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Use of the "humming mask" improves sleep of healthy elderly

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Introduction

The humming mask is a massaging device stimulating the paranasal sinuses through vibration. There were anecdotal reports that sleep benefits from the use of this device. Aim of this open-label pilot study was to investigate the effect of the humming mask on sleep perception in healthy elderly subjects without relevant sleep disorders, but complaining about "bad sleep". Furthermore effects on intranasal NO were assessed.

Results from a Pilot Study

Methods: Eighteen aged subjects (12 female, 6 male, mean age 67 years, $5 < \text{PSQI} < 11$) were included in the study. As cover task the subjects were instructed to keep dream diaries. After the screening visit the study consisted of two blocks of each one week, ended by a visit. In a cross over design, subjects used the humming mask for 20 minutes directly before lights of in one block and did not in the other. Primary endpoint was change in the subjective sleep quality as assessed with a modified version of the PSQI. The secondary endpoint was subjective sleep latency as assessed by a sleep diary.

Results: Despite being blind for the study's endpoints, subjects reported improvements in subjective sleep quality (PSQI start: 8.4 ± 1.5 , without: 7.3 ± 2.4 , with: 6.4 ± 2.8 , RM-ANOVA ; $F(2,53) = 3.185$; $p = 0.0070$) and reduction in sleep latency (without: 35 ± 33 min; with: 26 ± 24 min, t-test $p = 0.08$, tendency) by the use of the humming mask. In the preliminary analyses no correlation was seen between NO increase and subjective sleep improvements.

Conclusion: Our results support the observation that use of the humming mask improves sleep (perception). There are several limitations of this pilot study. Firstly, only subjective measures were assessed. Secondly, subjects were blinded for the study outcome, but not for the intervention.