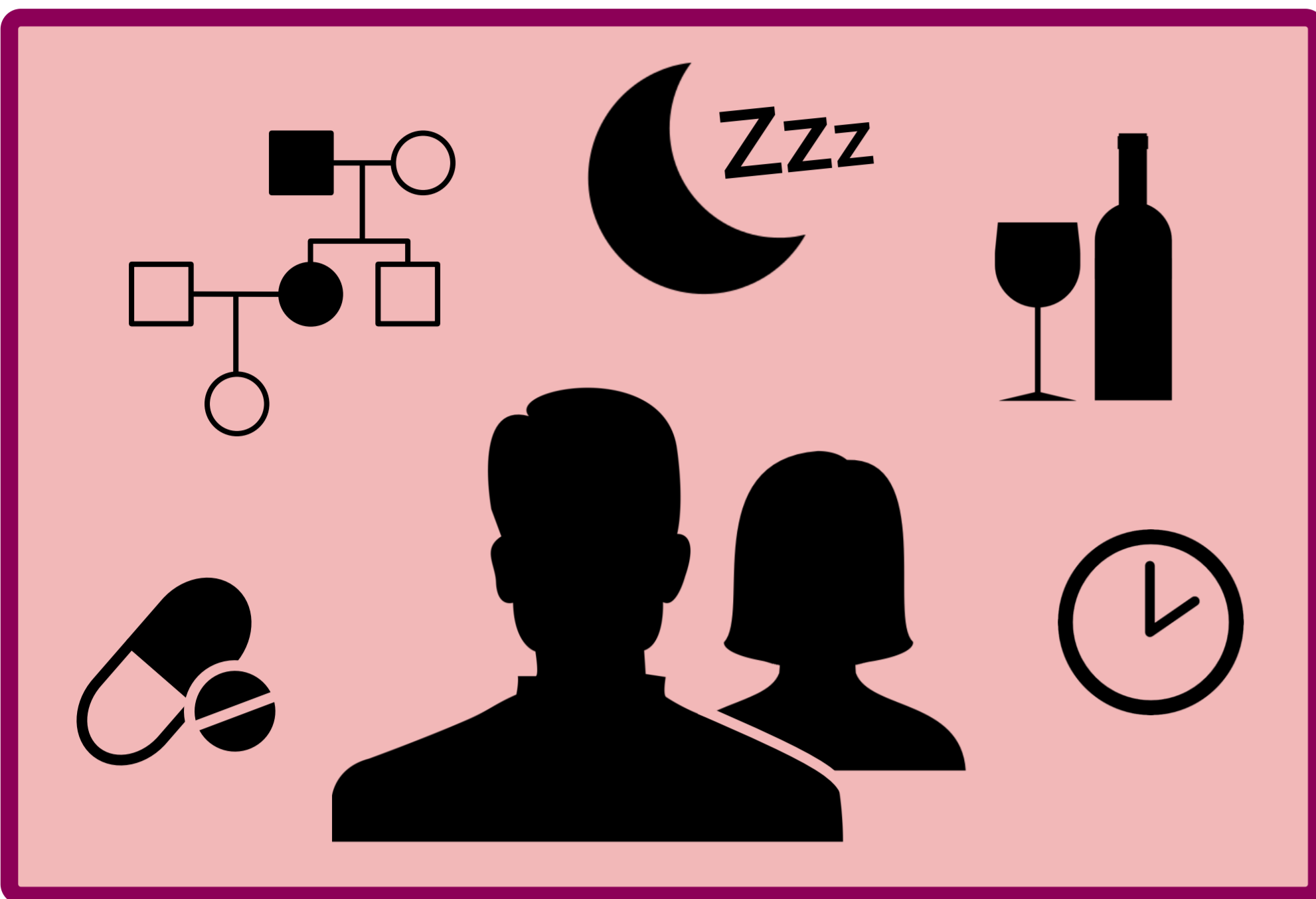


Gender differences in cluster headache in Sweden

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Summary

This study demonstrates that male and female cluster headache patients are affected differently by the disorder and deviate with respect to:

- heritability and trigger factors
- bout and attack patterns
- use of prophylactic treatment

These intriguing findings should be taken into consideration by clinicians when diagnosing and treating cluster headache patients.

Objective

Cluster headache (CH) is a debilitating neurovascular disorder which is predominantly observed in men, but it has been previously suggested that women may display a more severe phenotype.

We analyzed self-reported questionnaire data from 770 Swedish CH patients who were diagnosed according to ICHD-II criteria. We especially focused on treatment, rhythmicity, heritability and impact on everyday life in relation to sex to determine whether CH manifests differently in male and female patients.

Cohort Characterization

CH patients (n=770)	
Average interview age (range)	51 (17-83)
Average age at onset (range)	32 (7-70)
Male % (n)	67.0 (516)
Episodic % (n)	88.6 (682)
Heridity % (n)	11.0 (85)
Migraine % (n)	17.7 (136)
Diurnal rhythmicity % (n)	66.2 (510)
Annual rhythmicity* % (n)	51.3 (96/*187)

Table 1: Demographic and clinical features of cluster headache (CH) patients in this study cohort.
*Data on annual rhythmicity is only available for 187 of 770 patients in total.

Subtype & Heridity

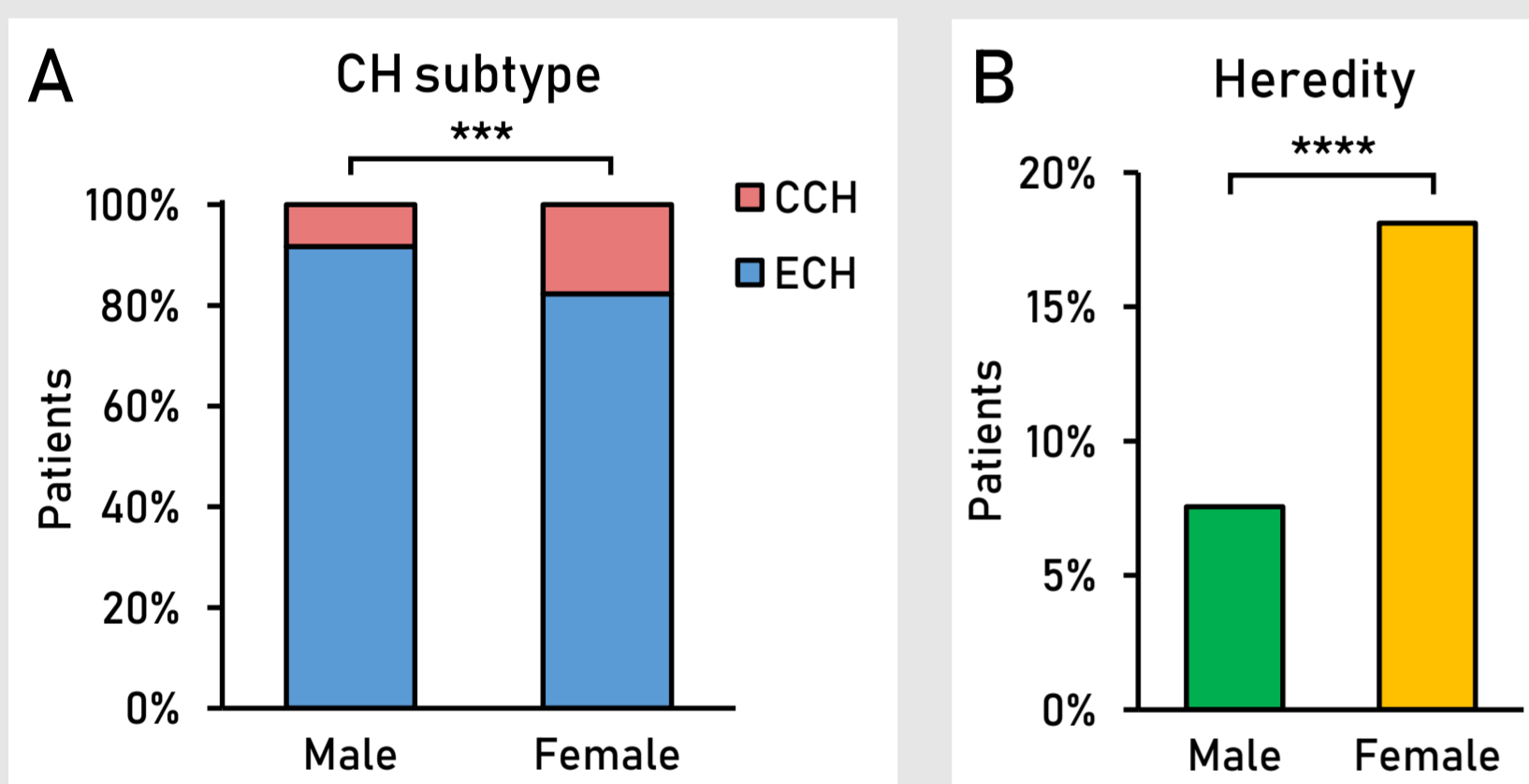


Figure 1:
A. Distribution of the subtypes chronic cluster headache (CCH) and episodic cluster headache (ECH) among male and female patients. ***p<0.001
B. Percentage of male and female patients who report a relative with a cluster headache diagnosis. ****p<0.0001

Chronobiology

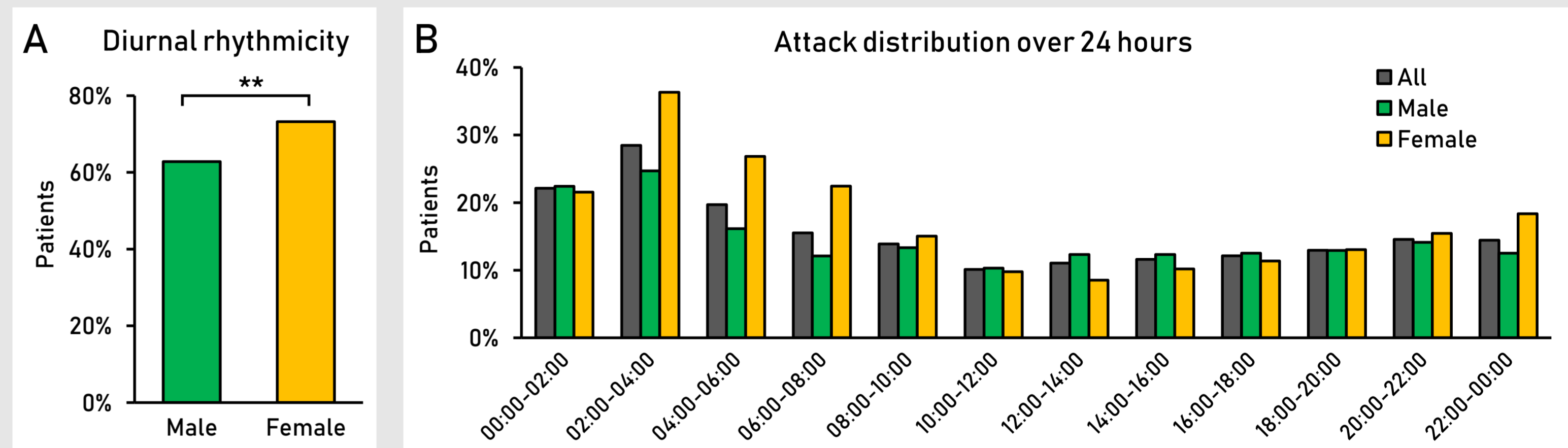


Figure 3:
A. Percentage of male and female cluster headache patients who state that their headache attacks occur in a periodic pattern. **p<0.01
B. Periodic attack occurrence over the course of 24 hours. Distribution differs between male and female cluster headache patients (p<0.01).
C. Self-reported chronotype.
D. Periodic cluster bout occurrence over the year for 187 cluster headache patients.

Trigger & Lifestyle Factors

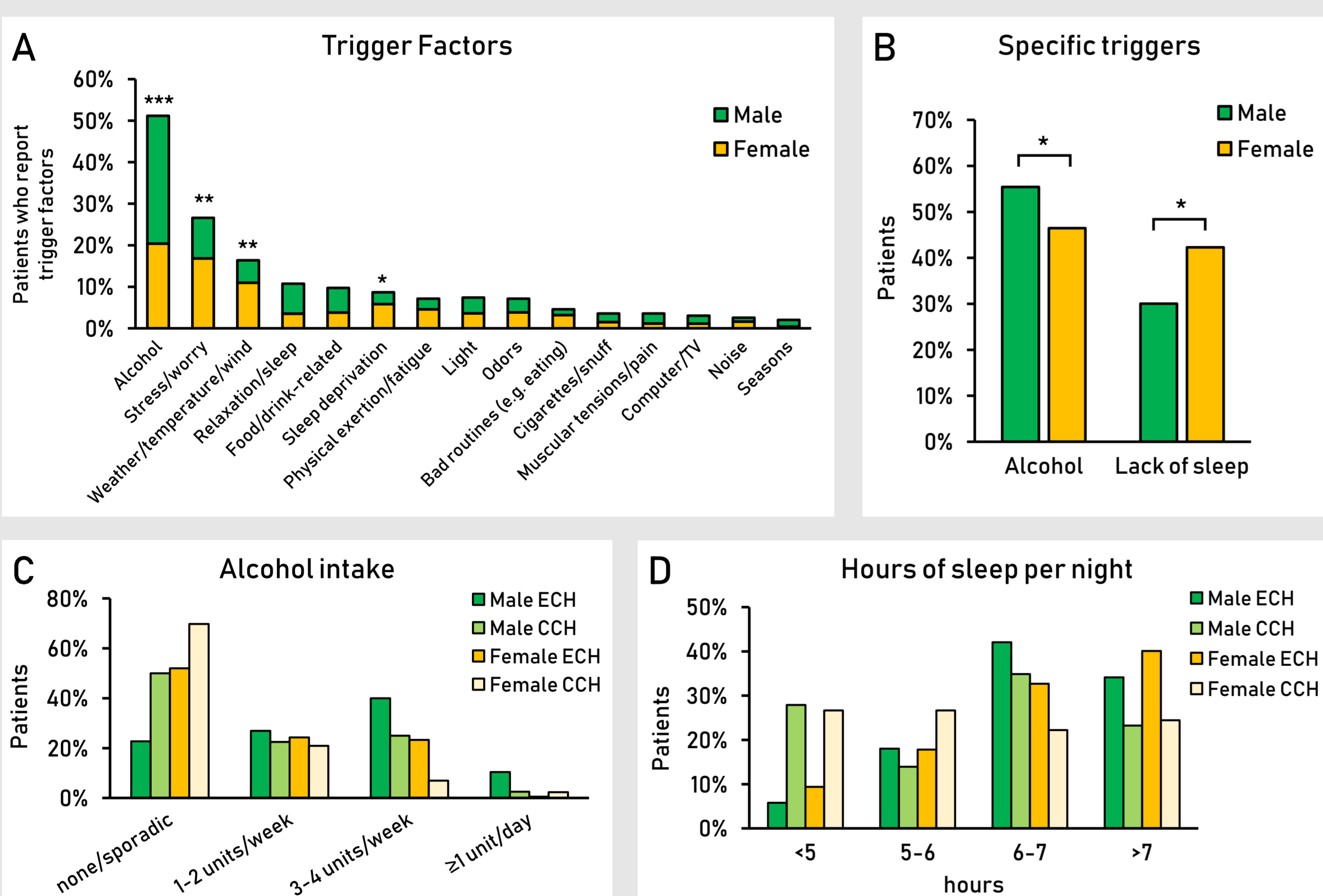


Figure 2:
A. Trigger factors (free-text answers) reported by 391 (50.8%) cluster headache patients who stated that they experienced specific elements to elucidate a headache attack. Proportions of male and female patients are weighted by number of respective sex who reported trigger factors.
B. Percentage of male and female cluster headache patients who state that alcohol and/or lack of sleep may elucidate a headache attack when asked specifically about these trigger factors. *p<0.05
C. Alcohol consumption in male and female cluster headache patients subdivided by cluster headache subtype.
D. Hours of sleep per night in male and female cluster headache patients subdivided by cluster headache subtype. ECH = episodic cluster headache. CCH = chronic cluster headache.

Treatment

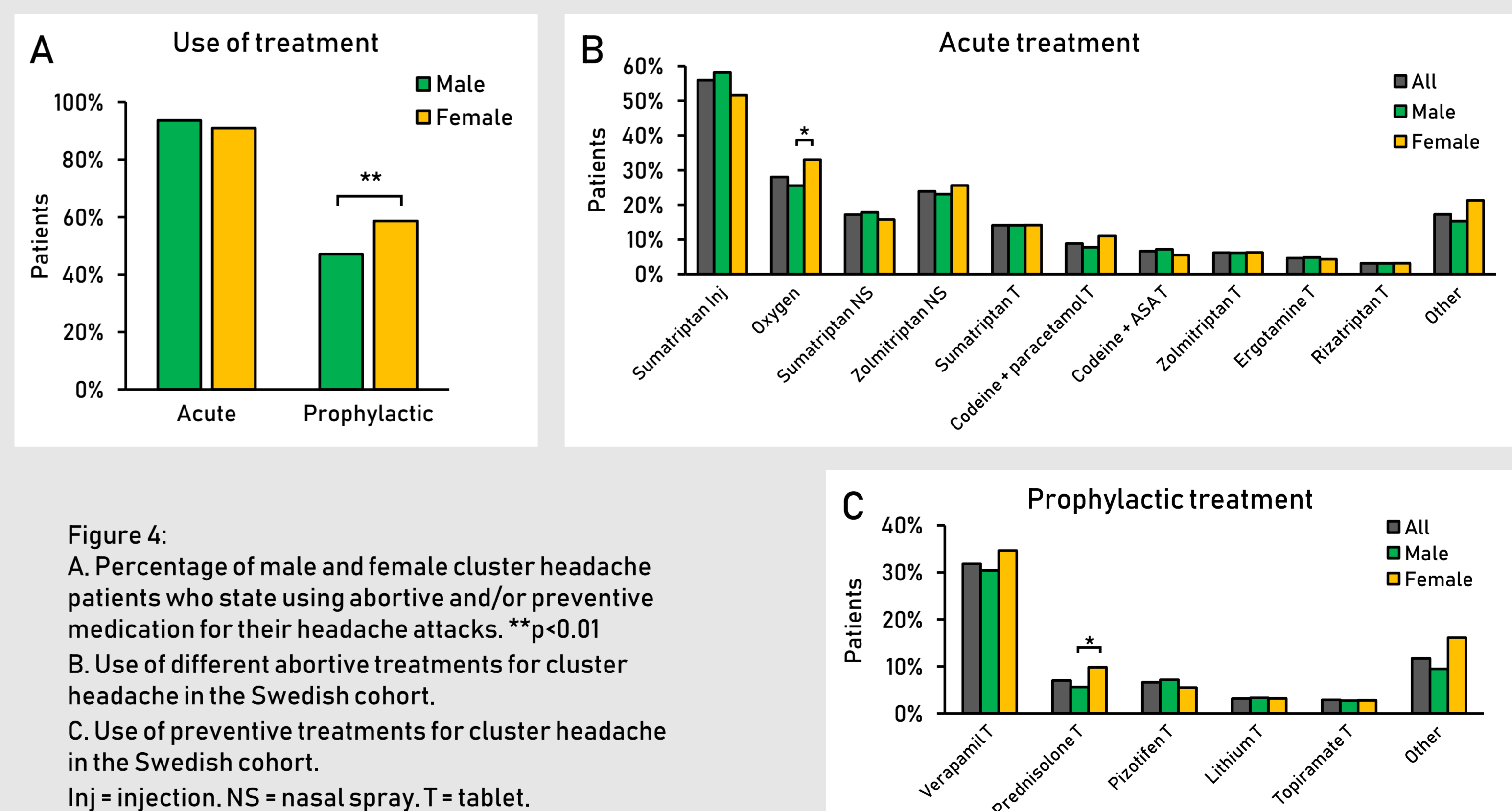
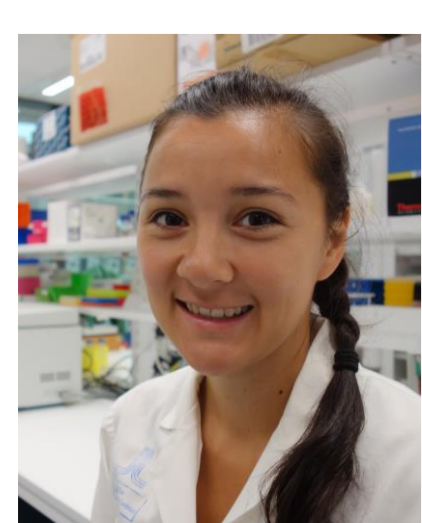


Figure 4:
A. Percentage of male and female cluster headache patients who state using abortive and/or preventive medication for their headache attacks. **p<0.01
B. Use of different abortive treatments for cluster headache in the Swedish cohort.
C. Use of preventive treatments for cluster headache in the Swedish cohort.
Inj = injection. NS = nasal spray. T = tablet.



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