

Online Data Supplement

The impact of preschool wheezing patterns on health-related quality of life at age 4 years

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Table S1. Non-response analyses (n=7295)

Characteristics	Population for analysis*		p Value†	
		(n=3878)		Excluded population‡ (n=3417)
<i>Maternal characteristics</i>				
Age at enrolment (years)		31.7 (4.4)	29.2 (5.5)	< 0.001
Educational level	Low	737 (14.9)	737 (39.8)	< 0.001
	Middle	1367 (27.7)	638 (34.5)	
	High	283 (57.4)	476 (25.7)	
Household income (€/month)	< 1600	598 (14.4)	177 (34.2)	< 0.001
	≥ 1600	3563 (85.6)	341 (65.8)	
Ethnicity	Dutch	3186 (64.9)	601 (32.3)	< 0.001
	Other western	714 (14.6)	372 (20.2)	
	Non-western	1007 (20.5)	890 (47.8)	
Single motherhood	Yes	408 (8.5)	401 (22.0)	< 0.001
Smoking during pregnancy	Yes	927 (22.7)	502 (29.2)	< 0.001
Atopy	Yes	1689 (39.2)	635 (38.9)	0.857
Psychopathology	Highest tertile	1228 (32.3)	457 (40.9)	< 0.001
	Middle tertile	1221 (32.1)	324 (29.0)	
	Lowest tertile	1354 (35.6)	335 (30.0)	
<i>Child's characteristics</i>				
Gender	Boy	2516 (49.8)	1165 (52.0)	0.087
Gestational age (weeks)		39.9 (1.8)	39.8 (1.8)	0.007
Birth weight (grams)		3448 (566)	3362 (574)	< 0.001
Respiratory tract infections	Yes	1755 (43.0)	336 (43.3)	0.083
Postnatal tobacco smoke exposure	Yes	854 (17.1)	76 (21.5)	0.033
Doctor-diagnosed asthma	Yes	168 (3.9)	38 (5.9)	0.021
Wheezing at the age of 1 year	Yes	1261 (30.3)	240 (29.4)	0.611
Wheezing at the age of 2 years	Yes	1003 (20.1)	86 (24.5)	0.049
Wheezing at the age of 3 years	Yes	533 (12.4)	111 (17.0)	0.001
Wheezing at the age of 4 years	Yes	530 (12.5)	115 (16.9)	0.001

Values are absolute numbers (percentages) for categorical variables or means (standard deviation) for continuous variables. Data on wheezing pattern and at least one health related quality of life (HRQOL) scale is available. *Exclusion due to missing information on wheezing pattern or on all HRQOL scales in cohort with full consent for postnatal follow-up. †UNIANOVA for continuous variables and Chi-square tests for categorical variables.

Table S2. Adjusted associations between frequency of wheezing and HRQOL at age 4 years (n=3878)

<i>CHQ-PF28 Scale</i>	<i>No wheezing N=3330 (86.8%)</i>	<i>1-3 episodes of wheezing N=417 (10.9%)</i>	<i>≥ 4 episodes of wheezing N=88 (2.3%)</i>
Physical functioning	Reference	-1.8 (-2.9; -0.7)	-5.5 (-7.7; -3.3)
Role functioning: emotional	Reference	-0.7 (-1.7; 0.3)	-3.9 (-5.9; -1.9)
Role functioning: physical	Reference	-1.3 (-2.5; -0.1)	-6.4 (-8.8; -3.9)
Bodily pain	Reference	-3.4 (-5.2; -1.6)	-10.8 (-14.5; -7.1)
General behaviour	Reference	-0.1 (-1.6; 1.4)	-4.6 (-7.7; -1.5)
Mental health	Reference	-0.9 (-2.3; 0.5)	-1.6 (-4.6; 1.3)
Self esteem	Reference	0.9 (-0.7; 2.4)	-2.5 (-5.6; 0.7)
General health perceptions	Reference	-7.2 (-8.6; -5.7)	-23.7 (-26.7; -20.7)
Parental impact: emotional	Reference	-2.1 (-3.6; -0.6)	-11.6 (-14.7; -8.6)
Parental impact: time	Reference	-1.7 (-3.1; -0.2)	-8.8 (-11.7; -5.9)
Family activities	Reference	-0.2 (-2.0; 1.5)	-8.9 (-12.5; -5.3)
Family cohesion	Reference	-1.6 (-3.5; 0.3)	-1.1 (-5.0; 2.7)
Physical summary score	Reference	-2.3 (-3.0; -1.6)	-7.6 (-8.9; -6.3)
Psychosocial summary score	Reference	0.0 (-0.7; 0.6)	-2.1 (-3.5; -0.8)
Change in health	Reference	5.5 (3.6; 7.3)	2.6 (-1.2; 6.3)

Values are regression coefficients and 95% confidence intervals estimated by linear regression models. Frequency of wheezing symptoms (never; 1-3 times; ≥ 4 times) in the 4th year of life was assessed by a parent-reported question from the ISAAC (14). Data on frequency of wheezing is missing in 43 children. Each wheezing subgroup is compared to children without wheezing at the age of 4 years. The models are adjusted for covariates (including potential confounders): maternal age, maternal educational level and maternal ethnicity, household income, single motherhood, smoking during pregnancy, maternal atopy, maternal psychopathology, child's gender, gestational age and birth weight, child's exact age at measurement of HRQOL and child's exposure to tobacco smoking. Scales are analysed combined using the Physical Summary Score and Psychosocial Summary Score. Bold numbers indicate a significant difference in HRQOL score relative to the reference group. CHQ-PF28 = Child Health Questionnaire Parental Form. See table 1 in the manuscript for the definition of the scales.