World Digestive Health Day 29th May 2025. Your Digestive Health: Nourish to Flourish

IAGH 8th Khordad 1404

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DECEMBER 2018

World Gastroenterology Organisation

Global Guardian of Digestive Health. Serving the World.

Your Digestive Health: Nourish to Flourish

Join Us 29 May to Celebrate WDHD

World Digestive Health Day

WDHD 2025

Your Digestive Health: Nourish to Flourish

29 May 2025

This year's campaign highlights the essential role of digestive health in overall well-being. By understanding how the digestive system supports the body and embracing nourishing dietary choices, individuals can enhance their vitality and quality of life. The World Gastroenterology Organisation wishes to foster a global culture of wellness and resilience and encourages everyone to take simple, mindful steps toward better digestive health.



Digestive Health Month 2025: Uniting our voices to spotlight digestive health and obesity

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The Growing Burden of Obesity

Epidemiology

- Prevalence of overweight and obesity is expected to rise from 38% (2.6B people) in 2020 to 50% (4B people) by 2035
- Increasingly common among children and adolescents
- Highest growth in lower-income countries



Consequences of obesity

Diabetes | Cardiovascular diseases | Hypertension | Cancer | Gastrointestinal Diseases | Steatotic liver disease



Obesity prevention

- Prevention starts in prenatal life
- Balanced diets and regular exercise, supported by public education & infrastructure, reduce risks
- Addressing socioeconomic disparities promotes healthier eating
- Public policies help reduce smoking, alcohol, and sugar-sweetened drink consumption
- Reducing obesity-related stigma improves physical & mental health
- Affordable diagnostic tests aid early detection & disease management



Five most common diseases of GI and Liver associated with obesity

- Gastroesophageal reflux disease Or GERD
- Gallstone disease and its related complication such as pancreatitis and cholecystitis
- MASLD and MASH
- colon cancer
- Diverticulitis

New obesity treatment is the most exciting area of healthcare

- Ozempic and other GLP-1 drugs have transformed obesity treatment and are now leading a **healthcare revolution**,
- These drugs have energised the field and it has happened so fast.
- The benefits of being at a healthy weight are substantial,
- weight-loss jabs could **reduce the risk of 42 diseases including heart disease, cancer, clotting disorders, Alzheimer's, chronic kidney disease, addiction and a range of psychiatric conditions.**
- There is early evidence that these benefits go beyond what might be expected due to the drugs' metabolic effects.

Healthcare Revolution

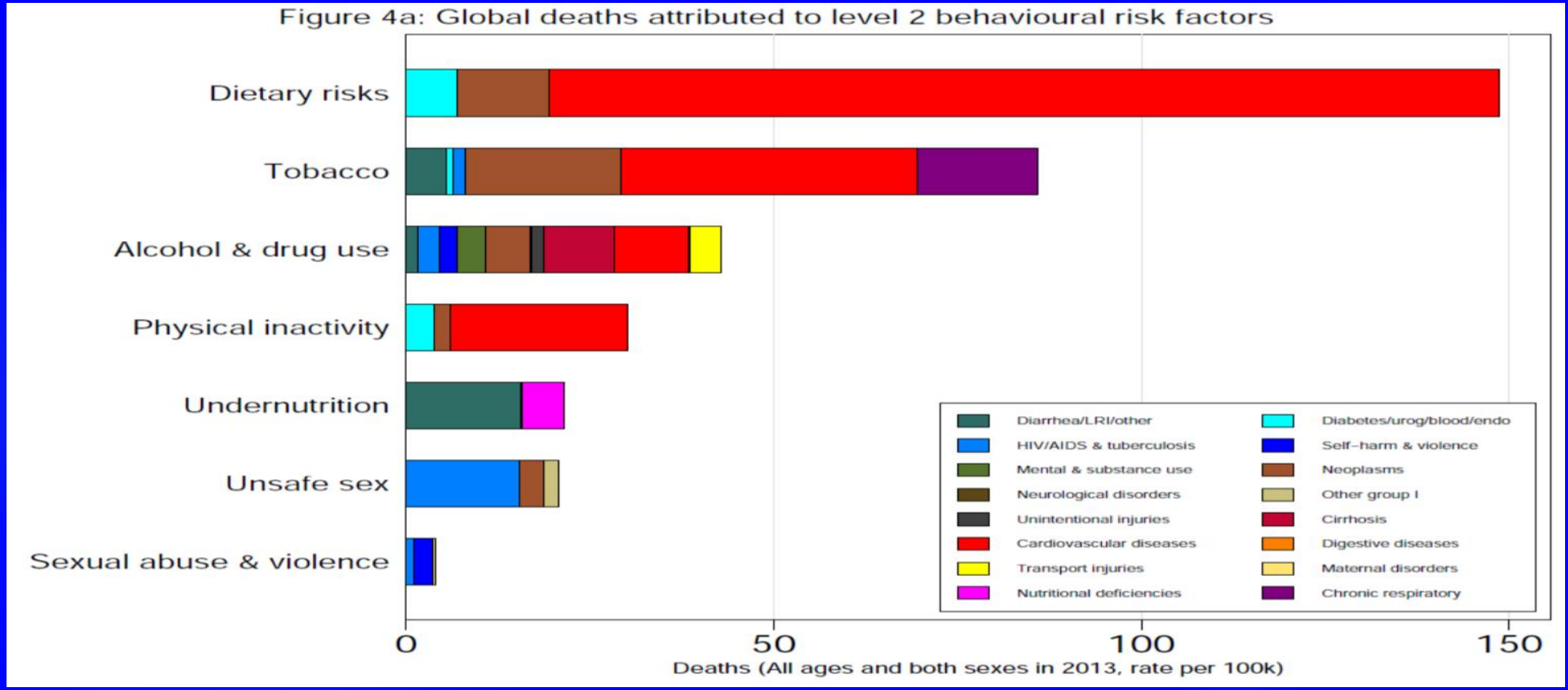


Food is Medicine

- Food is medicine" interventions are being increasingly studied as a means of preventing and treating multiple chronic diseases.

- Unlike traditionally approved medicines for which molecular targets are well established, dietary intake comprises a large variety of food ingredients, and their functions are spread out over a lifetime.

Global deaths attributed to level 2 behavioural risk factors



Relation between dietary intake and health is complex and incompletely understood

- **11 million deaths** per year are attributed to suboptimal diets, including those with high sodium,
- Low whole-grain, and low fruit content.
- Dietary factors contribute to **hypertension, obesity, heart disease, stroke, type 2 diabetes mellitus, and cancers, especially gastric and CRC.**

Poor diet Was liked to 11 million death

1-CVD.....9.5 MILLION DEATH

2-Cancer...913000

3-T2DM.....339000

STUDIES OF GEOGRAPHIC PATHOLOGY ARE OPENING NEW VISTAS IN CANCER EPIDEMIOLOGY

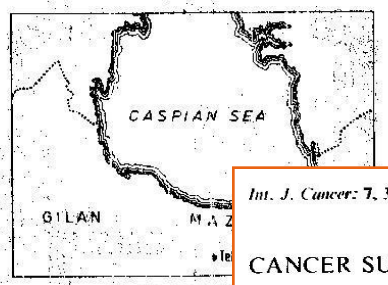
در طی سالهای ۱۳۵۷-۱۳۴۸ بیش از ده مقاله با عنوان" سرطان در حاشیه دریای خزر" در نشریات معتبر بین المللی به چاپ رسید

THE LANCET, MARCH 25, 1978 641

THE LANCET

Oesophageal Cancer on the Caspian Littoral

CARCINOMA of the œsophagus shows a huge variation of about 300-fold between the highest and lowest incidence rates in different countries.[1] The highest rates are reported in parts of central Asia, in eastern and southern regions of Africa, and in Curaçao and parts of Brazil. In central Asia the epidemiology of œsophageal cancer is most fully documented in the southern Caspian littoral;[2-4] and a study from the Joint Iran-International Agency for Research on Cancer Study Group provides new and stimulating information about this area. Pre-



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surveys of diet, and all adults
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dence and low-incidence areas
for their content of volatile ni
aromatic hydrocarbons, afla
nitrites.

Int. J. Cancer: 7, 353-363 (1971)

CANCER SURVEY IN SOUTH IRAN WITH SPECIAL REFERENCE TO GASTROINTESTINAL NEOPLASMS

by

Ali Asghar BAREKAT, Farrokh SAIDI and Werner DUTZ

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Br. J. Cancer (1973) 28, 197

OESOPHAGEAL CANCER STUDIES IN THE CASPIAN LITTORAL OF IRAN: THE CASPIAN CANCER REGISTRY

E. MAHBOUBI[1], J. KMET[2], P. J. COOK[3], N. E. DAY[3], P. GHADIRIAN[4] AND S. SALMASIZADEH[4]

From the [1]Institute of Public Health Research, University of Teheran; [2]International Agency for Research on Cancer, Lyon, France; [3]D.H.S.S. Cancer Epidemiology and Clinical Trials Unit, Department Regius Professor Medicine, Oxford; [4]Babol Research Station, Institute of Public Health, University of Teheran

Received 16 April 1973. Accepted 31 May 1973

Summary.—The results of the first 3 years of cancer registration on the Caspian Littoral are described. The main finding, confirming previous reports, is a very large variation within the region of the incidence of oesophageal cancer. Possible sources of bias are considered and shown to contribute little to the pattern of incidence. Among women there is a thirty-fold variation in the incidence across

Esophageal Cancer in the Caspian Littoral of Iran: Initial Studies

Detailed studies of geographical pathology are opening new vistas in cancer epidemiology.

Science 1972 Janez Kmet and Ezattollah Mahboubi

IPHR-IARC Studies of ESCC in Iran in the 1970s



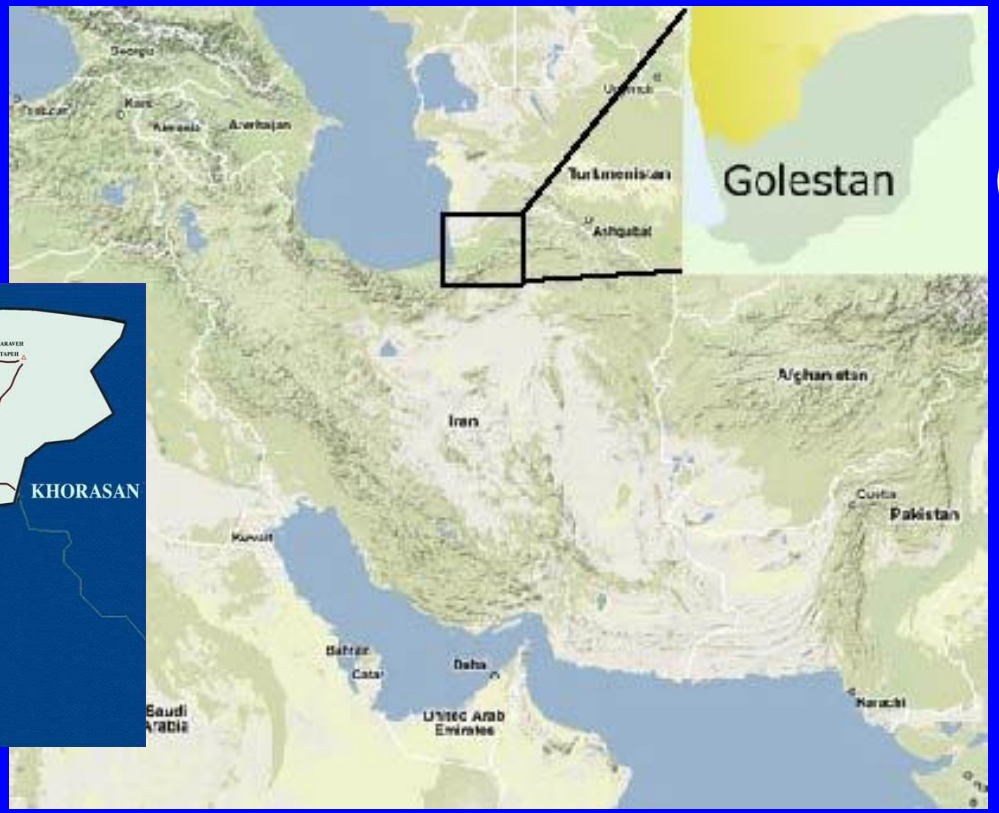


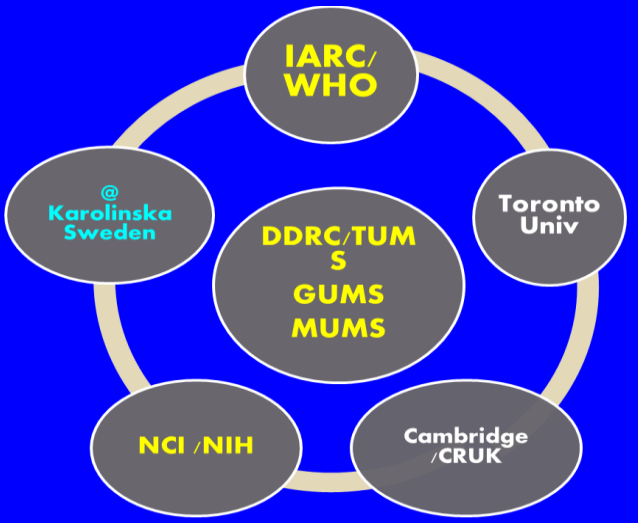
Mahboubi E, et al. Br. J. Cancer, 28: 197-214, 1973

- Cancer Registry (1968-1971)
- Northeastern Iran is one of the highest-risk populations for ESCC in the world
- At least as common in women as in men
- Possible causes: Bread, Tea, Opium, Low FAV, Low SES

Golestan Cohort Study
Catchment area







The Golestan Cohort Study (GCS)

- The GCS was designed to study esophageal cancer
- In collaboration with NCI/NIH and IARC/WHO
- Over 50,000 subjects older than 40 years were enrolled from 336 villages and Gonbad city starting 2003.
- A great deal of data is collected from each subject including:
  - A detailed 30-page questionnaire (including FFQ)
  - Yearly follow-up for last 20years
  - A detailed record of significant medical events
- Frozen samples of serum, whole blood, nails and hair.

A nutritionist is interviewing using FFQ

(a localized food portion sized album is used)

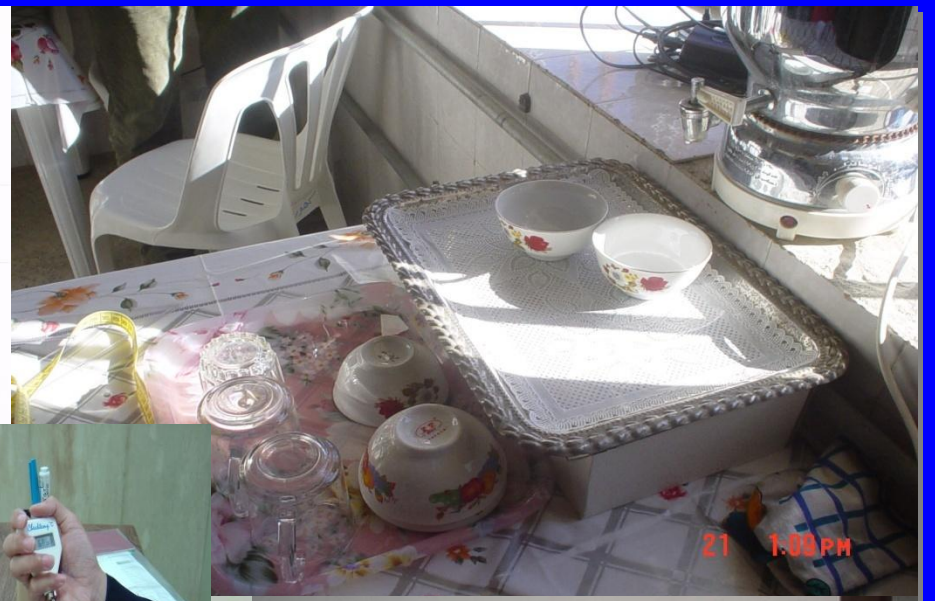






Heath workers measuring H, W, …, tea temperature & assessing Socio-economic













Golestan Cohort Biobank
25 freezers







Golestan Cohort Study

- Largest Prospective Adult Cohort study in Iran and Middle East.
- Well design and conducted with an **exceptional follow up rate of >99%**
- Repeated Measurement every 5 year from 20% of enrolled subjects

Evaluation of Role of Nutrition

- **A Validated food frequency questionnaire (FFQ) specifically developed** for this population and validated during the pilot study .
- The FFQ covers **116 food items, including** bread and cereals, meat and dairy products, oils, sweets, legumes, vegetables, fruits, and condiments, as well as **cooking methods**.

Nutrient and food group intake in GCS

- **Twelve 24-hour dietary recalls** were administered during a one year period to 131 healthy participants in a pilot cohort study.
- We compare here nutrient intake in Golestan with Recommended Daily Allowances (RDAs) and Lowest Threshold Intakes (LTIs).
- We also compare the intake of 27 food groups and nutrients among several population subgroups, using mean values from the twelve recalls.

Validity and reliability study of GCS Food frequency Questioner

European Journal of Clinical Nutrition (2006) 0, 000–000
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0954-3007/06 $30.00
www.nature.com/ejcn

ORIGINAL ARTICLE

Validity and reliability of a new food frequency questionnaire compared to 24 h recalls and biochemical measurements: pilot phase of Golestan cohort study of esophageal cancer

AF Malekshah[1,4], M Kimiagar[1,4], M Saadatian-Elahi[2,3], A Pourshams[1], M Nouraie[1], G Goglani[1], A Hoshiarrad[4], M Sadat Safavi[1], B Golestan[4], A Yoonesi[1], N Rakhshani[1], S Fahimi[1,2], D Nasrollahzadeh[1], R Salahi[5], A Ghafarpour[4], S Semnani[5], JP Steghens[3], CC Abnet[6], F Kamangar[6], SM Dawsey[6], P Brennan[2], P Boffetta[2] and R Malekzadeh[1]

[1]*Digestive Disease Research Center, Shariati Hospital, Tehran University of Medical Sciences, Tehran, Iran;* [2]*International Agency for Research on Cancer, Lyon, France;* [3]*Edouard Herriot Hospital and EA 3090, Lyon, France;* [4]*National Nutrition and Food Science Research Institute of Shaheed Beheshti University of Medical Science, Iran;* [5]*Golestan University of Medical Sciences, Gorgan, Iran and* [6]*Nutritional Epidemiology Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, MD, USA*

Background: A pilot study was carried out to evaluate validity and reproducibility of a food frequency questionnaire (FFQ), which was designed to be used in a prospective cohort study in a population at high risk for esophageal cancer in northern Iran.
Methods: The FFQ was administered four times to 131 subjects, aged 35–65 years, of both sexes. Twelve 24-h dietary recalls for two consecutive days were administered monthly during 1 year and used as a reference method. The excretion of nitrogen was measured on four 24-h urine samples, and plasma levels of β-carotene, retinol, vitamin C and α-tocopherol was measured from two time points. Relative validity of FFQ and 24-h diet recall was assessed by comparing nutrient intake derived from both methods with the urinary nitrogen and plasma levels of β-carotene, retinol, vitamin C and α-tocopherol.
Results: Correlation coefficients comparing energy and nutrients intake based on the mean of the four FFQ and the mean of twelve 24-h diet recalls were 0.75 for total energy, 0.75 for carbohydrates, 0.76 for proteins and 0.65 for fat. Correlation coefficients between the FFQ-based intake and serum levels of β-carotene, retinol, vitamin C and vitamin E/α-tocopherol were 0.37, 0.32, 0.35 and 0.06, respectively. Correlation coefficients between urinary nitrogen and FFQ-based protein intake ranged from 0.23 to 0.35. Intraclass correlation coefficients used to measure reproducibility of FFQ ranged from 0.66 to 0.89.
Conclusion: We found that the FFQ provides valid and reliable measurements of habitual intake for energy and most of the nutrients studied.
European Journal of Clinical Nutrition (2006) **0**, 000–000. doi:10.1038/sj.ejcn.1602407

Nutritional Scientific output of GCS

- Publication of **38 papers on Diet** and Cancer & CVD in Q1 nutritional Journals
- Collaboration with **6 main Dietary International studies** with 20 manuscript output.
- Collaboration with **5 national University nutritional teams**
- Collaboration with **9 top international university**
- Supporting PH.D thesis for **16** young colleagues

Collaboration with Nutritional Departments in Iranian University

- 1-National Nutrition and Food Technology Research Institute, Shahid Beheshti UMS.
- 2-Golestan Research Center of Gastroenterology GUMS Gorgan, Iran.
- 3-Nutrition Research Center, Shiraz University of medical sciences,
- 4-Nutrition and Food Security Research Center, Isfahan UMS
- 5-Department of Nutrition, Zanjan University of Medical Sciences

International Collaboration with 8 Top nutritional Global research institute

- 1-Department of Nutrition Harvard University USA.
- 2-Department of Epidemiology, Harvard University USA.
- 3-University of Cambridge School of Clinical Medicine, Cambridge, U.K
- 3-Metabolic Epidemiology Branch, National Cancer Institute, Bethesda, USA
- 2-Icahn School of Medicine at Mount Sinai, New York, USA.
- 4-Division of Gastroenterology, Hepatology and Nutrition, UBC, BC, Canada.
- 5- German Institute of Human Nutrition, Nuthetal, Germany.
- 6-University of Navarra, Pamplona, Spain.
- 7-Genetic Epidemiology Group, (IARC/WHO) Lyon, France
- 8-Department of Medical and Surgical Sciences, University of Bologna, Bologna, Italy.

GCS is a member of following International Collaborative studies

- Global Dietary Database
- Global Burden of Disease
- Local Burden of Disease Collaborators.
- Stomach cancer Pooling (StoP) Project.
- Cambridge Dietary and nutritional approaches for prevention of disease.
- NCD Risk Factor Collaboration (NCD-RisC)

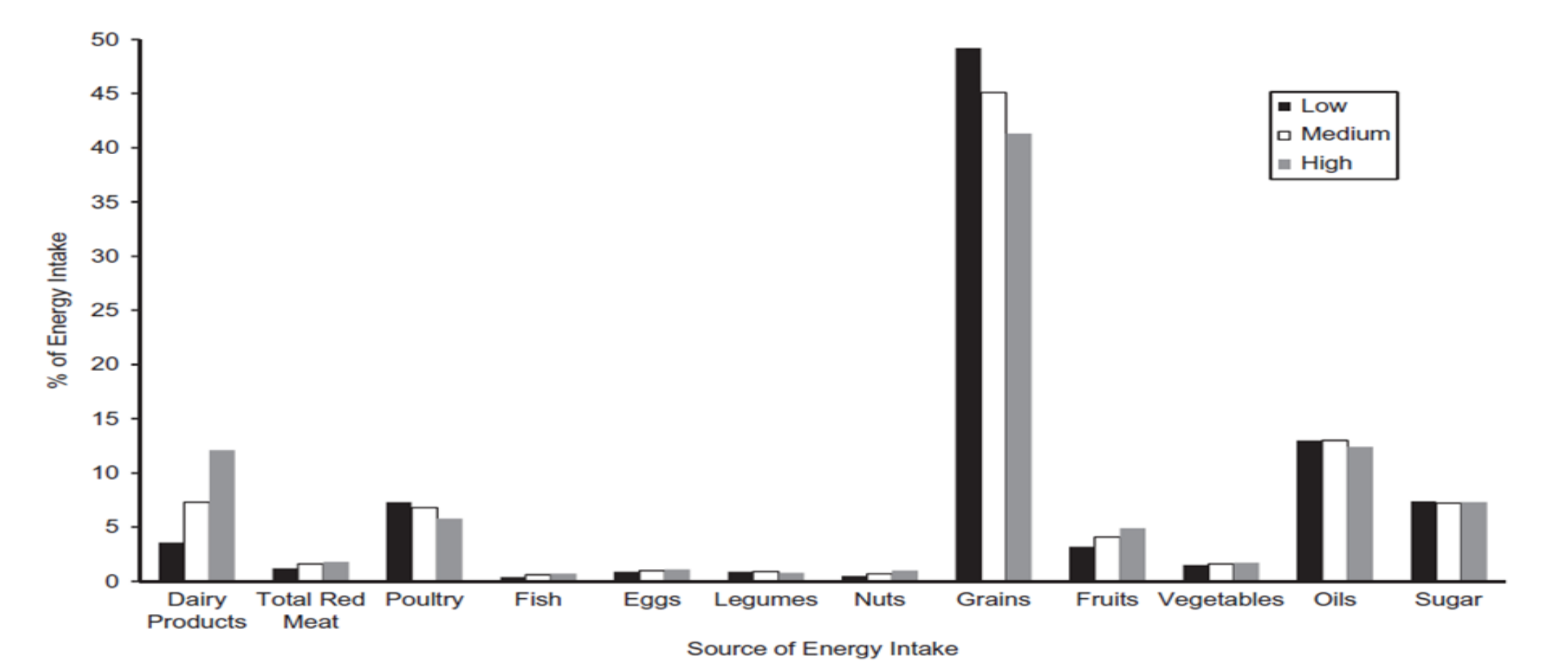
رژیم غذایی

- شیوع مصرف اضافی مواد غذایی: ۴۰٪
- ۴۰٪ اضافه کربوهیدرات، ۳۰٪ اضافه چربی :
- مصرف زیاد برنج سفید باعث افزایش بروز دیابت: ایران ۱۳ همین مصرف

کننده برنج سفید در جهان (سرانه ۴۶ کیلوگرم)

مطالعه کوهورت گلستان 1386

Percentage of energy intake derived from various food groups by participants of Golestan Cohort study



Study of Diary Food intake with Dr Walter C. Willett from Harvard University

American Journal of Epidemiology
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Advance Access publication: March 29, 2017

Original Contribution

Dairy Food Intake and All-Cause, Cardiovascular Disease, and Cancer Mortality

The Golestan Cohort Study

Maryam S. Farvid*, Akbar F. Malekshahi, Akram Pourshams, Hossein Poustchi, Sadaf G. Sepanlou, Maryam Sharafkhah, Masoud Khoshnia, Mojtaba Farvid, Christian C. Abnet, Farin Kamang[illegible], Paul D. Pharoah, Paolo Boffetta, Walter C. Willett, and Reza Malekzadeh*

* Correspondence to Dr. Reza Malekzadeh, Digestive Disease Research Center, Digestive Disease Research Institute, Tehran University of Medical Sciences, Shariati Hospital, North Kargar Street, Tehran, Iran (e-mail: malek@tums.ac.ir); or Dr. Maryam S. Farvid, Department of Nutrition, Harvard T.H. Chan School of Public Health, 655 Huntington Avenue, SPH-2, Boston, MA 02115 (e-mail: mfarvid@hsph.harvard.edu).

Initially submitted August 18, 2015; accepted for publication September 28, 2016.

We investigated the association between dairy product consumption and all-cause, cardiovascular disease (CVD), and cancer mortality in the Golestan Cohort Study, a prospective cohort study launched in January 2004 in Golestan Province, northeastern Iran. A total of 42,403 men and women participated in the study and completed a diet questionnaire at enrollment. Cox proportional hazards models were used to estimate hazard ratios and 95% confidence intervals. We documented 3,291 deaths (1,467 from CVD and 859 from cancer) during 11 years of follow-up (2004–2015). The highest quintile of total dairy product consumption (versus the lowest) was associated with 19% lower all-cause mortality risk (hazard ratio (HR) = 0.81, 95% confidence interval (CI): 0.72, 0.91; P_{trend} = 0.006) and 28% lower CVD mortality risk (HR = 0.72, 95% CI: 0.60, 0.86; P_{trend} = 0.005). High consumption of low-fat dairy food was associated with lower risk of all-cause (HR = 0.83, 95% CI: 0.73, 0.94; P_{trend} = 0.002) and CVD (HR = 0.74, 95% CI: 0.61, 0.89; P_{trend} = 0.001) mortality. We noted 11% lower all-cause mortality and 16% lower CVD mortality risk with high yogurt intake. Cheese intake was associated with 16% lower all-cause mortality and 26% lower CVD mortality risk. Higher intake of high-fat dairy food and milk was not asso-

High-Fat Dairy Food Intake and Mortality

Quintile of dairy Product intake	Median intake serving/d	No. of death	Persons year of follow up	Age adjusted HR		95% CI	Multivariate adjusted HR		95% CI
			High-Fat Dairy Products						
1	0	330	33,291	1		Referent	1		Referent
2	0.05	747	76,224	1.11		0.98, 1.27	1.06		0.93, 1.21
3	0.2	728	74,365	1.10		0.96, 1.25	1.05		0.92, 1.20
4	0.5	685	77,484	0.96		0.84, 1.10	0.97		0.84, 1.11
5	1.1	801	78,504	1.01		0.89, 1.15	1.01		0.88, 1.16
P_{trend}					0.08			0.43	
Per serving/day				0.93		0.85, 1.01	0.96		0.88, 1.06

Farvid M *et al.,* 2017.
Am J of Epidemiology

Higher fish and legume consumption lower cancer mortality, and higher egg consumption with lower all-cause mortality.

AMERICAN JOURNAL OF
Preventive Medicine

RESEARCH ARTICLE

Dietary Protein Sources and All-Cause and Cause-Specific Mortality: The Golestan Cohort Study in Iran

Maryam S. Farvid, PhD,[1,2,3] Akbar F. Malekshah, PhD,[2,4] Akram Pourshams, MD,[2,5] Hossein Poustchi, MD, PhD,[4,5] Sadaf G. Sepanlou, MD, PhD,[2,4] Maryam Sharafkhah, MSc,[2,5,6] Masoud Khoshnia, MD,[7] Mojtaba Farvid, PhD,[8] Christian C. Abnet, PhD,[9] Farin Kamangar, MD, PhD,[10] Sanford M. Dawsey, MD,[9] Paul Brennan, PhD,[11] Paul D. Pharoah, MBBS, PhD,[12] Paolo Boffetta, MD,[13] Walter C. Willett, MD, DrPH,[1,14,15] Reza Malekzadeh, MD[2,4,5]

Introduction: Dietary protein comes from foods with greatly different compositions that may not relate equally with mortality risk. Few cohort studies from non-Western countries have examined the association between various dietary protein sources and cause-specific mortality. Therefore, the associations between dietary protein sources and all-cause, cardiovascular disease, and cancer mortality were evaluated in the Golestan Cohort Study in Iran.

Methods: Among 42,403 men and women who completed a dietary questionnaire at baseline, 3,291 deaths were documented during 11 years of follow up (2004–2015). Cox proportional hazards models estimated age-adjusted and multivariate-adjusted hazard ratios (HRs) and 95% CIs for all-cause and disease-specific mortality in relation to dietary protein sources. Data were analyzed from 2015 to 2016.

Dairy Products Protective for CVD mortality

Our analysis of samples from Golestan cohort study in Iran showed:

- The more total dairy products, the lower rate of total and CVD mortality



- The more legumes and fish, the lower rate of cancer mortality.

Eggs, fish and legume consumption

- Comparing the highest versus the lowest quartile, egg consumption was associated with lower all-cause mortality.
- Higher fish and legume consumption lower cancer mortality,

Independent roles for red meat intake, drinking water source, and food preparation method in ESCC.

Published in final edited form as:
Eur J Cancer Prev. 2016 March ; 25(2): 123–129. doi:10.1097/CEJ.0000000000000156.

Food Preparation Methods, Drinking Water Source and Esophageal Squamous Cell Carcinoma in the High Risk Area of Golestan, Northeast Iran

Asieh Golozar[1,2,3], **Arash Etemadi**[1,2], **Farin Kamangar**[1,4], **Akbar Fazeltabar Malekshah**[1], **Farhad Islami**[5,1], **Dariush Nasrollahzadeh**[6,1], **Behnoosh Abedi-Ardekani**[1,7], **Masoud Khosnia**[8], **Akram Pourshams**[1], **Shahriar Semnani**[8], **Haji Amin Marjani**[8,1], **Ramin Shakeri**[1], **Masoud Sotoudeh**[1], **Paul Brennan**[7], **Philip Taylor**[2], **Paolo Boffetta**[5,9], **Christian Abnet**[2], **Sanford Dawsey**[2], and **Reza Malekzadeh**[1]

[1]Digestive Disease Research Center, Shariati Hospital, Tehran University of Medical Sciences, Tehran, Iran

[2]Division of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, MD, USA

[3]Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

[4]School of Community Health and Policy, Morgan State University, Baltimore, MD, USA

After 20 year of Research with GCS we were able to find the 7 dietary and life style etiology of ESCC in Golestan

The Golestan Cohort Study (GCS)



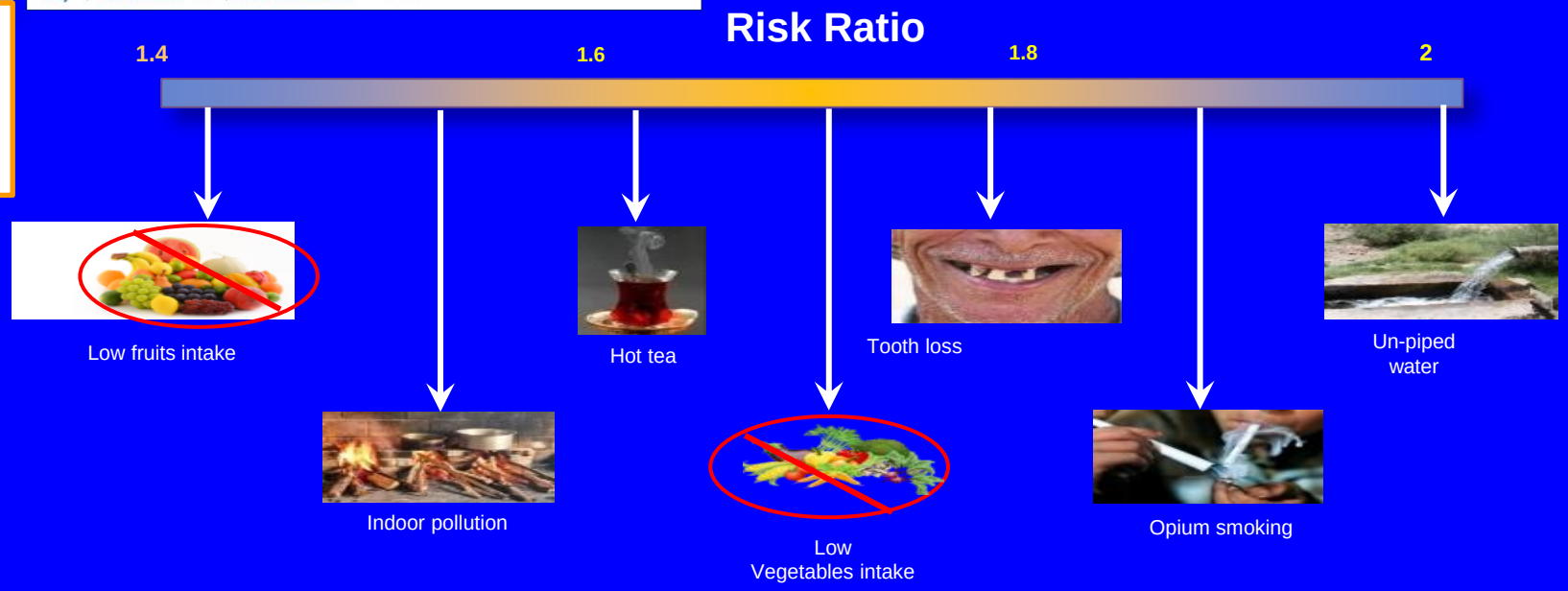
- North-East Iran, known for having unusual rates of esophageal cancer
- The study was initiated in 2004 through collaboration between scientists in Iran, IARC and the NCI to study esophageal cancer
- > 50,000 participants
- > 10 years of follow-up with <1% loss

Gastroenterology
Available online 3 January 2019
In Press, Accepted Manuscript

Individual and Combined Effects of Environmental Risk Factors for Esophageal Cancer Based on Results From the Golestan Cohort Study

Mahdi Sheikh [1, 2], Hossein Poustchi [3, 4], Akram Pourshams [1, 4], Arash Etemadi [1, 5], Farhad Islami [6, 1], Masoud Khoshnia [1, 7], Abdolsamad Gharavi [1, 7], Maryam Hashemian [1, 5], Gholamreza Roshandel [7, 1], Hooman Khademi [1], Mahdi Zahedi [8], Behnoush Abedi-Ardekani [2], Paolo Boffetta [9], Farin Kamangar [10], Sanford M. Dawsey [5], Paul D. Pharaoh [11], Christian C. Abnet [5], Nicholas E. Day [11], Paul Brennan [2], Reza Malekzadeh [1, 3, 4]

76% of esophageal cancer cases are attributable to combined exposures to these 7 risk factors



The main etiology of ESCC in Golestan was Nutrition

- Low intake of vegetable
- Low intake of fruits
- Drinking very hot tea
- Opium use
- Indoor Air pollution
- Drinking unpiped cistern water

Generating New Evidence on Carcinogens

- **Hot beverages**: **Added to IARC/WHO Monograph in 2014**
- **Opium use**: We are working with IARC/WHO to produce OPIUM monograph which recognize opium as a carcinogen This week .**Added to IARC/WHO Monograph in 2022**
- **Oral health**: DMF and oral hygiene
- **Dietary risk** factors: salted meat and vegetables and pickles
- **Genetic** factors
- Environmental factors **(PAH exposure**)

Strongest risk factor for ESCC





Measurement of Tea temperature in 50 000 participants of GCS during 3 year enrolment



Downloaded from bmj.com on 27 March 2009

BMJ

RESEARCH

Tea drinking habits and oesophageal cancer in a high risk area in northern Iran: population based case-control study

Farhad Islami, research fellow,[1,2,3] Akram Pourshams, associate professor,[1] Dariush Nasrollahzadeh, PhD student,[1,4] Farin Kamangar, research fellow,[5] Saman Fahimi, PhD student,[1,6] Ramin Shakeri, research fellow,[1] Behnoush Abedi-Ardekani, pathologist,[1] Shahin Merat, associate professor,[1] Homayoon Vahedi, associate professor,[1] Shahryar Semnani, associate professor and director,[7] Christian C Abnet, investigator,[5] Paul Brennan, group head,[2] Henrik Møller, professor and director,[3] Farrokh Saidi, professor,[1] Sanford M Dawsey, senior investigator,[5] Reza Malekzadeh, professor and director,[1] Paolo Boffetta, group head and cluster coordinator[2]

Hot Beverage WHO/IARC Monograph 2016

International Agency for Research on Cancer

World Health Organization

PRESS RELEASE
N° 244

15 June 2016

IARC Monographs evaluate drinking coffee, maté, and very hot beverages

Lyon, France, 15 June 2016 – An international Working Group of 23 scientists convened by the International Agency for Research on Cancer (IARC), the cancer agency of the World Health Organization (WHO), has evaluated the carcinogenicity of drinking coffee, maté,[1] and very hot beverages.

A summary of the final evaluations is published today in *The Lancet Oncology*, and the detailed assessments will be published as Volume 116 of the IARC Monographs.

The Working Group found no conclusive evidence for a carcinogenic effect of drinking coffee. However, the experts did find that drinking very hot[2] beverages probably causes cancer of the oesophagus in humans. No conclusive evidence was found for drinking maté at temperatures that are not very hot.

"These results suggest that drinking very hot beverages is one probable cause of oesophageal cancer and that it is the temperature, rather than the drinks themselves, that appears to be responsible," says Dr Christopher Wild, IARC Director.

Very hot beverages

Drinking very hot beverages was classified as *probably carcinogenic to humans* (Group 2A).

News

Carcinogenicity of drinking coffee, mate, and very hot beverages

In May, 2016, a Working Group of 23 scientists from ten countries met at the International Agency for Research on Cancer (IARC) in Lyon, France, to evaluate the carcinogenicity of drinking coffee, mate, and very hot beverages. These assessments will be published in volume 116 of the IARC Monographs.[1]

Coffee is one of the world's most widely consumed beverages. It contains many different compounds and its composition varies depending on how it is produced and prepared for drinking. After consumption, caffeine, chlorogenic acids, and other compounds contained in coffee are absorbed and distributed throughout the body.

The carcinogenicity of coffee drinking was last assessed by IARC in 1991.[2] At that time coffee was classified as "possibly carcinogenic to humans" (Group 2B) based on limited evidence of an association with cancer of the urinary bladder from case-control studies, and inadequate evidence of carcinogenicity in experimental animals. However, there was also evidence suggesting a lack of carcinogenicity for cancers of the female breast and the large intestine.

increased in men but were null or decreased in women, consistent with residual confounding from smoking or occupational exposures among men. The Working Group concluded that positive associations reported in some studies could have been due to inadequate control for tobacco smoking, which can be strongly associated with heavy coffee drinking. By contrast, for endometrial cancer, the five largest cohort studies showed mostly inverse associations with coffee drinking. These results were supported by the findings of several case-control studies and a meta-analysis.[6] Inverse associations with coffee drinking were also observed in cohort and case-control studies of liver cancer in Asia, Europe, and North America. A meta-analysis of prospective cohort studies estimated that the risk of liver cancer decreases 15% for each 1 cup per day increment.[7] More than 40 cohort and case-control studies and a meta-analysis[8] including nearly 1 million women consistently indicated either no association or a modest inverse association for cancer of the female breast and coffee drinking. Similarly, numerous

The combination of evidence suggesting lack of carcinogenicity for cancers of the female breast, pancreas, prostate, uterine endometrium, and liver, with inverse associations for the latter two and inadequate evidence for all the other sites reviewed led to the conclusion that there is inadequate evidence in humans for the carcinogenicity of coffee drinking.

Coffee has been evaluated for carcinogenicity in several long-term studies in mice and rats, and has been tested for both tumour-promoting and cancer-preventing activity in a number of co-carcinogenicity studies in rats and hamsters. The Working Group concluded that these studies provided inadequate evidence in experimental animals for the carcinogenicity of coffee.

Coffee drinking exhibited strong antioxidant effects in studies in humans, including in randomised controlled trials.[9] Results for genotoxicity from studies in humans were inconsistent, and coffee did not induce chromosomal damage in rodents. Nonetheless, coffee gave positive results in bacterial mutagenesis

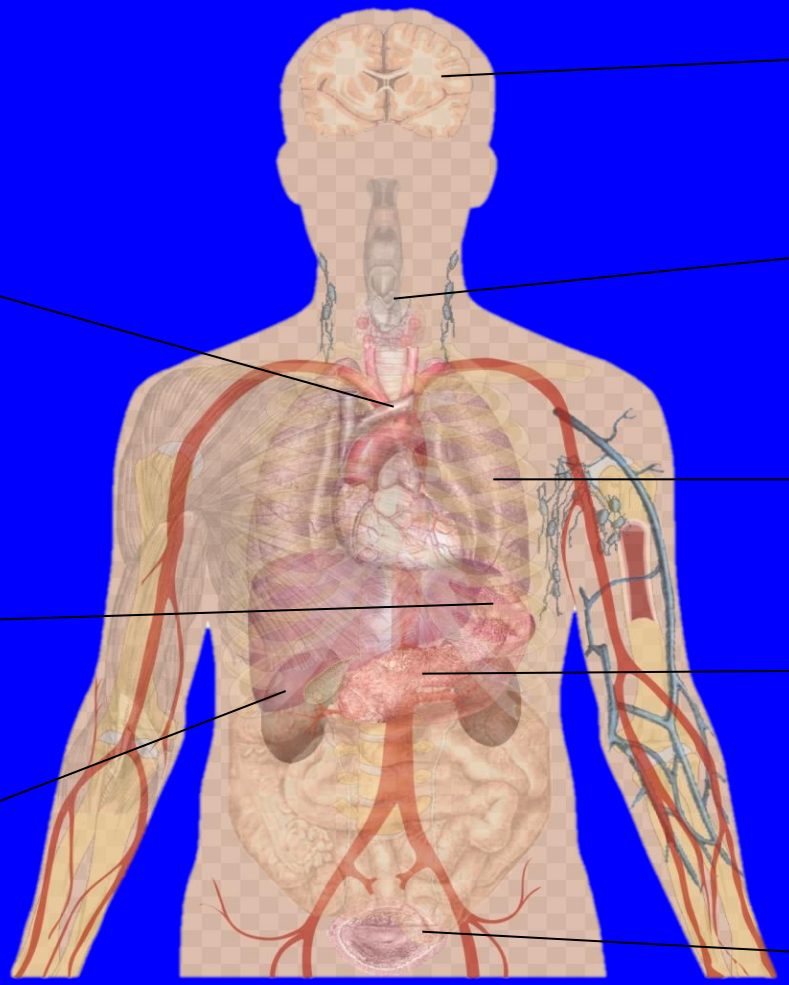
Published Online
June 15, 2016
http://dx.doi.org/10.1016/S1470-2045(16)30239-X

For more on the **IARC Monographs** see http://monographs.iarc.fr

Upcoming meetings
October 4–11, 2016, Volume 117: Pentachlorophenol and some related compounds;
March 21–28, 2017, Volume 118: Welding, welding fumes and some related chemicals

IARC Monograph Working Group Members
L T Stayner (USA)—meeting chair; E Milne (Australia); S Knasmüller (Austria); A Farah, L F Ribeiro Pinto (Brazil); D W Lachenmeier (Germany); C Bamia (Greece); A Tavani (Italy); M Inoue (Japan); N Djordjevic (Serbia); P C H Hollman, P A van den Brandt (Netherlands); J A Baron, E Gonzalez de Mejia, F Islami

Opium use increased the risk of 8 cancer types



Brain cancer

Laryngeal cancer
HR: 2.53

Lung cancer
HR: 2.21

Pancreatic cancer

Bladder cancer
HR: 2.86

Esophageal cancer
HR: 1.38

Gastric cancer
HR: 1.36

Liver cancer

IARC - WHO evaluates the carcinogenicity of opium consumption

16 scientists from 10 countries

For one year reviewed all evidence

September, 2020

Met remotely for 10 days and

discussed all evidence in 4 expert

working groups

THE LANCET
Oncology

NEWS | VOLUME 21, ISSUE 11, P1407-1408, NOVEMBER 01, 2020

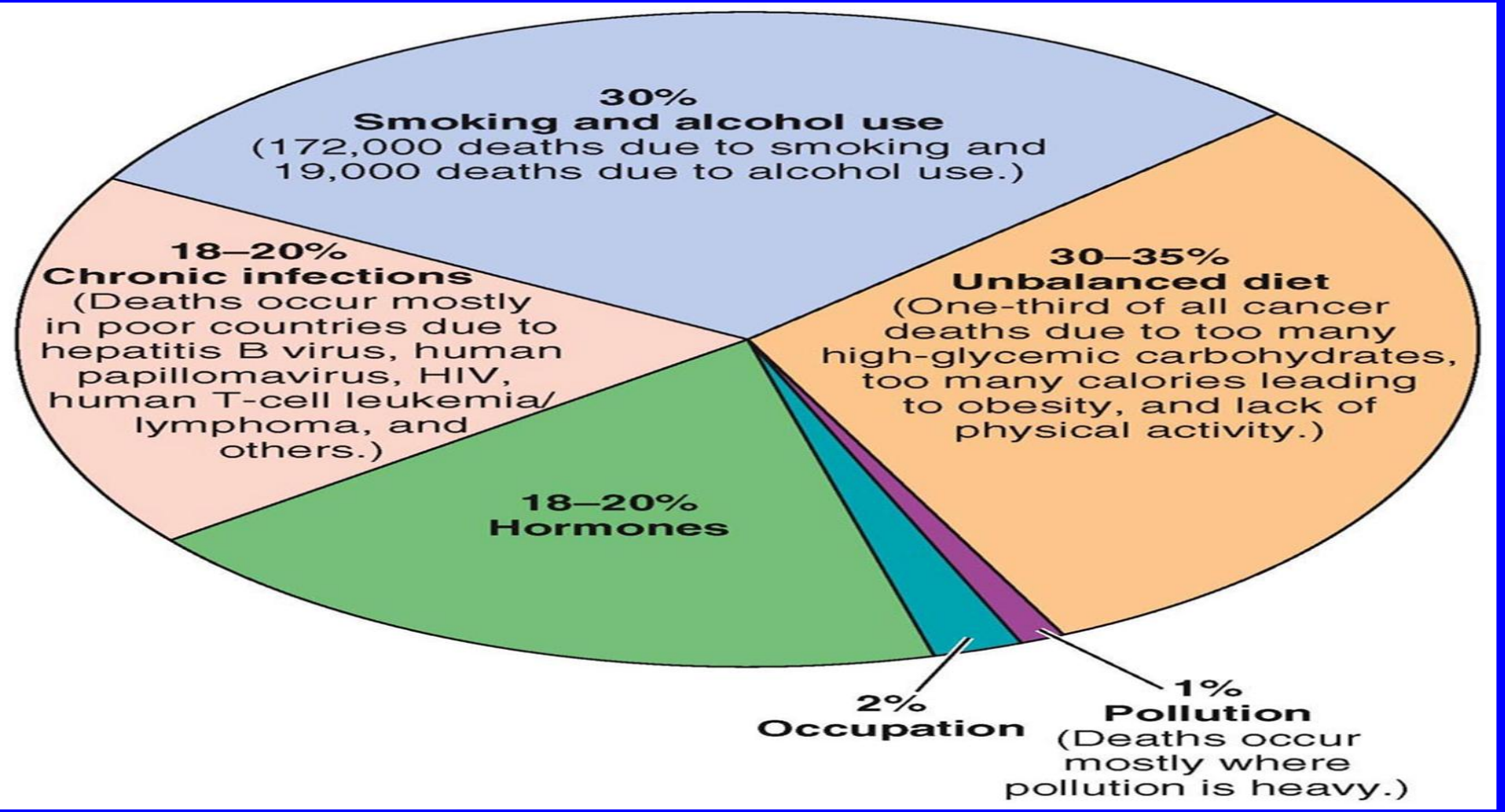
Carcinogenicity of opium consumption

IARC Monographs Vol 126 group * • Show footnotes

Published: October 08, 2020 • DOI: https://doi.org/10.1016/S1470-2045(20)30611-2



Factors Believed to Contribute to Global Causes of Cancer



A non-laboratory simple and useful scoring system to predict risk of incident digestive cancers in Iranian population.



Routledge
Taylor & Francis Group

Nutrition and Cancer

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/hnuc20

Development of a Digestive Cancer Risk Score Based on Nutritional Predictors: A Risk Prediction Model in the Golestan Cohort Study

Masoumeh Jabbari, Meisam Barati, Ali Kalhori, Hassan Eini-Zinab, Farid Zayeri, Hossein Poustchi, Akram Pourshams, Azita Hekmatdoost & Reza Malekzadeh

To cite this article: Masoumeh Jabbari, Meisam Barati, Ali Kalhori, Hassan Eini-Zinab, Farid Zayeri, Hossein Poustchi, Akram Pourshams, Azita Hekmatdoost & Reza Malekzadeh (2025) Development of a Digestive Cancer Risk Score Based on Nutritional Predictors: A Risk Prediction Mo 529, DOI: 10.1080/0163

Ask AI Assistant
Why is this information important?

A non-laboratory simple and useful scoring system to predict Digestive cancer

- This model was developed by nine predictors including **age, gender, seafood plant protein intake (ounce/ month), legume intake (g/1,000 kcal/week), vitamin A intake (IU/day), rice intake (g/1,000 kcal/day), soy intake (ounce/1,000 kcal/month), dietary fiber intake g/1,000 kcal/day), and water intake (cup/day).**
- The model had an acceptable discrimination in both derivation (C-statistic: 0.76) and validation (C-statistic: 0.70) samples

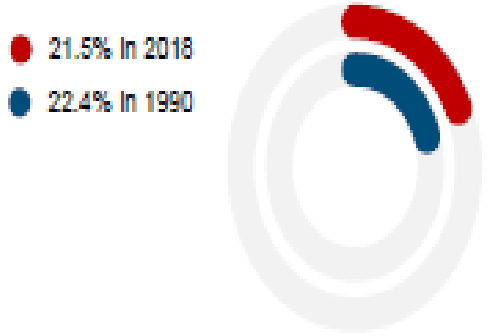
Diet-wide analyses for risk of CRC: prospective study of 12,251 incident cases among 542,778 women in the UK

- Genetically predicted milk consumption was inversely associated with risk of colorectal, colon, and rectal cancers.
- Dairy products help protect against colorectal cancer, and that this is driven largely or wholly by calcium.

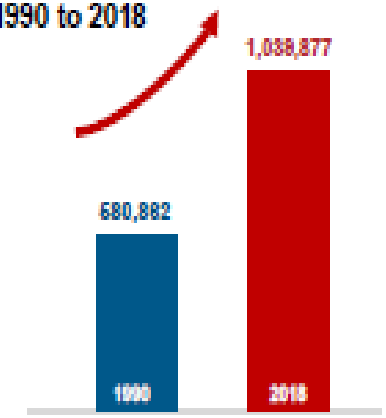
Nature Communications | (2025)1 6:375

The global incident gastrointestinal cancers attributable to suboptimal diets from 1990 to 2018

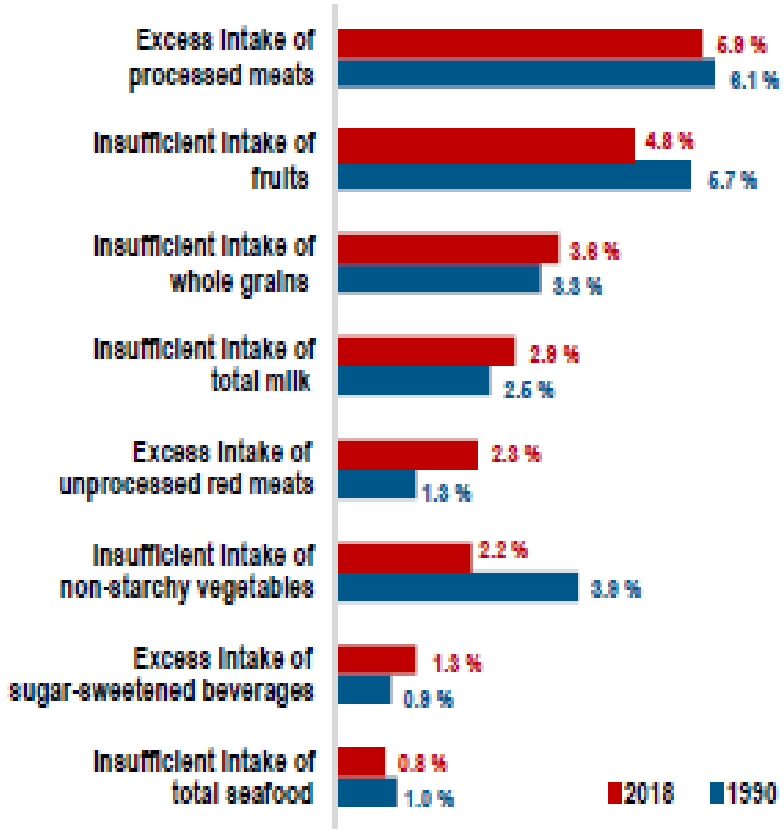
21.5% attributable to suboptimal diets in 2018



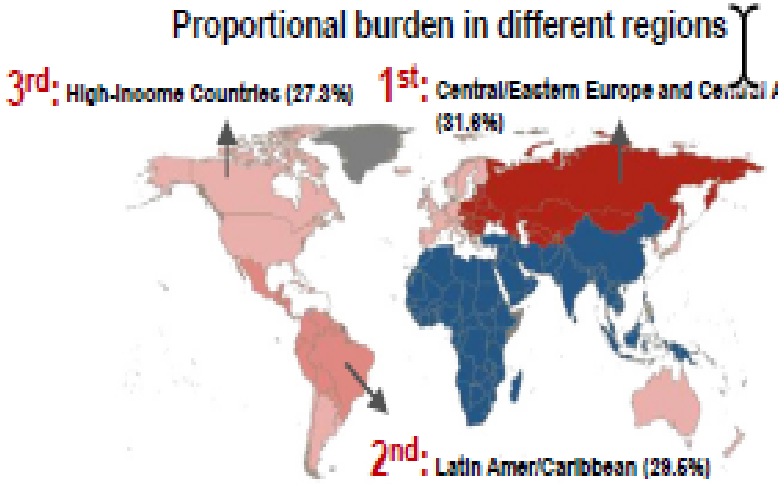
Attributable cases **doubled** from 1990 to 2018



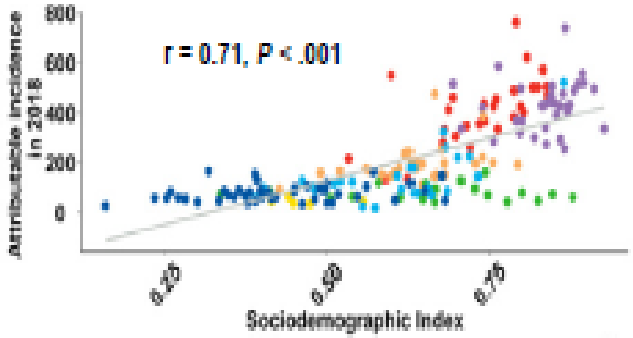
Proportional burden attributable to specific diets



Proportional burden in different regions



A positive correlation between the Sociodemographic Index and the attributable incidence of GI cancer



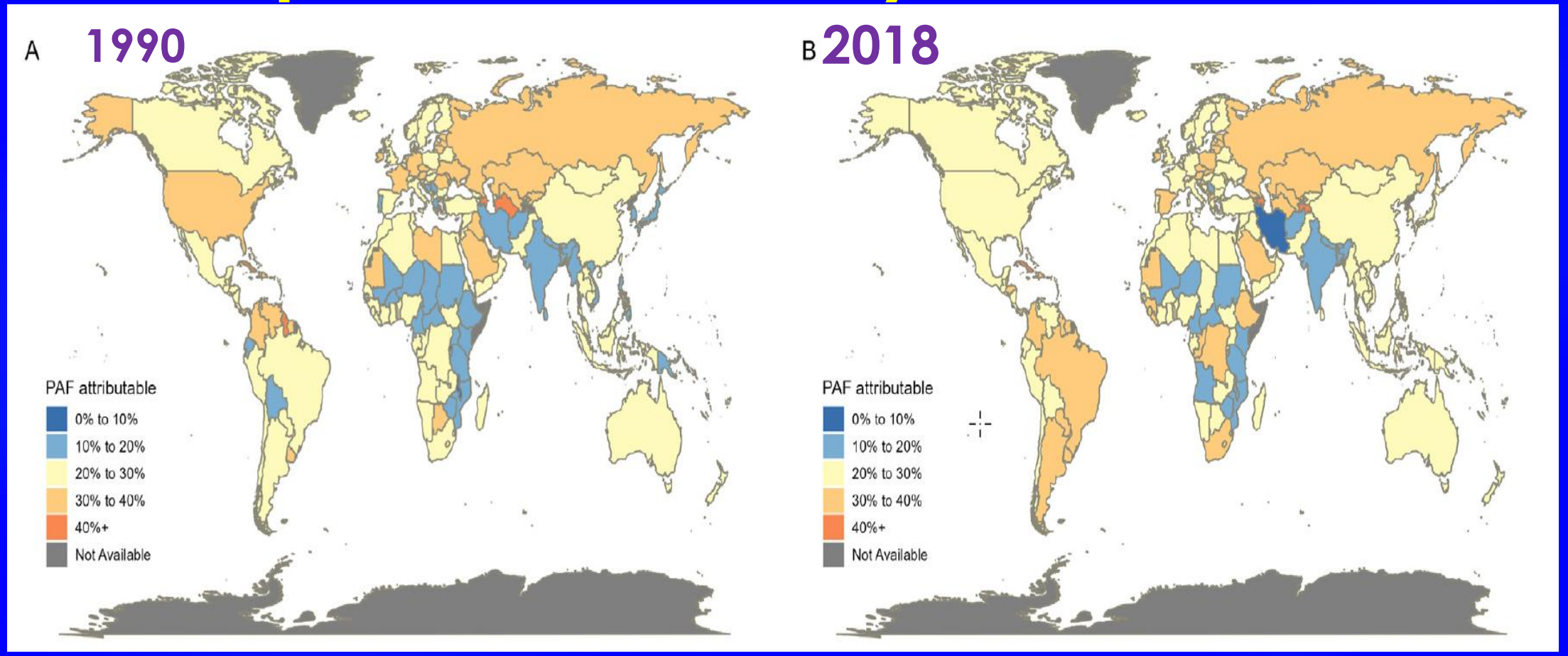
Gastroenterology

The Global Incident Gastrointestinal Cancers Attributable to Suboptimal Diets From 1990 to 2018

- In 2018, 21.5% of global gastrointestinal cancer cases were attributable to suboptimal diets, relatively stable since 1990 but doubled in the cases, with the impact varying by country, region, and demographic factors like sex, age, education, and urban or rural residency.
- Suboptimal diets continue to be an important risk factor behind the doubling of the diet-attributable gastrointestinal cancer incidence burden, according to population studies.
- However, the precise pathogenesis from suboptimal diets to these cancers remains unclear and requires further basic studies to clarify the mechanism.

Gastroenterology Vol. 167, Iss. 6 2024

Dietary attribution burden of GI cancer in different countries. Combined suboptimal consumption of 8 dietary factors



Gastroenterology Vol. 167, Iss. 6 2024

Dietary attribution burden of GI cancer in different countries. Combined suboptimal consumption of 8 dietary factors

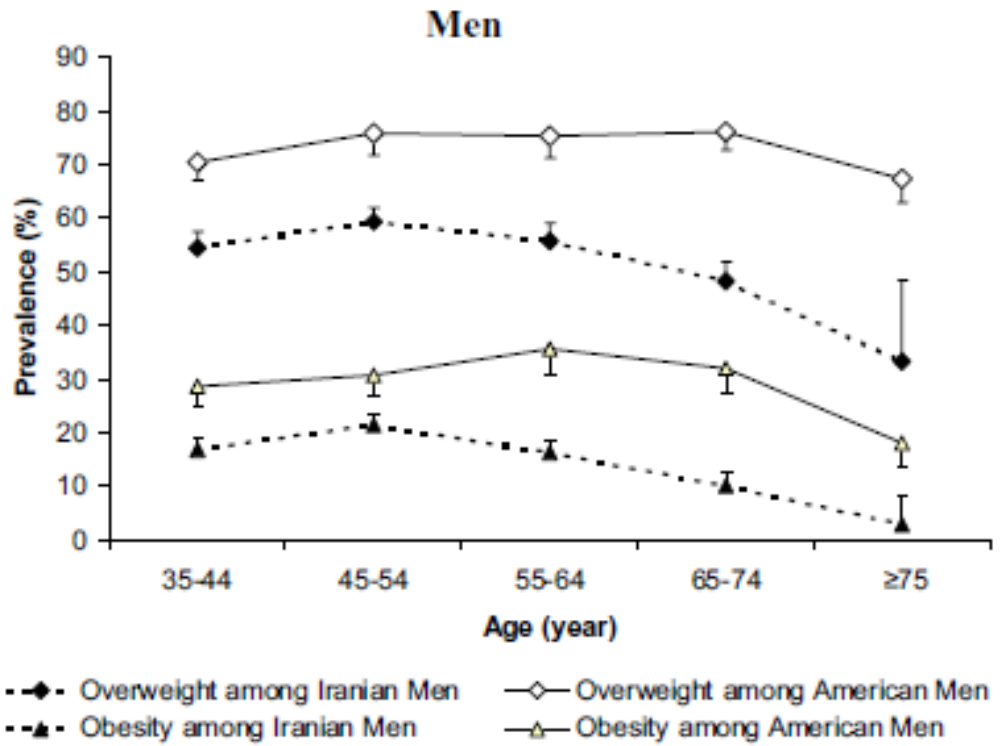
- These factors included inadequate intake of total milk, total seafood, whole grains, nonstarchy vegetables, and fruits,
- Excessive consumption of sugar-sweetened beverages, unprocessed red meats, and processed meats.

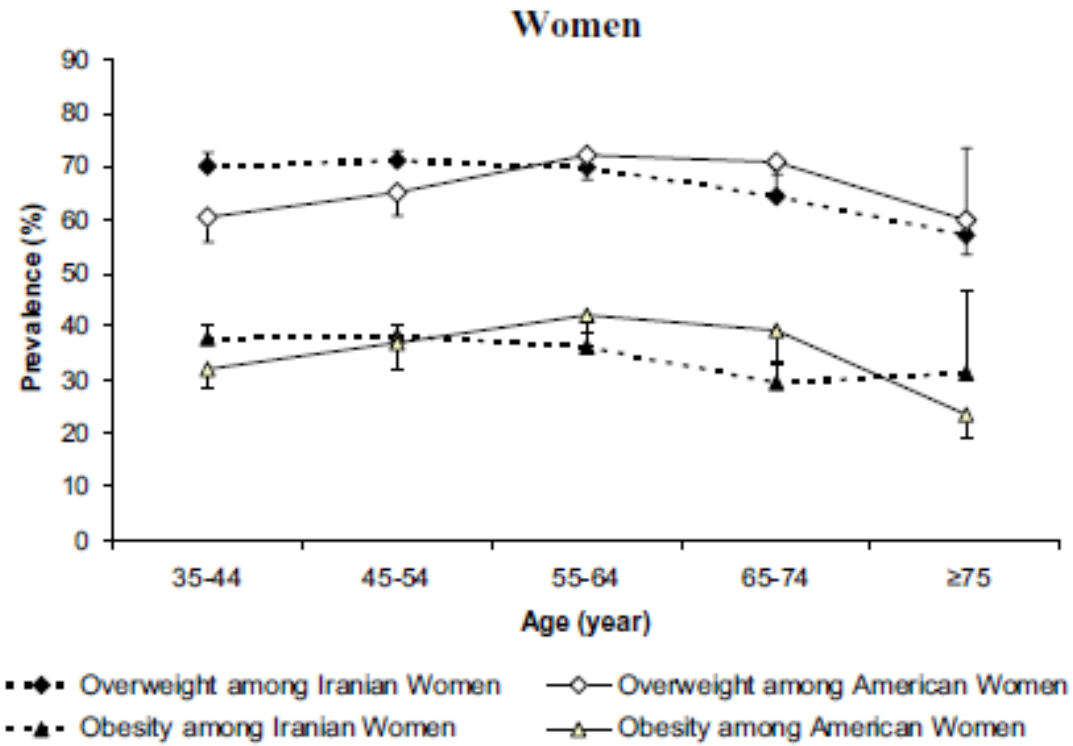
Gastroenterology Vol. 167, Iss. 6 2024

اپیدمی اضافه وزن، چاقی، و کمبود فعالیت فیزیکی درجمعیت بالغین ایران

- شیوع اضافه وزن: ۳۸٪
- شیوع چاقی: ۲۲٪
- کاهش چشمگیر فعالیت فیزیکی به ویژه در میان زنان
- شیوع فشار خون در افراد بالای ۴۵ سال ۴۵٪
- شیوع دیابت: ۱۵٪ و پری دیابت ۲۵٪
- **شیوع کبد چرب: ۳۰٪**

شیوع اضافه وزن و چاقی در زنان و مردان ایرانی و امریکایی در کوهورت گلستان





Bahrami h, Malekzadeh R BMC public health 2006

Red Meat Consumption and Risk of Nonalcoholic Fatty Liver Disease in a Population With Low Meat Consumption: The Golestan Cohort Study

Maryam Hashemian, MD, PhD[1,2], Shahin Merat, MD[3], Hossein Poustchi, MD, PhD[3], Elham Jafari, MD, MPH[3], Amir-Reza Radmard, MD[4], Farin Kamangar, MD, PhD[1,5], Neal Freedman, PhD[6], Azita Hekmatdoost, MD, PhD[7], Mahdi Sheikh, MD, PhD[1,8], Paolo Boffetta, MD, PhD[9,10], Rashmi Sinha, PhD[6], Sanford M. Dawsey, MD[6], Christian C. Abnet, PhD, MPH[6], Reza Malekzadeh, MD[1] and Arash Etemadi, MD, PhD[1,6]

INTRODUCTION: **Nonalcoholic fatty liver disease (NAFLD), as the most common liver disease in the world, can range from simple steatosis to steatohepatitis. We evaluated the association between meat consumption and risk of NAFLD in the Golestan Cohort Study (GCS).**

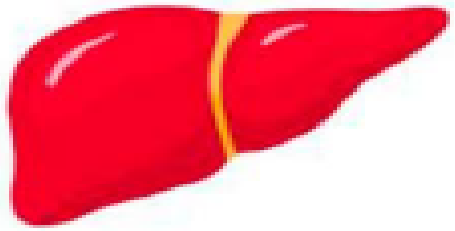
METHODS: **The GCS enrolled 50,045 participants, aged 40–75 years in Iran. Dietary information was collected using a 116-item semiquantitative food frequency questionnaire at baseline (2004–2008). A random sample of 1,612 cohort members participated in a liver-focused study in 2011. NAFLD was ascertained**

Red Meat Consumption and Risk of NAFLD in a Population With Low Meat Consumption: The Golestan Cohort Study

Red meat consumption and fatty liver disease



- The Golestan Cohort Study enrolled 50,045 participants in Golestan Province, Iran.
- A random sample of 1612 cohort members participated in a liver focused study
- NAFLD was ascertained via ultrasound.

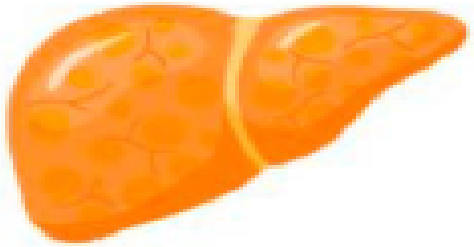


Red meat

$OR_{Q4\ vs\ Q1}$=1.59, 95% CI=1.06 to 2.38

Organ meat

$OR_{Q4\ vs\ Q1}$=1.70, 95% CI=1.19 to 2.44



Healthy liver

Fatty liver

Hashemian et al, *Am J Gastroenterol.* 2021, doi: 10.14309/ajg.0000000000001229

AJG The American Journal of GASTROENTEROLOGY

Conclusions

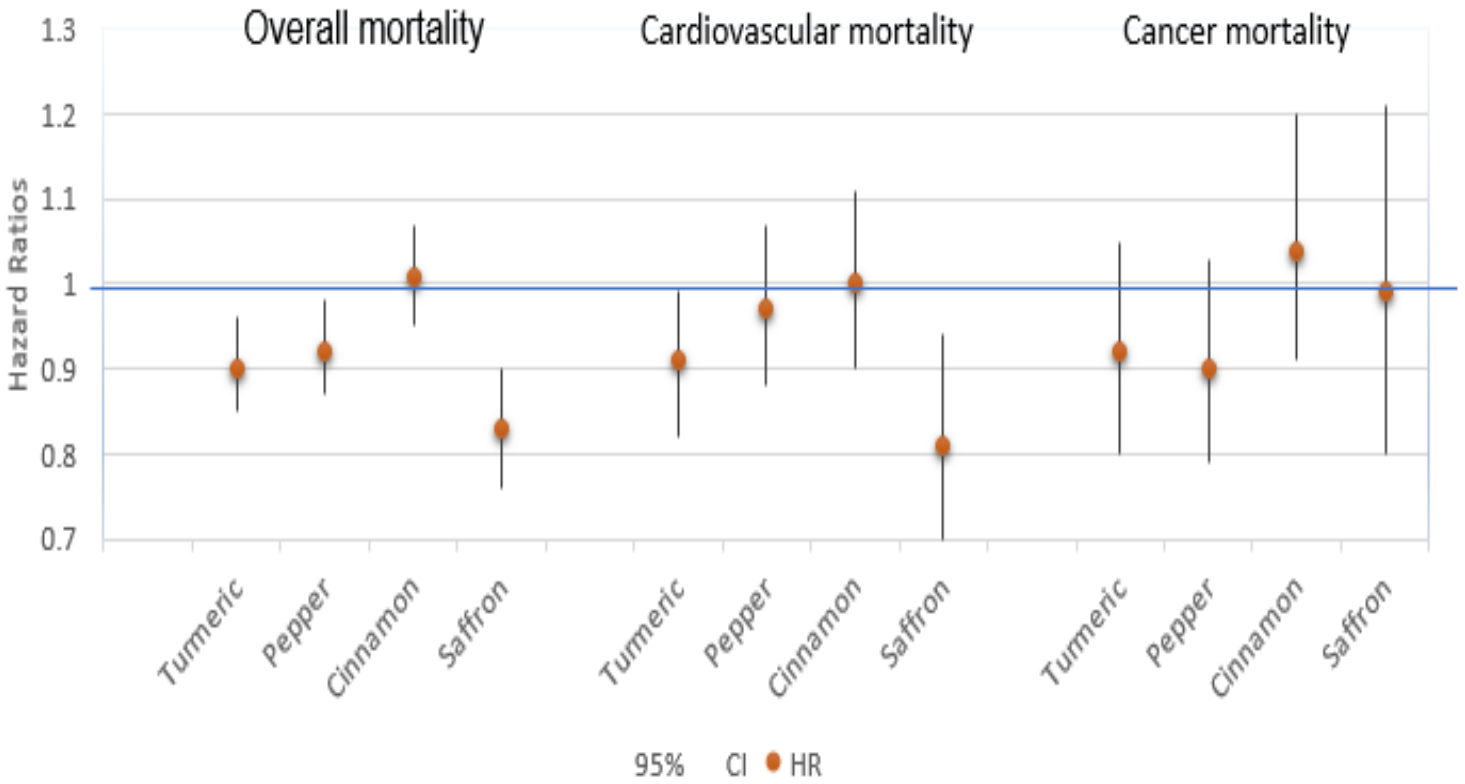
- Even low consumption of red meat is associated with increased risk of NAFLD.
- Organ meat consumption is associated with increased risk of NAFLD.
- 3 Total white meat, chicken, or fish consumption did not show significant associations with NAFLD

Nutritional Wellness to Prevent Worsening of Liver Disease



Spice consumption and mortality

زردچوبه فلفل دارچین زعفران



ORIGINAL RESEARCH

American Heart Association.

Turmeric, Pepper, Cinnamon, and Saffron Consumption and Mortality

Maryam Hashemian, MD, PhD; Hossein Poustchi, MD, PhD; Gwen Murphy, PhD, MPH; Arash Etemadi, MD, PhD; Farin Kamangar, MD, PhD; Akram Pourshams, MD; Masoud Khoshnia, MD; Abdolsamad Gharavi, MD; Paul J. Brennan, PhD; Paolo Boffetta, MD, PhD; Sanford M. Dawsey, MD; Christian C. Abnet, PhD, MPH; Reza Malekzadeh, MD

Background—Previous studies have reported the beneficial effects of spice consumption on lipid profiles, fasting glucose, and blood pressure, which suggests that spice consumption could affect the risk of cardiovascular disease, diabetes mellitus, and consequently mortality. The objective of this study was to evaluate the relationship between consumption of turmeric, black or chili pepper, cinnamon, and saffron with overall and cause-specific mortality in an adult population in Iran.

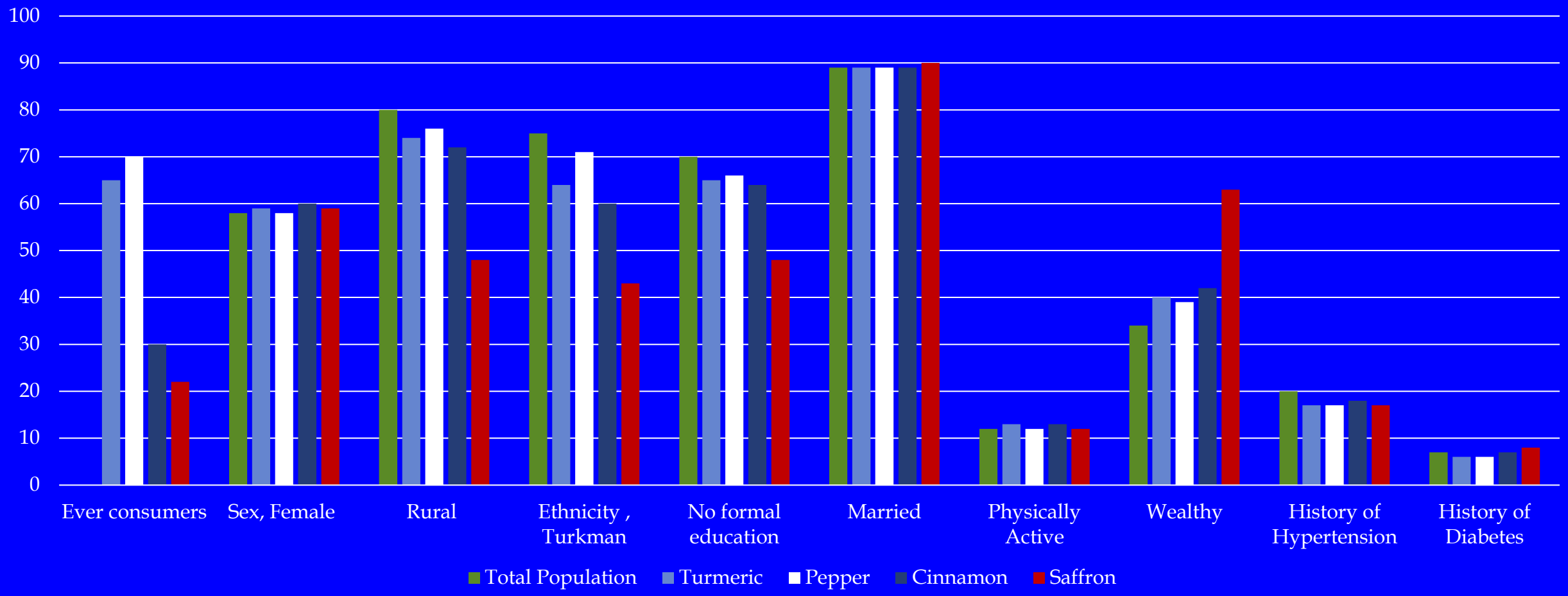
Methods and Results—We used data from the Golestan Cohort Study, which has followed 50 045 participants aged 40 to 75 years from baseline (2004–2008). After establishing the exclusion criteria, 44 398 participants were included in the analyses. Spice consumption data were extracted from the baseline Food Frequency Questionnaire. Cox models were used to estimate hazard ratios (HR) and 95% CI for overall and cause-specific mortality, comparing the ever consumers to the never consumers as a reference group for each type of spice (adjusted for known and suspected confounders). During 11 years of follow-up, 5121 people died. Turmeric consumption was associated with significantly reduced risk of overall mortality (HR=0.90, 95% CI=0.85–0.96) and cardiovascular mortality (HR=0.91, 95% CI=0.82–0.99). Black or chili pepper consumption was associated with significantly reduced risk of overall mortality (HR=0.91, 95% CI=0.86–0.98). Saffron consumption was associated with significantly reduced risk of overall (HR=0.85, 95% CI=0.77–0.94) and cardiovascular mortality (HR=0.79, 95% CI=0.68–0.92). We found no associations with cinnamon consumption or between any of these spices and cancer mortality.

Conclusions—Consuming turmeric or saffron was associated with decreased risk of overall and cardiovascular mortality. The hypothesis of a protective effect of spice consumption on mortality should be tested in other prospective studies. (***J Am Heart Assoc.*** **2019;8:e012240. DOI: 10.1161/JAHA.119.012240.)**

Key Words: cardiovascular disease • chili • curcumin • mortality • pepper • saffron • tumeric

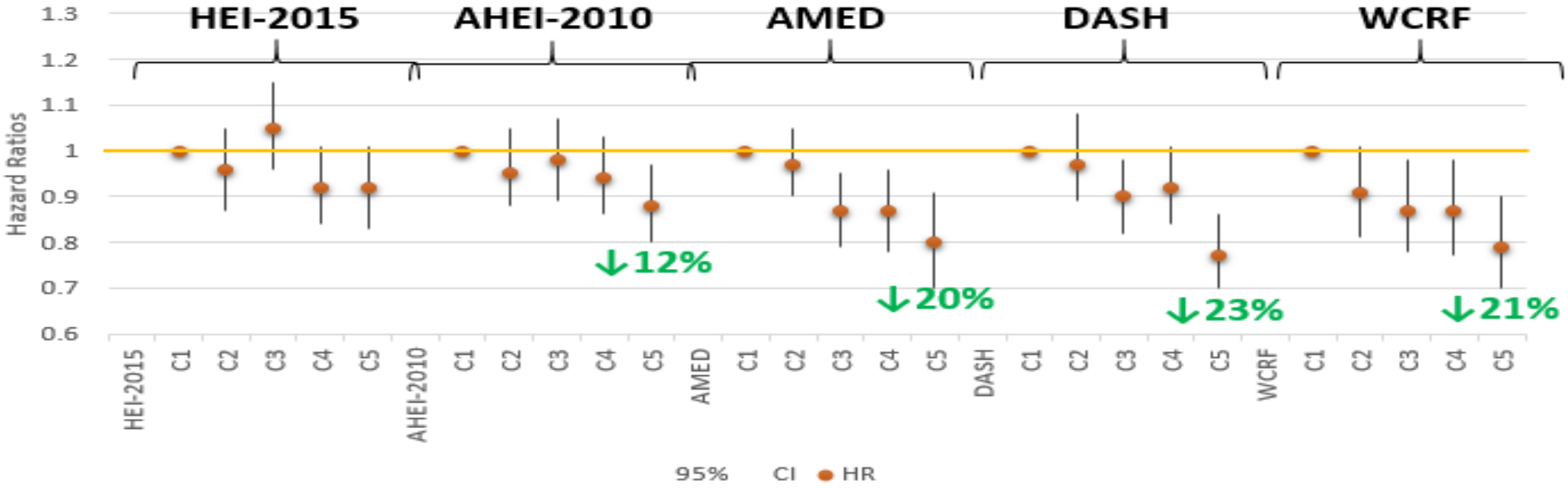
Hashemian ,….Malekzadeh J Am Heart Assoc. 2019;8:e012240..

Characteristics of participants by spice consumption



Hashemian ,….Malekzadeh J Am Heart Assoc. 2019;8:e012240

Dietary Indices and Mortality



Hashemian M. *et al., 2019*
Eur J. Epi

Healthy Eating Index (HEI-2015),Alternative Healthy Eating Index (AHEI-2010), Alternative Mediterranean Diet (AMED), Dietary Approach to Stop Hypertension created by Fung (DASH-Fung) and Mellen (DASH-Mellen), and the World Cancer Research Fund (WCRF/AICR) index,

Association of Nut Consumption with Total and Cause-Specific Mortality



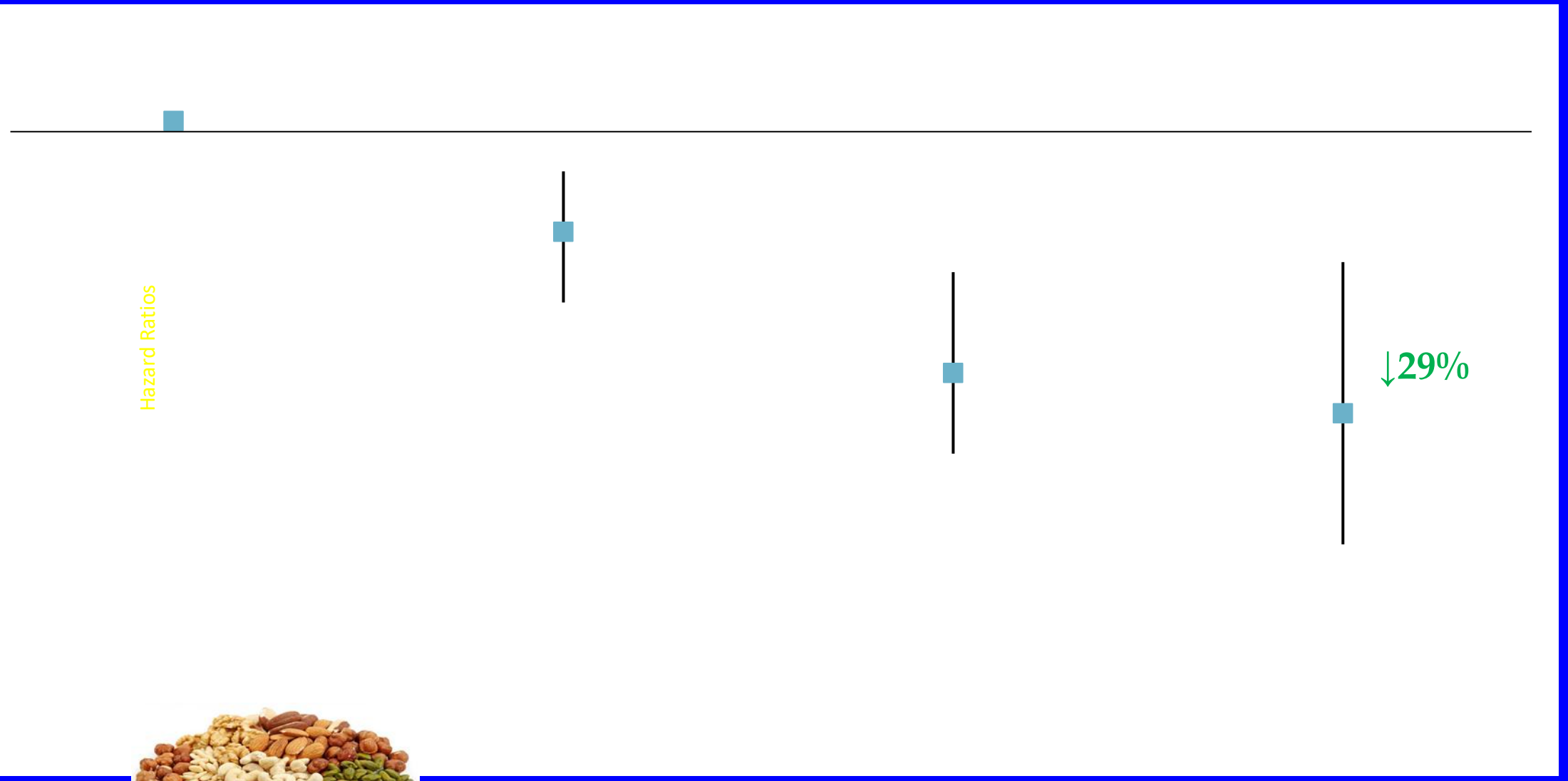
British Journal of Cancer https://doi.org/10.1038/s41416 018-0148-0

Table 2. Hazard ratios for total mortality, according to frequency of nut consumption*

	Frequency of nut consumption				P-value for trend
	Never	Less than once per week	Once to three times per week	Three or more times per week	
Women					
No. of person-years	53,894	107,571	29,424	7,991	
No. of deaths	678	720	126	29	
Age-adjusted hazard ratio (95% CI)	1.00	0.77 (0.70-0.86)	0.58 (0.48-0.71)	0.52 (0.35-0.74)	<0.001
Multivariable-adjusted hazard ratio (95% CI)	1.00	0.86 (0.77-0.96)	0.67 (0.55-0.82)	0.52 (0.35-0.76)	<0.001
Men					
No. of person-years	34,786	72,571	26,964	8,971	
No. of deaths	784	923	234	71	
Age-adjusted hazard ratio (95% CI)	1.00	0.85 (0.77-0.94)	0.72 (0.62-0.84)	0.71 (0.55-0.90)	<0.001
Multivariable-adjusted hazard ratio (95% CI)	1.00	0.94 (0.85-1.04)	0.83 (0.71-0.98)	0.78 (0.60-1.02)	0.031
Pooled					
Age-adjusted hazard ratio (95% CI)	1.00	0.83 (0.77-0.89)	0.70 (0.62-0.78)	0.68 (0.55-0.83)	<0.001
Multivariable-adjusted hazard ratio (95% CI)	1.00	0.91 (0.84-0.98)	0.77 (0.68-0.88)	0.69 (0.56-0.86)	<0.001

* Multivariable models were adjusted for all baseline characteristics which were summarized in table 1.

Nut Consumption and Mortality



Categories of nut consumption

Eslamparast T *et al.,* 2017
Int. J. of Epidemiology

Conclusion

This study provides evidence for a significant inverse association between nut consumption and mortality in a developing country, **where nut consumption does not track with a healthy lifestyle.**



The Journal of Nutrition
Nutritional Epidemiology

Associations of Total Legume, Pulse, and Soy Consumption with Incident Type 2 Diabetes: Federated Meta-Analysis of 27 Studies from Diverse World Regions

Matthew Pearce,[1] Anouar Fanidi,[1] Tom RP Bishop,[1] Stephen J Sharp,[1] Fumiaki Imamura,[1] Stefan Dietrich,[2] Tasnime Akbaraly,[3] Maira Bes-Rastrollo,[4,5,6] Joline WJ Beulens,[7] Liisa Byberg,[8] Scheine Canhada,[9] Maria del Carmen B Molina,[10] Zhengming Chen,[11,12] Adrian Cortes-Valencia,[13] Huaidong Du,[11,12] Bruce B Duncan,[9] Tommi Härkänen,[14] Maryam Hashemian,[15,16] Jihye Kim,[17] Mi Kyung Kim,[17] Yeonjung Kim,[18] Paul Knekt,[14] Daan Kromhout,[19] Camille Lassale,[20,21] Ruy Lopez Ridaura,[13] Dianna J Magliano,[22] Reza Malekzadeh,[23] Pedro Marques-Vidal,[24] Miguel Ángel Martínez-González,[4,5,6,25] Gráinne O'Donoghue,[26] Donal O'Gorman,[27] Jonathan E Shaw,[22] Sabita S Soedamah-Muthu,[28,29] Dalia Stern,[30] Alicja Wolk,[8,31] Hye Won Woo,[17] EPIC-InterAct Consortium, Nicholas J Wareham,[1] and Nita G Forouhi[1]

[1]Medical Research Council Epidemiology Unit, University of Cambridge School of Clinical Medicine, CB2 0QQ, Cambridge, United Kingdom; [2]Department of Molecular Epidemiology, German Institute of Human Nutrition, Nuthetal, Germany; [3]Inserm U 1198, Montpellier University, Montpellier, France; [4]Departments of Preventive Medicine and Public Health, University of Navarra, Pamplona, Spain; [5]Spanish Biomedical Research Centre in Physiopathology of Obesity and Nutrition, Instituto de Salud Carlos III, Madrid, Spain; [6]Navarra's Health Research Institute (IdiSNA), Pamplona, Spain; [7]Department of Epidemiology & Biostatistics and the Amsterdam Public Health Institute, Amsterdam University Medical Center, HV, Amsterdam, The Netherlands; [8]Department of Surgical Sciences, Uppsala University, Uppsala, Sweden; [9]Faculty of Medicine, Federal University of Rio Grande do Sul , Porto Alegre, Brazil; [10]Postgraduate Program in Nutrition and Health, Federal University of Espírito Santo, Vitória, Brazil; [11]Medical Research Council Population Health Research Unit, University of Oxford, Oxford, United Kingdom; [12]Clinical Trial Service Unit and Epidemiological Studies Unit, University of Oxford, Oxford, United Kingdom; [13]Center for Research on Population Health, National Institute of Public Health, Cuernavaca, Mexico; [14]Department of Public Health Solutions, Finnish Institute for Health and Welfare, Helsinki, Finland; [15]Digestive Disease Research Center, Tehran University of Medical Sciences, Tehran, Iran; [16]Biology Department, School of Arts and Sciences, Utica College, Utica, USA; [17]Department of Preventive Medicine, Hanyang University, Seoul, South Korea; [18]National Research Institute of Health, Centers for Disease Control and Prevention, Cheongju, South Korea; [19]Department of Epidemiology, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands; [20]Department of Epidemiology and Public Health, University College London, London, United Kingdom; [21]Cardiovascular Risk and Nutrition Group, Hospital del Mar Research Institute (IMIM), Barcelona, Spain; [22]Baker Heart and

Downloaded from https://academic.oup.com/jn/advance-article/doi/10.1093/jn/nxaa447/61

Lgumes



SOY

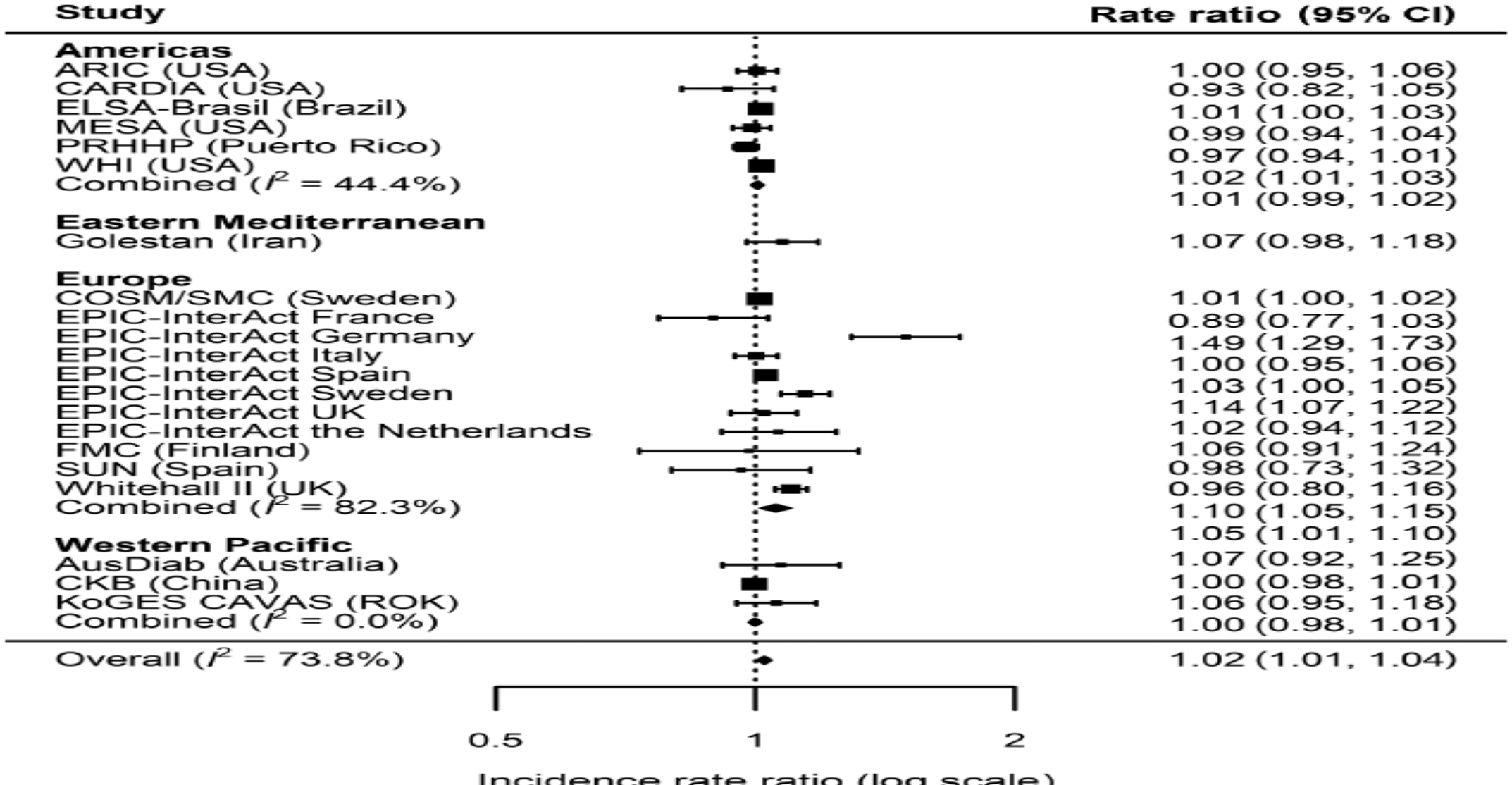


Legume



Pulse

Incidence rate ratios and 95% CIs for the association between the consumption of total legumes (per 20 g/d) and incident T2DM in InterConnect Study



Associations of Total Legume, Pulse, and Soy Consumption with Incident Type 2 Diabetes

- Median total legume intake ranged from 0–140 g/d across cohorts.
- We observed a weak positive association between total legume consumption and T2D (IRR = 1.02, 95% CI: 1.01 to 1.04) per 20 g/d higher intake, with moderately high heterogeneity (I2 = 74%). Analysis by region showed no evidence of associations in the Americas, Eastern Mediterranean, and Western Pacific.
- The positive association in Europe (IRR = 1.05, 95% CI: 1.01 to 1.10, I2 = 82%) was mainly driven by studies from Germany, UK, an Sweden.
- No evidence of associations was observed for the consumption of pulses or soy.

Inter Connect project Cambridge University project

T2DM a major Public health issue in near future

- Refined grains and white rice have been associated with elevated risk of type 2 diabetes mellitus (T2DM).

White rice intake and incidence of T2 DM: analysis of GCS and TLGS from Iran

- We observed an increased likelihood of T2DM associated with high white rice intake among residents of Tehran and no association in Golestan.

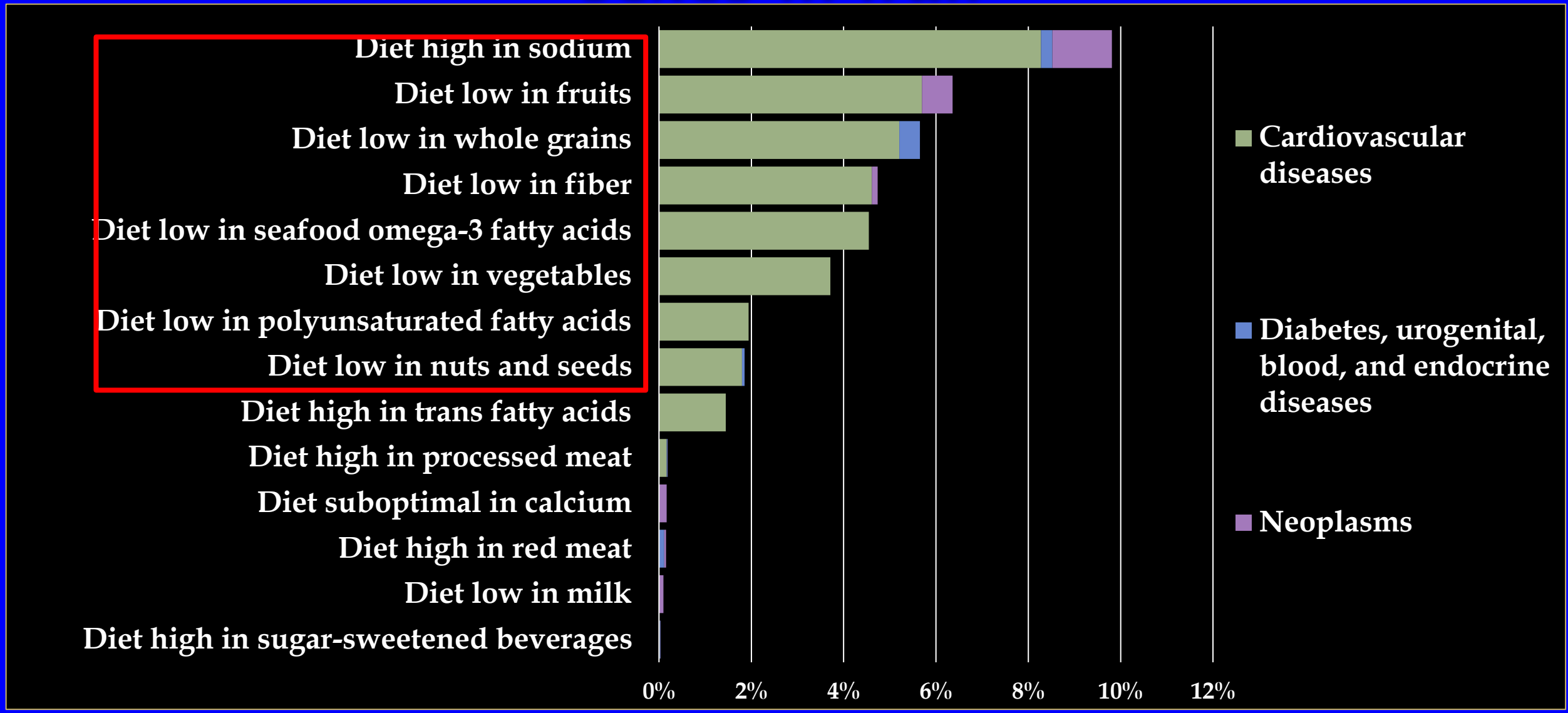
- Public health implications for other countries in the Middle East and North Africa as well as countries in South, East and South East Asia where white rice is a major staple and diabetes is increasing rapidly

رژیم غذایی

- شیوع مصرف اضافی مواد غذایی: ۴۰٪
- رژیم غذایی ایرانیان: ۴۰٪ اضافه کربوهیدرات، ۳۰٪ اضافه چربی
- مصرف زیاد برنج سفید باعث افزایش بروز دیابت: ایران ۱۳ همین مصرف کننده برنج سفید در جهان (سرانه ۴۶ کیلوگرم)

مطالعه کوهورت گلستان 1386

Deaths and Dalys attributable to diet in both sexes in Iran



Dietary Risks In IRAN GCS

HIGH

- High in trans fatty acids
- High in sodium
- High in sugar-sweetened beverages
- High in red meat
- High in processed meat

LOW

- Low in fruits & vegetables
- Low in whole grains & fiber.
- Low in nuts and seeds
- Low in milk
- Low in polyunsaturated FA
- Low in seafood omega-3 FA
- Suboptimal in calcium

The six main international dietary indices

- Healthy Eating Index (HEI-2015),
- Alternative Healthy Eating Index (AHEI-2010).
- Alternative Mediterranean Diet (AMED).
- Dietary Approach to Stop Hypertension created by Fung (DASH-Fung)
- Dietary Approach to Stop Hypertension created by Mellen (DASH-Mellen)
- World Cancer Research Fund (WCRF/AICR) index,

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NUTRITIONAL EPIDEMIOLOGY

Check for updates

The application of six dietary scores to a Middle Eastern population: a comparative analysis of mortality in a prospective study

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Abstract
Background The associations between dietary indices and mortality have not been evaluated in populations from the Middle East, which have different dietary patterns compared to the US and Europe. In this study, we evaluated the association between six dietary indices and mortality in the Golestan Cohort Study (GCS) in Iran, which is the largest prospective study in the Middle East with 50,045 participants. *Methods* The six dietary indices, namely the Healthy Eating Index (HEI-2015), Alternative Healthy Eating Index (AHEI-2010), Alternative Mediterranean Diet (AMED), Dietary Approach to Stop Hypertension created by Fung (DASH-Fung) and Mellen (DASH-Mellen), and the World Cancer Research Fund (WCRF/AICR) index, were applied to data from a food frequency questionnaire, computed and divided into quintiles. Adjusted Cox models were used to estimate hazards ratio (HR) and 95% confidence intervals (CI) for overall and cause-specific mortality, using the lowest quintile as a reference group. *Results* Among 42,373 participants included in the current analyses, 4424 subjects died during 10.6 years of follow-up. Participants with the highest quintile dietary scores, compared with the lowest quintile dietary scores, had significantly decreased overall mortality in the AHEI-2010, AMED, DASH-Fung, and WCRF/AICR indices (HR 0.88, 95% CI = 0.80–0.97; 0.80, 0.70–0.91; 0.77, 0.70–0.86; and 0.79, 0.70–0.90, respectively). A reduced cardiovascular mortality was found for high AHEI-2010 and DASH-Fung scores (17% and 23%, respectively), and a reduced cancer mortality for high HEI-2015, AMED, and DASH-Fung scores (21, 37 and 25%, respectively). *Conclusion* Various indices of dietary quality are inversely associated with overall mortality, and selectively with cancer and cardiovascular mortality in the GCS, which contribute to the generalizability and validity of dietary guidelines.

Keywords Dietary indices · Dietary guidelines · Death, Golestan Cohort · Mediterranean diet · DASH

Results

- Participants with the highest quintile dietary scores, compared with the lowest quintile dietary scores, had significantly decreased overall mortality :
- In the AHEI-2010, AMED, DASH-Fung, and WCRF/AICR indices (HR 0.88, 95% CI = 0.80–0.97; 0.80, 0.70–0.91; 0.77, 0.70–0.86; and 0.79, 0.70–0.90, respectively).
- A reduced cardiovascular mortality was found for **high AHEI-2010 and DASH-Fung scores** (17% and 23%, respectively).
- **A reduced cancer mortality** for high HEI-2015, AMED, and DASH-Fung scores (21, 37 and 25%, respectively).

Conclusions

- Various indices of **dietary quality** are inversely associated with o**verall mortality, and selectively with cancer and cardiovascular mortality** in the **GCS**, which contribute to the generalizability and validity of dietary guidelines.

ضرورت عمل

- با توجه به بار بالای ناشی از مرگ زودرس در جمعیت جوان و بهره ور در کشور، اتخاذ سیاستهای لازم برای پیشگیری از مرگ زودرس در ایران ضرورت دارد.

Action necessary through policy formulation and implementation

- **Promotion of healthy diet**
- Reduce smoking,
- Decrease opium/alcohol consumption,
- Decrease consumption of trans-fat
- Reduce salt consumption.
- Increase physical activity .

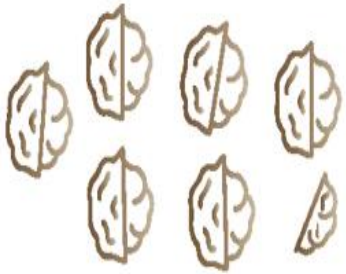
Policy Implications

- The health policies in Iran are currently focused on lowering unhealthy diet components such as **trans fatty acids, red meat, processed meat, and sugar sweetened beverages.**

- Results of studies show that more attention should be focused on increasing **healthy** diet components:
- **Fruits, whole grain, fiber, omega-3 fatty acids, vegetables, PUFA, nuts and seeds, and dairy products**

Nuts and Vegetables

Nuts and seeds±



RECOMMENDED INTAKE

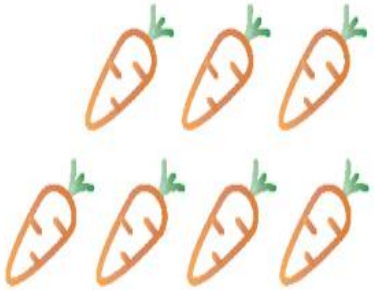
16 to 25 grams per day,
equivalent to eight to 13 walnut halves



ACTUAL INTAKE

3 grams per day,
equivalent to one and a half walnut halves

Vegetables†



RECOMMENDED INTAKE

290 to 430 grams per day, equivalent to about five to seven medium carrots



ACTUAL INTAKE

190 grams per day, equivalent to three medium carrots

Daily, eat less:

Sodium

RECOMMENDED INTAKE

No more than 3,000 mg per day

ACTUAL INTAKE

5,600 mg per day



Bowl of cereal with skim milk:

250 mg sodium

Cup of soup and turkey sandwich:

2,200 mg sodium

Slice of pizza and salad with light dressing:

710 mg sodium

= 3,160 mg sodium

Sodium adds up quickly in processed and restaurant food

Incorporating a GI Dietitian Into Your GI Practice

- In a private practice gastroenterology setting, hiring GI dietitians directly supports comprehensive patient care.
- Having access to a shared EMR allows for close collaboration across the team.
- A private practice setting allows for flexible billing models to meet the needs of a variety of patients, including in-network insurance billing,
- out-of-network with balance billing to the patient, and 100% fee for service.
- Offering tiered rates for junior and senior dietitians or a sliding scale for fees can make dietitian services more accessible

Incorporating a GI Dietitian Into Your GI Practice

- Diet and nutrition play a key role in The management of digestive conditions.
- GI dietitians are uniquely positioned to guide the nutrition care plan and support broader treatment objectives as members of the interdisciplinary medical team

Action necessary through policy formulation and implementation

- **Promotion of healthy diet**
- Reduce smoking,
- Decrease opium/alcohol consumption,
- Decrease consumption of trans-fat
- Reduce salt consumption.
- Increase physical activity .

Policy Implications

- The health policies in Iran are currently focused on lowering unhealthy diet components such as **trans fatty acids, red meat, processed meat, and sugar sweetened beverages.**
- Results of studies show that more attention should be focused on increasing **healthy** diet components:
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4-Boffeta Paolo M.D, PH.D. IARC/WHO


پایان
تشکر از توجه شما

Global increased rate of premature death is related to Ultraprocessed food

A global analysis found that consumption of ultraprocessed food (UPF) is linked to premature deaths from all-cause mortality, demonstrating a linear dose–response relationship. As the proportion of UPFs in an individual's total energy intake rises, so does the risk for premature death.

Ultraprocessed food

UPFs are defined as ready-to-eat or heat industrial formulations that are made with ingredients extracted from foods or synthesized in laboratories, with little or no whole foods in their composition, according to the NOVA classification used for the analysis.

These foods are becoming dominant in the global food supply and "already account for over half of the average daily energy content of the diets in many high-income countries," authors of the study wrote.

FASTING HEALTH BENEFITE

روزہ داری و سلامت

Preclinical studies and clinical trials have shown that fasting has several benefits for many health conditions,

- The beneficial effects of intermittent fasting involve metabolic switching and cellular stress resistance with in several disease state like:
- obesity,
- Diabetes mellitus.
- Cardiovascular disease
- Cancers
- Neurologic disorders.
- Improves health throughout the life span.

Fasting: Prolong Aging and better quality of life

- Reducing food availability over a lifetime (caloric restriction) has remarkable effects on prolonging aging and better quality of life span in animals.
- Many Studies in mice and nonhuman primates show consistent effects of caloric restriction on increasing health and prolonging life span
- Health benefits of caloric restriction result from a passive reduction in the production of damaging oxygen free radicals.

The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

Dan L. Longo, M.D., *Editor*

Effects of Intermittent Fasting on Health, Aging, and Disease

Rafael de Cabo, Ph.D., and Mark P. Mattson, Ph.D.

ACCORDING TO WEINDRUCH AND SOHAL IN A 1997 ARTICLE IN THE *JOURNAL*, reducing food availability over a lifetime (caloric restriction) has remarkable effects on aging and the life span in animals.[1] The authors proposed that the health benefits of caloric restriction result from a passive reduction in the production of damaging oxygen free radicals. At the time, it was not generally recognized that because rodents on caloric restriction typically consume their entire daily food allotment within a few hours after its provision, they have a daily fasting period of up to 20 hours, during which ketogenesis occurs. Since then, hundreds of studies in animals and scores of clinical studies of controlled intermittent fasting regimens have been conducted in which metabolic switching from liver-derived glucose to adipose cell–derived ketones occurs daily or several days each week. Although the magnitude of the effect of intermittent fasting on life-span extension is variable (influenced by sex, diet, and genetic factors), studies in mice and nonhuman primates show consistent effects of caloric restriction on the health span (see the studies listed in Section S3 in the Supplementary Appendix, available with the full text of this article at NEJM.org).

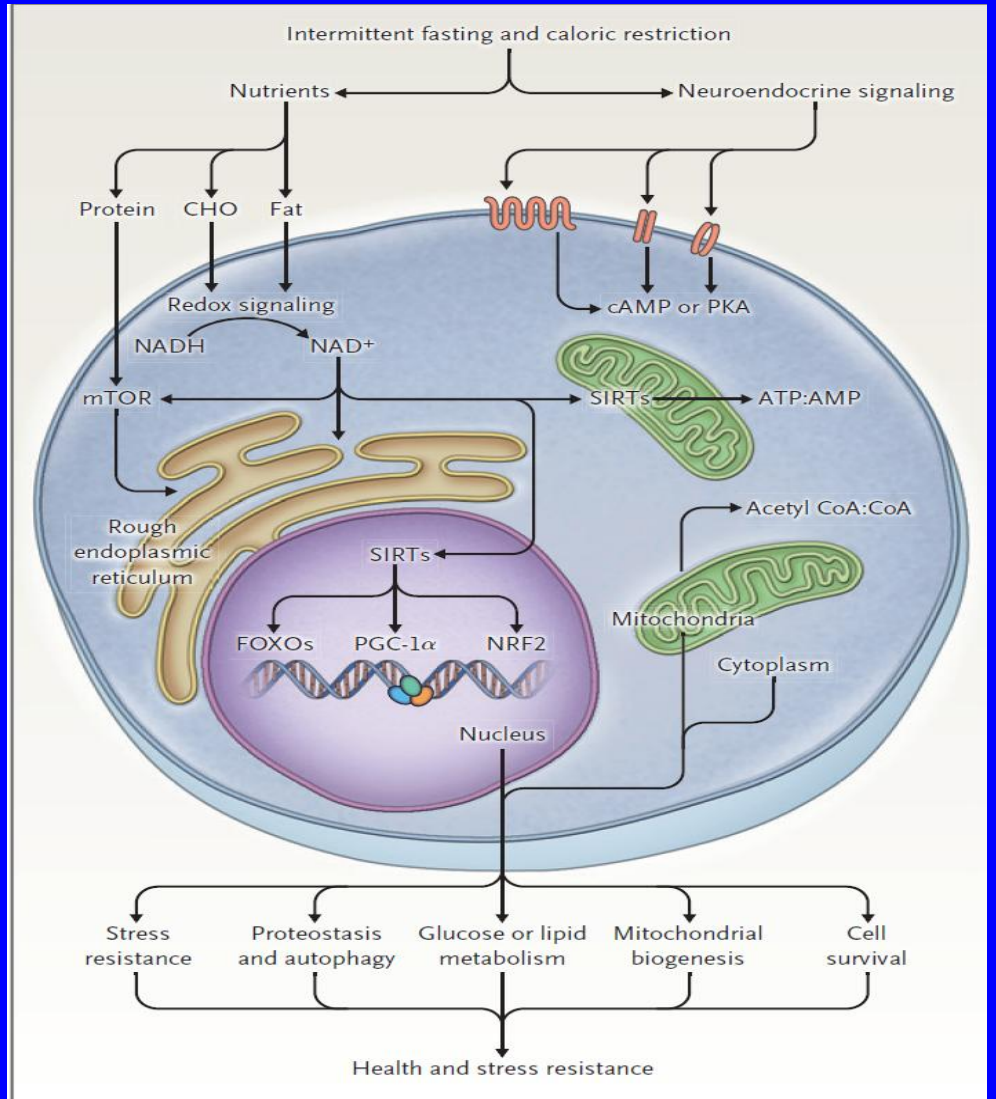
Studies in animals and humans have shown that many of the health benefits of intermittent fasting are not simply the result of reduced free-radical production or weight loss.[2-5] Instead, intermittent fasting elicits evolutionarily conserved,

From the Translational Gerontology Branch (R.C.) and the Laboratory of Neurosciences (M.P.M.), Intramural Research Program, National Institute on Aging, National Institutes of Health, and the Department of Neuroscience, Johns Hopkins University School of Medicine (M.P.M.) — both in Baltimore. Address reprint requests to Dr. Mattson at the Department of Neuroscience, Johns Hopkins University School of Medicine, 725 N. Wolfe St., Baltimore, MD 21205, or at mmattso2@jhmi.edu.

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During fasting, cells activate pathways that enhance intrinsic defenses against oxidative and metabolic stress and those that remove or repair damaged molecules



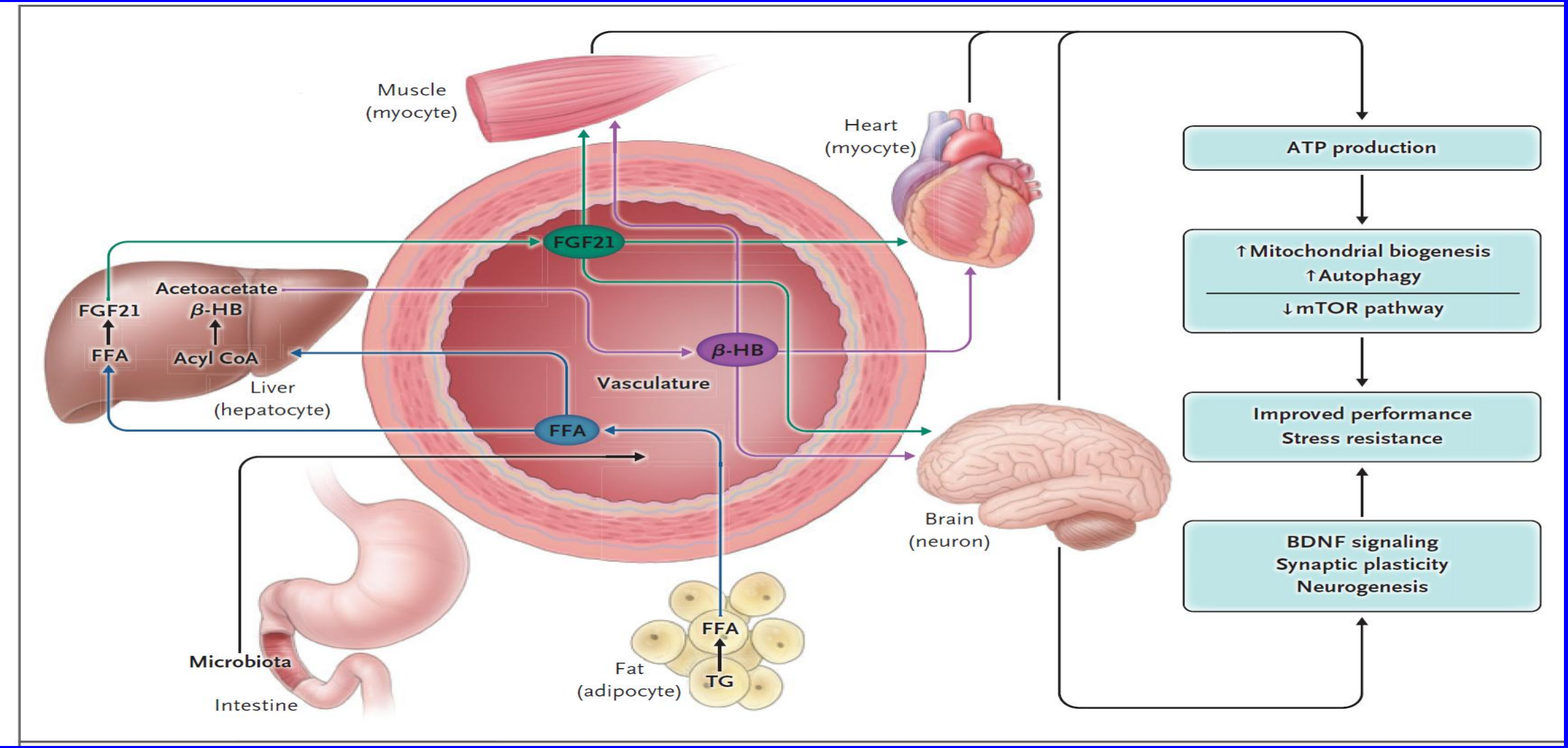
Energy restriction for 10 to 14 hours or more results in:

- Depletion of liver glycogen stores and hydrolysis of triglycerides (TGs) to free fatty acids (FFAs) in adipocytes.
- FFAs released into the circulation are transported into hepatocytes, where they produce the ketone bodies
- FFAs also activate the transcription factors peroxisome proliferator–activated receptor and increase and production and release of fibroblast growth factor 21 (FGF21), a protein with widespread effects on cells throughout the body and brain.
- Reduced levels of glucose and amino acids during fasting result in reduced activity of the mTOR pathway and up-regulation of autophagy.
- Energy restriction stimulates mitochondrial biogenesis and mitochondrial uncoupling.

Fasting results in Adaptive Cellular Response

- Intermittent fasting elicits evolutionarily conserved, adaptive cellular responses that are integrated between and within organs in a manner that :
- ✓ Improves glucose regulation
- ✓ Increases stress resistance.
- ✓ Suppresses inflammation.
- Unfortunately most people consume three meals a day plus snacks, so intermittent fasting does not occur

Metabolic Adaptations to Intermittent Fasting



Long term effect of fasting on Resilience & disease resistance

- Increased insulin sensitivity
- Increased Heart rate variability
- Improved lipid metabolism
- Healthy gut microbiota
- Reduced abdominal fat
- Reduced inflammation
- Reduced blood pressure

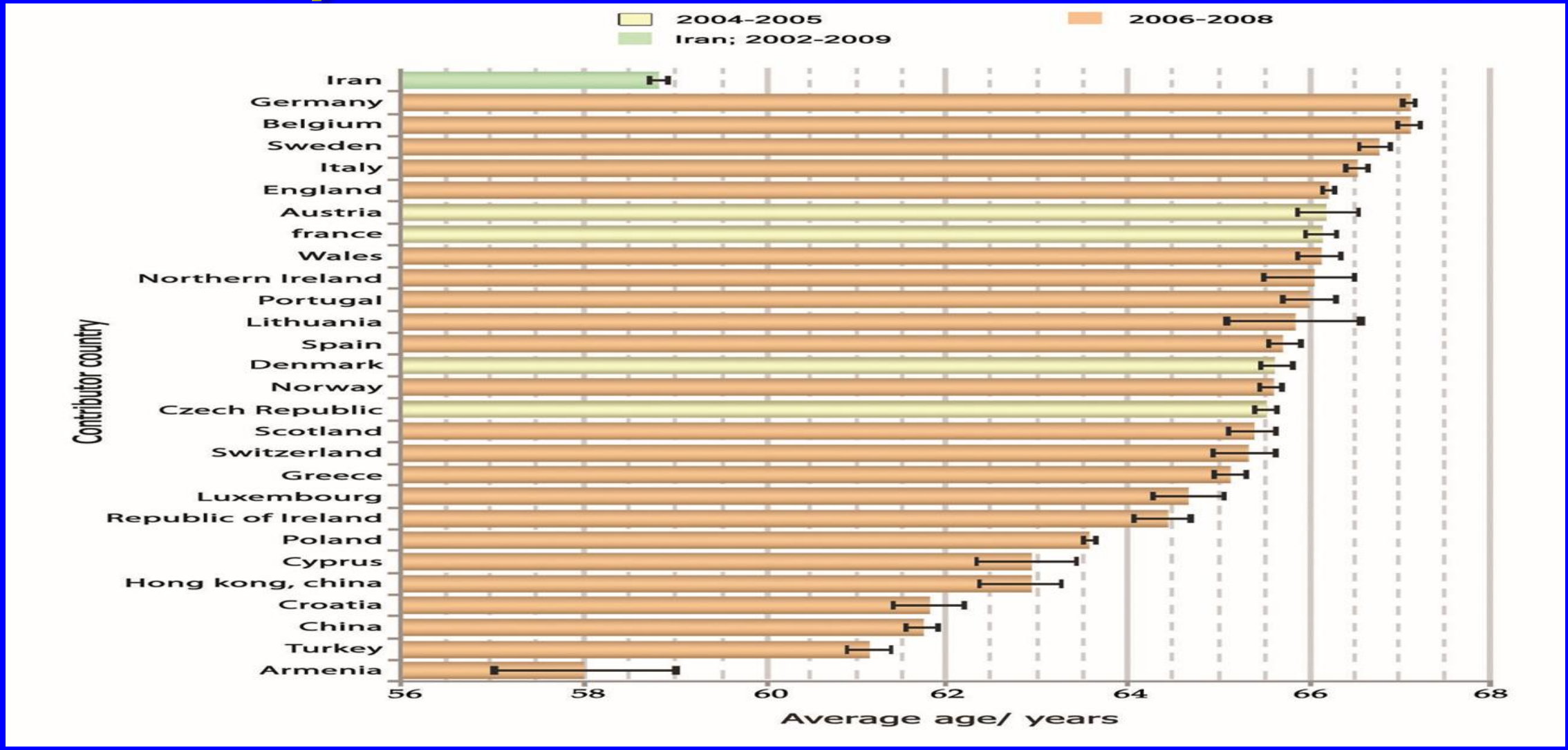
Greater food variety could cut risk of gastrointestinal cancers



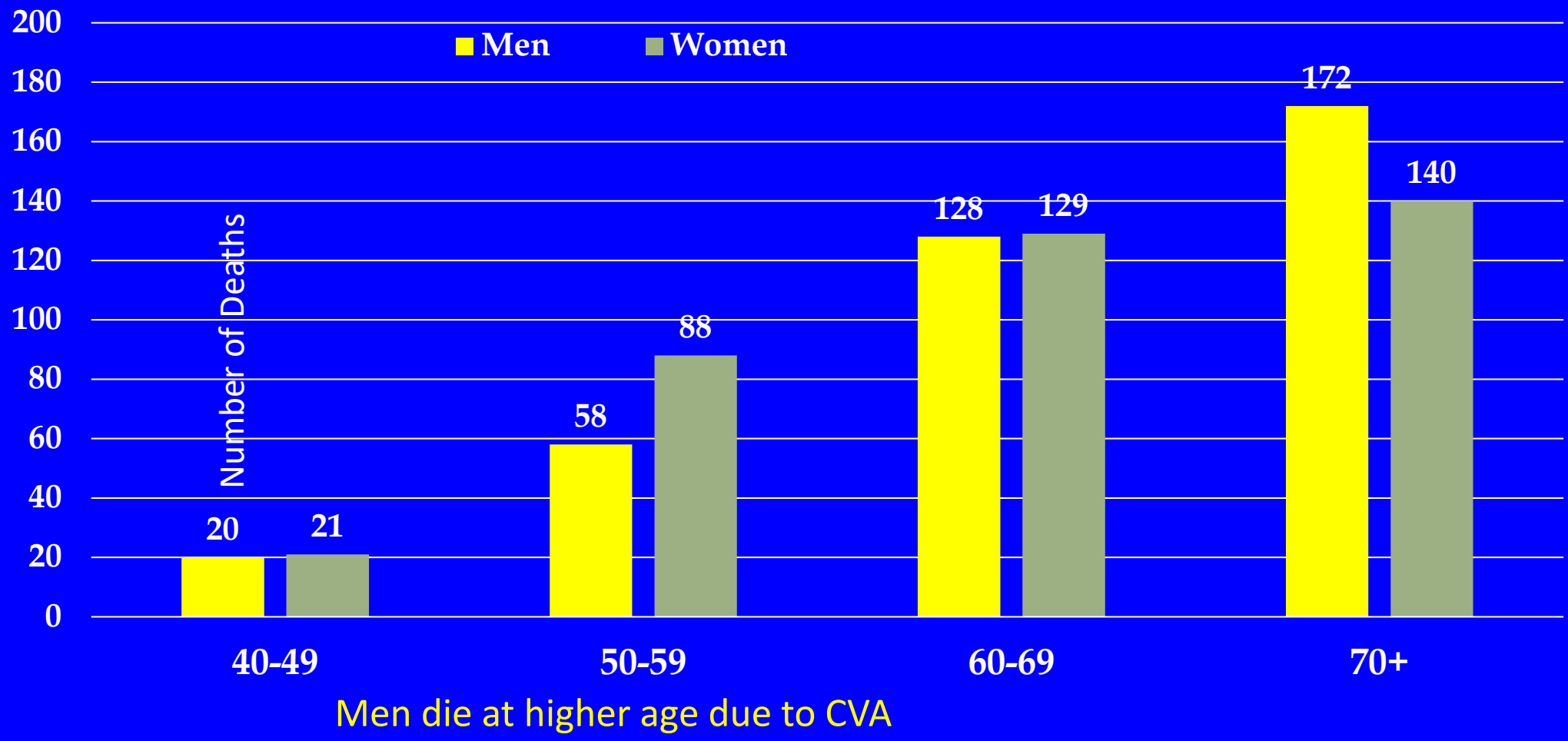
Standard expected years of life lost due to premature death

Causes of premature death	SEYLL (SE)	%
Ischaemic heart diseases	32 466 (218)	33.74
Stroke	13 004 (135)	13.52
Road injury	5160 (89)	5.36
Oesophageal cancer	4301 (78)	4.47
Stomach cancer	4220 (71)	4.39
Chronic obstructive pulmonary diseases	2972 (59)	3.09
Kidney diseases	2295 (58)	2.39
Cirrhosis of the liver	1866 (55)	1.94
Trachea, bronchus, lung cancers	1711 (47)	1.78
Pancreas cancer	1483 (42)	1.54
All*	96 219 (376)	100

Isolated CABG: Average age and contributor country: Tehran Heart Center 2002-2009



CVD Mortality



Men die at higher age due to CVA