

“Misurazione dell’aderenza alla dieta mediterranea nell’adulto”

Divieto di riproduzione, utilizzo e diffusione anche parziale

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Roma, 7 maggio 2015

Ai sensi dell’art. 3.3 del Regolamento applicativo dell’Accordo Stato-Regioni 05.11.2009, dichiaro che negli ultimi due anni non ho avuto nessun rapporto di finanziamento con soggetti portatori di interessi commerciali in campo sanitario.

In fede, **Patrizia Gnagnarella**

La Dieta Mediterranea è patrimonio immateriale dell’Umanità

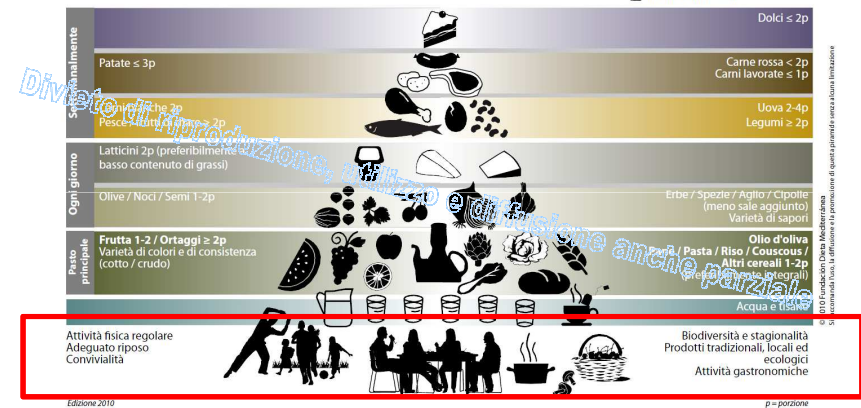
«[...]La dieta mediterranea costituisce un **insieme di fattori, conoscenza, pratiche e tradizioni che variano dal paesaggio alla tavola, comprese le colture, la raccolta, la pesca, la conservazione, l’elaborazione, la preparazione e, specialmente, il consumo degli alimenti. La dieta mediterranea è caratterizzata da un modello nutrizionale che è rimasto costante nel tempo e nei luoghi, essendo costituito principalmente di **olio di oliva, cereali, frutta fresca o secca e verdure, una quantità moderata di pesce, latticini e carne, e molti condimenti e spezie, interamente accompagnati da vino o infusi, sempre nel rispetto delle tradizioni di ogni comunità.**[...] La dieta mediterranea è un insieme di pratiche tradizionali, di conoscenza e di abilità trasmesse di generazione in generazione e che fornisce un senso di appartenenza e di continuità alle comunità interessate.**[...]»

Comitato intergovernativo dell’UNESCO, 16 Novembre 2010

Mediterranean diet pyramid today. Science and cultural Updates. By Bach-Faig et al. PHN 2011 14(12A), 2274–2284

Piramide Alimentare Mediterranea: uno stile di vita quotidiano
Linee Guida per la popolazione adulta

Porzioni frugali e secondo le abitudini locali
Vino con moderazione e secondo le abitudini sociali



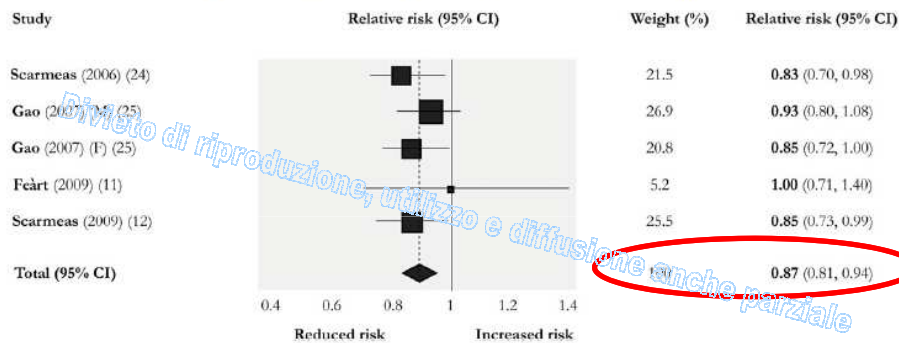
Edizione 2010

p = porzione



Meta-analysis on the adherence to MD and neurodegenerative diseases (Sofi et al, AJCN 2010)

UPDATED META-ANALYSIS ON MEDITERRANEAN DIET



Meta-analisi sull'aderenza alla dieta mediterranea. **Studi prospettici** mostrano una riduzione del **13%** del rischio di incidenza di malattie neurodegenerative per un incremento dello score di aderenza di 2 punti. **Inclusi 4 studi**

COSA SI STUDIA DELLA "DIETA" ?

- **EPIDEMIOLOGIA NUTRIZIONALE:** studia il fenomeno dell'insorgenza di malattie in relazione alle abitudini alimentari di una popolazione (Studi prospettici, retrospettivi o di intervento)



- **ALIMENTI:** si rilevano i consumi alimentari (FFQ, 24hr recalls, diari alimentari)



- **SINGOLI COMPONENTI/NUTRIENTI:** tradurre gli alimenti e gruppi di alimenti in componenti alimentari (Database di composizione degli alimenti)



DAGLI ALIMENTI E NUTRIENTI AI PATTERN ALIMENTARI

- La dieta umana è complessa e non è formata da **singoli nutrienti o singoli alimenti**;
- Esistono delle correlazioni tra nutrienti e tra alcuni nutrienti e alcuni pattern alimentari. Questo rende difficile esaminare il singolo **effetto**;
- L'effetto di un singolo nutriente potrebbe essere **troppo piccolo** per essere misurato.

Come si misurano i pattern alimentari

- **pattern alimentari "a priori":** queste analisi si basano sull'identificazione della composizione di una predefinita dieta utilizzando le attuali conoscenze in ambito nutrizionale. Si sommano alcune variabili (alimenti e/o nutrienti), per ottenere un valore unico e fornire una **misura complessiva della qualità della dieta**.
- **pattern alimentari "a posteriori":** queste analisi si basano sull'identificazione di profili ricavati dalla modellazione statistica dei dati di consumo rilevati.



PATTERN ALIMENTARI

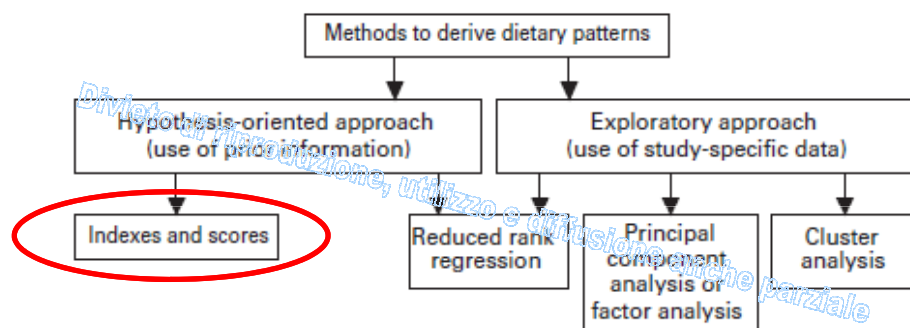


Fig. 1. Approaches to define dietary patterns in observational studies.

Schulze et al, BJJN 2006

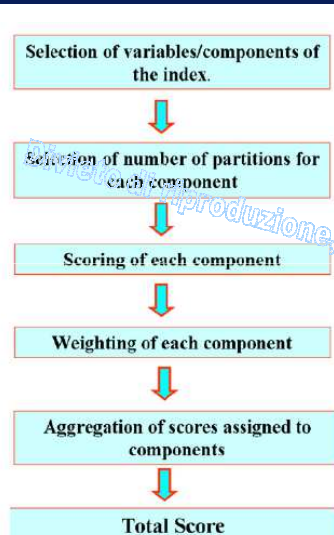
INDICI E SCORE

➤ Gli indici sono degli **strumenti** che mirano a **misurare e quantificare diverse condizioni cliniche, comportamenti, ed atteggiamenti e credenze** che sono molto difficili da misurare/quantificare con precisione (sintomi psicologici come la depressione, la gravità di una malattia, la salute connessa alla qualità della vita, abitudini alimentari, ecc).

➤ in tutti gli indici si tende a **combinare misure delle singole variabili** (elementi/componenti dell'indice).

Kourlaba et al, Maturitas 2009

Passaggi per sviluppare un indice



Punti critici:

- ✓ **quantificare** ogni singolo componente scelto;
- ✓ **assegnare delle categorie e identificare i cut-off points;**
- ✓ **assegnare il relativo score.**

Fig. 1. Methodology for index development.

Kourlaba et al, Maturitas 2009

Selezione dei componenti dell'indice

➤ TRE TIPI DI INDICI:

- **solo nutrienti;**
- **alimenti o gruppi alimentari;**
- **combinazione di nutrienti ed alimenti.**

➤ **gli score di aderenza alla DM sono generalmente costruiti considerando gruppi alimentari, il consumo di alcol e il rapporto degli acidi grassi (monoinsaturi:saturi), solo alcuni contengono esclusivamente gruppi alimentari.**

➤ **numero di componenti variabile: da 9 a 14 items.**

Diet and overall survival in elderly people

Antonia Trichopoulou, Antigone Kouris-Blazos, Mark L Wahlqvist, Charalambos Gnardellis, Pagona Lagiou, Evangelos Polychronopoulos, Tonia Vassilakou, Loren Lipworth, Dimitrios Trichopoulos

Abstract

Objective—To assess the influence of a specific dietary pattern on overall survival.

Design—Cohort study.

Setting—Three rural Greek villages, the data from which were collected as part of an international cross cultural study of food habits in later life.

Subjects—182 elderly residents of the three villages.

Main outcome measures—Overall mortality.

Results—Diet was assessed with a validated extensive semiquantitative questionnaire on food intake. A one unit increase in diet score (based a priori on the basis of eight component characteristics of the traditional common diet in the Mediterranean region, was associated with a significant 17% reduction in overall mortality (95% confidence interval 1% to 31%).

Conclusion—A diet meeting currently understood health criteria does predict survival among people.

Introduction

There is extensive scientific literature on the relation between diet and incidence of or mortality from coronary heart disease, various types of cancer, and several other diseases.¹ Case-control studies of the nutritional epidemiology of certain chronic diseases also have been undertaken in Greece, with results

subjects were current smokers (including the few who had stopped smoking within five years) or non-smokers (including the few who had not smoked for more than five years). Between April 1993 and January 1994 we revisited the three villages, ascertained the exact date of death of the 53 subjects who died, and confirmed the survival of the 129 remaining. Although all death certificates were available, cause of death was not specifically studied as the relevant information was not always adequately substantiated.

For analysis the frequency of consumption of different food items was quantified approximately in terms of the number of times a month the food was consumed, as done by Graham *et al.*² and Katsouyanni *et al.*³ Daily consumption was multiplied by 30 and weekly consumption by 4, a value of 0 was assigned to food items rarely or never consumed. Food items were considered in groups as recommended by Davidson and Passmore⁴ and used by Grahaus *et al.*⁵ Poles *et al.*⁶ and Trichopoulou *et al.*⁷ Food frequencies were translated into food quantities in grams per day on the basis of standard portion size estimations, and they were further adjusted to daily intakes of 2500 kcal for men and 2000 kcal for women. Nutrient intakes for individual people were estimated by multiplying the nutrient contents of a selected typical portion for each specified food item by the frequency that the food item was eaten a month and adding these estimates for all food items. Data on the nutrient composition of Greek foods and recipes were based on a nutrient database

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BMJ Vol 311 - 2 december 1995

Table 2—Median daily consumption in grams adjusted for energy* for eight components of diet score

Consumption	Men (n=91)	Women (n=91)
Vegetables	303	248
Legumes	60	49
Fruits and nuts	249	216
Dairy products	201	194
Cereals	291	248
Meat and meat products	109	91
Ethanol	10	0
Monounsaturated:saturated fat ratio	1.6	1.6
Energy (kcal)	2206	1760

*To 2500 kcal for men and 2000 kcal for women.

BMJ Vol 311 - 2 december 1995

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 JUNE 26, 2003 VOL. 348 NO. 26

Adherence to a Mediterranean Diet and Survival in a Greek Population

Antonia Trichopoulos, M.D., Tina Costacou, Ph.D., Christina Bamia, Ph.D., and Dimitrios Trichopoulos, M.D.

ABSTRACT

BACKGROUND

Adherence to a Mediterranean diet may improve longevity, but relevant data are limited.

METHODS

We conducted a population-based, prospective investigation involving 22,043 adults in Greece who completed an extensive, validated, food-frequency questionnaire at base line. Adherence to the traditional Mediterranean diet was assessed by a 10-point Mediterranean-diet scale that incorporated the salient characteristics of this diet (range of scores, 0 to 9, with higher scores indicating greater adherence). We used proportional-hazards regression to assess the relation between adherence to the Mediterranean diet and total mortality, as well as mortality due to coronary heart disease and mortality due to cancer, with adjustment for age, sex, body-mass index, physical-activity level, and other potential confounders.

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N Engl J Med 2003;348:2599-608.
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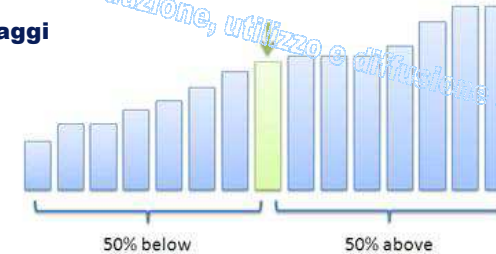
I VALORI DI CUTT-OFF E LO SCORING SYSTEM

Score = 0 oppure 1

Median

- carne
- grassi
- latte e formaggi

- frutta e verdura
- legumi
- cereali integrali
- pesce
- olio di oliva



Consumi dei gruppi considerati

I VALORI DI CUT-OFF E LO SCORING SYSTEM

COMPONENTS	SCORE = 1	SCORE = 0
Cereals	Above the median	Below the median
Vegetables	Above the median	Below the median
Fruit and nuts	Above the median	Below the median
Legumes	Above the median	Below the median
Fish and seafoods	Above the median	Below the median
Dairy	Below the median	Above the median
Meat and meat products	Below the median	Above the median
Alcohol consumption	5-25 g/day for women 10-50 g/day for men	abstainers, >25 g/day for women, >50 g/day for men
Monounsaturated/Saturated fat ratio	Above the median	Below the median

**Medians are gender-specific –
Score range from 0 - 9**

I VALORI DI CUT-OFF E LO SCORING SYSTEM

Studio ATTICA - 11 items – score range from 0 to 55

Table 1 – The Mediterranean diet score

How often do you consume

	Frequency of consumption (servings/month)					
	Never	1-4	5-8	9-12	13-18	>18
Non-refined cereals (whole grain bread, pasta, rice, etc.)	0	1	2	3	4	5
Potatoes	0	1	2	3	4	5
Fruits	0	1	2	3	4	5
Vegetables	0	1	2	3	4	5
Legumes	0	1	2	3	4	5
Fish	0	1	2	3	4	5
Red meat and products	5	4	3	2	1	0
Poultry	5	4	3	2	1	0
Full fat dairy products (cheese, yoghurt, milk)	5	4	3	2	1	0
Use of olive oil in cooking (times/week)	Never	Rare	<1	1-3	3-5	Daily
	0	1	2	3	4	5
Alcoholic beverages (ml/day, 100 ml = 12 g ethanol)	<300	300	400	500	600	>700 or 0
	5	4	3	2	1	0

D.B. Panagiotakos et al. 2006

I VALORI DI CUT-OFF E LO SCORING SYSTEM

Appendix A: The Mediterranean score

**Nutritional intervention promoting the Mediterranean food pattern among a group of 77 French-Canadian women
Score range from 0 to 44**

Score	0	1	2	3	4
Whole grain products ¹	< 1 portion/day	1-2 portions/day	3-4 portions/day	5-6 portions/day	≥ 7 portions/day
Vegetable consumption ²	< 1 portion/day	1 portion/day	2 portions/day	3 portions/day	≥ 4 portions/day
Fruit consumption ³	< 1 portion/day	1 portion/day	2 portions/day	3 portions/day	≥ 4 portions/day
Legumes, nuts and seed consumption ⁴	< 0.5 portion/day	0.5 portion/day	1 portion/day	2 portions/day	≥ 2 portions/day
Olive oil, olives and margarine made of olive oil consumption ⁵	< 1 time/day	1 time/day	2 times/day	3 times/day	≥ 4 times/day
Milk and dairy products consumption ⁶	< 1 portion/day or > 4 portions/day	4 portions/day		1 portion/day	2-3 portions/day
Fish and seafood (other than breaded) ⁷	Never	< 1 portion/week	1 portion/week	2 portions/week	≥ 3 portions/week
Poultry (other than breaded) ⁷	Never	< 1 portion/week	1 portion/week or ≥ 4 portions/week	2 portions/week	3 portions/week
Eggs	≥ 7/week			5-6/week	0-4/week
Sweets ⁸	≥ 7 times/week	5-6 times/week	3-4 times/week	1-2 times/week	< 1/week
Red meat/processed meat ⁷	≥ 7 portions/week	5-6 portions/week	3-4 portions/week	1-2 portions/week	< 1 portion/week

J. Goulet et al. / Atherosclerosis 170 (2003) 115-124 123

I VALORI DI CUT-OFF E LO SCORING SYSTEM

7 items – score range from 0 to 14

Table 1 Construction of the score

Scores	SFA (%energy)	Cholesterol (mg)	Meats (g)	Olive oil (ml)	Fish (g)	Cereals (g)	Vegetables + fruit (g)
0	> 13	< 300	< 25	> 15	> 60	> 300	> 700
1	10-13	300-400	25-125	15-5	60-30	300-100	700-400
2	> 13	< 300	> 125	< 5	< 30	< 100	< 400

**The lower the DQI, the healthier the diet.
The best DQI has a score of 0, the poorest, 14.
We pooled the scores as follows:
good, 1-4; medium-good, 5-7; medium-poor, 8-10; poor, 11-14.**

Gerber, 2006 - Public Health Nutrition: 9(1A), 147-151

Dietary indices developed based on Mediterranean diet

Authors (years)	Index	Index components	Number of partitions and scoring system	Range of index	Main findings
Gerber et al. (2000) [27]	Mediterranean Diet Quality Index (MDQI)	7 components Nutrients and food groups	3 partitions for each component 0-2 points	0-14	Inverse relationship with vitamin E, ω -3 fatty acids and beta-carotene. No association with cholesterol [27]
Trichopoulos et al. (1995) [16]	Mediterranean Diet Scale (MDS)	8 components Food groups and diet composition in lipids	2 partitions for each component 0 and 1 points	0-8	Inverse relationship with the overall mortality [16,43-45,56] No association with Body Mass Index and Waist-to-Hip ratio [51]
Trichopoulos et al. (2003) [15]	Modified Mediterranean Diet Scale (MMDS)	9 components (8 components of MDS and fish consumption)	2 partitions for each component 0 and 1 points	0-9	Significant association with all types of mortality [15,41]
Martinez-Gonzalez et al. (2002) [47]	A priori Mediterranean dietary pattern	8 components Food groups	5 partitions for each component 0-5 points	0-40	Correlation with the risk of myocardial infarction [47]
Martinez-Gonzalez et al. (2004) [40]	Mediterranean Score	9 components Food groups	2 partitions for each component 0 and 1 points	0-9	Correlation with the risk of myocardial infarction [46]
Panagiotakos et al. (2007) [25]	MedDietScore	11 components Food groups	5 partitions for each component 0-5 points	0-55	Correlation with hypertension, hypercholesterolemia diabetes mellitus and obesity [25,57] Correlation with glucose homeostasis indices [58]
Lowik et al. (1999) [22]	Food Based Quality Index (FBQI)	7 components Food groups	2 partitions for each component 0 and 1 points	0-7	Positive correlation with energy intake [22]
Osler et al. (2001) [24]	Healthy Food Index (HFI)	4 components Food groups	2 partitions for each component 0 and 1 points	0-4	No association with incidence of coronary heart disease and overall mortality [23,24]

G. Kourlaba, D.B. Panagiotakos / Maturitas 62 (2009) 1-8

Development of a short dietary intake questionnaire for the quantitative estimation of adherence to a cardioprotective Mediterranean diet

Table 1 Dietary items included in the short questionnaire

	Yes
1. Olive oil (≥ 1 spoon/day)	+1
2. Fruit (≥ 1 serving/day)	+1
3. Vegetables or salad (≥ 1 serving/day)	+1
4. Fruit (≥ 1 serving/day) and vegetables (≥ 1 serving/day) ^a	+1
5. Legumes (≥ 2 servings/week)	+1
6. Fish (≥ 3 servings/week)	+1
7. Wine (≥ 1 glass/day)	+1
8. Meat (< 1 serving/day)	+1
9. [White bread (< 1 /day) and rice (< 1 /week)] or whole-grain bread (> 5 /week) ^b	+1

^aOne point is added when ≥ 1 serving/day of both fruits and vegetables is consumed.

^bOne point is added when either consumption of both white bread and rice is low or when consumption of whole-grain bread is high.

9 items – score range from 0 to 11

Martinez-Gonzalez et al. EJCN (2004) 58, 1550-1552

A Short Screener Is Valid for Assessing Mediterranean Diet Adherence among Older Spanish Men and Women (Schroder et al, JN 2011)

	Frequency ¹	MEDAS ²	FFQ ³	κ	95%CI ⁴
1. Do you use olive oil as the principal source of fat for cooking?	Yes	90.9	84.3	0.55	0.51, 0.58
2. How much olive oil do you consume per day (including that used in frying, salads, meals eaten away from home, etc.)?	≥ 4 Tbsp ⁵	70.9	63.9	0.56	0.54, 0.58
3. How many servings of vegetables do you consume per day? Count garnish and side servings as 1/2 point; a full serving is 200 g.	≥ 2	42.4	67.6	0.30	0.28, 0.32
4. How many pieces of fruit (including fresh-squeezed juice) do you consume per day?	≥ 3	52.0	33.4	0.37	0.35, 0.39
5. How many servings of red meat, hamburger, or sausages do you consume per day? A full serving is 100-150 g.	< 1	87.3	73.9	0.23	0.19, 0.26
6. How many servings (12 g) of butter, margarine, or cream do you consume per day?	< 1	90.6	93.1	0.64	0.61, 0.68
7. How many carbonated and/or sugar-sweetened beverages do you consume per day?	< 1	88.4	96.6	0.38	0.33, 0.42
8. Do you drink wine? How much do you consume per week?	≥ 7 cups ⁶	30.1	24.2	0.81	0.79, 0.82
9. How many servings (150 g) of pulses do you consume per week?	≥ 3	26.9	24.1	0.61	0.53, 0.63
10. How many servings of fish/seafood do you consume per week? (100-150 g of fish, 4-5 pieces or 200 g of seafood)	≥ 3	56.2	69.3	0.51	0.49, 0.53
11. How many times do you consume commercial (not homemade) pastry such as cookies or cake per week?	< 2	67.8	92.1	0.20	0.17, 0.23
12. How many times do you consume nuts per week? (1 serving = 30 g)	≥ 3	34.0	36.7	0.33	0.31, 0.36
13. Do you prefer to eat chicken, turkey or rabbit instead of beef, pork, hamburgers, or sausages?	Yes	67.0	55.7	0.48	0.46, 0.50
14. How many times per week do you consume boiled vegetables, pasta, rice, or other dishes with a sauce of tomato, garlic, onion, or leeks sautéed in olive oil?	≥ 2	62.7	24.8	0.03	0.004, 0.05
Mean	—	62.0	60.3	0.43	

14 items – score range from 0 to 14

A 14-Item Mediterranean Diet Assessment Tool and Obesity Indexes among High-Risk Subjects: The PREDIMED Trial

Table 1. Validated 14-item Questionnaire of Mediterranean diet adherence.

Questions	Criteria for 1 point
1. Do you use olive oil as main culinary fat?	Yes
2. How much olive oil do you consume in a given day (including oil used for frying, salads, out-of-house meals, etc.)?	≥ 4 tbsp
3. How many vegetable servings do you consume per day? (1 serving : 200 g [consider side dishes as half a serving])	≥ 2 (≥ 1 portion raw or as a salad)
4. How many fruit units (including natural fruit juices) do you consume per day?	≥ 3
5. How many servings of red meat, hamburger, or meat products (ham, sausage, etc) do you consume per day? (1 serving: 100-150 g)	< 1
6. How many servings of butter, margarine, or cream do you consume per day? (1 serving: 12 g)	< 1
7. How many sweet or carbonated beverages do you drink per day?	< 1
8. How much wine do you drink per week?	≥ 7 glasses
9. How many servings of legumes do you consume per week? (1 serving : 150 g)	≥ 3
10. How many servings of fish or shellfish do you consume per week? (1 serving 100-150 g of fish or 4-5 units or 200 g of shellfish)	≥ 2
11. How many times per week do you consume commercial sweets or pastries (not homemade), such as cakes, cookies, biscuits, or custard?	< 3
12. How many servings of nuts (including peanuts) do you consume per week? (1 serving 30 g)	≥ 3
13. Do you preferentially consume chicken, turkey, or rabbit meat instead of veal, pork, hamburger, or sausage?	Yes
14. How many times per week do you consume vegetables, pasta, rice, or other dishes seasoned with sofrito (sauce made with tomato and onion, leek, or garlic and simmered with olive oil)?	≥ 2

14 items – score range from 0 to 14

(Martinez-Gonzalez et al, Plosone 2012)

Literature-based adherence score to the MD (Sofi et al. 2013)

FRUIT 1 portion: 150 g	<1 portion/d 0	1-1.5 portions/d 1	>2 portions/d 2
VEGETABLES 1 portion: 100 g	<1 portion/d 0	1-2.5 portions/d 1	>2.5 portions/d 2
LEGUMES 1 portion: 70 g	<1 portion/week 0	1-2 portions/week 1	>2 portions/week 2
GRAINS 1 portion: 130 g	<1 portion/d 0	1-1.5 portions/d 1	>1.5 portions/d 2
FISH 1 portion: 100 g	<1 portion/week 0	1-2.5 portions/week 1	>2.5 portions/week 2
MEAT AND MEAT PRODUCTS 1 portion: 80 g	<1 portion/d 2	1-1.5 portions/d 1	>1.5 portions/d 0
DAIRY PRODUCTS 1 portion: 180 g	<1 portion/d 2	1-1.5 portions/d 1	>1.5 portions/d 0
ALCOHOL 1 Alcohol Unit (AU) = 12 g	<1 U.A./d 1	1-2 U.A./d 2	>2 U.A./d 0
OLIVE OIL	Occasional use 0	Frequent use 1	Regular use 2
			TOTAL: <input type="text"/>

Portion sizes derive from the calculation of mean value of weighted medians (or means) ± 2 SD coming from 35 cohort studies. Range: 0-18 points.

VANTAGGI NELL'UTILIZZO DEGLI SCORE

- **Semplici** da calcolare;
- **Facilmente confrontabili**;
- **Formulati** per studiare l'effetto della **dieta complessiva** su specifiche patologie (malattie cardiovascolari, neurodegenerative, diabete, cancro)
- **Possono essere utilizzati** per **completare le analisi** sulla possibile relazione tra dieta e stato di salute.

ALCUNE CRITICITÀ

- **Soggettivi** nella scelta dei componenti e nella loro quantificazione e limitati alle **conoscenze** relative agli effetti salutari della dieta;
- **Descrivono pattern alimentari** non realmente presenti nella popolazione in studio;
- **Non tengono conto** di **correlazioni** esistenti tra i componenti della dieta e delle interazioni tra nutrienti.

La nostra esperienza

Con quale frequenza consuma normalmente una porzione dei seguenti alimenti?

ALIMENTI	PORZIONE	FREQUENZA DI CONSUMO AL GIORNO				
		Mai o raramente	Meno di 1 volta /giorno	1 volta /giorno	2 volte /giorno	≥ 3 volte /giorno
1. Pasta o riso di tipo <i>integrale</i>	80 gr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Verdura tutti i tipi (sia cruda che cotta)	200 gr (80 gr insalata)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Frutta tutti i tipi, anche la spremuta fresca	150 gr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Latte e yogurt	1 bicchiere /setto (125 gr)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Pane e fette di tipo <i>integrale</i>	1-2 fette (50 gr)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Olio di oliva per cucinare e condire	1 cucchiaino (10 ml)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Burro, margarina o panna da cucina per cucinare	1 noce (10 gr)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Vino (bianco e rosso)	1 bicchiere (125 ml)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ALIMENTI	PORZIONE	FREQUENZA DI CONSUMO ALLA SETTIMANA				
9. Carne rossa (bovino, vitello, maiale), affettati e salumi	100 gr (carne) 50 gr (salumi)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Carne bianca (pollo, tacchino, coniglio)	100 gr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Bevande dolci o gassate (tipo cola, aranciata, gassosa, ecc)	1 bicchiere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Dolci o pasticcini (non fatti in casa), come torte, biscotti, creme o dolci al cuochiaio	100 gr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Pesce (fresco o surgelato) o frutti di mare	150 gr (pesce) 50 gr (frutti di mare)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Frutta secca (noci, mandorle, nocciole)	1 pugno (30 gr)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Legumi (ceci, lenticchie, piselli, fagioli)	50 gr (secchi) 150 gr (scatola / freschi)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- **questionario per la valutazione dell'aderenza alla DM che include 15-items;**
- **studio di validazione QDM vs FFQ EPIC-Italia; e QDM vs 24hr ripetuti;**
- **ideati due tipi di score (da 0 a 15; da 0 a 60);**
- **campione: 3000 soggetti partecipanti a screening oncologici presso IEO e 200 soggetti partecipanti allo studio ATHENA.**

CONCLUSIONI

- la ricerca scientifica ha bisogno di **strumenti brevi** che possano fornire un rapido feedback per la valutazione della dieta;
- questi strumenti potrebbero essere utili in molti ambiti di ricerca (studi di intervento, osservazionali, ecc)
- Ulteriori studi sono necessari per definire **strumenti sempre più affidabili.**

Grazie per la
vostra
attenzione!