

A Daily Popcorn Snack Improves Dietary Quality

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Introduction

- Snacking is very prevalent among Americans, and is typically associated with a reduction of dietary quality.
- Low-fat popcorn is a whole grain food supplying insoluble fiber and less fat than several commonly consumed grain or potato based snack foods.
- This study measured the effects of daily popcorn consumption on fat and fiber intake in a free-living setting.

Methods

- Participants (n=111, age= 52 ± 10 years) maintained their usual diet for 3months and were randomly assigned to either consume 100 kcal/d of 94% fat-free microwave popcorn (6 cups) (n=55) or to avoid popcorn (n=56).
- Dietary intake was assessed by three-day dietary records, collected at baseline and again after 6 and 12 weeks.
- Time by group interactions were further examined by comparing both week 6 and week 12 to baseline values with each group separately via paired t tests.

Baseline Characteristics

	Group	Mean ± SD
Age	Popcorn	50.91 ± 9.47
	No Popcorn	53.63 ± 9.62
Body Mass (lbs)	Popcorn	198.78 ± 26.47
	No Popcorn	198.29 ± 26.87
BMI	Popcorn	32.22 ± 3.00
	No Popcorn	32.04 ± 2.83
Body Fat %	Popcorn	42.81 ± 5.94
	No Popcorn	43.50 ± 5.26
SBP (mmHg)	Popcorn	117.07 ± 13.03
	No Popcorn	115.71 ± 15.14
DBP (mmHg)	Popcorn	74.25 ± 9.03
	No Popcorn	74.05 ± 8.76
Glucose (mg/dl)	Popcorn	81.24 ± 15.97
	No Popcorn	82.23 ± 15.72

Results

		Baseline	Week 6	Week 12
Energy Intake (Kcal)	Popcorn	2252.3 ± 683.5	1850.7 ± 551.0***	1840.1 ± 543.8***
	No Popcorn	2055.9 ± 600.3	1858.4 ± 547.7**	1843.5 ± 645.2*
Fat (g)	Popcorn	90.7 ± 35.8	68.0 ± 30.5***	71.3 ± 31.1***
	No Popcorn	83.4 ± 36.1	72.7 ± 28.3	74.9 ± 31.3
Cholesterol (mg)	Popcorn	309.5 ± 174.4	248.5 ± 158.9*	279.7 ± 197.2
	No Popcorn	291.7 ± 186.5	291.8 ± 196.9	309.1 ± 200.9
Saturated Fat (g)	Popcorn	30.7 ± 12.7	23.2 ± 12.6***	24.1 ± 12.8***
	No Popcorn	28.2 ± 14.8	23.2 ± 9.5*	24.4 ± 10.6
Fiber (g)	Popcorn	20.7 ± 6.2	21.5 ± 6.5	21.3 ± 5.9
	No Popcorn	21.1 ± 8.5	19.6 ± 6.8	19.3 ± 7.6
Insoluble Fiber (g)	Popcorn	13.4 ± 4.3	15.3 ± 5.0*	15.3 ± 4.2**
	No Popcorn	14.3 ± 6.6	12.9 ± 4.9	12.5 ± 4.5

* Different than baseline p<0.05; ** Different than baseline p<0.01; ***Different than baseline p<0.001

Discussion & Conclusion

- Popcorn can be successfully incorporated into the diet as a daily snack and is associated with significant improvements in diet quality.



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