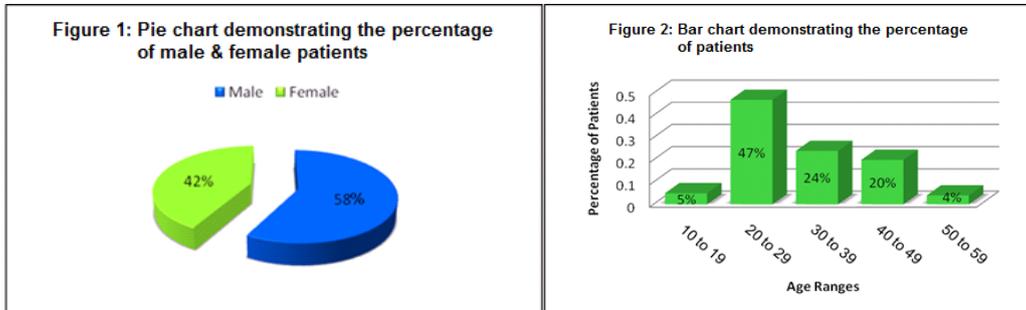


Figure 1

Figure 2

Of the 100 patients, 34% were identified as having nasal obstruction, see (Figure 3). 15% of the patients had history of trauma to the nose. See (Figure 4).

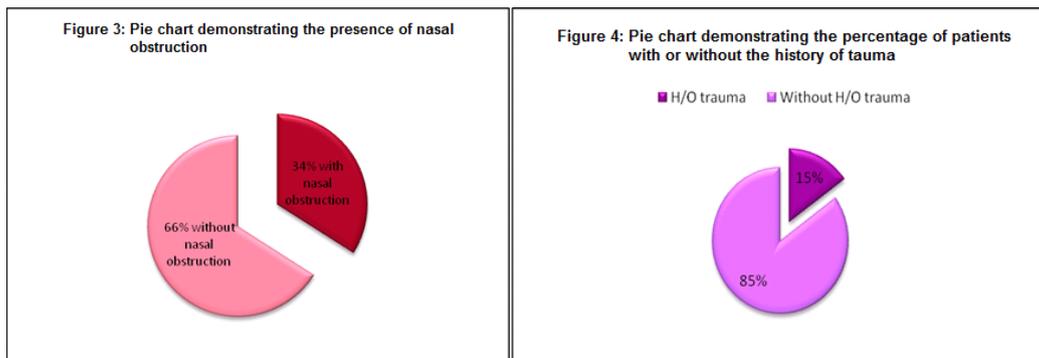


Figure 3

Figure 4

The result showed 28% of the patients have difficulty in breathing through their nose (Figure 5); among them 44% have difficulty in breathing through the left side and 53% have difficulty in breathing through the right side. See (Figure 6).

Among the 34% of patients with nasal obstruction, septal deviations accounted for the majority of the cases 94.1%, followed by hypertrophy of the turbinate 14.7%. See (Figure 7).

Quality of life:

Of the 34% of patients suffering from nasal obstruction, 61.7% were reported to have mild obstruction during physical activity, 17.6% moderate obstruction and 2.9% severe obstruction. 52.9% of the patients reported habitual snoring. The effect of posture was 8.8%. (Figure 8).

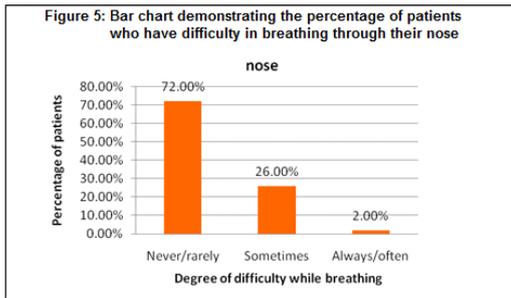


Figure 5

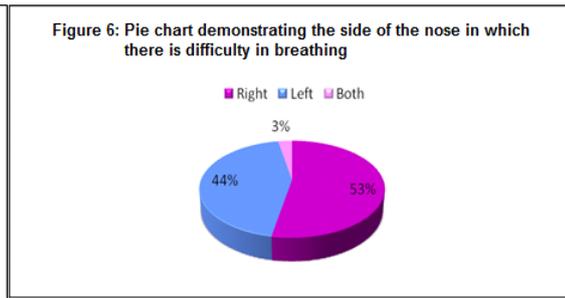


Figure 6

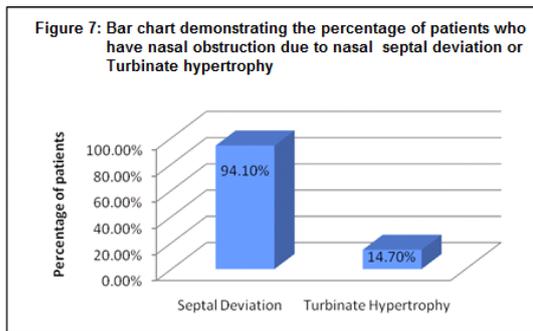


Figure 7

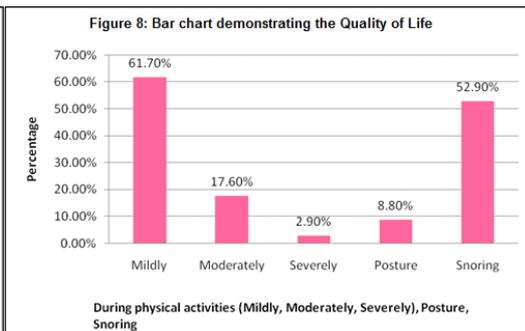


Figure 8

#### 4. Discussion

Nasal obstruction is a common complaint. It is a symptom, not a diagnosis, and a multitude of medical and anatomical conditions can result in nasal obstruction [6].

Among the structural changes that contribute to nasal obstruction: septal anomalies, turbinate hypertrophy, adenoid hypertrophy, nasal polyps, choanal atresia [8].

(34%) in our studied group of patients have nasal airway obstruction. The patients often did not complain of the obstruction as such. It was only found by thorough questioning and examination.

Inability to breathe through the nose is obvious when specifically examined for but is often overlooked in the casual follow-up visit.

Many patients demonstrated various degrees of nasal obstruction, 2% (always/often) and 26% (sometimes).

Nasal septal deviation is a common finding 94.1% on nasal examination, and some of them, usually those of traumatic origin, often cause nasal obstruction. Deviation of the nasal septum is more prevalent than turbinate hypertrophy (14.7%).

Quality of Life is an important index in daily and social life. In the present study, the results clearly suggest that nasal obstruction is a precipitating factor of QOL. Nasal obstruction is not a life-threatening condition, although

it may exert a serious negative influence on QOL.

Physical activity plays an important role in the QOL. The study shows, 2.9% were severely affected.

Nasal airway resistance is also dependent on patients' positions: it increases bilaterally in the supine position and unilaterally in the lateral recumbent position compared with the upright position. The effect of posture was reported to be 8.8%.

Nasal obstruction, by several different mechanisms, can induce sleep-disordered breathing such as snoring [9,10]. The study shows 52.9% of the patients have habitual snoring.

However, further studies are needed to elucidate the consequences of nasal airway obstruction such as: dry mouth, apnea, postural aspect, the shape of the face and jaws, and trachea.

The surgical correction of nasal obstruction by appropriate specialists should be included in the plan of treatment of consequences of nasal airway obstruction, so as to support the best outcomes of oro-dental treatment and the wellbeing of the patient.

## **5. Conclusion**

A questionnaire was administered to the patients attending the dental clinic of Ajman University to clarify the relationship between nasal obstruction and QOL.

It is possible that sensation of nasal obstruction may directly impair concentration and thus QOL. Although nasal obstruction is not a life-threatening condition, sufficient and appropriate treatment may improve the quality of daily and social activities of individuals.

It is important to estimate the prevalence of nasal obstruction. Many factors need to be taken into consideration.

Because nasal obstruction is an increasingly common nasal complaint in modern society, this is a sufficient reason to try to find the causes more often than we do.

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