

Tables – Maternal alcohol and tobacco consumption and the association with their 9-14 years old children’s Body Mass Index

Table 1 – Characteristics of children and mothers by categories of the children’s Body Mass Index (BMI) groups

		Children’s BMI groups						Total		p-value ^a
		underweight		normal		overweight + obese				
		n	%	n	%	n	%	n	%	
Characteristics of children										
Gender	girl	283	59.1%	1742	51.6%	326	48.4%	2351	52.0 %	0,001
	boy	196	40.9%	1631	48.4%	347	51.6%	2174	48.0 %	
Puberty	pre-puberty	191	48.4%	1051	38.5%	173	32.4%	1415	38.7 %	<0,001
	puberty	204	51.6%	1676	61.5%	361	67.6%	2241	61.3 %	
Characteristics of mothers										
Education attainment	low education attainment	225	47.1%	1506	44.9%	371	55.5%	2102	46.7 %	<0,001
	high education attainment	253	52.9%	1846	55.1%	298	44.5%	2397	53.3 %	
BMI groups	underweight	22	4.6%	60	1.8%	2	0.3%	84	1.9 %	<0,001
	normal	342	71.4%	2043	60.7%	240	35.8%	2625	58.1 %	
	overweight	82	17.1%	894	26.5%	235	35.0%	1211	26.8 %	
	obese	33	6.9%	371	11.0%	194	28.9%	598	13.2%	
Tobacco consumption	never smokers	282	58.9%	1699	50.4%	307	45.6%	2288	50.6 %	<0,001
	former smokers	142	29.6%	1232	36.5%	242	36.0%	1616	35.7 %	
	current smokers	55	11.5%	442	13.1%	124	18.4%	621	13.7 %	
Alcohol consumption (AUDIT score)	low-moderate drinkers (1-4)	322	67.2%	2197	65.1%	424	63.0%	2943	65.0 %	0,040
	abstainers (0)	73	15.2%	416	12.3%	84	12.5%	573	12.7 %	
	harmful drinkers (≥5)	84	17.5%	760	22.5%	165	24.5%	1009	22.3 %	

^a results for Chi-square test

Table 2 - Risk relative (RR) and confidence intervals (CI) for mothers' alcohol and tobacco consumption related to children's Body Mass Index (BMI) groups

	Children's BMI groups ^a											
	Normal		Underweight		Comparison normal x underweight			Overweight + obese		Comparison normal x overweight		
	n	%	n	%	RR	(95% CI)	p-value	n	%	RR	(95% CI)	p-value
Mothers' tobacco consumption												
never smokers	1699	50.4%	282	58.9%	1			307	45.6%	1		
former smokers	1232	36.5%	142	29.6%	0.70	(0.56-0.87)	0.001	242	36.0%	1.05	(0.87-1.28)	0.603
current smokers	442	13.1%	55	11.5%	0.82	(0.59-1.14)	0.243	124	18.4%	1.36	(1.05-1.76)	0.021
Mothers' alcohol consumption (AUDIT score)												
low-moderate drinkers (1-4)	2197	65.1%	322	67.2%	1			424	63.0%	1		
Abstainers (0)	416	12.3%	73	15.2%	1.27	(0.96-1.68)	0.097	84	12.5%	0.94	(0.72-1.23)	0.630
harmful drinkers (≥ 5)	760	22.5%	84	17.5%	0.82	(0.63-1.06)	0.131	165	24.5%	1.00	(0.81-1.23)	0.969

^a Variables in the models: Children's gender, age, language; Mothers' age, BMI, education attainment, tobacco, alcohol.

Table 3 - Risk relative (RR) and confidence intervals (CI) for mothers' alcohol and tobacco consumption related to children's Body Mass Index (BMI) groups stratified by education attainment ^{b, c}

	Children's BMI groups											
	Normal		Underweight		Comparison normal x underweight			Overweight + obese		Comparison normal x overweight		
	n	%	n	%	RR	(95% CI)	p-value	n	%	RR	(95% CI)	p-value
Model for low education attainment ^a												
Mothers' tobacco consumption												
never smokers	601	39.9%	111	49.3%	1			140	37.7%	1		
former smokers	599	39.8%	81	36.0%	0.75	(0.55-1.02)	0.070	134	36.1%	0.97	(0.74-1.28)	0.851
current smokers	306	20.3%	33	14.7%	0.65	(0.42-1.00)	0.052	97	26.1%	1.40	(1.02-1.93)	0.038
Mothers' alcohol consumption (AUDIT score)												
low-moderate drinkers (1-4)	929	61.7%	141	62.7%	1			225	60.6%	1		
Abstainers (0)	208	13.8%	38	16.9%	1.34	(0.90-2.00)	0.156	55	14.8%	1.01	(0.71-1.44)	0.945
harmful drinkers (≥5)	369	24.5%	46	20.4%	0.94	(0.65-1.36)	0.744	91	24.5%	0.90	(0.68-1.20)	0.476
Model for high education attainment ^a												
Mothers' tobacco consumption												
never smokers	1085	58.8%	170	67.2%	1			165	55.4%	1		
former smokers	630	34.1%	61	24.1%	0.64	(0.47-0.87)	0.005	107	35.9%	1.15	(0.88-1.52)	0.312
current smokers	131	7.1%	22	8.7%	1.21	(0.74-1.99)	0.457	26	8.7%	1.18	(0.73-1.90)	0.509
Mothers' alcohol consumption (AUDIT score)												
low-moderate drinkers (1-4)	1254	67.9%	180	71.1%	1			196	65.8%	1		
Abstainers (0)	206	11.2%	35	13.8%	1.21	(0.81-1.80)	0.351	28	9.4%	0.84	(0.54-1.29)	0.411
harmful drinkers (≥5)	386	20.9%	38	15.0%	0.71	(0.49-1.04)	0.082	74	24.8%	1.13	(0.83-1.54)	0.425

^a Variables in the models: Children's gender, age, language; Mothers' age, BMI, tobacco, alcohol.

^b likelihood ratio test to evaluate models with and without interaction between mothers' tobacco consumption and mothers' education attainment: p=0,004.

^c likelihood ratio test to evaluate models with and without interaction between mothers' alcohol consumption and mothers' education attainment: p=0,054.

Table 4 - Risk relative (RR) and confidence intervals (CI) for the mothers' alcohol and tobacco consumption related to children's Body Mass Index (BMI) groups stratified by puberty stage^{b, c}

	Children's BMI groups											
	Normal		Underweight		Comparison normal x underweight			Overweight + obese		Comparison normal x overweight		
	n	%	n	%	RR	(95% CI)	p-value	n	%	RR	(95% CI)	P-value
Model for children in pre-puberty^a												
Mothers' tobacco consumption												
never smokers	497	47.3%	110	57.6%	1			68	39.3%	1		
former smokers	422	40.2%	61	31.9%	0.66	(0.46-0.93)	0.018	69	39.9%	1.16	(0.80-1.68)	0.443
current smokers	132	12.6%	20	10.5%	0.82	(0.47-1.43)	0.479	36	20.8%	1.51	(0.92-2.49)	0.102
Mothers' alcohol consumption (AUDIT score)												
low-moderate drinkers (1-4)	683	65.0%	126	66.0%	1			104	60.1%	1		
Abstainers (0)	145	13.8%	29	15.2%	1.14	(0.72-1.80)	0.576	19	11.0%	0.79	(0.46-1.36)	0.396
harmful drinkers (≥ 5)	223	21.2%	36	18.8%	0.95	(0.63-1.45)	0.813	50	28.9%	1.20	(0.81-1.77)	0.359
Model for children in puberty^a												
Mothers' tobacco consumption												
never smokers	865	51.6%	120	58.8%	1			173	47.9%	1		
former smokers	598	35.7%	59	28.9%	0.74	(0.53-1.03)	0.078	122	33.8%	0.92	(0.70-1.20)	0.522
current smokers	213	12.7%	25	12.3%	0.92	(0.57-1.50)	0.741	66	18.3%	1.37	(0.96-1.97)	0.085
Mothers' alcohol consumption (AUDIT score)												
low-moderate drinkers (1-4)	1097	65.5%	133	65.2%	1			239	66.2%	1		
Abstainers (0)	182	10.9%	33	16.2%	1.57	(1.03-2.41)	0.036	42	11.6%	0.85	(0.58-1.27)	0.431
harmful drinkers (≥ 5)	397	23.7%	38	18.6%	0.86	(0.59-1.28)	0.462	80	22.2%	0.84	(0.62-1.13)	0.243

^a Variables in the models: Children's gender, age, language; Mothers' age, BMI, education attainment, tobacco, alcohol.

^b likelihood ratio test to evaluate models with and without interaction between mothers' tobacco consumption and children's puberty stage: $p < 0.001$.

^c likelihood ratio test to evaluate models with and without interaction between mothers' alcohol consumption and children's puberty stage: $p < 0.001$.