FAMILY
– FARMED –

Good Food is Good Medicine

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July 15, 2017

Northwestern Medicine®

NORTHWESTERN UNIVERSITY FEINBERG SCHOOL OF MEDICINE

About Me

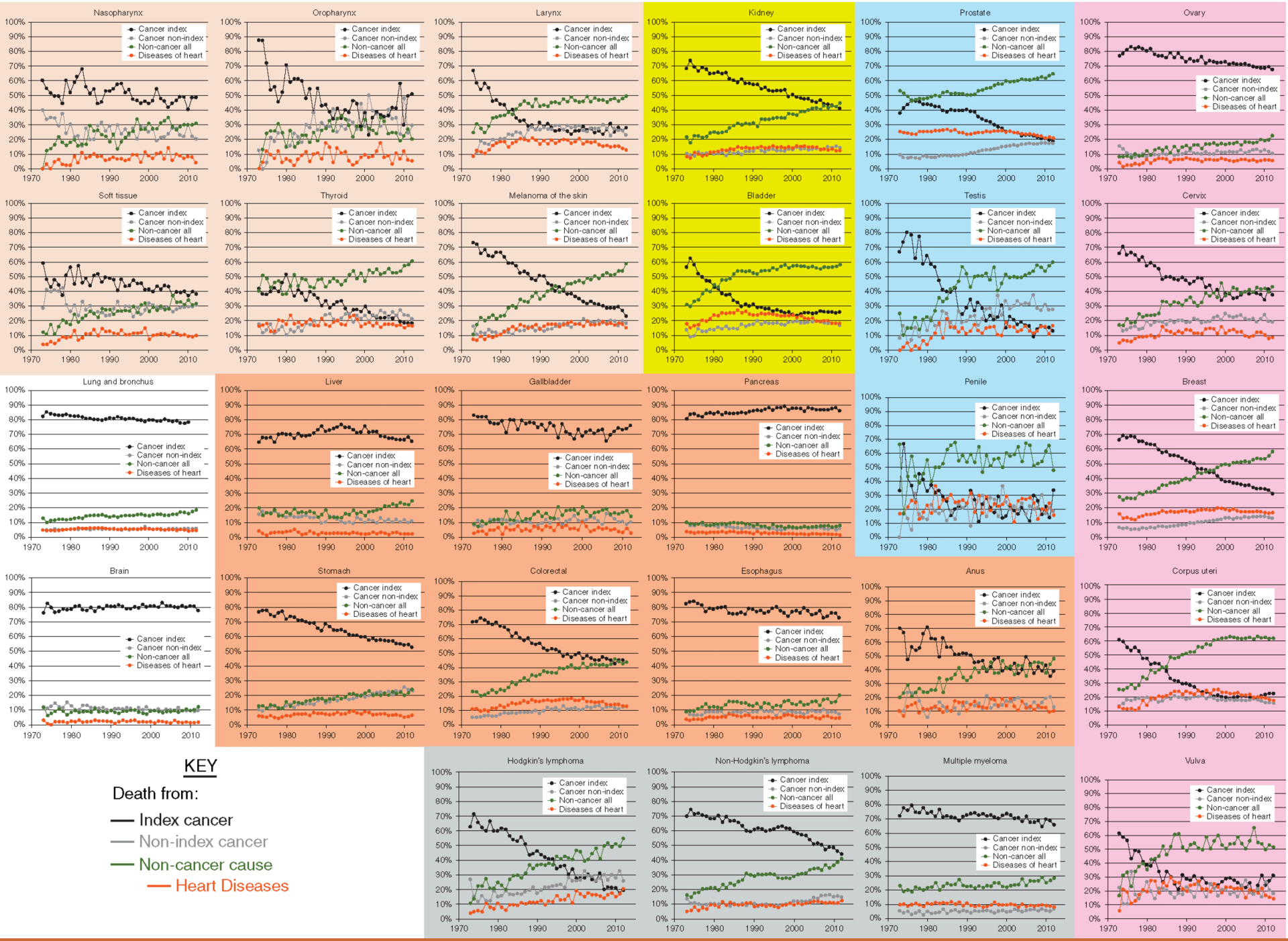
Board of Directors, FamilyFarmed

Assistant Professor of Urology, Northwestern Medicine

Urologist & Prostate Cancer Disparities Researcher

Lots of newly diagnosed cancer patients and patients surviving

What do people with cancer die from?


Nasopharynx
Oropharynx
Larynx
Kidney
Prostate
Ovary
Soft tissue
Thyroid
Melanoma of the skin
Bladder
Testis
Cervix
Lung and bronchus
Liver
Gallbladder
Pancreas
Penile
Breast
Brain
Stomach
Colorectal
Esophagus
Anus
Corpus uteri
Hodgkin's lymphoma
Non-Hodgkin's lymphoma
Multiple myeloma
Vulva
Cancer index
Cancer non-index
Non-cancer all
Diseases of heart
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1970
1980
1990
2000
2010
KEY
Death from:
Index cancer
Non-index cancer
Non-cancer cause
Heart Diseases

Cancer death < risk of death from other conditions

Non-cancer death is high in:

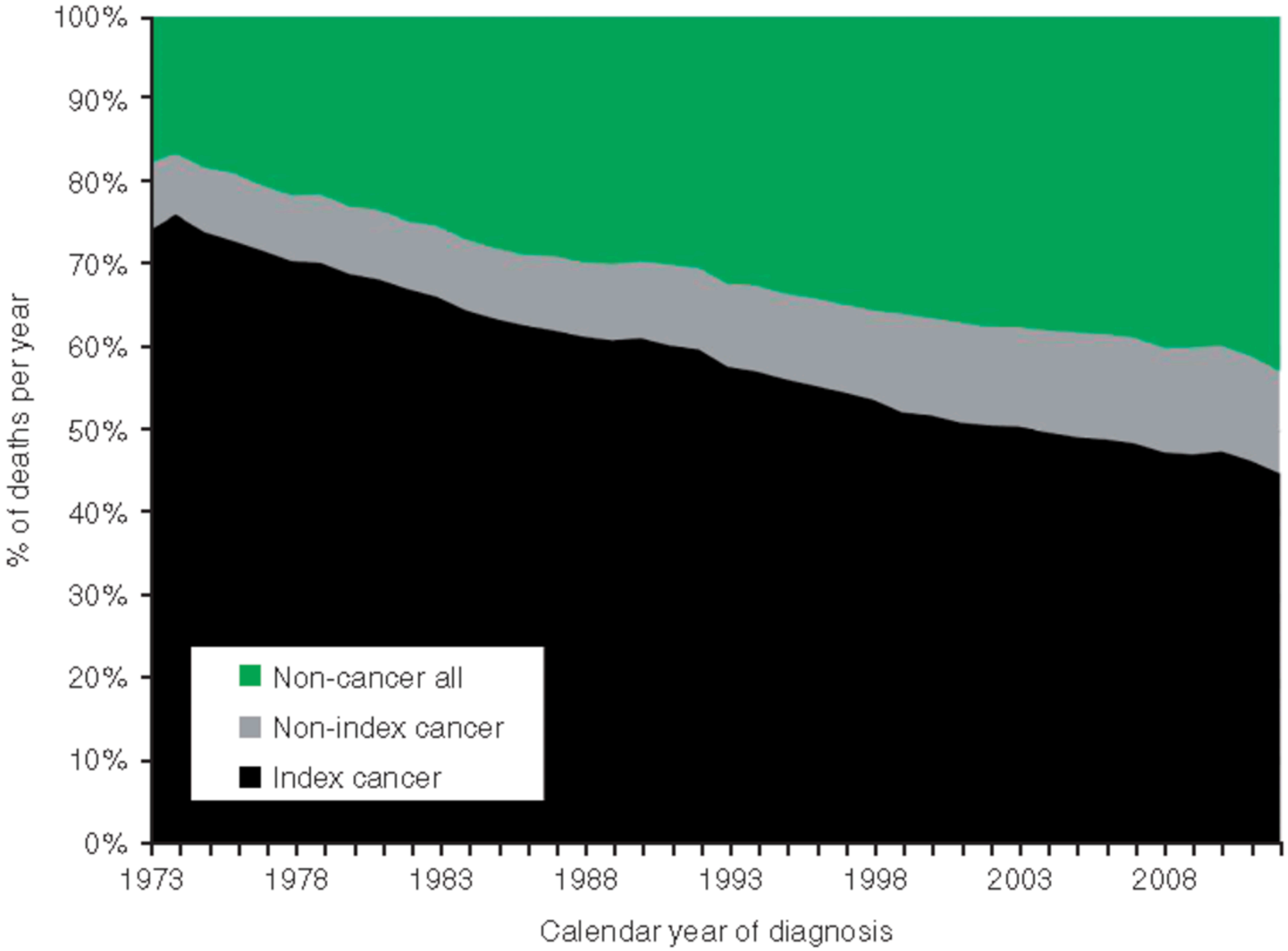
- colon & rectum
- bladder and kidney cancer
- female cancers (endometrial, cervix, breast, and vulvar)
- male cancers (prostate, testicular, and penile)
- tonsil cancer, melanoma, and lymphomas

Heart disease > Cancer

The most common cause of non-cancer death is heart disease

The highest rates of heart disease-associated death (all 13%–21%) are currently observed among patients with cancers of the prostate, breast, testis, endometrium, larynx, and HL.

prostate and breast cancer patients contributing the largest share to the overall non-cancer mortality rates


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% of deaths per year
Non-cancer all
Non-index cancer
Index cancer
1973
1978
1983
1988
1993
1998
2003
2008
Calendar year of diagnosis

Still important to do the basics

1. Exercise
2. Stop Smoking
3. Follow up with your providers/physicians
4. Rest
5. Join support groups
6. Stay connected to your friends and family

Dietary concerns

- Meat intake
- Fruits and Vegetables
- Whole Grain
- Dairy
- Eggs

Meta-Analysis Defined

- Eggs good for you or NOT
- Conflicting reports in the media
- Pooled studies

Multivariate Analysis for Red, White, and Processed Meat Intake and Total and Cause-Specific Mortality in Men in the National Institutes of Health–AARP Diet and Health Study[a]

From: **Meat Intake and MortalityA Prospective Study of Over Half a Million People**

Arch Intern Med. 2009;169(6):562-571. doi:10.1001/archinternmed.2009.6

Table 2. Multivariate Analysis for Red, White, and Processed Meat Intake and Total and Cause-Specific Mortality in Men in the National Institutes of Health–AARP Diet and Health Study[a]

Mortality in Men (n=322 263)	Quintile					*P* Value for Trend
	Q1	Q2	Q3	Q4	Q5	
Red Meat Intake[b]						
All mortality						
Deaths	6437	7835	9366	10 988	13 350	
Basic model[c]	1 [Reference]	1.07 (1.03-1.10)	1.17 (1.13-1.21)	1.27 (1.23-1.31)	1.48 (1.43-1.52)	<.001
Adjusted model[d]	1 [Reference]	1.06 (1.03-1.10)	1.14 (1.10-1.18)	1.21 (1.17-1.25)	1.31 (1.27-1.35)	<.001
Cancer mortality						
Deaths	2136	2701	3309	3839	4448	
Basic model[c]	1 [Reference]	1.10 (1.04-1.17)	1.23 (1.16-1.29)	1.31 (1.24-1.39)	1.44 (1.37-1.52)	<.001
Adjusted model[d]	1 [Reference]	1.05 (0.99-1.11)	1.13 (1.07-1.20)	1.18 (1.12-1.25)	1.22 (1.16-1.29)	<.001
CVD mortality						
Deaths	1997	2304	2703	3256	3961	
Basic model[c]	1 [Reference]	1.02 (0.96-1.08)	1.10 (1.04-1.17)	1.24 (1.17-1.31)	1.44 (1.37-1.52)	<.001
Adjusted model[d]	1 [Reference]	0.99 (0.96-1.09)	1.08 (1.02-1.15)	1.18 (1.12-1.26)	1.27 (1.20-1.35)	<.001
Mortality from injuries and sudden deaths						
Deaths	184	216	228	280	343	
Basic model[c]	1 [Reference]	1.02 (0.84-1.24)	0.97 (0.80-1.18)	1.09 (0.90-1.31)	1.24 (1.03-1.49)	.01
Adjusted model[d]	1 [Reference]	1.06 (0.86-1.29)	1.01 (0.83-1.24)	1.14 (0.94-1.39)	1.26 (1.04-1.54)	.008
All other deaths						
Deaths	1268	1636	1971	2239	2962	
Basic model[c]	1 [Reference]	1.13 (1.05-1.22)	1.25 (1.17-1.35)	1.33 (1.24-1.42)	1.68 (1.57-1.80)	<.001
Adjusted model[d]	1 [Reference]	1.17 (1.09-1.26)	1.28 (1.19-1.38)	1.34 (1.25-1.44)	1.58 (1.47-1.70)	<.001
White Meat Intake[e]						
All mortality						
Deaths	12 521	10 442	9359	8444	7210	
Basic model[c]	1 [Reference]	0.83 (0.81-0.85)	0.77 (0.75-0.79)	0.74 (0.72-0.76)	0.74 (0.72-0.76)	<.001
Adjusted model[d]	1 [Reference]	0.92 (0.90-0.95)	0.90 (0.88-0.93)	0.90 (0.88-0.93)	0.92 (0.89-0.94)	<.001
Cancer mortality						
Deaths	4424	3647	3203	2830	2329	
Basic model[c]	1 [Reference]	0.82 (0.79-0.86)	0.74 (0.71-0.78)	0.71 (0.67-0.74)	0.68 (0.65-0.72)	<.001
Adjusted model[d]	1 [Reference]	0.91 (0.87-0.95)	0.87 (0.83-0.91)	0.85 (0.81-0.90)	0.84 (0.80-0.88)	<.001
CVD mortality						
Deaths	3521	3015	2771	2578	2336	
Basic model[c]	1 [Reference]	0.85 (0.81-0.89)	0.81 (0.77-0.85)	0.81 (0.77-0.85)	0.86 (0.81-0.90)	<.001
Adjusted model[d]	1 [Reference]	0.96 (0.91-1.00)	0.96 (0.91-1.01)	0.99 (0.94-1.04)	1.05 (1.00-1.11)	.009
Mortality from injuries and sudden deaths						
Deaths	333	266	249	219	184	
Basic model[c]	1 [Reference]	0.81 (0.69-0.95)	0.78 (0.66-0.93)	0.73 (0.62-0.87)	0.71 (0.59-0.85)	<.001
Adjusted model[d]	1 [Reference]	0.89 (0.76-1.05)	0.90 (0.76-1.06)	0.86 (0.72-1.03)	0.85 (0.70-1.02)	.11
All other deaths						
Deaths	2775	2206	1948	1722	1425	
Basic model[c]	1 [Reference]	0.79 (0.75-0.83)	0.72 (0.68-0.76)	0.68 (0.64-0.73)	0.67 (0.63-0.72)	<.001
Adjusted model[d]	1 [Reference]	0.90 (0.85-0.95)	0.88 (0.83-0.93)	0.86 (0.81-0.92)	0.86 (0.80-0.92)	<.001
Processed Meat Intake[f]						
Deaths	6235	7738	9435	11 249	13 319	
Basic model[c]	1 [Reference]	1.04 (1.01-1.08)	1.13 (1.09-1.16)	1.20 (1.16-1.24)	1.30 (1.26-1.34)	<.001
Adjusted model[d]	1 [Reference]	1.01 (0.98-1.04)	1.07 (1.04-1.11)	1.12 (1.08-1.16)	1.16 (1.12-1.20)	<.001
Cancer mortality						
Deaths	2032	2784	3334	3906	4377	
Basic model[c]	1 [Reference]	1.15 (1.08-1.22)	1.22 (1.15-1.29)	1.28 (1.21-1.35)	1.32 (1.25-1.39)	<.001
Adjusted model[d]	1 [Reference]	1.07 (1.01-1.14)	1.11 (1.05-1.17)	1.14 (1.07-1.20)	1.12 (1.06-1.19)	.001
CVD mortality						
Deaths	1977	2225	2752	3255	4012	
Basic model[c]	1 [Reference]	0.94 (0.88-1.00)	1.02 (0.96-1.09)	1.08 (1.02-1.14)	1.22 (1.15-1.29)	<.001
Adjusted model[d]	1 [Reference]	0.92 (0.87-0.98)	0.99 (0.93-1.05)	1.02 (0.96-1.08)	1.09 (1.03-1.15)	<.001
Mortality from injuries and sudden deaths						
Deaths	190	201	257	273	330	
Basic model[c]	1 [Reference]	0.87 (0.72-1.07)	0.98 (0.81-1.19)	0.93 (0.77-1.13)	1.04 (0.86-1.25)	.24
Adjusted model[d]	1 [Reference]	0.88 (0.72-1.08)	0.99 (0.81-1.20)	0.93 (0.76-1.13)	1.00 (0.83-1.21)	.48
All other deaths						
Deaths	1259	1548	1896	2430	2943	
Basic model[c]	1 [Reference]	1.05 (0.97-1.13)	1.15 (1.07-1.23)	1.31 (1.22-1.41)	1.46 (1.36-1.56)	<.001
Adjusted model[d]	1 [Reference]	1.05 (0.97-1.13)	1.14 (1.06-1.23)	1.28 (1.19-1.38)	1.33 (1.24-1.43)	<.001

Multivariate Analysis Red, White, and Processed Meat Intake and Total and Cause-Specific Mortality in Women in the National Institutes of Health–AARP Diet and Health Study[a]

From: **Meat Intake and MortalityA Prospective Study of Over Half a Million People**

Arch Intern Med. 2009;169(6):562-571. doi:10.1001/archinternmed.2009.6

Table 3. Multivariate Analysis Red, White, and Processed Meat Intake and Total and Cause-Specific Mortality in Women in the National Institutes of Health–AARP Diet and Health Study[a]

Mortality in Women (n=223 390)	Quintile					*P* Value for Trend
	Q1	Q2	Q3	Q4	Q5	
Red Meat Intake[b]						
All mortality						
Deaths	5314	5081	4734	4395	3752	
Basic model[c]	1 [Reference]	1.11 (1.07-1.16)	1.24 (1.20-1.29)	1.43 (1.38-1.49)	1.63 (1.56-1.70)	<.001
Adjusted model[d, e]	1 [Reference]	1.08 (1.03-1.12)	1.17 (1.12-1.22)	1.28 (1.23-1.34)	1.36 (1.30-1.43)	<.001
Cancer mortality						
Deaths	2134	1976	1784	1687	1348	
Basic model[c]	1 [Reference]	1.07 (1.01-1.14)	1.15 (1.08-1.23)	1.34 (1.26-1.43)	1.42 (1.33-1.52)	<.001
Adjusted model[d, e]	1 [Reference]	1.02 (0.96-1.09)	1.06 (1.00-1.14)	1.20 (1.12-1.28)	1.20 (1.12-1.30)	<.001
CVD mortality						
Deaths	1173	1155	1101	1027	900	
Basic model[c]	1 [Reference]	1.15 (1.06-1.25)	1.32 (1.22-1.44)	1.54 (1.41-1.68)	1.82 (1.66-1.98)	<.001
Adjusted model[d, e]	1 [Reference]	1.13 (1.04-1.23)	1.26 (1.16-1.37)	1.39 (1.27-1.52)	1.50 (1.37-1.65)	<.001
Mortality from injuries and sudden deaths						
Deaths	129	97	74	76	61	
Basic model[c]	1 [Reference]	0.86 (0.66-1.12)	0.77 (0.58-1.03)	0.96 (0.72-1.28)	1.01 (0.74-1.37)	.88
Adjusted model[d, e]	1 [Reference]	0.85 (0.65-1.12)	0.75 (0.56-1.02)	0.92 (0.68-1.25)	0.94 (0.68-1.31)	.88
All other deaths						
Deaths	1178	1187	1181	1058	961	
Basic model[c]	1 [Reference]	1.18 (1.09-1.28)	1.41 (1.30-1.53)	1.58 (1.45-1.72)	1.91 (1.76-2.09)	<.001
Adjusted model[d, e]	1 [Reference]	1.16 (1.07-1.26)	1.35 (1.24-1.47)	1.44 (1.32-1.57)	1.61 (1.46-1.76)	<.001
White Meat Intake[f]						
All Mortality						
Deaths	5006	4606	4469	4520	4675	
Basic model[c]	1 [Reference]	0.87 (0.84-0.91)	0.81 (0.78-0.84)	0.78 (0.75-0.81)	0.76 (0.73-0.79)	<.001
Adjusted model[d, e]	1 [Reference]	0.96 (0.92-1.00)	0.94 (0.90-0.98)	0.95 (0.91-0.99)	0.92 (0.88-0.96)	<.001
Cancer mortality						
Deaths	1887	1757	1728	1735	1822	
Basic model[c]	1 [Reference]	0.89 (0.83-0.95)	0.84 (0.78-0.90)	0.80 (0.75-0.85)	0.78 (0.73-0.83)	<.001
Adjusted model[d, e]	1 [Reference]	0.94 (0.88-1.01)	0.92 (0.86-0.99)	0.92 (0.86-0.98)	0.89 (0.83-0.95)	.001
CVD mortality						
Deaths	1107	1007	1090	1049	1103	
Basic model[c]	1 [Reference]	0.86 (0.79-0.93)	0.89 (0.82-0.97)	0.82 (0.75-0.89)	0.81 (0.75-0.88)	<.001
Adjusted model[d, e]	1 [Reference]	0.97 (0.89-1.06)	1.07 (0.98-1.17)	1.05 (0.96-1.14)	1.04 (0.96-1.14)	.19
Mortality from injuries and sudden deaths						
Deaths	89	81	92	86	89	
Basic model[c]	1 [Reference]	0.92 (0.68-1.25)	1.01 (0.75-1.35)	0.89 (0.66-1.20)	0.82 (0.61-1.10)	.17
Adjusted model[d, e]	1 [Reference]	0.96 (0.71-1.31)	1.09 (0.81-1.47)	0.99 (0.73-1.34)	0.91 (0.67-1.24)	.52
All other deaths						
Deaths	1319	1155	1016	1055	1020	
Basic model[c]	1 [Reference]	0.82 (0.76-0.89)	0.69 (0.64-0.75)	0.68 (0.63-0.74)	0.63 (0.58-0.68)	<.001
Adjusted model[d, e]	1 [Reference]	0.93 (0.86-1.01)	0.84 (0.77-0.91)	0.88 (0.82-0.96)	0.82 (0.75-0.89)	<.001
Processed Meat Intake[g]						
All mortality						
Deaths	5624	5133	4525	4181	3813	
Basic model[c]	1 [Reference]	1.13 (1.09-1.17)	1.20 (1.15-1.25)	1.35 (1.29-1.40)	1.49 (1.43-1.56)	<.001
Adjusted model[d, e]	1 [Reference]	1.07 (1.03-1.12)	1.11 (1.06-1.15)	1.20 (1.15-1.25)	1.25 (1.20-1.31)	<.001
Cancer mortality						
Deaths	2283	2035	1722	1550	1339	
Basic model[c]	1 [Reference]	1.08 (1.02-1.15)	1.10 (1.04-1.18)	1.21 (1.13-1.30)	1.28 (1.19-1.37)	<.001
Adjusted model[d, e]	1 [Reference]	1.03 (0.97-1.10)	1.02 (0.96-1.09)	1.10 (1.02-1.17)	1.11 (1.04-1.19)	.001
CVD mortality						
Deaths	1245	1132	1039	973	967	
Basic model[c]	1 [Reference]	1.13 (1.04-1.22)	1.25 (1.14-1.35)	1.41 (1.29-1.54)	1.69 (1.55-1.84)	<.001
Adjusted model[d, e]	1 [Reference]	1.08 (0.99-1.17)	1.15 (1.05-1.25)	1.24 (1.13-1.35)	1.38 (1.26-1.51)	<.001
Mortality from injuries and sudden deaths						
Deaths	118	115	71	71	62	
Basic model[c]	1 [Reference]	1.22 (0.94-1.59)	0.91 (0.67-1.23)	1.10 (0.82-1.50)	1.18 (0.86-1.62)	.52
Adjusted model[d, e]	1 [Reference]	1.21 (0.93-1.57)	0.89 (0.65-1.21)	1.06 (0.78-1.45)	1.10 (0.80-1.53)	.83
All other deaths						
Deaths	1265	1174	1101	1055	970	
Basic model[c]	1 [Reference]	1.16 (1.07-1.26)	1.32 (1.22-1.44)	1.54 (1.42-1.68)	1.72 (1.58-1.87)	<.001
Adjusted model[d, e]	1 [Reference]	1.11 (1.02-1.20)	1.22 (1.12-1.32)	1.35 (1.24-1.47)	1.39 (1.27-1.51)	<.001

Conclusions

- Red and processed meat intakes, as well as a high-risk meat diet, were associated with a modest increase in risk of total mortality, cancer, and CVD mortality in both men and women.
- In contrast, high white meat intake and a low-risk meat diet was associated with a small decrease in total and cancer mortality.

Fruits & Vegetable Intake

Int J Epidemiol. 2017 Feb 22. doi: 10.1093/ije/dyw319. [Epub ahead of print]

Fruit and vegetable intake and the risk of cardiovascular disease, total cancer and all-cause mortality-a systematic review and dose-response meta-analysis of prospective studies.

Aune D[1,2,3], Giovannucci E[4,5,6], Boffetta P[7], Fadnes LT[8], Keum N[5,6], Norat T[2], Greenwood DC[9], Riboli E[2], Vatten LJ[1], Tonstad S[10].

Author information

Abstract

BACKGROUND: Questions remain about the strength and shape of the dose-response relationship between fruit and vegetable intake and risk of cardiovascular disease, cancer and mortality, and the effects of specific types of fruit and vegetables. We conducted a systematic review and meta-analysis to clarify these associations.

METHODS: PubMed and Embase were searched up to 29 September 2016. Prospective studies of fruit and vegetable intake and cardiovascular disease, total cancer and all-cause mortality were included. Summary relative risks (RRs) were calculated using a random effects model, and the mortality burden globally was estimated; 95 studies (142 publications) were included.

RESULTS: For fruits and vegetables combined, the summary RR per 200 g/day was 0.92 [95% confidence interval (CI): 0.90-0.94, I 2 = 0%, n = 15] for coronary heart disease, 0.84 (95% CI: 0.76-0.92, I 2 = 73%, n = 10) for stroke, 0.92 (95% CI: 0.90-0.95, I 2 = 31%, n = 13) for cardiovascular disease, 0.97 (95% CI: 0.95-0.99, I 2 = 49%, n = 12) for total cancer and 0.90 (95% CI: 0.87-0.93, I 2 = 83%, n = 15) for all-cause mortality. Similar associations were observed for fruits and vegetables separately. Reductions in risk were observed up to 800 g/day for all outcomes except cancer (600 g/day). Inverse associations were observed between the intake of apples and pears, citrus fruits, green leafy vegetables, cruciferous vegetables, and salads and cardiovascular disease and all-cause mortality, and between the intake of green-yellow vegetables and cruciferous vegetables and total cancer risk. An estimated 5.6 and 7.8 million premature deaths worldwide in 2013 may be attributable to a fruit and vegetable intake below 500 and 800 g/day, respectively, if the observed associations are causal.

CONCLUSIONS: Fruit and vegetable intakes were associated with reduced risk of cardiovascular disease, cancer and all-cause mortality. These results support public health recommendations to increase fruit and vegetable intake for the prevention of cardiovascular disease, cancer, and premature mortality.

Fruits & Vegetables

- 8-16% reduced risk of cardiovascular disease related death
- 3% reduction in cancer deaths
- 10% reduction in all-cause mortality

Fruits & vegetables

- Meta-analysis investigating the association between consumption of vegetables and fruits and breast cancer survival
- Ten studies, with a total of 31,210 breast cancer cases, were included in the meta-analysis.

Fruits & vegetables don't help breast cancer

No significant risk associations of overall survival were found for post-diagnostic intake of vegetables and fruits.

No significant association was found between intake of vegetables and fruits and breast cancer-specific mortality.

In addition, intake of cruciferous vegetables was not associated with death from breast cancer.

Breast Cancer- 2nd meta-analysis shows no effect

Br J Nutr. 2017 Mar;117(5):737-749. doi: 10.1017/S0007114517000423. Epub 2017 Apr 3.

Fruit and vegetable intake and breast cancer prognosis: a meta-analysis of prospective cohort studies.

Peng C[1], Luo WP[1], Zhang CX[1].

Author information

Abstract

The effect of fruit and vegetable intake on breast cancer prognosis is controversial. Thus, a meta-analysis was carried out to explore their associations. A comprehensive search was conducted in PubMed, Web of Science, OVID, ProQuest and Chinese databases from inception to April 2016. The summary hazard ratios (HR) and 95 % CI were estimated using a random effects model if substantial heterogeneity existed and using a fixed effects model if not. Subgroup analyses and sensitivity analyses were also performed. In total, twelve studies comprising 41 185 participants were included in the meta-analysis. Comparing the highest with the lowest, the summary HR for all-cause mortality were 1·01 (95 % CI 0·72, 1·42) for fruits and vegetables combined, 0·96 (95 % CI 0·83, 1·12) for total vegetable intake, 0·99 (95 % CI 0·89, 1·11) for cruciferous vegetable intake and 0·88 (95 % CI 0·74, 1·05) for fruit intake; those for breast cancer-specific mortality were 1·05 (95 % CI 0·77, 1·43) for total vegetable intake and 0·94 (95 % CI 0·69, 1·26) for fruit intake; and those for breast cancer recurrence were 0·89 (95 % CI 0·53, 1·50) for total vegetable intake and 0·98 (95 % CI 0·76, 1·26) for cruciferous vegetable intake. This meta-analysis found no significant associations between fruit and vegetable intake and breast cancer prognosis.

Fruit & vegetables decrease lung cancer risk

Ann Oncol. 2016 Jan;27(1):81-96. doi: 10.1093/annonc/mdv381. Epub 2015 Sep 14.

Fruits, vegetables and lung cancer risk: a systematic review and meta-analysis.

Vieira AR[1], Abar L[2], Vingeliene S[2], Chan DS[2], Aune D[3], Navarro-Rosenblatt D[2], Stevens C[2], Greenwood D[4], Norat T[2].

Author information

Abstract

BACKGROUND: Lung cancer is the most common cause of cancer death. Fruits and vegetables containing carotenoids and other antioxidants have been hypothesized to decrease lung cancer risk. As part of the World Cancer Research Fund International Continuous Update Project, we conducted a systematic review and meta-analysis of prospective studies.

METHODS: We searched PubMed and several databases up to December 2014 for prospective studies. We conducted meta-analyses comparing the highest and lowest intakes and dose-response meta-analyses to estimate summary relative risks (RRs) and 95% confidence intervals (CIs), and examine possible non-linear associations. We combined results from the Pooling Project with the studies we identified to increase the statistical power of our analysis.

RESULTS: When comparing the highest with the lowest intakes, the summary RR estimates were 0.86 [95% CI 0.78-0.94; n (studies) = 18] for fruits and vegetables, 0.92 (95% CI 0.87-0.97; n = 25) for vegetables and 0.82 (95% CI 0.76-0.89; n = 29) for fruits. The association with fruit and vegetable intake was marginally significant in current smokers and inverse but not significant in former or never smokers. Significant inverse dose-response associations were observed for each 100 g/day increase: for fruits and vegetables [RR: 0.96; 95% CI 0.94-0.98, I(2) = 64%, n = 14, N (cases) = 9609], vegetables (RR: 0.94; 95% CI 0.89-0.98, I(2) = 48%, n = 20, N = 12 563) and fruits (RR: 0.92; 95% CI 0.89-0.95, I(2) = 57%, n = 23, N = 14 506). Our results were consistent among the different types of fruits and vegetables. The strength of the association differed across locations. There was evidence of a non-linear relationship ($P < 0.01$) between fruit and vegetable intake and lung cancer risk showing that no further benefit is obtained when increasing consumption above ~400 g per day.

CONCLUSIONS: Eliminating tobacco smoking is the best strategy to prevent lung cancer. Although residual confounding by smoking cannot be ruled out, the current evidence from prospective studies is consistent with a protective role of fruit and vegetables in lung cancer aetiology.

Fruit may reduce lung cancer risk

overall survival (highest vs. lowest) from lung cancer is 8% higher based on their pre-diagnostic consumption of vegetables and fruits combined

4% reduction in risk for vegetables alone

17% reduction in risk for fruit alone.

Eat a variety of fruits and vegetables.

- Results were consistent among the different types of fruits and vegetables.
- Don’t have to be vegan to do it
- No further benefit is obtained when increasing consumption above ~400 g per day (< 1 pound).

Fruit does not cancel out excess red meat

Am J Clin Nutr. 2016 Oct;104(4):1137-1143. Epub 2016 Aug 24.

High red meat intake and all-cause cardiovascular and cancer mortality: is the risk modified by fruit and vegetable intake?

Bellavia A[1], Stilling F[2], Wolk A[2].

Author information

Abstract

BACKGROUND: High red meat consumption is associated with a shorter survival and higher risk of cardiovascular disease (CVD), cancer, and all-cause mortality. Fruit and vegetable (FV) consumption is associated with a longer survival and lower mortality risk. Whether high FV consumption can counterbalance the negative impact of high red meat consumption is unknown.

OBJECTIVE: We evaluated 2 large prospective cohorts of Swedish men and women (the Swedish Mammography Cohort and the Cohort of Swedish Men) to determine whether the association between red meat consumption and the risk of all-cause, CVD, and cancer-specific mortality differs across amounts of FV intake.

DESIGN: The study population included 74,645 Swedish men and women. Red meat and FV consumption were assessed through a self-administered questionnaire. We estimated HRs of all-cause, CVD, and cancer mortality according to quintiles of total red meat consumption. We next investigated possible interactions between red meat and FV consumption and evaluated the dose-response associations at low, medium, and high FV intake.

RESULTS: Compared with participants in the lowest quintile of total red meat consumption, those in the highest quintile had a 21% increased risk of all-cause mortality (HR: 1.21; 95% CI: 1.13, 1.29), a 29% increased risk of CVD mortality (HR: 1.29; 95% CI: 1.14, 1.46), and no increase in the risk of cancer mortality (HR: 1.00; 95% CI: 0.88, 1.43). Results were remarkably similar across amounts of FV consumption, and no interaction between red meat and FV consumption was detected.

CONCLUSION: High intakes of red meat were associated with a higher risk of all-cause and CVD mortality. The increased risks were consistently observed in participants with low, medium, and high FV consumption. The Swedish Mammography Cohort and the Cohort of Swedish Men were registered at clinicaltrials.gov as NCT01127698 and NCT01127711, respectively.

Tree nuts and peanuts reduce heart disease, total cancer & mortality from chronic diseases

BMC Med. 2016 Dec 5;14(1):207.

Nut consumption and risk of cardiovascular disease, total cancer, all-cause and cause-specific mortality: a systematic review and dose-response meta-analysis of prospective studies.

Aune D[1,2], Keum N[3], Giovannucci E[3,4,5], Fadnes LT[6], Boffetta P[7], Greenwood DC[8], Tonstad S[9], Vatten LJ[10], Riboli E[11], Norat T[11].

Author information

Abstract

BACKGROUND: Although nut consumption has been associated with a reduced risk of cardiovascular disease and all-cause mortality, data on less common causes of death has not been systematically assessed. Previous reviews missed several studies and additional studies have since been published. We therefore conducted a systematic review and meta-analysis of nut consumption and risk of cardiovascular disease, total cancer, and all-cause and cause-specific mortality.

METHODS: PubMed and Embase were searched for prospective studies of nut consumption and risk of cardiovascular disease, total cancer, and all-cause and cause-specific mortality in adult populations published up to July 19, 2016. Summary relative risks (RRs) and 95% confidence intervals (CIs) were calculated using random-effects models. The burden of mortality attributable to low nut consumption was calculated for selected regions.

RESULTS: Twenty studies (29 publications) were included in the meta-analysis. The summary RRs per 28 grams/day increase in nut intake was for coronary heart disease, 0.71 (95% CI: 0.63-0.80, $I^2 = 47\%$, n = 11), stroke, 0.93 (95% CI: 0.83-1.05, $I^2 = 14\%$, n = 11), cardiovascular disease, 0.79 (95% CI: 0.70-0.88, $I^2 = 60\%$, n = 12), total cancer, 0.85 (95% CI: 0.76-0.94, $I^2 = 42\%$, n = 8), all-cause mortality, 0.78 (95% CI: 0.72-0.84, $I^2 = 66\%$, n = 15), and for mortality from respiratory disease, 0.48 (95% CI: 0.26-0.89, $I^2 = 61\%$, n = 3), diabetes, 0.61 (95% CI: 0.43-0.88, $I^2 = 0\%$, n = 4), neurodegenerative disease, 0.65 (95% CI: 0.40-1.08, $I^2 = 5.9\%$, n = 3), infectious disease, 0.25 (95% CI: 0.07-0.85, $I^2 = 54\%$, n = 2), and kidney disease, 0.27 (95% CI: 0.04-1.91, $I^2 = 61\%$, n = 2). The results were similar for tree nuts and peanuts. If the associations are causal, an estimated 4.4 million premature deaths in the America, Europe, Southeast Asia, and Western Pacific would be attributable to a nut intake below 20 grams per day in 2013.

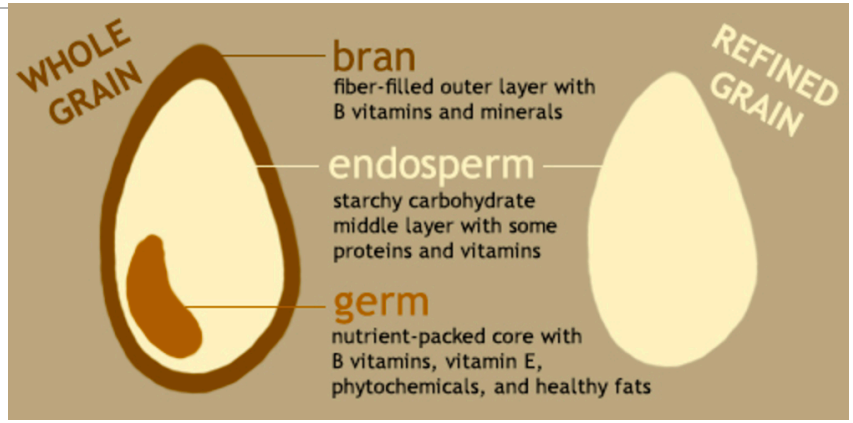
CONCLUSIONS: Higher nut intake is associated with reduced risk of cardiovascular disease, total cancer and all-cause mortality, and mortality from respiratory disease, diabetes, and infections.

How much?
Nut too much

- Need only a pound a month or > 20grams per day
- **Tree nuts**
  - Cashews
  - Almonds
  - Pecans
  - Walnuts and more
- The **peanut** is actually a legume.

Whole Grains

- Whole grains contain endosperm, germ, and bran
- Refined grains have the germ and bran removed during the milling process.



About Whole Grains

- Whole grains have fiber, B vitamins, iron, magnesium, and zinc, antioxidants, vitamin E, carbohydrates, protein, and energy.
- In the US, whole grain bread and breakfast cereals are main sources
- Whole wheat, whole oats, brown rice, whole rye, whole barley, quinoa, couscous, corn, bulgar, buckwheat

Benefits of Whole Grains

- Just 90 g/day of whole grains per day reduces the risk by:
  - 19% of coronary heart disease
  - 22% of cardiovascular disease
  - 15% total cancer
  - 17% of all cause mortality
  - 3-6 servings/day best
- NOTE: One serving equals 30 grams

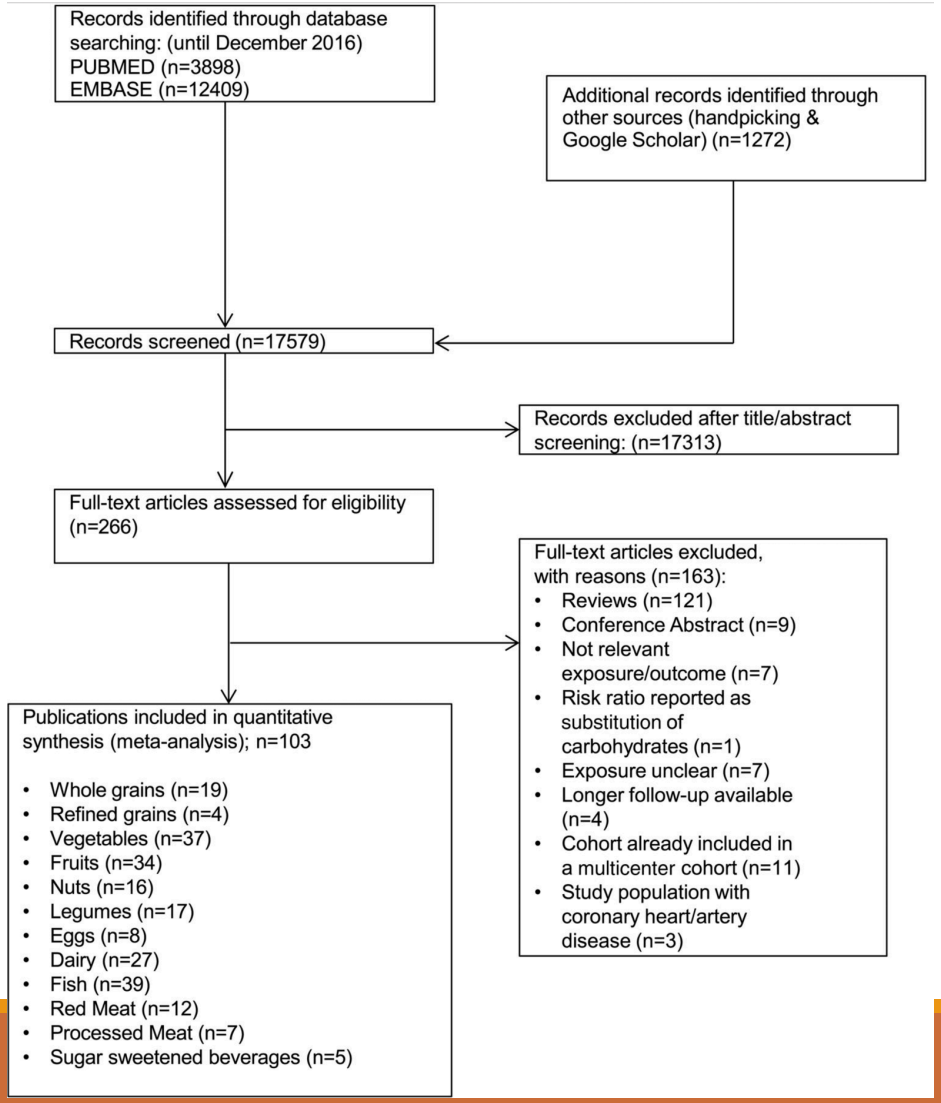
Refined grains

- Refined grains include:
  - White rice
  - White bread
  - Regular white pasta
  - Foods made with white flour (also called enriched wheat flour or all-purpose flour)
  - Many cookies, cakes, breakfast cereals, crackers, and snack foods

  - Do not seem to harm or help (except with diabetes)

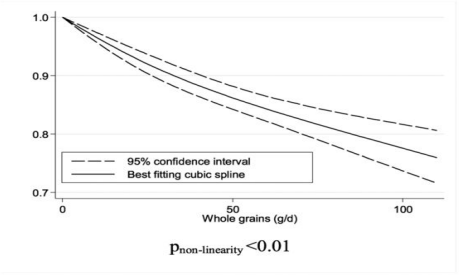
Food groups and risk of all-cause mortality: a systematic review and meta-analysis of prospective studies[1,2]

Lukas Schwingshackl,[3] Carolina Schwedhelm,[3] Georg Hoffmann,[4] Anna-Maria Lampousi,[3] Sven Knüppel,[3] Khalid Iqbal,[3] Angela Bechthold,[5] Sabrina Schlesinger,[6,7] and Heiner Boeing[3]*

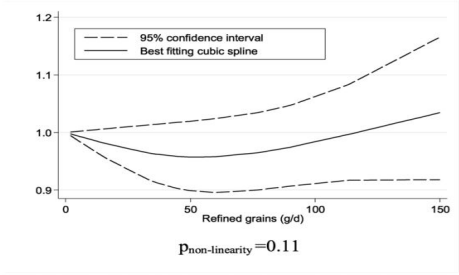


The American Journal of Clinical Nutrition

Nonlinear dose-response relation between daily intakes of whole grains, refined grains, vegetables, fruits, nuts, legumes, eggs, dairy, fish, red meat, processed meat, and sugar-sweetened beverages and risk of all-cause mortality.



$p_{non\text{-}linearity} < 0.01$



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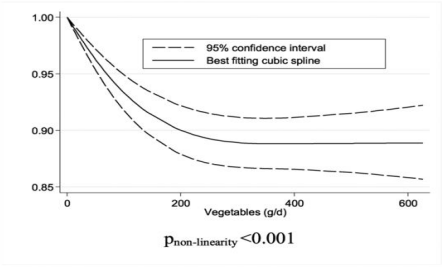

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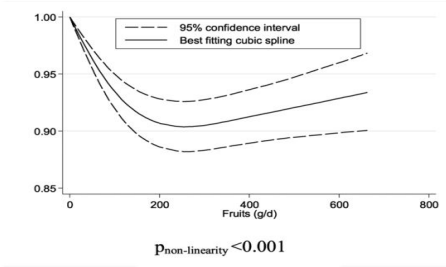

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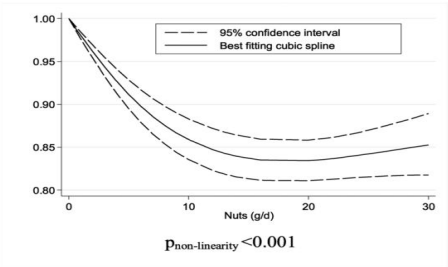

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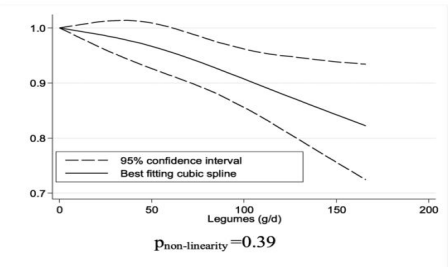

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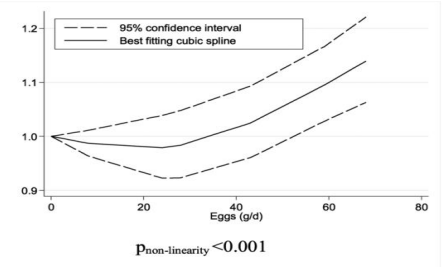

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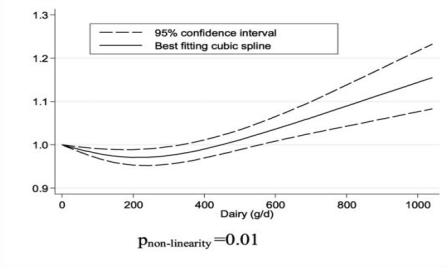

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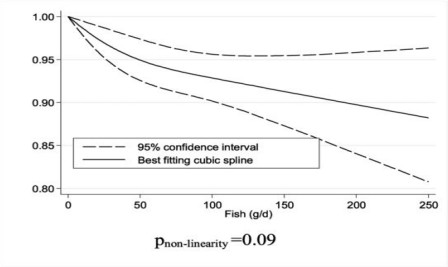

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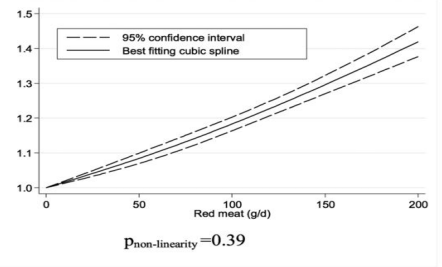

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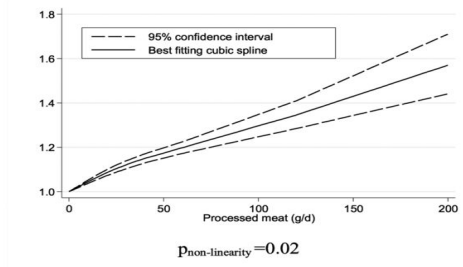
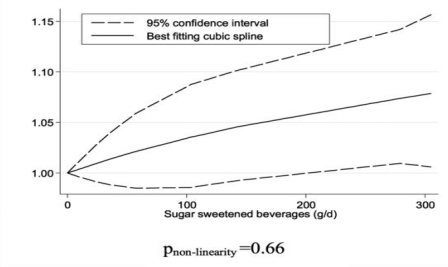


$p_{non\text{-}linearity} = 0.02$



$p_{non\text{-}linearity} = 0.66$

Relative risks from nonlinear dose-response analysis of 12 predefined food groups and all-cause mortality according to servings per day[1]

	Servings per day						
Associations by food group	0	1	2	3	4	5	6
Inverse association							
Whole grains (30 g/d)	1.00	0.91 (0.89, 0.92)	0.84 (0.82, 0.86)	0.79 (0.76, 0.83)	NA	NA	NA
Vegetables (80 g/d)	1.00	0.94 (0.93, 0.96)	0.91 (0.89, 0.93)	0.89 (0.87, 0.92)	0.89 (0.87, 0.91)	0.89 (0.87, 0.91)	0.89 (0.86, 0.92)
Fruit (80 g/d)	1.00	0.94 (0.93, 0.96)	0.91 (0.89, 0.93)	0.90 (0.88, 0.93)	0.91 (0.88, 0.93)	0.92 (0.89, 0.94)	0.92 (0.89, 0.95)
Nuts (28 g/d)	1.00	0.85 (0.82, 0.89)	NA	NA	NA	NA	NA
Legumes (100 g/d)	1.00	0.90 (0.85, 0.96)	NA	NA	NA	NA	NA
Fish (100 g/d)	1.00	0.93 (0.90, 0.96)	0.90 (0.84, 0.96)	NA	NA	NA	NA
Positive association							
Eggs (55 g/d)	1.00	1.07 (1.01, 1.15)	NA	NA	NA	NA	NA
Red meat (85 g/d)	1.00	1.16 (1.14, 1.18)	1.35 (1.32, 1.38)	NA	NA	NA	NA
Processed meat (30 g/d)	1.00	1.12 (1.10, 1.14)	1.20 (1.17, 1.23)	1.28 (1.23, 1.32)	1.35 (1.28, 1.41)	NA	NA
Sugar-sweetened beverages (250 mL/d)	1.00	1.07 (1.01, 1.14)	NA	NA	NA	NA	NA
Inverse and positive association							
Dairy (200 g/d)	1.00	0.97 (0.95, 0.99)	0.99 (0.97, 1.01)	1.04 (1.01, 1.07)	1.11 (1.05, 1.17)	1.16 (1.08, 1.23)	NA
No association							
Refined grains (30 g/d)	1.00	0.96 (0.92, 1.01)	0.96 (0.90, 1.02)	0.97 (0.91, 1.05)	1.00 (0.92, 1.08)	1.03 (0.92, 1.16)	NA

[1] Values are risk ratios (95% CIs). NA, not applicable.

Good Food IS Good Medicine

- Optimal consumption of risk-decreasing foods results in a 56% reduction of all-cause mortality
- Consumption of risk-increasing foods is associated with a 2-fold increased risk of all-cause mortality.
- Very few medications can do that (antibiotics, insulin, AZT/ HAART)

Questions

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