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| **Supplementary Table 1. Sensitivity Analysis of Population Attributable Risk of Different Lifestyle Factors on Diverticulitis** |
| **Lifestyle Factors** | **Low-Risk Definition** | **Person-Years at Low Risk, %** | **Multivariable RR1 (95% CI)** | **Population Attributable Risk (95% CI), %** |
| **Individual Risk Factor** | **Combined** |
| Total red meat intake | < 5 servings / week | 50% | 0.86 (0.74, 0.99) |  8 (0-16) | 31 (8-51) |
| Dietary fiber intake | In the highest 50% | 50% | 0.90 (0.78, 1.03) |  5 (-2-11)2 |
| Vigorous physical activity | Any vigorous physical activity | 58% | 0.78 (0.68, 0.88) | 11 (5-18) |
| Body mass index | BMI < 27.5 kg/m2 | 74% | 0.85 (0.74, 0.98) |  5 (0-9) |
| Smoking | Smoking < 20 pack-years | 76% | 0.74 (0.64, 0.86) |  8 (4-12) |
| CI, confidence interval; RR, relative risk.1Adjusted for age, questionnaire cycle, total energy intake (quintiles), regular use of aspirin, NSAID and acetaminophen.2Confidence interval included 0. |

**Supplementary Figure 1. Flow diagram of the study population**

907 incident diverticulitis identified during follow-up period

45,203 participants were followed up between 1986 and 2012

* Baseline Exclusions
* Death or missing birth date (n=23)
* Previous diagnosis of
	+ Diverticulosis or its complications (n=253)
	+ Inflammatory bowel disease (n=502)
	+ Cancer of the gastrointestinal tract (n=2,038)
* Implausible energy intake (<800 or >4200 kcal/d, n=1,504)
* Missing baseline information on unprocessed red meat, fiber, physical activity, or BMI (n=1,134)
* Only returned baseline questionnaire (n=872)

Health Professionals Follow-Up Study (HPFS)

51,529 men enrolled in 1986

**Supplementary Figure 2. Combinations of low-risk lifestyle factors and risk of diverticulitis.**

Low-risk lifestyle factors were defined as average red meat intake less than 51 grams daily, fiber intake in the highest 40% of the cohort, vigorous physical activity (VPA) in the highest 50% of the cohort among participants with non-zero vigorous physical activity, and normal body mass index (BMI) between 18.5 and 24.9 kg/m2. The multivariable-adjusted relative risks of diverticulitis for different combinations of low-risk lifestyle factors were shown for never smokers (Part A) and for past/current smokers (Part B). Shades of gray represent number of low-risk lifestyle factors. The darker the color, the fewer the number of low-risk lifestyle factors.

(A)



(B)

 

**Supplementary Figure 3. Expanded lifestyle score and population-attributable risk (PAR) of diverticulitis.**

An expanded lifestyle score was created by assigning scores of 1 (lowest risk) to 5 (highest risk, 3 for BMI) to the categories of lifestyle factors and summed the scores for all participants (score range, 5-23 points). For this analysis, lowest risk is defined as dietary red meat intake in the lowest quintile, dietary fiber intake in the highest quintile, vigorous physical activity in the highest quartile among participants with non-zero vigorous physical activity, BMI less than 24.9 kg/m2, and never smoker. PAR was estimated based on different cutoff values of the lifestyle score. Error bars indicate 95% confidence intervals.

