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Use of simplified claustrophobia questionnaire in predicting adherence to positive airway pressure (PAP) therapy in obstructive sleep apnea (OSA) patients

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Use of simplified claustrophobia questionnaire in predicting adherence to positive airway pressure (PAP) therapy in obstructive sleep apnea (OSA) patients

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Background

- Adherence to PAP therapy is a well-documented problem
- Before 2015, overall initial (after a month of PAP therapy) non-adherence around 30-40% ¹
- Decreased to 25% on a retrospective cloud data review (Oct 2014-Oct 2017)²

1. Rotenberg et al. Journal of Otolaryngology - Head and Neck Surgery (2016) 45:43
2. Cistulli et al, Sleep Med 2019 Jan 11. pii: S1389-9457(18)30797-4. doi: 10.1016/j.sleep.2019.01.004. [Epub ahead of print]

Background

- 63% of adults with moderate to severe OSA after one night of PAP in the laboratory had claustrophobia tendencies³
- Females significantly higher than males³
- Using a validated questionnaire having suffocation (SS) and restriction (RS) questions we have shown that higher total score on these questions correlated to lower duration of PAP usage (suffocation $r=0.744, p<0.001$; restriction $r=0.754, p<0.01$) (unpublished data)

SS

- (1) Swimming while wearing a nose plug
- (2) Working under a sink for 15 min
- (3) Standing in an elevator on the ground floor with the doors closed
- (4) Trying to catch your breath during vigorous exercise
- (5) Having a bad cold and finding it difficult to breathe through your nose
- (6) Snorkeling in a safe practice tank for 15 min
- (7) Using an oxygen mask
- (8) Lying on a bottom bunk bed
- (9) Standing in the middle of the third row at a packed concert realizing that you will be unable to leave until the end
- (10) In the centre of a full row at a cinema
- (11) Working under a car for 15 min
- (12) At the furthest point from an exit on a tour of an underground mine shaft
- (13) Lying in a sauna for 15 min
- (14) Waiting for 15 min in a plane on the ground with the door closed

RS

- (1) Locked in a small DARK room without windows for 15 min
- (2) Locked in a small WELL-LIT room without windows for 15 min
- (3) Handcuffed for 15 min
- (4) Tied up with hands behind back for 15 min
- (5) Caught in tight clothing and unable to remove it
- (6) Standing for 15 min in a straitjacket
- (7) Lying in a tight sleeping bag enclosing legs and arms, tied at the neck, unable to get out for 15 min
- (8) Head first into a zipped up sleeping bag, able to leave whenever you wish
- (9) Lying in the trunk of a car with air flowing through freely for 15 min
- (10) Having your legs tied to an immovable chair
- (11) In a public washroom and the lock jams
- (12) In a crowded train which stops between stations

Claustrophobia Questionnaire

How anxious would you feel in the following places or situations? Circle the most appropriate number:

	Not at all Anxious	Slightly Anxious	Moderately Anxious	Very Anxious	Extremely Anxious
Swimming while wearing a nose plug.	0	1	2	3	4
Working under a sink for 15 minutes	0	1	2	3	4
Standing in an elevator on the ground floor with the doors closed	0	1	2	3	4
Trying to catch your breath during vigorous exercise	0	1	2	3	4
Having a bad cold and finding it difficult to breathe through your nose.	0	1	2	3	4
Snorkeling in a safe practice tank for 15 minutes	0	1	2	3	4
Using an oxygen mask	0	1	2	3	4
Lying on the bottom bunk bed	0	1	2	3	4
Standing in the middle of the 3 rd row at a packed concert realizing that you will be unable to leave at the end	0	1	2	3	4
In the center of a full row at a cinema	0	1	2	3	4
Working under a car for 15 minutes	0	1	2	3	4
Lying in a sauna for 15 minutes	0	1	2	3	4
Waiting for 15 minutes in a plane on the ground with the doors closed.	0	1	2	3	4

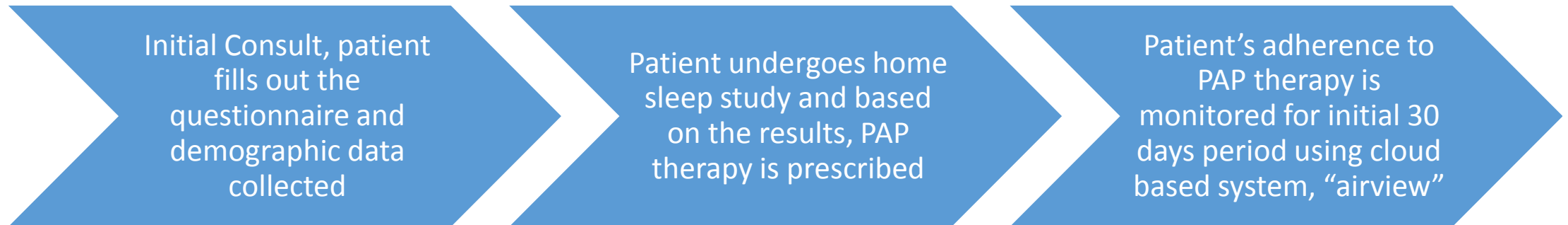
Radomsky, A.S., Rachman, S., Thordarson, D.S., McIsaac, H.K., & Teachman, B.A. (2001). The Claustrophobia Questionnaire. *Journal of Anxiety Disorders, 15*(4), 287-297

Goal

- To find the predictability of PAP adherence for each question of the suffocation questionnaire
- To formulate new claustrophobia questionnaire with minimal questions that is feasible to complete in today's busy clinics

Methods

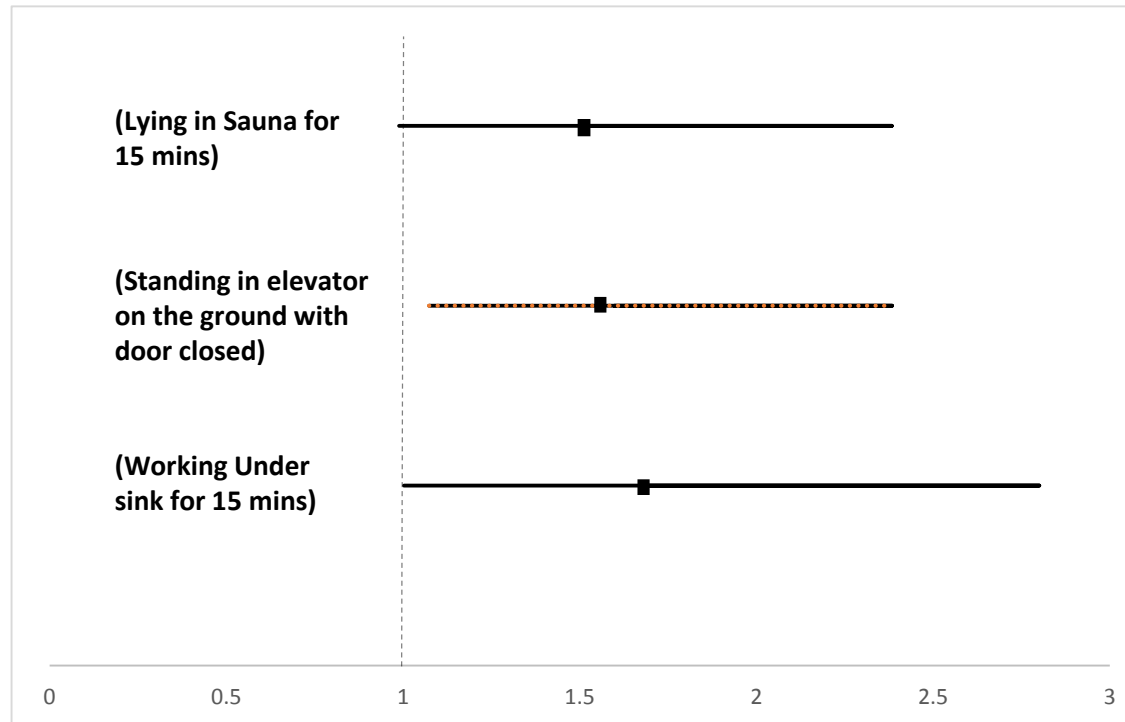
Prospective Observational Study



Results

Table 1. Demographics of Sleep Apnea Patients on PAP therapy

Variable		Total (N=130)	OSA Patients with adherence (N=110)	OSA Patients with non-adherence (N=20)
Sex (N, %)				
	Female	57, 43.6	48, 43.6	9, 45
	Male	73, 56.4	62, 56.4	11, 55
Age (M (SD))				
		50.4 (11.8)	51.01 (11.6)	46.85 (11.4)
BMI (M (SD))				
		37.08 (8.5)	36.89 (8.5)	38.24 (8.7)



Questions with significant odds ratio for non-adherence to PAP therapy

Conclusion

- Preliminary data shows that we might be able to use few number of questions from the existing claustrophobia questionnaire in the future to screen for claustrophobia in OSA patients