

Supplementary Table 1. Absolute dense breast area and non-dense breast area (least square means and their 95% confidence intervals) by alcohol consumption during different age intervals among premenopausal women.

Alcohol intake	No	Square root-transformed dense area		Square root-transformed non-dense area	
		Model 1 [†]	Model 2 [‡]	Model 1 [†]	Model 2 [‡]
Ages 15-17, g/day					
0	942	9.4 (9.3, 9.6)	9.4 (8.9, 9.9)	11.7 (11.6, 11.9)	11.4 (10.9, 11.8)
>0 - <5	159	9.0 (8.6, 9.3)	8.9 (8.4, 9.5)	11.9 (11.6, 12.3)	11.6 (11.1, 12.1)
≥5	110	9.4 (8.9, 9.9)	9.4 (8.7, 10.1)	12.0 (11.5, 12.4)	11.6 (11.0, 12.2)
		P _{trend} =0.99	P _{trend} =0.92	P _{trend} =0.28	P _{trend} =0.30
Ages 18-22, g/day					
0	307	9.3 (9.1, 9.6)	9.2 (8.7, 9.8)	11.5 (11.2, 11.8)	11.1 (10.6, 11.6)
>0 - <5	385	9.4 (9.1, 9.6)	9.3 (8.8, 9.8)	11.8 (11.5, 12.0)	11.4 (10.8, 11.9)
≥5 - <10	394	9.3 (9.1, 9.6)	9.3 (8.8, 9.8)	12.0 (11.8, 12.2)	11.6 (11.1, 12.1)
≥10	125	9.4 (9.0, 9.9)	9.4 (8.7, 10.0)	11.8 (11.4, 12.2)	11.5 (10.9, 12.1)
		P _{trend} =0.81	P _{trend} =0.73	P _{trend} =0.20	P _{trend} =0.10
Ages 23-30, g/day					
0	280	9.2 (8.9, 9.5)	9.2 (8.6, 9.7)	11.7 (11.4, 12.0)	11.3 (10.8, 11.9)
>0 - <5	475	9.5 (9.3, 9.7)	9.5 (9.0, 10.0)	11.8 (11.6, 12.0)	11.4 (10.9, 11.9)
≥5 - <10	387	9.2 (8.9, 9.4)	9.2 (8.7, 9.7)	11.8 (11.6, 12.1)	11.5 (11.0, 12.0)
≥10	69	9.7 (9.1, 10.3)	9.6 (8.8, 10.3)	11.9 (11.3, 12.4)	11.6 (10.8, 12.3)
		P _{trend} =0.75	P _{trend} =0.88	P _{trend} =0.57	P _{trend} =0.31
Ages 31-at mammogram, g/day					
0	260	9.1 (8.8, 9.4)	9.0 (8.5, 9.6)	11.7 (11.4, 12.0)	11.4 (10.8, 11.9)
>0 - <5	660	9.4 (9.2, 9.6)	9.3 (8.9, 9.8)	11.8 (11.6, 11.9)	11.4 (10.9, 11.9)
≥5 - <10	166	9.3 (8.9, 9.6)	9.2 (8.6, 9.8)	11.8 (11.5, 12.2)	11.5 (11.0, 12.1)
≥10	124	9.6 (9.1, 10.0)	9.5 (8.8, 10.1)	11.8 (11.5, 12.2)	11.5 (10.9, 12.1)
		P _{trend} =0.39	P _{trend} =0.43	P _{trend} =0.66	P _{trend} =0.49

[†] adjusted for age (continuous) and BMI (continuous) at mammogram

[‡] further adjusted for parity, breast cancer in first-degree relative(s), benign breast disease, and use of oral contraceptives, all at or close to mammogram, as well as age at menarche, age at first pregnancy, and BMI at age 18

Supplementary Table 2. Absolute dense breast area and non-dense area (least square means and 95% confidence intervals) by cumulative average consumption of alcohol prior to and after first full-term pregnancy[†] among premenopausal women.

Alcohol intake	No. of women	Square root-transformed dense area		Square root-transformed non-dense area	
		Model 1 [‡]	Model 2 [§]	Model 1 [‡]	Model 2 [§]
Before first pregnancy, g/day					
0	187	9.4 (9.0, 9.8)	9.5 (8.8, 10.1)	11.5 (11.1, 11.9)	11.5 (10.9, 12.0)
>0 - <5	566	9.2 (9.0, 9.4)	9.3 (8.8, 9.8)	11.9 (11.7, 12.1)	11.9 (11.4, 12.3)
≥5 - <10	153	9.3 (8.8, 9.7)	9.3 (8.7, 9.9)	11.9 (11.5, 12.2)	11.9 (11.4, 12.5)
≥10	80	9.8 (9.2, 10.3)	9.8 (9.1, 10.5)	11.6 (11.1, 12.1)	11.7 (11.0, 12.3)
		P _{trend} =0.24	P _{trend} =0.26	P _{trend} =0.93	P _{trend} =0.77
After first pregnancy, g/day					
0	218	9.2 (8.9, 9.6)	9.2 (8.6, 9.8)	11.7 (11.3, 12.0)	11.7 (11.2, 12.3)
>0 - <5	548	9.3 (9.1, 9.5)	9.3 (8.8, 9.8)	11.9 (11.7, 12.1)	11.9 (11.4, 12.3)
≥5 - <10	142	9.5 (9.1, 10.0)	9.6 (8.9, 10.2)	11.7 (11.4, 12.1)	11.8 (11.2, 12.4)
≥10	65	9.4 (8.7, 10.0)	9.3 (8.5, 10.1)	11.6 (11.0, 12.1)	11.7 (11.0, 12.4)
		P _{trend} =0.44	P _{trend} =0.51	P _{trend} =0.47	P _{trend} =0.72

[†] Full-term pregnancy was defined as a pregnancy lasting at least six months.

[‡] adjusted for age (continuous) and BMI (continuous) at mammogram

[§] further adjusted for breast cancer in first-degree relative(s), benign breast disease, and use of oral contraceptives, all at or close to mammogram, as well as age at menarche, age at first pregnancy, and BMI at age 18

Supplementary Table 3. Percent mammographic density, dense area, and non-dense area (least square means[†] and 95% confidence intervals) for cumulative average consumption of alcohol before and after first full-term pregnancy[‡] among premenopausal women stratified by BMI at mammogram

BMI, kg/m ²	alcohol intake	No. of women	Percent density (%)	Square root-transformed dense area	Square root-transformed non-dense area
Before first pregnancy					
<25	0	94	49.3 (46.3, 52.3)	9.9 (9.5, 10.4)	10.1 (9.7, 10.6)
	<5	310	46.3 (44.6, 48.0)	9.6 (9.3, 9.9)	10.4 (10.2, 10.6)
	5-9	86	47.0 (43.8, 50.2)	9.6 (9.0, 10.1)	10.1 (9.6, 10.5)
	10	50	47.6 (43.5, 51.6)	9.7 (9.2, 10.2)	10.5 (9.8, 11.1)
			P _{trend} =0.98	P _{trend} =0.80	P _{trend} =0.96
≥25	0	93	32.7 (29.2, 36.1)	8.8 (8.2, 9.4)	13.2 (12.6, 13.7)
	<5	256	30.3 (28.6, 32.0)	8.8 (8.5, 9.1)	13.7 (13.4, 14.0)
	5-9	67	30.7 (27.2, 34.2)	8.9 (8.3, 9.5)	13.8 (13.2, 14.4)
	10	30	37.0 (31.6, 42.4)	10.0 (9.0, 11.1)	13.1 (12.4, 13.8)
			P _{trend} =0.18	P _{trend} =0.05	P _{trend} =0.88
			P _{interaction} =0.17	P _{interaction} =0.04	P _{interaction} =0.64
After first pregnancy					
<25	0	113	47.4 (44.7, 50.2)	9.7 (9.3, 10.2)	10.3 (9.9, 10.7)
	<5	281	46.6 (44.9, 48.3)	9.6 (9.3, 9.8)	10.3 (10.1, 10.6)
	5-9	89	49.2 (45.9, 52.5)	9.9 (9.4, 10.4)	10.1 (9.7, 10.6)
	10	46	46.0 (41.8, 50.2)	9.6 (9.0, 10.2)	10.5 (9.9, 11.1)
			P _{trend} =0.89	P _{trend} =0.79	P _{trend} =0.86
≥25	0	105	31.6 (28.5, 34.7)	8.7 (8.2, 9.2)	13.3 (12.8, 13.9)
	<5	267	30.8 (29.1, 32.4)	8.9 (8.6, 9.2)	13.7 (13.4, 14.0)
	5-9	53	32.2 (28.0, 36.5)	9.1 (8.3, 9.9)	13.7 (13.1, 14.4)
	10	19	34.5 (28.1, 41.0)	9.2 (7.9, 10.6)	12.7 (11.9, 13.5)
			P _{trend} =0.31	P _{trend} =0.38	P _{trend} =0.30
			P _{interaction} =0.68	P _{interaction} =0.50	P _{interaction} =0.62

[†] adjusted for age (continuous) and BMI (continuous) at mammogram

[‡] Full-term pregnancy was defined as a pregnancy lasting at least six months.

Supplementary Table 4. Percent mammographic density, dense area, and non-dense area (least square means and 95% confidence intervals) by patterns of alcohol consumption, defined by a combination of drinking prior to and after first full-term pregnancy[†], among premenopausal women.

Alcohol consumption		No. of women	Percent density (%)		Square root-transformed dense area		Square root-transformed non-dense area	
Before first pregnancy, g/day	After first pregnancy, g/day		Model 1 [‡]	Model 2 [§]	Model 1 [‡]	Model 2 [§]	Model 1 [‡]	Model 2 [§]
0	0	133	41.7 (38.9, 44.5)	41.2 (37.0, 45.3)	9.3 (8.9, 9.8)	9.4 (8.6, 10.1)	11.4 (11.0, 11.9)	11.5 (10.8, 12.1)
0	>0	52	41.4 (37.0, 45.9)	42.1 (36.6, 47.5)	9.6 (8.8, 10.5)	9.8 (8.8, 10.8)	11.7 (11.1, 12.3)	11.6 (10.8, 12.3)
>0	0	85	38.1 (34.8, 41.4)	37.0 (32.8, 41.3)	9.1 (8.5, 9.7)	9.1 (8.3, 9.8)	12.0 (11.5, 12.5)	12.1 (11.4, 12.8)
>0-<5	>0-<5	389	39.3 (37.8, 40.8)	39.1 (36.0, 42.3)	9.3 (9.0, 9.5)	9.3 (8.8, 9.9)	11.9 (11.7, 12.1)	11.9 (11.4, 12.4)
>0-<5	≥5	92	39.9 (36.8, 43.1)	39.6 (35.7, 43.5)	9.3 (8.7, 9.8)	9.3 (8.6, 10.0)	11.8 (11.3, 12.2)	11.8 (11.2, 12.4)
≥5 - <10	>0-<5	84	38.2 (35.1, 41.2)	37.7 (33.7, 41.7)	9.1 (8.5, 9.6)	9.1 (9.0, 10.9)	11.9 (11.4, 12.4)	11.9 (11.3, 12.5)
≥5 - <10	≥5 - <10	41	41.7 (36.9, 46.5)	41.1 (35.6, 46.5)	9.9 (9.1, 10.7)	9.9 (9.0, 10.9)	12.0 (11.3, 12.8)	12.1 (11.2, 12.9)
≥10	>0-<10	52	42.2 (38.2, 46.2)	41.8 (37.0, 46.6)	9.5 (8.9, 10.1)	9.6 (8.8, 10.4)	11.5 (10.9, 12.2)	11.6 (10.8, 12.3)
≥5	≥10	45	40.9 (36.2, 45.5)	39.3 (34.1, 44.5)	9.4 (8.6, 10.1)	9.3 (8.4, 10.2)	11.5 (10.8, 12.2)	11.7 (10.9, 12.5)

[†] Full-term pregnancy was defined as a pregnancy lasting at least six months.

[‡] adjusted for age (continuous) and BMI (continuous) at mammogram

[§] further adjusted for breast cancer in first-degree relative(s), benign breast disease, and use of oral contraceptives, all at or close to mammogram, as well as age at menarche, age at first pregnancy, and BMI at age 18