



Gender-related demographic, polysomnographic, cognitive and psychological factors in insomnia

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Introduction

- Insomnia affects 30-35% of the population
- It is characterized by a patient-reported complaint of difficulty initiating sleep, maintaining sleep or waking up too early, or chronically unrestorative sleep (ICSD-3)
- It is associated with significant distress and daytime impairment (e.g. attention/concentration and memory disturbances; mood disorders; concerns or worries about sleep)
- Insomnia is more prevalent in women: sex differences may underlie this differential risk

Objective

- To examine gender-related demographic, polysomnographic, cognitive and psychological factors in insomnia

Results

- Higher REM latency in women compared to men ($t = 2.774, p = 0.007$), with no other gender differences in PSG characteristics
- Men significantly report more anxiety (28.6% vs 11.9%; $\chi^2 = 4.376, p = 0.036$) while women more depressive symptoms (48.5% vs 25 %; $\chi^2 = 5.413, p = 0.020$)

Table 1. Baseline characteristics & significant differences (univariate analysis)

	Women	Men	p-value
n (%)	78 (68.4)	36 (31.6)	
Age	51.1(14.3)	51.3(13.2)	0.947
Education	13.7(4.7)	14.7(4.3)	0.292
PSQI Time until sleep (min)	68.3(57.3)	38.8(35.0)	0.012
PSQI Global Index	13.2(3.2)	11.4(3.5)	0.017
ISI	18.6(3.8)	16.8(4.5)	0.049
GSES	16.9(2.9)	15.5(3.6)	0.050
SCL-90 Somatization	1.3(0.7)	0.8(0.6)	0.001
Stroop Interference	-0.33(0.9)	0.26(1.1)	0.004

Table 2. Multivariate logistic regression analysis

Predictors	P-value	Adjusted O.R.	95% CI (L-U)
Age	0.820	1.006	0.954-1.061
Education	0.518	0.943	0.789-1.127
PSQI time until sleep	0.522	1.006	0.987-1.026
PSQI Globl Index	0.611	0.927	0.694-1.240
ISI	0.693	0.958	0.775-1.184
GSES	0.341	1.132	0.877-1.462
SCL-90 Somatization	0.010	7.406	1.609-34.089
Stroop Interference	0.124	0.524	0.230-1.194

Conclusions

- This study confirms the female predisposition of insomnia
- Women have a probability seven times higher of having somatization traits

Methods

Study Design & Participants

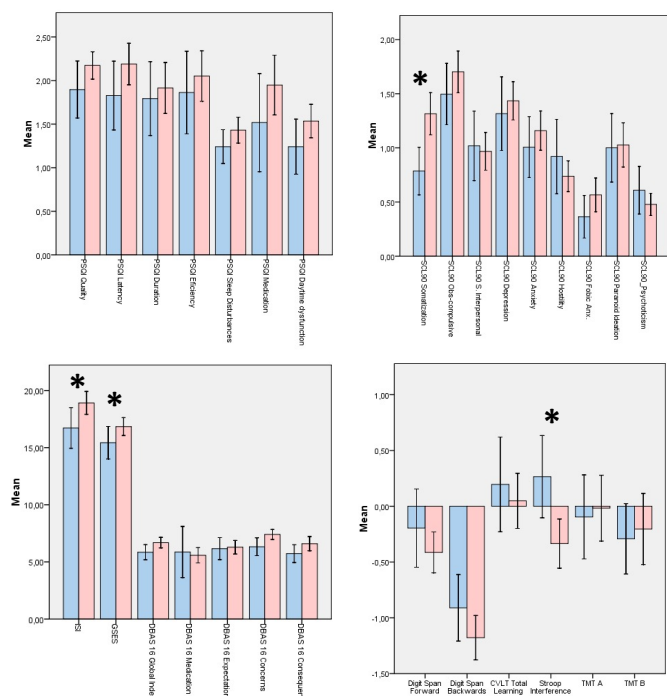
- Retrospective cohort study
- 114 patients with the clinical diagnosis of insomnia (ICSD – 3)
- Followed systematically in a Sleep Medicine Center (CENC) in Lisbon, between 2014 and 2017

Material & Procedures

- Polysomnographic study (PSG)**
- Psychological self-rating assessments**
 - ✓ Pittsburgh Sleep Quality Index (PSQI)
 - ✓ Insomnia Severity Index (ISI)
 - ✓ Glasgow Sleep Effort Scale (GSES)
 - ✓ Dysfunctional Beliefs and Attitudes About Sleep Scale (DBAS-16)
 - ✓ Symptom Checklist 90 (SCL-90)
- Neuropsychological assessment**
 - ✓ Attention/processing speed (Digit Span Forward, Trail Making Test–A)
 - ✓ Memory (California Verbal Learning Test List A Total and Long Delay Free Recall)
 - ✓ Executive Functions (Digit Span Backwards, Trail Making Test–B and Stroop Interference Test)

Statistical analysis

- Neuropsychological raw scores converted to age and education adjusted z-scores (according to norms)
- Differences between men and women tested using Student t-test (continuous variables) or Chi Square (χ^2)Test (categorical variables)
- Statistical significance at $p \leq 0.05$
- Multivariate logistic regression model with variables with statistical differences (Hosmer-Lemeshow test $p = 0.892$)



* $p \leq 0.05$