

Table 4.9 Dietary intake results for all the groups as measured by 24-hour recall method before and after the intervention

Macronutrients

Variables	Before (pre-testing)						After (post-testing)				
	EAR ♀ (children 9-13)	Vetkoek n =53	CSB n =37	Sejo n =92	PSNP n =37	Fruit n =26	Vetkoek n =55	CSB n =37	Sejo n =83	PSNP n =38	Fruit n =34
Energy (kJ)	♂ 9572 ♀ 9698	4928 ±2448.3 ^{a, g}	6214 ±2909.5 ^{a, b}	6467 ±2584.9	4815 ±2006.1 ^{b, h}	6178 ±2456.9 ⁱ	8415 ±5481.3 ^{c, g}	5062 ±2123.7 ^{c, d, e, f}	6230 ±2712.6 ^d	6388 ±2093.9 ^{e, h}	8444 ±2754.6 ^{f, i}
Protein (g)	♂ 76 ♀ 76	38 ±17.1 ^{a, d}	55 ±20.6 ^{a, b, c}	52 ±24.9	37 ±21.7 ^{b, e}	42 ±15.7 ^{c, f}	72 ±142.4 ^d	47 ±27.9	46 ±18.6	49 ±19.9 ^e	60 ±24.2 ^f
Fat (g)	♂ 30 ♀ 30	36 ±24.8 ^{a, g}	47 ±31.2 ^{a, b, h}	47 ±28.0	31 ±22.9 ^b	42 ±29.2 ⁱ	65 ±73.5 ^{c, g}	31 ±20.1 ^{c, d, e, f, h}	45 ±29.8 ^d	40 ±18.8 ^e	56 ±24.7 ^{f, i}
Carbohydrate (g)	♂ 100 ♀ 100	161 ±80.5 ^{a, f}	198 ±102.7 ^a	213 ±89.4	167 ±63.9 ^g	215 ±77.6 ^h	266 ±96.0 ^{b, f}	175 ±70.7 ^{b, c, d, e}	210 ±99.4 ^c	223 ±77.9 ^{d, g}	295 ±99.2 ^{e, h}
Fibre (g)	♂ 31 ♀ 26	13 ±7.8 ^f	11 ±6.9 ^a	15 ±7.1 ^g	13 ±5.9 ^h	15 ±6.1 ^{a, i}	17 ±7.4 ^{b, f}	10 ±4.1 ^{b, c, d, e}	12 ±6.2 ^{c, g}	19 ±7.6 ^{d, h}	24 ±7.8 ^{e, i}

Minerals

Variables	Before (pre-testing)						After (post-testing)				
	EAR ♀ (children 9-13)	Vetkoek n =53	CSB n =37	Sejo n =92	PSNP n =37	Fruit n =26	Vetkoek n =55	CSB n =37	Sejo n =83	PSNP n =38	Fruit n =34
Calcium (mg/day)	♂ 1300* ♀ 1300*	209.5 ±155.4 ^d	198.5 ±158.5 ^a	227.2 ±177.5	238.9 ±220.6	319.4 ±218.6 ^a	427.0 ±228.9 ^{b, d}	167.6 ±100.9 ^{b, c}	206 ±235.6	198.5 ±116.8	283.4 ±222.5 ^c
Iron (mg/day)	♂ 5.9 ♀ 5.7	4.9 ±2.9 ^f	5.8 ±3.1 ^a	12.0 ±7.3 ^a	4.8 ±3.3 ^g	5.7 ±2.4 ^h	12.7 ±68 ^{b, f}	5.6 ±3.5 ^{b, c, d, e}	11.3 ±5.2 ^d	9.9 ±4.2 ^{e, g}	11.8 ±3.7 ^{c, h}
Magnesium (5 mg/kg/day)	♂ 200 ♀ 200	188.7 ±94.2 ^e	193.8 ±96.2 ^a	212.9 ±84.3 ^f	206.9 ±76.7 ^g	293.2 ±75.0 ^{a, h}	339.1 ±154.4 ^{b, e}	169.6 ±60.0 ^{b, c, d}	186.4 ±76.8 ^f	265.9 ±98.6 ^g	314.1 ±921.1 ^{c, d, h}
Zinc (mg)	♂ 7.0 ♀ 7.0	4.5 2.3 ^{a, f}	6.3 ±3.7 ^{a, b}	7.8 ±3.5 ^b	4.9 ±4.4 ^g	5.1 ±2.1 ^h	55.1 ±9.1 ^{c, f}	5.3 ±2.7 ^{c, d, e}	7.0 ±3.1	6.9 ±2.7 ^g	8.4 ±2.6 ^{d, e, h}
Copper (mg)	N/A	.54 ±.30 ^{a, e}	.70 ±.39 ^{a, b}	.72 ±.87	.54 ±.34 ^{b, f}	.64 ±.3 ^g	1.9 ±1.0 ^{c, e}	.62 ±.33 ^{c, d}	.71 ±.86	.62 ±.33 ^f	.91 ±.43 ^{d, g}
Chromium (mcg)	♂ 25* ♀ 21*	14.5 ±13.5 ^{a, c}	29.3 ±35.3 ^{a, b}	32.9 ±38.5	22.6 31.3	12.6 ±15.6 ^{b, d}	25.0 ±27.6 ^c	25.5 ±30.3	36.2 ±34.0	18.5 ±25.0	29.8 ±43.0 ^d
Selenium (mcg)	♂ 35 ♀ 35	16.2 ±16.1 ^{a, e}	32.0 ±25.2 ^{a, b, c}	28.0 ±33.8	11.7 ±16.7 ^b	12.3 ±10.3 ^{c, f}	42.1 ±82.1 ^e	27.4 ±30.0 ^d	33.6 ±31.1	24.7 ±18.4	40.7 ±32.9 ^{d, f}
Iodine (mcg)	♂ 73 ♀ 73	16.1 ±23.1 ^c	20.9 ±22.3 ^a	20.8 ±27.4	12.4 ±12.2 ^a	15.2 ±17.0	24.3 ±51.4 ^c	16.0 ±17.4 ^b	17.9 ±15.9	10.9 ±7.9	16.1 ±12.8 ^b

Vitamins

Variables	EAR ♦	Before (pre-testing)					After (post-testing)				
		Vetkoek n =53	CSB n =37	Sejo n =92	PSNP n =37	Fruit n =26	Vetkoek n =55	CSB n =37	Sejo n =83	PSNP n =38	Fruit n =34
Vitamin A (mcg)	♂ 445 ♀ 420	289.6 ±923.3	210.5 ±230.1 ^a	594.1 ±1850.8	323.4 130.6 ^e	138.4 ±105.9 ^f	836.2 ±2144.1 ^b	99.3 ±90.5 ^{a, b, c, d}	630.1 ±1905.8	390.5 ±273.6 ^e	472.7 ±320.6 ^{c, d, f}
Thiamine (mg)	♂ 0.7 ♀ 0.7	.65 ±.56	.71 ±.36 ^a	1.1 ±.75 ^a	.703 ±.31 ^e	.76 ±.30 ^f	.91 ±.46 ^b	.65 ±.36 ^{b, c, d}	1.0 ±.56 ^d	.88 ±.38 ^e	1.1 ±.34 ^{c, f}
Riboflavin (mg)	♂ 0.8 ♀ 0.8	.50 ±.41	.64 ±.56 ^a	.96 ±1.1	.45 ±.35 ^{a, d}	.62 ±.37 ^e	1.5 ±2.1 ^b	.70 ±1.15 ^{b, c}	.85 ±.95	1.0 ±1.05 ^d	1.0 ±.83 ^e
Niacin (mg)	♂ 9.0 ♀ 9.0	8.7 ±6.0 ^a	15.2 ±7.9 ^{a, b, c}	17.9 ±12.5	7.6 ±5.6 ^{b, e}	8.8 ±4.9 ^{c, f}	21.9 ±61.5	13.6 ±10.3 ^d	15.6 ±8.7	14.6 ±6.8 ^e	17.7 ±8.0 ^{d, f}
Vitamin B6 (mg)	♂ 0.8 ♀ 0.8	.55 ±.42 ^a	.93 ±.50 ^{a, b, c, d}	1.4 ± 1.0 ^{b, h}	.56 ±.40 ^{c, i}	.69 ±.47 ^{d, j}	3.0 ±1.3 ^e	.90 ±.65 ^{e, f, g}	1.2 ± .69 ^{f, h}	1.2 ±.56 ⁱ	1.6 ±.64 ^{g, j}
Folate (mcg)	♂ 250 ♀ 250	131.7 ±150.9	142.1 ±112.5 ^{a, b}	319.7 ±192.2 ^a	100.6 ± 56.2 ^{b, g}	127.8 58.2 ^h	1510.9 ±149.5 ^c	130.6 ±88.1 ^{c, d, e, f}	330.7 ±156.3 ^f	348.8 ±163.0 ^g	435.3 ±154.7 ^{d, e, h}
Vitamin B12 (mcg)	♂ 1.5 ♀ 1.5	2.2 ±3.9	1.2 ±1.2	4.0 ±19.4	1.5 ± 2.0	1.6 ±1.8	12.9 ±22.6 ^a	1.3 ±1.4 ^a	3.8 ±20.4	1.5 ±1.6	1.6 ±1.2
Pantothenate (mg)	♂ 4.0* ♀ 4.0*	2.9 ±2.2 ^a	6.6 ±4.1 ^{a, b, c, d}	4.0 ±3.8 ^b	2.3 2.1 ^c	2.8 ±1.7 ^{d, e}	8.5 ±32.2	5.1 ±5.4	4.1 ±3.0	3.9 ±2.7	4.6 ±3.6 ^e
Biotin (mcg)	♂ 20* ♀ 20*	21.7 ±38.8	16.6 ±10.1 ^c	16.1 ±15.2	14.6 ±7.4	16.4 ±8.5	23.8 ±23.7 ^a	13.4 ±7.1 ^{a, b, c}	15.4 ±14.8	16.6 ±6.0	20.5 ±8.6 ^b
Vitamin C (mg)	♂ 39 ♀ 39	14.8 ±13.2 ^a	46.3 ±64.2 ^{a, b, c, d}	87.6 ±97.5 ^{b, g}	24.9 ±32.5 ^c	17.4 ±22.7 ^{d, h}	22.2 ±26.8 ^e	40.4 ±55.0 ^{e, f}	27.9 ±50.5 ^g	19.4 ±19.3	40.0 ± 60.7 ^{f, h}
Vitamin D (mcg)	♂ 5.0* ♀ 5.0*	2.7 ±3.7	2.3 ±3.3	2.3 ±4.2	1.6 ±2.0 ^c	1.9 ±3.1 ^d	2.8 ±3.6 ^a	1.5 ±2.1 ^{a, b}	1.7 ±2.6	1.1 ±1.2 ^c	.8 ±.77 ^{b, d}
Vitamin E (mg)	♂ 9.0 ♀ 9.0	5.7 ± 7.6	5.4 4.3 ^{a, f}	5.0 ±6.5	3.7 ±4.5 ^{a, g}	6.7 ±10.3	10.9 ±5.0 ^b	3.6 ±2.1 ^{b, c, d, e, f}	5.6 ±5.5 ^e	6.4 ±5.1 ^g	6.1 ±3.8 ^{c, d}

♂ boys

♀ girls

a, b, c, Means with the same symbol differ significantly between and within the different product groups ($p \leq 0.05$, Levene's test for equal variance).

*No EAR available, Adequate Intake used as reference

♣ Institute of Medicine 2002

♠ Institute of Medicine 1997

♦ Institute of Medicine 2001