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## Introduction

Obstructive Sleep Apnoea Syndrome (OSAS) is a prevalent sleep disorder, affecting up to 15% of the population and having a degree of epidemiological importance attributed that is similarly high as that of bronchial asthma or obstructive lung diseases. If left untreated, OSA has potentially severe health consequences, such as cognitive impairment, cardiovascular disease, diabetes, and early mortality. More recently, hyperalgesia is being recognized as a consequence of inadequate sleep and its resulting daytime sleepiness.

Unfortunately, treatment options for OSA remain limited. Although continuous positive airway pressure (CPAP) is effective when used, much of its benefits go unrealized in practice because of low adherence. Other treatment options, such as oral appliances and upper airway surgery, only partially reduce OSA severity and produce frequent side effects. In addition, the effects of these treatments on the health consequences of OSA are not well established.

## Aims

The aim of this study is to evaluate the effectiveness of osteopathy on OSAS in a pragmatic randomized controlled trial in open box approach.

## Material and methods

24 patients (all male) diagnosed with OSAS (mean age:  $55,3 \pm 7,3$  years; mean BMI:  $28,6 \pm 5,4$ ) were randomly assigned in an osteopathic treatment group (OG) and a non treatment group (NTG). Each group consisted of three patients with mild and severe OSAS respectively and six patients with moderate severity OSAS. Four osteopathic treatments took place with a time interval of two weeks between each treatment. Ambulatory polysomnographic measurements were carried out using a "Respironics Alice PDX" at baseline, after the second treatment and at six weeks follow-up. The primary outcome was the apnoea-hypopnoea index (AHI) and the secondary outcome was the subjective daytime sleepiness, assessed by the Epworth Sleepiness Scale (ESS).



Figure 1: Measurement with the Respironics Alice PDX

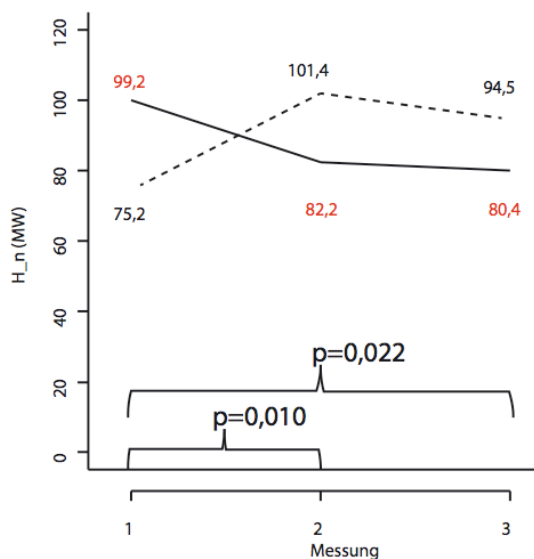


Figure 2: Mean of total hypopnoea ( $H_n$ ) at the three moments of measurement (OG: red; NTG: black).

## Results

Compared with the NTG, the patients who received osteopathic treatment showed a significant AHI reduction (OG:  $28,5 \pm 16,5$  to  $25,3 \pm 11,1$ ; NTG:  $26,3 \pm 14,1$  to  $32,6 \pm 15,5$ ) between baseline and the second measurement ( $p=0,019$ ) as well as significant changes in mean of total hypopnoea ( $H_n$ ) ( $p=0,01$ ). The mean of  $H_n$  was still significantly reduced in the OG between baseline and the third measurement ( $p=0,022$ ). However, the reduction in AHI did not persist after the six weeks of follow-up ( $p=0,22$ ). This was mainly because the total of apnoeas had not significantly changed.

Although there was a significant reduction in  $H_n$  in the OG, no differences could be found for the outcome subjective daytime sleepiness.

## Conclusions

Osteopathic treatment reduces the apnoea-hypopnoea index in patients with OSAS and should therefore be considered for further research as a possible effective alternative in the management of OSAS.

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