

A Summary of:

Effects of humidification on nasal symptoms and compliance in sleep apnea patients using continuous positive airway pressure (CPAP)

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TAKE HOME POINTS

- Using heated humidification with CPAP increased patient compliance.
- Both cold-passover and heated humidification improved the patients overall satisfaction with CPAP as an effective treatment.
- Using heated humidification in conjunction with CPAP increased the likelihood that the patients felt refreshed upon awakening.
- When CPAP was used with heated humidity compared to CPAP use without humidity, patients had a significantly lowered incidence of dry mouth or throat and dry nose.
- 76% of patients preferred heated humidification and chose to continue its' use with CPAP therapy.

AIM

To evaluate the effects of humidification on nasal symptoms and compliance in sleep apnea patients using CPAP.

METHOD

47 subjects were recruited, 9 did not complete leaving 38.

Subjects were randomly assigned to CPAP with either heated humidification or cold-passover humidification.

Subjects used the assigned type of humidification for three weeks then used CPAP alone for two weeks then crossed over to the alternate type of humidification for the remaining three weeks of the study.

Prior to starting CPAP patients completed a questionnaire to assess chronic nasal symptoms.

At the end of each period on CPAP, before changing to either no humidification or the alternate type of humidification, patients were asked to complete another questionnaire assessing CPAP and nasal symptoms.

RESULTS

There were no differences between the two groups for age, gender, body mass index (BMI), respiratory disturbance index (RDI) or CPAP pressure.

76% of subjects chose to keep the heated humidifier to use with their ongoing CPAP treatment following the conclusion of the study.

Absence or presence of pre-existing nasal symptoms did not predict preference for heated or cold-passover humidification.

CPAP used with heated humidity resulted in higher compliance rates than CPAP without humidification ($p < 0.008$).

CPAP with cold-passover humidification did not influence compliance, as rates were similar to those seen when subjects were on CPAP without humidification. Subjects had a greater overall feeling of satisfaction with their treatment when they were on CPAP with humidification when compared to CPAP without humidification.

Heated humidity was associated with feeling more refreshed on awakening.

Subjects reported that dry mouth or throat and dry nose interfered to a greater degree when CPAP was used without humidification, compared to CPAP use with heated humidification.

Outcome Measure	Heated Humidity	Cold Passover Humidity	Without Humidity
Usage (hrs/night)	5.52 ± 2.1*	5.15 ± 1.9	4.95 ± 2.2
ESS	6.2 ± 3.8	7.2 ± 4.8	6.7 ± 3.9
Feeling upon awakening	74.0 ± 15.9*	68.9 ± 23.4	62.0 ± 23.4
Satisfaction with CPAP	73.9 ± 19.1*	72.9 ± 22.6	62.3 ± 27.6
Adverse side effects (global score) No	4.9 ± 3.3	6.2 ± 3.8	6.5 ± 4.9

* p < 0.05 vs without humidity

CONCLUSIONS

Compliance with CPAP is enhanced when heated humidification is employed. This is most likely due to a reduction in side effects associated with upper airway symptoms (dry nose and throat) and a more refreshed feeling on awakening.

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