

ADHD Symptoms Reported in Adults with Narcolepsy and Idiopathic Hypersomnia



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Background & Objective

- Increasing evidence suggests that youth with Attention Deficit Hyperactivity Disorder (ADHD) experience mild (28.4%) to moderate/severe (44.8%) sleeping problems.¹
- Daytime sleepiness is one of the most commonly cited sleep difficulties among patients with ADHD², and a hypoarousal sleep phenotype has been identified among a subset of ADHD pediatric cases.³
- Self-reported daytime sleepiness in adolescents with ADHD, more than ADHD symptomology, better predicted academic performance including parent-rated homework problems, teacher-rated competence, and academic impairment.²
- Presence of childhood ADHD symptomology by retrospective survey was reported by 42 percent of adult narcolepsy patients, with 8-15 percent reporting a probable childhood ADHD diagnosis without depression.⁴
- Shorter MSLT sleep latencies were associated with greater childhood ADHD symptomology.⁴
- Objective** → To examine the presence of attentional difficulties in hypersomnia by assessing current ADHD symptoms in adult patients diagnosed with a central hypersomnia disorder.

Methods

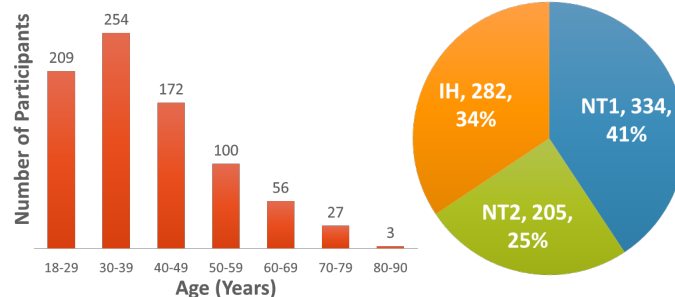
Participants → 833 adult patients with Narcolepsy Type 1 (NT1), Narcolepsy Type 2 (NT2), or Idiopathic Hypersomnia (mean age±SD=39.9±13.8 yrs, 84.9% female) participated in the Boston University Narcolepsy and Idiopathic Hypersomnia Patient Perspectives Study (BUNIHPPS), a cross-sectional online survey between October 10, 2015 and January 26, 2016.

Survey Measures → Questionnaires included the Adult ADHD Self-Report Scale (ASRS) screener v1.1⁵, the Eysenck Impulsivity Scale⁶, and the Epworth Sleepiness Scale (ESS). Summary scores were tallied for each scale.

Analyses → Data were analyzed with SAS.

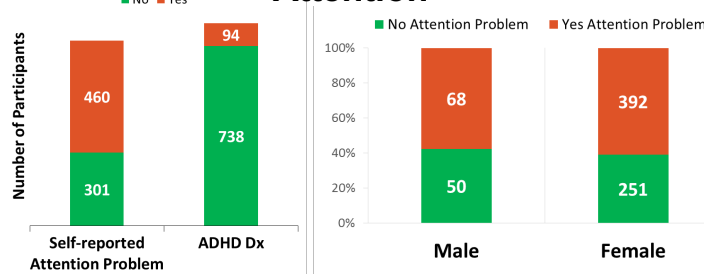
Results

BUNIHPPS Participants by Age & Diagnosis



BUNIHPPS participants were most frequently between 30-39 years and spanned 7+ decades. Those with a NT1 diagnosis made up 41% of the sample followed by IH (34%) and NT2 (25%).

Attention



- 460 (60.5%) participants self-reported problems with attention, whereas only 94 (11.3%) self-identified having an ADHD diagnosis.
- 57.6% of males (68 of 118) and 60.4% of females (392 of 643) reported attention problems.

References

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Sleepiness is associated with Attention

- Self-reported daytime sleepiness scores were significantly associated with attention problems (F=34.33; p<0.0001) in linear regression model after adjusting for covariates including age, gender, comorbid depression, total sleep time, self-reported disease severity, and impulsivity.
- For every 1-point increase in ESS score, reported attention problems on the ASRS increased by 0.17 points.
- ESS scores predicted 26.1% of the variance in self-reported attention problems (r²=0.2606).

Table 1 – Final Model Covariates in Self-reported Sleepiness Association to Attention Problems

Variable	β (95% CI)	p-value
Daytime Sleepiness (ESS Score)	0.17 (0.10, 0.24)	<.0001
Impulsivity (Eysenck Score)	0.28 (0.20, 0.35)	<.0001
Disease Severity	0.06 (0.04, 0.07)	<.0001
Total Sleep Time	-0.35 (-0.59, -0.12)	0.0033
Gender (Female vs. Male)	0.24 (-0.59, 1.07)	0.5704
Age	-0.03 (-0.05, -0.01)	0.0111
Comorbid Depression (No vs. Yes)	-1.11 (-1.72, -0.50)	0.0004

Conclusions

- Problems with attention were reported by 60.5% of adult hypersomnia patients participating in BUNIHPPS.
- Both genders reported attention problems and ADHD diagnoses equally.
- There was a significant positive association between self-reported daytime sleepiness and attention problems in an adjusted linear regression model.
- Greater impulsivity and disease severity were positively associated with attention problems, whereas age, total sleep time, and not having comorbid depression were negatively associated with attention difficulties.
- Future planned analyses include a factor analysis of the ASRS questions to better understand how the inattentive and hyperactive subtypes of attention may be related to daytime sleepiness among hypersomnia patients.