The ability of patients to perform simulated snoring whilst awake – an audiometric analysis

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Background

Obstructive sleep apnoea hypopnea syndrome (OSAHS) is a common obesity associated condition leading to significant morbidity and mortality across the world.

Currently clinicians must be guided by clinical examination, patient's AHIs and nasal endoscopy to identify the most appropriate treatment for each individual.

Methods

High-quality recordings of simulated snoring were obtained using a contact microphone. Subjects were asked to simulate snoring both with mouth open and closed, in supine and upright positions, and frequency analysis was made on the data.

Over the last ten years multiple groups have shown interest in using analysis of simulated awake snoring sounds to evaluate the level of upper airway obstruction and to guide interventions

Frequency analysis of awake simulated snoring sounds have been shown to correlate with asleep snoring sounds

However patients with obstructive sleep apnoea hypopnea syndrome (OSAHS) often find it difficult to simulate snoring

Uncertainty remains around the accuracy and viability of using awake simulated snoring in clinical diagnostics.

Aims

1. Determine whether patients are able to reliably and accurately simulate asleep snoring sounds when awake.
2. Evaluate the effect of patient's position and whether their mouths are opened or closed.
3. Discuss the possibility of awake simulated snoring in diagnosis and intervention selection for patients with OSAHS.

Results

Preliminary data showed with mouth open, the vast majority of patients were able to simulate snore. With mouth closed, there was high discrepancy in simulated and asleep snores.

Conclusions

Simulated snoring can be performed oronasally in the vast majority of patients, but is significantly limited by mouth closure in a large proportion.