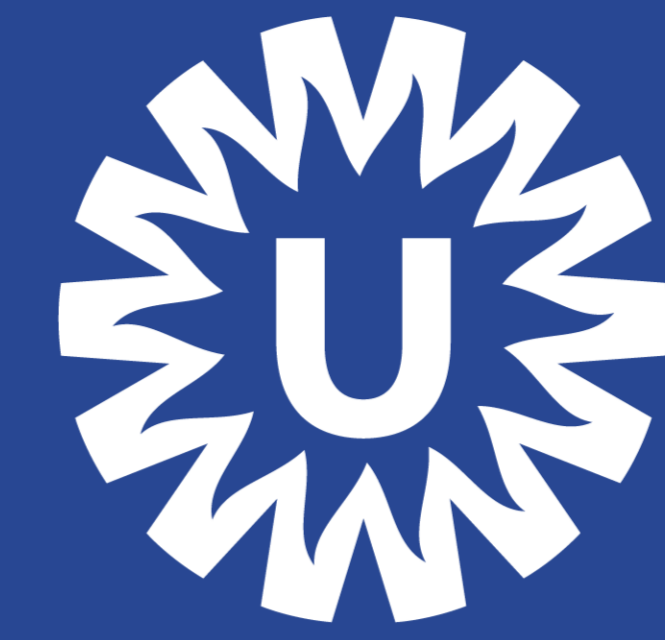


Urinary ethyl glucuronide concentrations as a biomarker of habitual alcohol consumption in the general population: A cross-sectional, population based study



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Introduction

Alcohol consumption: A frequently studied risk factor for chronic diseases.

Self-report as measure: relatively unreliable

New objective marker: **urinary ethyl glucuronide (EtG)**

Aim

To assess if urinary ethyl glucuronide is a reliable marker of **habitual** alcohol consumption in a large cohort

Compared to **self-report** and indirect **biomarkers**

Methods

Subjects: 5699 participants from the PREVEND cohort

Measurements:

- Urinary EtG, cut-off 100 ng/mL
- Self-report in 5 categories
- MCV and HDL measurements

Statistical Analysis:

- Specificity, sensitivity, positive and negative predictive value
- Multiple linear regression

Results

Table 1. Cross tabulation EtG level and self-report

Self-reported alcohol consumption	Interpretation EtG level	
	Positive (≥ 100 ng/ml)	Negative (<100 ng/ml)
No	7.7%	92.3%
Yes	67.1%	32.9%
<i>Stratified by alcohol consumption category</i>		
1-4/month	30.5%	69.5%
2-7/week	65.1%	34.9%
1-3/day	91.2%	8.8%
≥ 4 /day	92.8%	7.2%
Total	47.4%	52.6%

Sensitivity = 67.1%, Specificity = 92.3%

Table 2. Predictive value of EtG

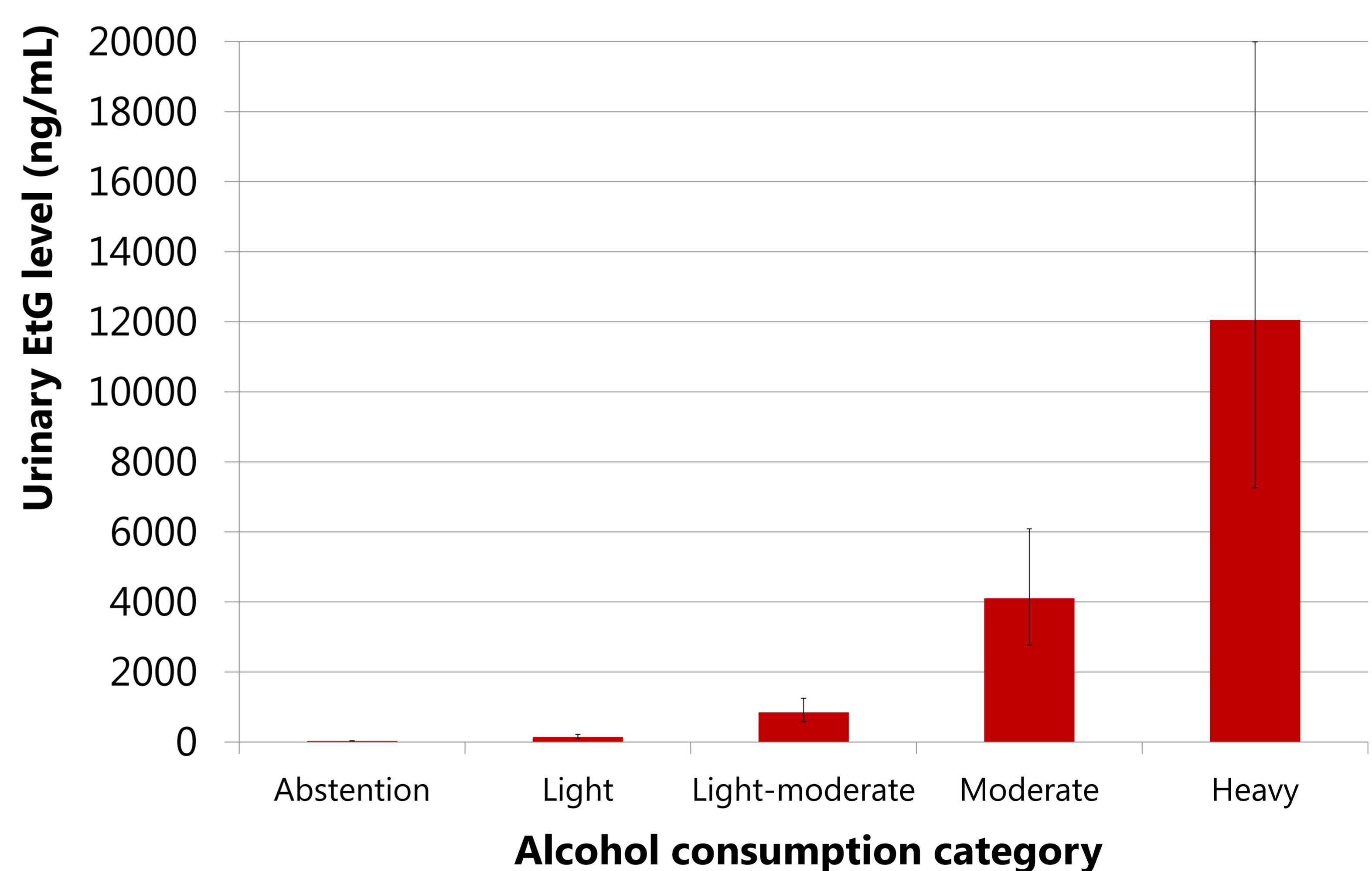
Positive predictive value	96.0%
Negative predictive value	47.6%
Proportion of positive agreement	79.1%
Proportion of negative agreement	63.0%

Regression coefficients indirect biomarkers:

HDL: 1.03 (1.02 – 1.03) mg/dL

MCV: 1.16 (1.14 – 1.18) fL

Fig 1. Association EtG level and self-report



Adjusted for age(years), sex and kidney function. P for trend < 0.001

Conclusion

Urinary EtG is a **reliable** objective biomarker of habitual alcohol consumption in the general population, especially when identifying **moderate** to **heavy** drinkers.