

# Macronutrient, caffeine and water intake according to sex and mental morbidity status: a focus on anxiety, insomnia, and eating disorders

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**Background:** Mental multimorbidity (co-occurrence of multiple mental disorders) is common yet understudied. Growing evidence from nutritional epidemiology and psychiatry points to a significant role of the diet in the etiology and prevention of mental disorders. However, the relationships between dietary patterns and combinations of these conditions remain poorly described.

**Aims:** To describe sex-specific macronutrient, caffeine and water intake according to mental health status, focusing on isolated and comorbid anxiety, insomnia, and eating disorders (ED).

**Methods:** Data used were collected during 2013-17 in the **NutriNet-Santé** cohort. Outcomes included general anxiety, chronic insomnia and ED, assessed with validated tools. Eight mental morbidity groups were studied: no mental morbidity, anxiety alone, insomnia alone, any ED alone, comorbid anxiety and insomnia, comorbid anxiety and ED, comorbid insomnia and ED, and multimorbid anxiety, insomnia, and ED. Data were weighted for sex-, age- and socioeconomic status to match the 2016 French Census distribution, and analyzed with ANOVA.

**Results:** Among **N=23965 adults**, 505 had anxiety-insomnia-ED multimorbidity.

- Weighted prevalence: **38.9% presented ≥1 mental disorder.**
- In all comorbid/multimorbid profiles, ♀ **were at higher risk than were** ♂
- Macronutrient intake : more linearly associated with degree of mental morbidity among men than among women.
- **Men with multimorbidity had the highest proportion of carbohydrates in the diet and the lowest intakes of proteins and various lipids.**
- **Caffeine intake: Highest in the multimorbidity group for both sexes;**
- Water intake: no dose-response relation with degree of mental morbidity.

**Conclusions:** Distinct sex-specific dietary patterns were observed across mental morbidity profiles. These findings may inform targeted nutritional prevention strategies and guide future research on dietary determinants of mental multimorbidity.



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