

## Supplementary Material

Figure S1. Flow-diagram of participants in the study, and reasons for exclusions.

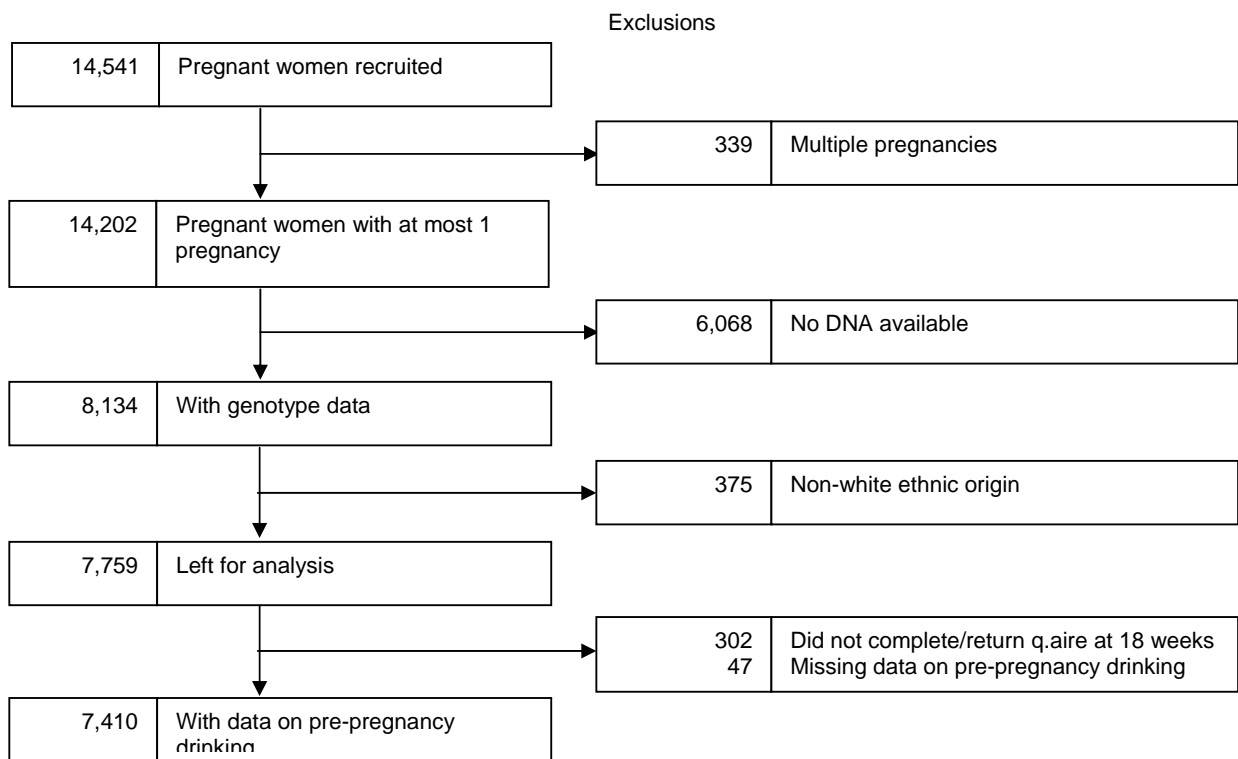


Table S2. Hardy-Weinberg equilibrium tests for the variants analysed.

Gene	SNP rs-number	Minor allele frequency	P-value*
<i>ADH4</i>	rs4699714	0.27	0.007
<i>ADH4</i>	rs3762894	0.16	0.280
<i>ADH4</i>	rs4148884	0.09	0.763
<i>ADH1A</i>	rs2866151	0.46	0.485
<i>ADH1A</i>	rs975833	0.24	0.433
<i>ADH1A</i>	rs1229966	0.36	0.589
<i>ADH1B</i>	rs2066701	0.29	0.908
<i>ADH1B</i>	rs4147536	0.21	0.943
<i>ADH1B</i>	rs1229984	0.02	0.800
<i>ADH7</i>	rs284779	0.45	0.811

\* P-value for deviation from Hardy-Weinberg equilibrium

Table S3. SNP(s) included in the Bayesian models for the three alcohol phenotypes examined – models with posterior probability of more than 1% (for more details, see (1,2)).

Probability	SNP included*										
	rs4699714	rs3762894	rs4148884	rs2866151	rs975833	rs1229966	rs2066701	rs4147536	rs1229984	rs284779	Null model
<i>Weekly intake before pregnancy</i>											
0.53									•		
0.40											•
<i>Binge drinking during pregnancy</i>											
0.58									•		
0.39											•
<i>Weekly intake in first trimester</i>											
0.88											•
0.08									•		

\* All SNPs coded in three levels (common and rare homozygotes and heterozygotes) except from rs1229984, coded in two levels only (dominant model)

Table S4. Association between selected participants and partners characteristics and the rs1229984\*A allele (*ADH1B*) and maternal alcohol drinking before pregnancy – dominant effect.

	Prevalence in A allele carriers	Prevalence in A allele non-carriers	OR (95% CI)	P-value	Prevalence in occasional drinkers*	Prevalence in drinkers**	OR (95% CI)	P-value
<i>Mother</i>								
Age at delivery ( $\geq 28$ years old Vs younger)	51%	47%	1.19 (0.96, 1.48)	0.105	44%	51%	0.75 (0.68, 0.83)	<0.0001
Smoking pre-pregnancy (yes Vs no)	28%	32%	0.81 (0.63, 1.03)	0.091	27%	34%	0.71 (0.64, 0.79)	<0.0001
Heavy smoking pre-pregnancy (15+ cigs/d Vs less)	46%	52%	0.79 (0.52, 1.20)	0.266	54%	50%	1.18 (0.99, 1.42)	0.063
Overweight pre-pregnancy (BMI 25+)	18%	22%	0.82 (0.61, 1.10)	0.180	23%	19%	1.27 (1.12, 1.43)	0.0002
O-level education at most (yes Vs no)	61%	64%	0.86 (0.69, 1.08)	0.205	70%	58%	1.72 (1.55, 1.92)	<0.0001
Manual worker (IIIb-5 Vs I-IIIa)	53%	50%	1.09 (0.87, 1.37)	0.466	45%	56%	0.65 (0.58, 0.72)	<0.0001
<i>Partner</i>								
Ever had alcoholism (yes Vs no)	1%	3%	0.48 (0.15, 1.52)	0.211	2%	3%	0.79 (0.53, 1.18)	0.250
Drinks 1+ units/d pre-pregnancy (yes Vs no)	21%	24%	0.84 (0.62, 1.14)	0.255	11%	32%	0.26 (0.22, 0.30)	<0.0001

\* Women reporting drinking <1 unit/week;

\*\* Women reporting drinking  $\geq 1$  units/week

Table S5. Association between symptoms of sickness / aversions and presence of the rs1229984\*A allele (*ADH1B*) and drinking cessation during the first trimester.

	Prevalence in A allele carriers	Prevalence in non-carriers	OR (95% CI)	P-value	Prevalence in quitters	Prevalence in non-quitters	OR (95% CI)	P-value
Went off tea	24%	23%	1.08 (0.83, 1.41)	0.563	26%	20%	1.41 (1.25, 1.59)	<0.0001
Went off coffee	37%	36%	1.04 (0.82, 1.31)	0.751	40%	35%	1.23 (1.11, 1.36)	0.0001
Went off cola	8%	8%	0.97 (0.64, 1.46)	0.884	10%	7%	1.54 (1.29, 1.84)	<0.0001
Went off cigarettes	8%	8%	1.09 (0.72, 1.64)	0.687	7%	8%	0.88 (0.72, 1.06)	0.176
Went off alcohol	23%	23%	0.99 (0.75, 1.32)	0.972	28%	20%	1.53 (1.36, 1.72)	<0.0001
Nausea	71%	71%	1.00 (0.78, 1.27)	0.995	72%	71%	1.05 (0.95, 1.18)	0.342

Table S6. Association between rs1229984 (*ADH1B*) and alcohol intake in Europeans - sample results from published papers referenced in the Discussion.

Study	Sample size	Type of sample	Effect estimate	P-value
MacGregor (3)	4597	Twins	ns ("higher overall alcohol consumption" for non-carriers Vs A allele carriers)	$8.9 \times 10^{-8}$
Tolstrup (4)	9080	General population	OR of heavy drinking for GG Vs GA: 3.1 (1.7-5.7)	ns
Sherva (5)	1588	General population	Max number of drinks decreases by 17% for each copy of the A allele	0.0004
Zhang (6)	428	General population	Total drink years- A carriers: 7.60 (sd 14.90), non-carriers: 14.92 (sd 29.91)	0.09
Wall (7)	267	College students	Max number of drinks- A carriers: 7.9 (sd 4.45), non-carriers: 13.8 (sd 8.15)	0.01
Lilla (8)	1082	General population (women)	Mean daily alcohol consumption (g)- A carriers: 5.8 (sd 7.8), non-carriers: 7.2 (sd 9.1)	0.01
Loew (9)	1663	General population	Mean daily alcohol consumption (g)- A carriers: 8.5 (sd 5.1), non-carriers: 11.6 (sd 6.3)	0.1
Whitfield (10)	377	Twins	Various measures, A carriers consistently show lower figures	<0.05 for 6 of 8 tests

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