Supplementary Materials

Predictors of carotenoid status in New Zealand children using carotenoid reflection score: a cross-sectional study

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Supplementary Table 1. Characteristics of the 75 parents and caregivers who participated in the study

	Total	
	Number	%
Relationship to child		
Mother	11	15
Father	56	75
Other or unknown	8	11
Taking medication to control blood pressure		
Yes	3	4
Unknown	7	9
Highest qualification		
None	3	4
National certificate level 1 to 4	8	11
Trade certificate	4	5
Diploma or certificate level 5 or 6	15	20
Bachelor degree	26	35
Master's degree	8	11
PhD	3	4
Don't know or refused to answer	8	11
Household size		
Two to four	43	57
Five to seven	25	33
Unknown	7	9

Supplementary Table 2. Reported number of servings consumed each day of foods containing carotenoids overall and by gender†

	Girls (n=29)		Boys (n=37)		Gender not stated (n=9)		Total (n=75)	
	Number	%	Number	%	N	%	Number	%
Vegetables servings/day	29	100	37	100	2	23	68	91
None or less than 1	4	14	4	11	0	0	8	11
1	15	52	22	59	2	22	39	52
2	5	17	10	27	0	0	15	20
3 or more	5	17	1	3	0	0	6	8
Fruit servings/day	29	99.9	37	100	2	22	68	91
None or less than 1	3	10	4	11	0	0	7	9
1	3	10	4	11	0	0	7	9
2	14	48	14	38	0	0	28	37
3 or more	9	31	15	41	2	22	26	35
Dark green leafy vegetables/day	29	100	37	100	2	23	68	91
Less than 1	13	45	16	43	0	0	29	29
1	6	21	1	3	2	23	9	12
2	0	0	0	0	0	0	0	0
3	1	10	0	0	0	0	1	1
4 or more	0	0	0	0	0	0	0	0
They don’t eat dark green leafy vegetables	9	31	10	27	0	0	19	25
Carrots/pumpkin/day	29	100	37	100	2	23	68	91
None or less than 1	16	55	17	46	0	0	33	44
1	9	31	10	27	2	23	21	28
2	0	0	5	14	0	0	5	7
3	0	0	0	0	0	0	0	0
4 or more	0	0	0	0	0	0	0	0
They don’t eat carrot or pumpkin	4	14	5	14	0	0	9	12
Tomatoes/day	29	100	37	100	2	23	68	91
None or less than 1	7	24	18	49	0	0	25	33
1	12	41	10	27	0	0	22	29
2	1	10	0	0	0	0	1	1
3	0	0	0	0	0	0	0	0
4 or more	1	10	0	0	0	0	1	1
They don’t eat tomatoes	8	28	9	24	2	23	19	25

†Reported by the parent or caregiver. Values in bold rows relate to the number answering the question overall and within each gender group

Supplementary Table 3. Reported number of serving consumed each day of foods containing carotenoids overall and by gender presented as mean (SD)

Food frequency[†]	All (n=68)	Girls (n=29)	Boys (n=37)	Gender not stated (n=2)	Difference Girl – Boy (95% CI)	*p*-value
Vegetable servings/day	1.9 (1.1)	2.0 (1.3)	1.9 (1.0)	1.5 (0.71)	-0.1 (-0.6, 0.5)	0.87
Fruit servings/day	2.1 (1.1)	2.1 (1.0)	2.2 (1.1)	3.0 (0.0)	0.09 (-0.4, 0.6)	0.73
Dark green leafy vegetables/day	0.3 (0.6)	0.3 (0.7)	0.3 (0.5)	0.0 (0.0)	0.9 (-0.3, 0.3)	0.92
Carrots/pumpkin/day	0.5 (0.6)	0.5 (0.7)	0.3 (0.5)	1.0 (0.0)	0.23 (-0.1, 0.5)	0.13
Tomatoes/day	0.4 (0.7)	0.6 (0.9)	0.3 (0.5)	0.0 (0.0)	-0.4 (-0.7, 0.0)	0.54[‡]

[†]"4 or more servings per day" and "Less than 1 serving per day" were rounded down to 4 servings and 0 servings, respectively.
[‡]Pumpkin & tomato – equal variances no assumed.

Supplementary Table 4. Reported number of serving consumed each day of foods containing carotenoids overall and by gender presented as mean (SD)

	<10 years (n=32)	≥10 years (n=36)	Difference by age group	
	Mean (SD)	Mean (SD)	Mean difference Younger - Older (95% CI)[†]	*p*-value
Vegetables servings/day	2.0 (1.11)	1.86 (1.17)	0.14 (-0.42, 0.69)	0.62
Fruit servings/day	2.3 (1.08)	2.03 (1.03)	0.26 (-0.26, 0.77)	0.33
Dark green leafy vegetables/day	0.34 (0.48)	0.28 (0.66)	0.67 (-0.22, 0.35)	0.64
Carrots/pumpkin/day	0.53 (0.67)	0.39 (0.60)	0.14 (-0.17, 0.45)	0.36
Tomatoes/day	0.31 (0.47)	0.50 (0.81)	-0.19 (-0.51, 0.14)	0.26

[†]Two sample t-tests were used to assess statistical significance between values for girls and boys. Pooled methods were used due to no evidence of unequal variance. Bold font indicates statistical significance $p<0.05$.

Supplementary Table 5. Comparison of carotenoid reflectance scores for children meeting vegetables and fruit recommendations or at least one serve of a carotenoid-containing vegetable.

	Yes	No	Difference	
	Mean (SD)	Mean (SD)	Mean difference Yes - No (95% CI)[†]	*p*-value[‡]
Number	21	47		
At least 3 servings vegetable/day	263 (97)	222 (91)	41 (-8, 89)	0.097
Number	54	14		
At least 2 servings fruit/day	252 (89)	167 (86)	85 (32, 138)	0.002*
Number	18	50		
At least 1 serve of green leafy vegetables/day	278 (75)	223 (89)	56 (9, 103)	0.021*
Number	26	42		
At least 1 serve of carrot or pumpkin/day	248 (85)	231 (91)	17 (-27, 61)	0.443
Number	24	44		
At least 1 serve of tomatoes/day	239 (87)	236 (14)	3 (-42, 49)	0.884

[†]Two sample t-tests were used to assess statistical significance between children who met vegetable and fruit recommendations, or ate at least one serving of a specific carotenoid-containing vegetable. Pooled methods were used due to no evidence of unequal variance. Seven parents did not complete the questionnaire.
[*] $p<0.05$

Supplementary Table 6. Twenty-four-hour urinary potassium excretion for all samples (incomplete) overall and by gender

	Girls	Boys	Gender not stated	Total	Difference by sex	
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean difference (95% CI)[†]	*p*-value
All 24-hour urine samples	26	36	7	69	Girls-Boys	
Potassium (mg per 24 h)	1252 (729)	1631 (856)	1403 (621)	1465 (799)	-379 (-794 to 35)	0.07
Volume	743 (459)	836 (358)	906 (466)	808 (407)	n/a	n/a
Creatinine	553 (299)	673 (246)	764 (454)	637 (295)	-120 (-259 to 19)	0.09

[†]Two sample t-tests were used to assess statistical significance between values for girls and boys. Pooled methods were used due to no evidence of unequal variance. Bold font indicates statistical significance.