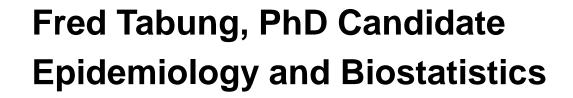
A Healthy Lifestyle Index is Associated with Reduced Risk of Colorectal Adenomatous Polyps among Non-Users of NSAIDs



Susan Steck, PhD, Mentor



Background & Significance

- Colorectal cancer (CRC) is 3rd most commonly diagnosed cancer and 2nd leading cause of cancer death in the United States
- Adenomatous polyps (adenomas) are precursor lesions to CRC
- Smoking, alcohol intake, physical activity, diet and body mass index (BMI) are established risk factors for CRC
- These factors have mostly been studied independently
- A combined lifestyle index could be a practical tool for CRC prevention counselling



Purpose

 To develop a healthy lifestyle index from five modifiable lifestyle factors (smoking, alcohol intake, physical activity, diet, and body mass index)

 To examine the association of this lifestyle index with odds of colorectal adenoma



Methods

- Data from the Epigenetics and Diet in the Carcinogenesis Process (EDCaP) study (PIs: Dr. Susan Steck & Dr. James Burch)
- 138 men and women recruited from a local endoscopy center who completed questionnaires related to lifestyle behaviors prior to colonoscopy
- Responses scored on each of five lifestyle factors as unhealthy (0 point) or healthy (1 point) based on current evidence/recommendations
- The five scores summed to produce a combined lifestyle index for each participant ranging from 0 (least healthy) to 5 (healthiest)
- Index dichotomized into unhealthy (0-2) and healthy (3-5) lifestyle scores



Methods

- Cases had at least one incident, non-hereditary (sporadic) adenoma that was histologically confirmed by a pathologist
- Controls had a biopsy and were histologically confirmed as having hyperplastic polyps, or had no polyps detected during colonoscopy
- Logistic regression was used to calculate odds ratios (OR) and 95% confidence intervals (CI) for adenoma with adjustment for covariates
- Covariates: age, sex, educational status, race and reason for colonoscopy



Table 1: Factors of the combined lifestyle score

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Healthy lifestyle score factor	Score	Description	Percentage						
Smoking	0	Former or Current smoker	53.6						
	1	Never smoker	46.4						
Alcohol use	0	High alcohol use: not conforming to recommended daily alcohol intake for the United States (>2drinks/day for males and >1drink/day for females)	17.4						
	1	Limited alcohol use: Conforming to recommended intake levels (=<2drinks/day for males and =<1drink/day for females)	82.6						
Physical activity (PA)	0	Not active/less active: <150 minutes/week of moderate intensity PA or <60 minutes/week of vigorous intensity PA	78.3						
	1	Regularly active: >=150 minutes/week of moderate intensity PA or >=60 minutes/week of vigorous intensity PA	21.7						
Diet quality [‡]	0	Unhealthy diet quality: low FV [¥] intake <u>and</u> high fat intake	52.9						
	1	Healthy diet quality: high FV intake or low fat intake, or both	47.1						
Body mass index	0	Overweight or obese: BMI>=25	81.9						
	1	Normal weight: BMI 18 - <25	18.1						

Results

- There were 47 adenoma cases and 91 controls
- In the main analyses, there was a statistically nonsignificant inverse association between the lifestyle index and odds of adenoma:
 - Dichotomous index (OR, 0.54; 95% CI, 0.22-1.29)
 - Continuous index (OR, 0.75, 95%CI 0.51-1.10)
- Odds of adenoma were significantly modified by NSAIDs use ($P_{\text{interaction}} = 0.047$)



Results

Table 2: Odds ratios (95% confidence intervals) for categorical and continuous healthy lifestyle index stratified by NSAIDs use

		All participants		No NSAIDs use		NSAIDs use	
		OR*	95%CI	OR	95%CI	OR	95%CI
Dichotomous healthy lifestyle index	Unhealthy lifestyle score	1.00	referent	1.00	referent	1.00	referent
	Healthy lifestyle score	0.54	0.22-1.29	0.28	0.08-0.98	1.30	0.35-4.91
Continuous healthy lifestyle index		0.75	0.52-1.10	0.47	0.26-0.88	1.14	0.64-2.05





Study Limitations

- Small sample size
- Data on lifestyle index factors as well as all other covariates were self-reported
- Cross-sectional design and included a large proportion of surveillance colonoscopies (69%) compared with screening colonoscopies (31%)



Conclusion

- Having a higher score from this index may reduce the odds of colorectal adenomas especially among nonusers of NSAIDs
- Findings should be interpreted cautiously given the small sample size
- Findings are consistent with other studies examining associations between combined lifestyle factors and colorectal adenoma/CRC



Acknowledgments - Coauthors

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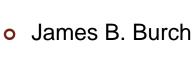
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