

Table S1. Comparison between the characteristics of the eligible participants and the remaining cohort evaluated at baseline* (Number of participants and percentages; median and interquartile range).

	Sample [‡] (n = 335)		Remaining Cohort [§] (n = 8312)		
	n	%	n	%	<i>p</i>
Gestational age					
n (%)					
<37 weeks	12	4.4	616	9.4	
≥37 weeks	259	95.6	5971	90.6	0.006
Weight at birth (g)					
Median	3240		3190		
(IQR)	(2910-3530)		2880-3490		0.074
Mothers' age (years)					
Median	29		29		
(IQR)	(25-33)		(25-33)		0.536
Maternal education					
n (%)					
≤9 years	160	48.0	4068	49.3	
10-12 years	101	30.3	2199	26.6	0.278
>12 years	72	21.6	1991	24.1	
Monthly household income					
n (%)					
Low: ≤1000€	108	33.2	2021	31.8	
Intermediate: 1001-1500€	91	28.0	1750	27.6	0.906
High: >1500€	126	38.8	2575	40.6	

*For each variable, the total may not add to 335/8312 due to missing data.

[‡]Children who attended the dental examination at 7 years of age, had permanent teeth erupted and had a blood sample collected.

[§]Cohort evaluated at baseline.

IQR, Interquartile Range

Scheme S2. Table. Dose-response association between 25(OH) D levels and children's activities at 7 years of age (children's weekly minutes spent reading, watching TV, and doing outdoor activities).

	Vitamin D (ng/ml) vs Reading (min/week)	Vitamin D (ng/ml) vs Watching TV (min/week)	Vitamin D (ng/ml) vs Reading and watching TV (min/week)	Vitamin D (ng/ml) vs Doing outdoor activities (min/week)
n	334	334	334	333
<i>p</i>	0.625	0.300	0.194	0.031
<i>r_s</i>	-0.027	-0.057	-0.071	0.118

Bold entries denote statistical significance ($p < 0.05$).

r_s, Spearman's correlation coefficient.

Table S3. Bivariate analysis between dental caries and advanced dental caries in mixed dentition and permanent teeth with independent (exposure) variables.

	Dental Caries Status						Advanced Dental Caries					
	Mixed Dentition (d ₁₋₆ mft and D ₁₋₆ MFT)			Permanent Teeth (D ₁₋₆ MFT)			Mixed Dentition (d ₃₋₆ mft and D ₃₋₆ MFT)			Permanent Teeth (D ₃₋₆ MFT)		
	No n (%)	Yes n (%)	<i>p</i>	No n (%)	Yes n (%)	<i>p</i>	No n (%)	Yes n (%)	<i>p</i>	No n (%)	Yes n (%)	<i>p</i>
Gestational age												
<37 weeks	4 (4.0)	8 (4.7)	1.000	8 (3.9)	4 (6.1)	0.494	4 (3.8)	8 (4.8)	0.771	9 (4.1)	3 (5.7)	0.708
≥37 weeks	95 (96)	164 (95.3)		197 (96.1)	62 (93.9)		101 (96.2)	158 (95.2)		209 (95.9)	50 (94.3)	
Weight at birth												
n	119	216		255	80		126	209		268	67	
Median	3215	3250	0.505	3255	3190	0.808	3212.5	3250	0.519	3250	3230	0.707
(IQR)	(2790-3535)	(2962.8-3512.5)		(2850-3530)	(3012.5-3478.8)		(2807.5-3531.3)	(2957.5-3525)		(2882.5-3530)	(3000-3485)	
Maternal education												
≤ 9 years	46 (38.7)	114 (53.3)	0.002	109 (43.1)	51 (63.8)	0.001	49 (38.9)	111 (53.6)	0.003	117 (44.0)	43 (64.2)	0.004
10-12 years	35 (29.4)	66 (30.8)		78 (30.8)	23 (28.8)		38 (30.2)	63 (30.4)		83 (31.2)	18 (26.9)	
>12 years	38 (31.9)	34 (15.9)		66 (26.1)	6 (7.5)		39 (31.0)	33 (15.9)		66 (24.8)	6 (9.0)	
Vitamin and drugs intake												
No	99 (83.9)	181 (84.6)	0.870	213 (83.9)	67 (85.9)	0.665	103 (82.4)	177 (85.5)	0.450	223 (83.8)	57 (86.4)	0.613
Yes	19 (16.1)	33 (14.5)		41 (16.1)	11 (14.1)		22 (17.6)	30 (14.5)		43 (16.2)	9 (13.6)	
Bone fracture												
No	114 (95.8)	199 (92.6)	0.243	237 (92.9)	76 (96.2)	0.297	120 (95.2)	193 (92.8)	0.371	249 (92.9)	64 (97.0)	0.224
Yes	5 (4.2)	16 (7.4)		18 (7.1)	3 (3.8)		6 (4.8)	15 (7.2)		19 (7.1)	2 (3.0)	
Gastrointestinal disorders												
No	114 (96.6)	208 (97.2)	0.748	249 (98)	73 (93.6)	0.059	120 (96.0)	202 (97.6)	0.511	261 (98.1)	61 (92.4)	0.030
Yes	4 (3.4)	6 (2.8)		5 (2.0)	5 (6.4)		5 (4.0)	5 (2.4)		5 (1.9)	5 (7.6)	
Kidney disease												
No	113 (95)	210 (98.1)	0.176	244 (96.1)	79 (100)	0.125	119 (94.4)	204 (98.6)	0.046	256 (96.2)	67 (100)	0.222
Yes	6 (5.0)	4 (1.9)		10 (3.9)	0 (0.0)		7 (5.6)	3 (1.4)		10 (3.8)	0 (0.0)	
Muscle disorders												
No	111 (94.9)	208 (97.2)	0.357	243 (96.0)	76 (97.4)	0.739	118 (95.2)	201 (97.1)	0.376	254 (95.8)	65 (98.5)	0.472
Yes	6 (5.1)	6 (2.8)		10 (4.0)	2 (2.6)		6 (4.8)	6 (2.9)		11 (4.2)	1 (1.5)	
Has the child ever been to the dentist?												
No	35 (30.7)	36 (17.6)	0.007	58 (24.2)	13 (16.5)	0.153	36 (30.0)	35 (17.6)	0.010	63 (24.9)	8 (12.1)	0.026
Yes	79 (69.3)	169 (82.4)		182 (75.8)	66 (83.5)		84 (70.0)	164 (82.4)		190 (75.1)	58 (87.9)	
Toothbrushing frequency												
< 1 time a day	35 (29.4)	83 (40.1)	0.136	89 (35.3)	29 (39.2)	0.295	37 (29.4)	81 (40.5)	0.088	93 (35.2)	25 (40.3)	0.088
1 time a day	35 (29.4)	56 (27.1)		67 (26.6)	24 (32.4)		36 (28.6)	55 (27.5)		69 (26.1)	22 (35.5)	
≥ 2 times a day	49 (41.2)	68 (32.9)		96 (38.1)	21 (28.4)		53 (42.1)	64 (32.0)		102 (38.6)	15 (24.2)	
Cariogenic food intake												
n	119	214		255	78		126	207		267	66	
Median	2.3	3.1	<0.001	2.6	3.0	0.050	2.3	3.1	<0.001	2.5	3.1	0.016
(IQR)	(1.7-3.3)	(2.1-4.3)		(1.9-3.9)	(2.1-4.3)		(1.7-3.4)	(2.1-4.3)		(1.9-3.9)	(2.2-4.3)	
Consumption of cariogenic drinks												
n	119	214		255	78		126	207		267	66	
Median	1.3	2.1	0.002	1.7	2.4	0.004	1.4	2.1	0.005	1.7	2.3	0.020
(IQR)	(0.8-3.0)	(1.3-3.2)		(1.0-3.0)	(1.4-3.6)		(0.8-3.0)	(1.3-3.2)		(1.0-3.1)	(1.3-3.5)	

Dental Caries Status							Advanced Dental Caries					
	Mixed Dentition (d ₁₋₆ mft and D ₁₋₆ MFT)			Permanent Teeth (D ₁₋₆ MFT)			Mixed Dentition (d ₃₋₆ mft and D ₃₋₆ MFT)			Permanent Teeth (D ₃₋₆ MFT)		
	No n (%)	Yes n (%)	<i>p</i>	No n (%)	Yes n (%)	<i>p</i>	No n (%)	Yes n (%)	<i>p</i>	No n (%)	Yes n (%)	<i>p</i>
z-BMI												
n	119	215		255	79		126	208		267	67	
Median	0.8	0.7	0.764	0.7	0.7	0.679	0.7	0.7	0.681	0.7	0.8	0.264
(IQR)	(0.1-1.5)	(-0.1-1.8)		(-0.1-1.6)	(0.0-2.0)		(0.1-1.5)	(-0.1-1.8)		(-0.1-1.6)	(0.0-2.2)	
Vitamin D												
n	119	216		255	80		126	209		268	67	
Median	27.0	26.0	0.425	27.0	25.0	0.086	27.0	26.0	0.233	27.0	25.0	0.088
(IQR)	(22.0-32.0)	(22.3-32.0)		(22.0-32.0)	(22.3-29.0)		(22.0-32.3)	(22-32.0)		(22.0-32.0)	(22.0-29.0)	

Bold entries denote statistical significance ($p<0.05$). Data are presented as proportions (%) for categorical measures and median values and interquartile range for continuous measures. Differences between groups were tested with Fisher’s exact test or chi-square test, respectively.