

# Adesão à dieta mediterrânica: qual a situação em Portugal?

**Sara Rodrigues**

## Sumário

1. Relação com saúde
2. Adesão (Portugal e outros países Mediterrânicos)
3. Promoção

# 1. Relação com saúde...





# The Seven Countries Study

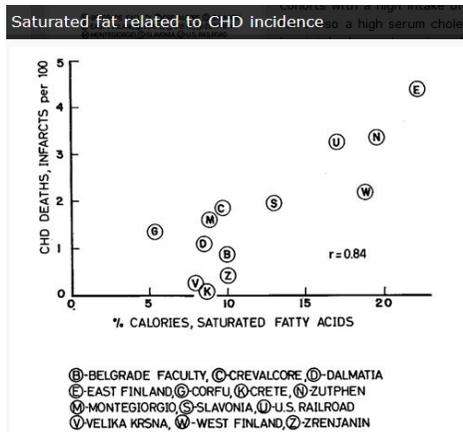
Examination between 1958 and 1964

16 cohorts in 7 countries: former Yugoslavia (5), Greece (2), USA (1), Japan (2), Italy (3), the Netherlands (1) and Finland (2)

Participants: 12,763 men aged 40-59 years old

Seven day record in small samples of the 16 cohorts around 1960

## Conclusions



"cultures differed in their diets and corresponding differences were seen in saturated fat, serum cholesterol and coronary heart disease (CHD) incidence after 5 and 10 years of follow-up."



## The Seven Countries Study (1958-1964)

“What is the Mediterranean diet?”

“...what the Mediterranean natives eat” and “The heart of what we consider the Mediterranean diet is mainly vegetarian: leaves sprinkled with olive oil, all kinds of vegetables in season, pasta in many forms and often cheese, all finished off with fruit, and frequently washed down with wine”. Ancel Keys



“The concept ‘Mediterranean diet’ was developed to reflect the typical dietary habits followed during the early 1960s by inhabitants of the Mediterranean basin, mainly in Crete, much of the rest of Greece and Southern Italy. It is essentially a frugal diet that was followed by poor rural societies.” Martínez-González MA

Trichopoulou A, Martínez-González MA, Tong TY, et al. Definitions and potential health benefits of the Mediterranean diet: views from experts around the world. *BMC Medicine*. 2014



## A comprehensive meta-analysis on evidence of Mediterranean diet and cardiovascular disease: Are individual components equal?

Giuseppe Grosso<sup>a</sup>, Stefano Marventano<sup>b</sup>, Justin Yang<sup>c,d</sup>, Agnieszka Micek<sup>e</sup>, Andrzej Pajak<sup>e</sup>, Luca Scalfi<sup>f</sup>, Fabio Galvano<sup>g</sup>, and Stefanos N. Kales<sup>c,h</sup>

<sup>a</sup>Integrated Cancer Registry of Catania-Messina-Siracusa-Enna "G.F. Ingrassia," Section of Hygiene and Preventive Medicine & Occupational Medicine & Epidemiology, Harvard TH Chan University School of Medicine, Boston, Massachusetts, USA; <sup>b</sup> College, Krakow, Poland; <sup>c</sup>Department of Food Science, <sup>d</sup>Fed Biotechnological Sciences, Section of Pharmacology and Bio Medical School, Cambridge, Massachusetts, USA

INTERNATIONAL JOURNAL OF FOOD SCIENCES AND NUTRITION, 2017  
VOL. 68, NO. 2, 138–148  
<http://dx.doi.org/10.1080/09637486.2016.1221900>

### COMPREHENSIVE REVIEW

## Adherence to the Mediterranean diet is inversely associated with metabolic syndrome occurrence: a meta-analysis of observational studies

Justyna Godos<sup>a</sup> , Gaetano Zappalà<sup>b</sup>, Sergio Bernardini<sup>c</sup>, Ilio Giambini<sup>d</sup>, Maira Bes-Rastrollo<sup>e,f</sup> and Miguel Martinez-Gonzalez<sup>e,f</sup>

<sup>a</sup>Department of Biomedical and Biotechnological Sciences, University of Catania, Catania, Italy; <sup>b</sup>Department of Medical and Surgical Sciences and Advanced Technologies "G.F. Ingrassia", University of Catania, Catania, Italy; <sup>c</sup>Division of Clinical Biochemistry and Clinical Molecular Biology, University of Rome "Tor Vergata", Rome, Italy; <sup>d</sup>Dipartimento Medicina Laboratorio, Tor Vergata University Hospital, Rome, Italy; <sup>e</sup>Department of Preventive Medicine & Public Health, School of Medicine, University of Navarra-IDISNA, Pamplona, Spain; <sup>f</sup>CIBER de Fisiopatología de la Obesidad y Nutrición (CIBEROBN), Institute of Health Carlos III, Madrid, Spain

### ABSTRACT

Many studies have reported that higher adherence to the Mediterranean diet (MED) is associated with lower incidence and mortality of cardiovascular disease (CVD). We performed a comprehensive meta-analysis of prospective studies and randomized control trials (RCTs) to evaluate the association between adherence to the MED and CVD incidence and mortality. The PubMed database was searched and 11 studies were included in the quantitative analysis. The MED was associated with a lower risk of CVD (RR: 0.76, 95% CI: 0.68, 0.83) compared to the non-MED diet. This association was also found for coronary heart disease (CHD) (RR: 0.67; 95% CI: 0.54, 0.83), and stroke (RR: 0.76). Individual components of the diet revealed that adherence to olive oil, fruits, vegetables, and nuts was associated with lower risks of CVD incidence and mortality. The aforementioned outcomes have been retrieved when the pattern is associated with lower risks of CVD incidence and mortality. The effects of specific food groups should be further investigated.

### ABSTRACT

Diet plays a role in the onset and progression of metabolic disorders, including metabolic syndrome (MetS). We aimed to systematically review and conduct a quantitative meta-analysis of results from observational cross-sectional and prospective cohort studies on adherence to the Mediterranean dietary pattern and risk of MetS. Literature databases including PubMed, SCOPUS and EMBASE were searched from the beginning to May 2016. Eight cross-sectional and four pro-

### ARTICLE HISTORY

Received 31 July 2016  
Revised 4 August 2016  
Accepted 4 August 2016  
Published online 25 August 2016

Review

# The Association between the Mediterranean Dietary Pattern and Cognitive Health: A Systematic Review

Yasmine S. Aridi \* , Jacqueline L. Walker  and Olivia R. L. Wright

School of Human Movement and Nutrition Sciences, The University of Queensland, Australia; j.walker3@uq.edu.au (J.L.W.); o.wright@uq.edu.au (O.R.L.W.)

\* Correspondence: yasmine.aridi@gmail.com; Tel.: +961-3-587-280

Received: 26 February 2017; Accepted: 25 June 2017; Published: 28 June 2017

**Abstract:** The ageing population is accompanied by increased rates of cognitive decline. Not only does cognitive decline have a profound impact on an individual but also on that of their caregivers. The Mediterranean diet (MD) has been associated with a lower risk of cardiovascular diseases, cancer and diabetes. It has been shown to have a protective function in the elderly population. The purpose of this review was to examine the effect of adherence to the MD on cognitive function, dementia or Alzheimer's disease. This review followed PRISMA guidelines and searched four databases and resulted in 31 articles of interest. Cross-sectional studies from the non-Mediterranean region showed mixed results. However, cohort studies from the Mediterranean region and randomized controlled trials showed more cohesive results. Adherence to the MD on cognitive function. Although more standardized and strengthened the existing body of evidence, results from this review indicate that adherence to a Mediterranean diet could play a major role in cognitive health and risk of Alzheimer's disease.

Review

# Adherence to Mediterranean Diet and Risk of Cancer: An Updated Systematic Review and Meta-Analysis

Lukas Schwingshackl <sup>1,\*</sup>, Carolina Schwedhelm <sup>1</sup>, Cecilia Galbete <sup>2</sup> and Georg Hoffmann <sup>3</sup>

**Abstract:** The aim of the present systematic review and meta-analysis was to gain further insight into the effects of adherence to Mediterranean Diet (MedD) on risk of overall cancer mortality, risk of different types of cancer, and cancer mortality and recurrence risk in cancer survivors. Literature search was performed using the electronic databases PubMed, and Scopus until 25 August 2017. We included randomized trials (RCTs), cohort (for specific tumors only incidence cases were used) studies, and case-control studies. Study-specific risk ratios, hazard ratios, and odds ratios (RR/HR/OR) were pooled using a random effects model. Observational studies (cohort and case-control studies), and intervention trials were meta-analyzed separately. The updated review process showed 27 studies that were not included in the previous meta-analysis (total number of studies evaluated: 83 studies). An overall population of 2,130,753 subjects was included in the present update. The highest adherence score to a MedD was inversely associated with a lower risk of cancer mortality (RR = 0.84, 95% CI 0.81 to 0.87,  $I^2 = 82%$ ,  $n = 14$  studies), colorectal cancer (RR = 0.78, 95% CI 0.73 to 0.83,  $I^2 = 82%$ ,  $n = 11$  studies), and prostate cancer (RR = 0.78, 95% CI 0.73 to 0.83,  $I^2 = 82%$ ,  $n = 11$  studies).

# Traditional Mediterranean diet and longevity in the elderly: a review

Antonia Trichopoulou\* †

Department of Hygiene and Epidemiology, School of Medicine, University of Athens, 75 M. Asias Street, GR-115 27,  
Athens, Greece

© The Author 2004

European Journal of Nutrition (2022) 61:1735–1748  
<https://doi.org/10.1007/s00394-021-02761-3>

REVIEW



## Mediterranean dietary pattern and the risk of type 2 diabetes: a systematic review and dose–response meta-analysis of prospective cohort studies

Sheida Zeraattalab-Motlagh<sup>1</sup> · Ahmad Jayedi<sup>1,2</sup> · Sakineh Shab-Bidar<sup>1</sup> 

Received: 8 June 2021 / Accepted: 25 November 2021 / Published online: 10 January 2022  
© The Author(s), under exclusive licence to Springer-Verlag GmbH Germany 2021

# PAM e evidência de efeito protetor

PAM e Mortalidade geral  
PAM e Doença cardiovascular  
PAM e Hipertensão  
PAM e Diabetes Tipo II  
PAM e Síndrome metabólica  
PAM e Obesidade  
PAM e Cancro  
PAM e Doença de Alzheimer



**1. Relação com saúde...**

**2. Adesão...**

**(Portugal e outros países Mediterrânicos)**

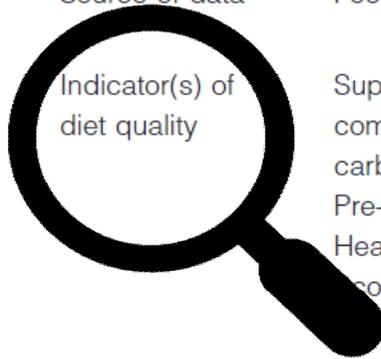
**INFORMA - International Network for Food and Obesity/non-communicable diseases  
Research, Monitoring and Action Support**

**Monitorização da qualidade da dieta da população: uma abordagem passo a passo**

Vandevijvere, S. *et al. Obes. Rev.* (2013)

**Table 2** Proposed step-wise framework for monitoring and benchmarking population diet quality between countries and over time

	Minimal approach	Expanded approach	Optimal approach
Source of data	Food balance sheets	Household budget and expenditure surveys	Individual intake or food consumption surveys
Indicator(s) of diet quality	Supply of broad food groups (basic commodities) and energy from fat, carbohydrates and sugar. Pre-defined Diet Quality Index, e.g. Healthy Eating Index, <u>Mediterranean Diet Score</u> , Diet Quality Index or Healthy Diet Indicator.	The share of ultra-processed foods and drink products in the diet, expressed as percentage of total calories. Pre-defined Diet Quality Index, e.g. Healthy Eating Index, <u>Mediterranean Diet Score</u> , Diet Quality Index or Healthy Diet Indicator.	The share of ultra-processed foods and drink products in the diet, expressed as percentage of total calories. Pre-defined Diet Quality Index, e.g. Healthy Eating Index, <u>Mediterranean Diet Score</u> , Diet Quality Index or Healthy Diet Indicator.
Stratification	No stratification	Stratification by region. Stratification by socioeconomic status of the household and sex and age of the household reference person.	Stratification by region (if sample size allows). Stratification by socioeconomic status, age and sex of the individual.
Representativeness	Countrywide	Countrywide/regional	Countrywide/regional



## The use of indexes evaluating the adherence to the Mediterranean diet in epidemiological studies: a review

Anna Bach<sup>1,3,\*</sup>, Lluís Serra-Majem<sup>1,2</sup>, Josep L Carrasco<sup>3</sup>, Blanca Roman<sup>1</sup>, Joy Ngo<sup>1</sup>, Isabel Bertomeu<sup>1</sup> and Biel Obrador<sup>4</sup>

<sup>1</sup>Foundation for the Advancement of the Mediterranean Diet, University of Barcelona Science Park, Spain:

<sup>2</sup>Department of Clinical Sciences, University of Las Palmas de Gran Canaria, Spain: <sup>3</sup>Biostatistics, Department of Public Health, University of Barcelona, Spain: <sup>4</sup>Faculty of Biology, University of Barcelona, Spain

Nutrición  
Hospitalaria



Nutr Hosp. 2015;32(5):1872-1884  
ISSN 0212-1611 • CODEN NUHOEQ  
S.V.R. 318

Revisión

## Description of indexes based on the adherence to the Mediterranean Dietary Pattern: a review

Angela Hernández Ruiz<sup>1,2</sup>, Belén García-Villanova<sup>1</sup>, Eduardo J. Guerra Hernández<sup>1</sup>, Pilar Amiano<sup>3,4</sup>, Mikel Azpiri<sup>3</sup> and Esther Molina Montes<sup>4,5</sup>

<sup>1</sup>Departamento de Nutrición y Bromatología. Facultad de Farmacia. Universidad de Granada. <sup>2</sup>Programa de Doctorado en

Revista **RISCO** Factores de  
Nº31 Jan-Mar 2014 Pág. 48-55



- 1 Lisa Afonso
- 3 Teresa Moreira
- 2 Andreia Oliveira

Faculdade de Medicina da Universidade do Porto, Porto, Portugal  
Instituto de Saúde Pública da Universidade do Porto, Porto, Portugal

---

Índices de adesão ao padrão alimentar mediterrânico  
– a base metodológica para estudar a sua relação com a saúde

## The Mediterranean Diet can be thought of as having main characteristics (components):

- prevalent consumption of olive oil
- high consumption of legumes
- high consumption of cereals
- high consumption of fruits
- high consumption of vegetables
- moderate consumption of dairy products, mostly as cheese and yogurt
- moderate to high consumption of fish
- low consumption of meat and meat products
- moderate wine consumption, if accepted by religion and social norms.

Trichopoulou, A., Costacou, T., Bamia, Ch. and Trichopoulos, D. Adherence to a Mediterranean diet and survival in a Greek population. *N. Engl. J. Med.* 2003

Trichopoulou A, Martínez-González MA, Tong TY, et al. Definitions and potential health benefits of the Mediterranean diet: views from experts around the world. *BMC Medicine.* 2014

# MDS

**Mediterranean Diet Score (MDS)**, *Trichopoulou et al., N Engl J Med 2003.*

	<median	≥ median
Vegetables (vegetables + potatoes)	0	1
Legumes (legumes, nuts and seeds)	0	1
Fruits	0	1
Cereals (bread, rice, pasta, biscuits, pastry)	0	1
Fish (fish, codfish, canned fish)	0	1
Ratio of monounsaturated:saturated fatty acids	0	1
Meat and poultry (meat, meat and meat products and poultry)	1	0
Diary (milk, cheese, yogurt)	1	0
	5-25 g/day (W)	<5 or >25 (W)
	10-50 g/day (M)	<10 or >50 (M)
Alcohol intake	1	0

# MAI

## Mediterranean Adequacy Index\*

Razão da % energia vinda de:

### "Alimentos Mediterrânicos"

[cereais e derivados, leguminosas, batatas, hortícolas, fruta, frutos secos, peixe, óleos vegetais e vinho]

### "Alimentos Não-Mediterrânicos"

[leite e produtos lácteos, carne e derivados, ovos, gorduras animais, refrigerantes, açúcar e produtos açucarados].

\* Como proposto por Alberti-Fidanza et al. in 1999

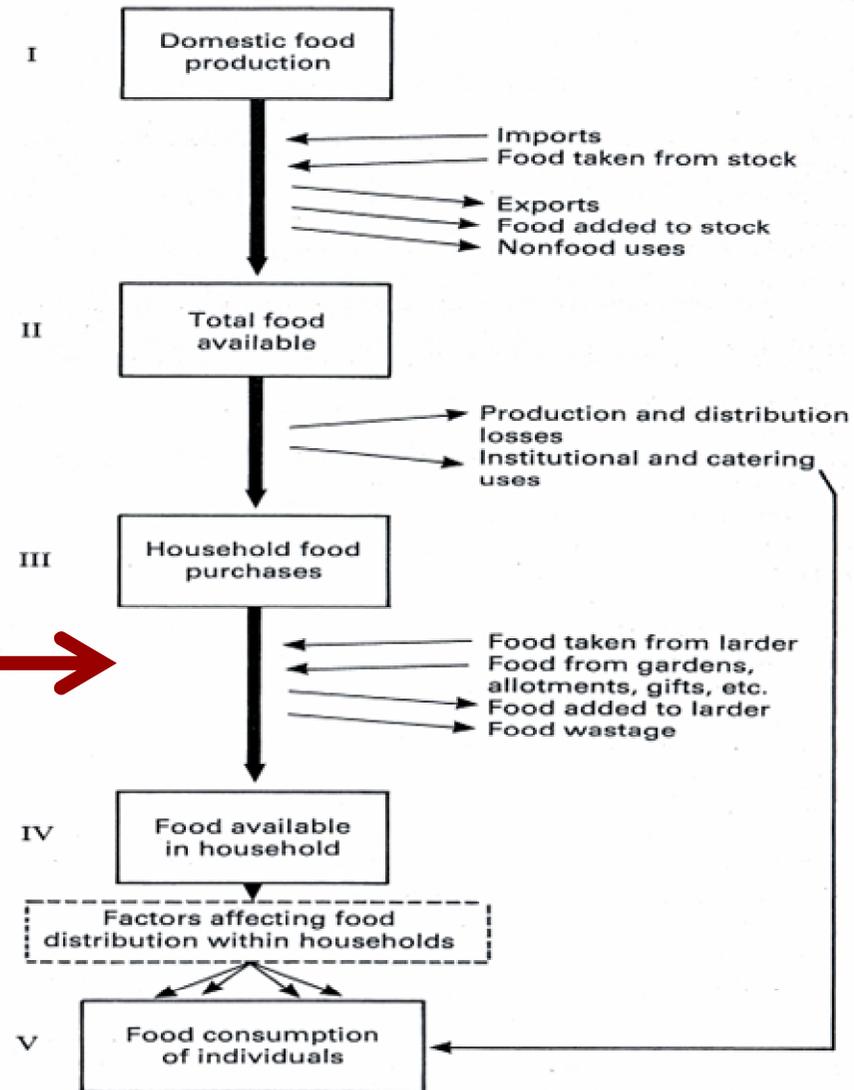
**DM:  $\geq 4$**  (Nicotera, Itália 1960)

# Avaliação do consumo alimentar

Balanças Alimentares  
(BA)

Inquéritos Familiares  
(IOF)

Inquéritos individuais  
(24h, QFA, ...)



**INS INE  
QFA SHE/FMUP  
IAN-AF**

**Consumo  
alimentar**



Tabela 1. Tamanho amostral final e participação no IAN-AF 2015-2016, por sexo e grupos etários.

	Total	Crianças (<10 anos)		Adolescentes (10-17 anos)		Adultos (18-64 anos)		Idosos (≥ 65 anos)	
		♀	♂	♀	♂	♀	♂	♀	♂
Participantes selecionados (n)	<b>29183</b>	1923	1965	952	988	8336	9384	3094	2541
Elegibilidade desconhecida (n)	5616	388	404	197	163	1677	1960	458	369
Elegibilidade conhecida (n)	23567	1535	1561	755	825	6659	7424	2636	2172
Elegíveis (n)	<b>19635</b>	1410	1422	658	719	5725	5971	2037	1693
Não elegíveis (n)	3932	125	139	97	106	934	1453	599	479
Proporção de contacto	<b>77,8%</b>	78,4%	77,9%	77,0%	81,5%	77,3%	75,3%	81,6%	82,1%
Participantes na 1ª entrevista (n)	6553	769	746	351	348	1881	1564	429	465
Proporção de cooperação	<b>33,4%</b>	54,5%	52,4%	53,3%	48,5%	32,9%	26,2%	21,1%	27,5%
Proporção de participação	<b>26,0%</b>	42,8%	40,8%	41,1%	39,5%	25,4%	19,7%	17,2%	22,6%
Participantes com 2 entrevistas (n)	<b>5819</b>	669	661	319	313	1675	1429	361	392
Proporção de cooperação	<b>29,6%</b>	47,4%	46,5%	48,5%	43,6%	29,3%	23,9%	17,7%	23,2%
Proporção de participação	<b>23,0%</b>	37,2%	36,2%	37,3%	35,5%	22,6%	18,0%	14,5%	19,0%

Proporção de contacto = Elegíveis/ (Elegíveis + Elegibilidade desconhecida); Proporção de cooperação = Participantes/ Elegíveis; Proporção de participação = Participantes/ (Elegíveis + Elegibilidade desconhecida).

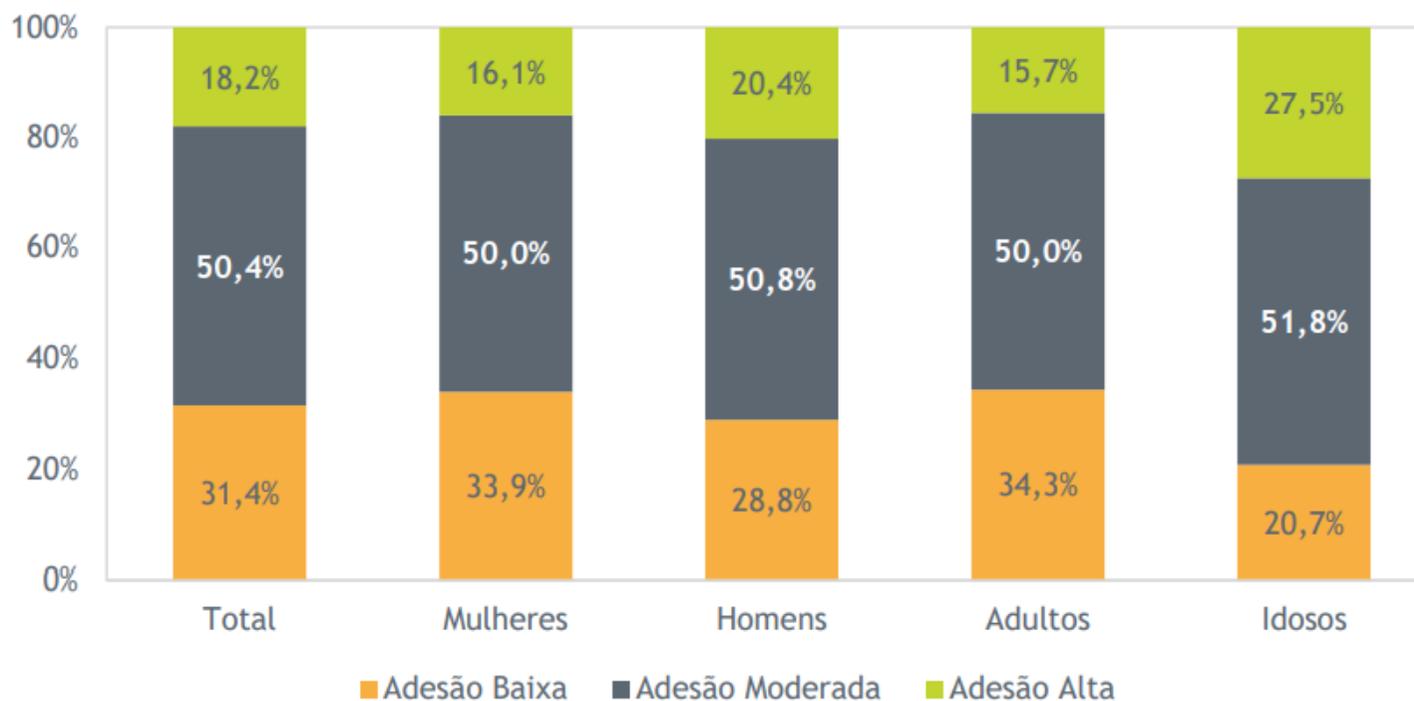


Figura 5.1. Prevalência de adesão ao padrão alimentar Mediterrânico para o total nacional, por sexo e grupo etário, ponderada para a distribuição da população Portuguesa (cálculo baseado na média de dois dias alimentares).

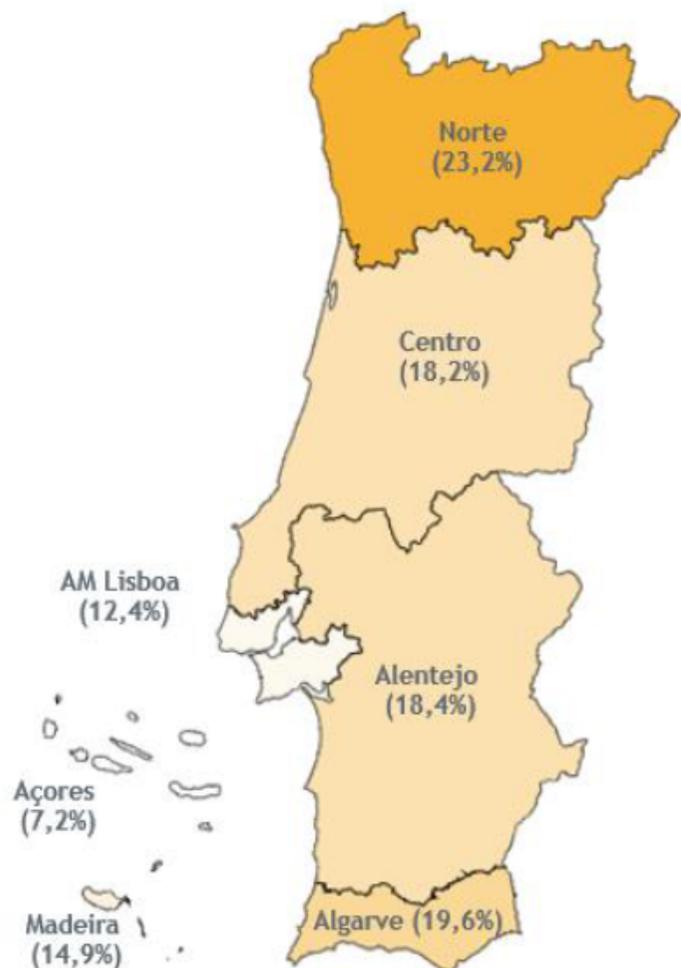


Figura 5.3. Distribuição espacial (por região NUTS II) da prevalência de adesão elevada ao padrão alimentar Mediterrânico, ponderada para a distribuição da população Portuguesa.

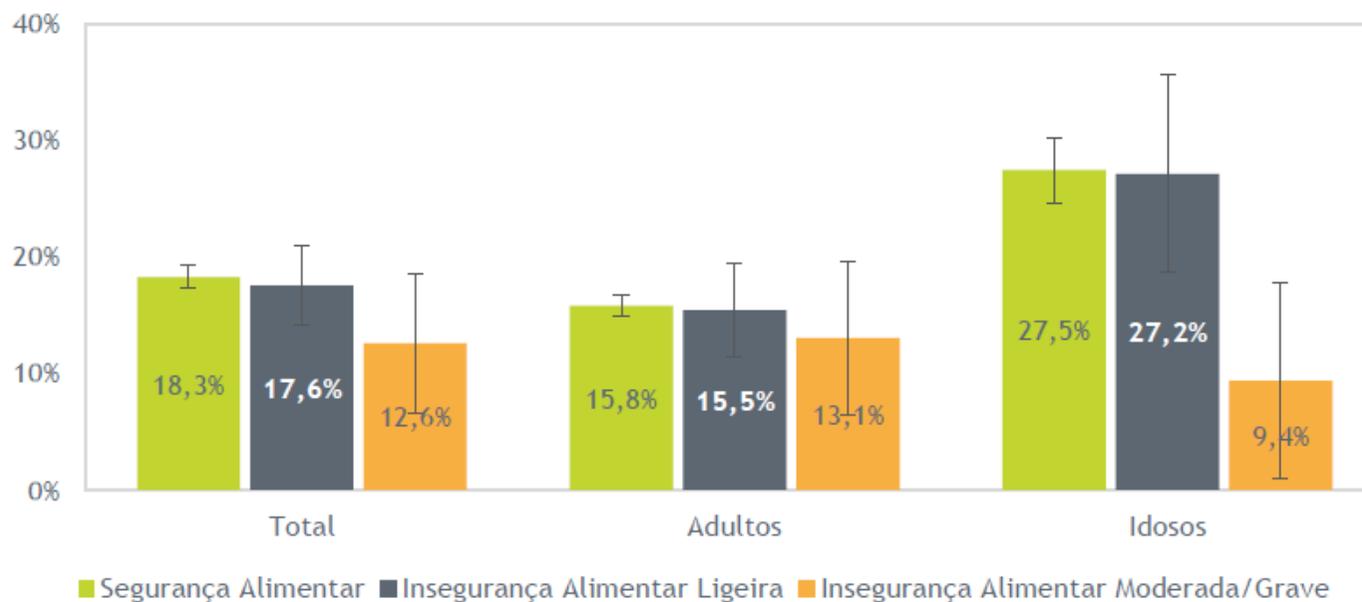
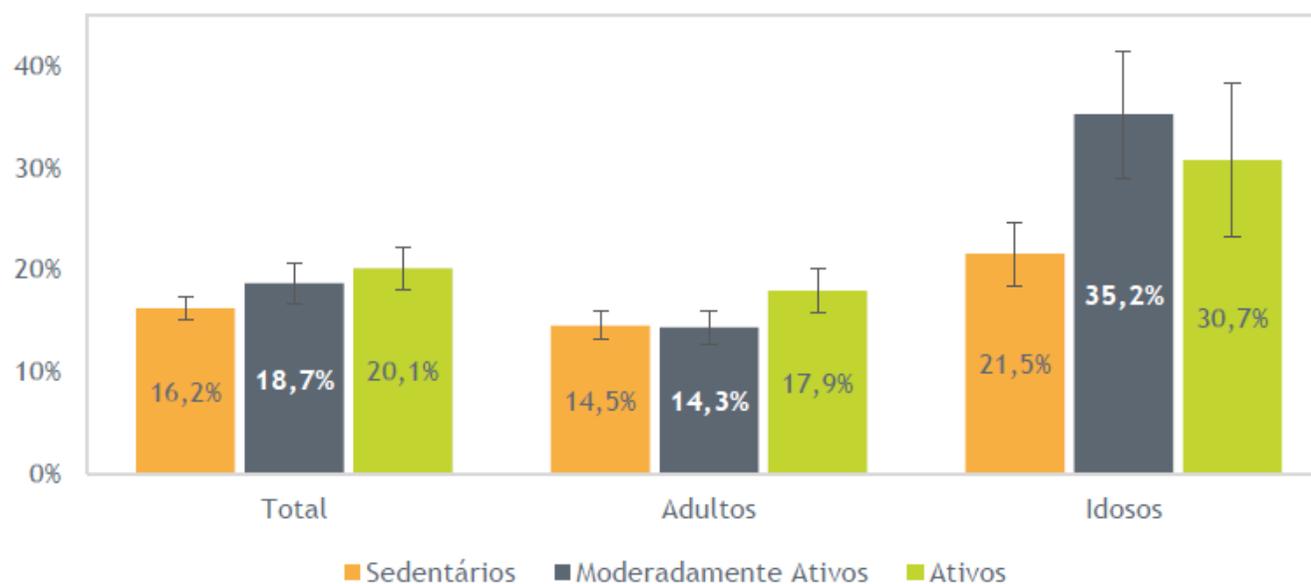
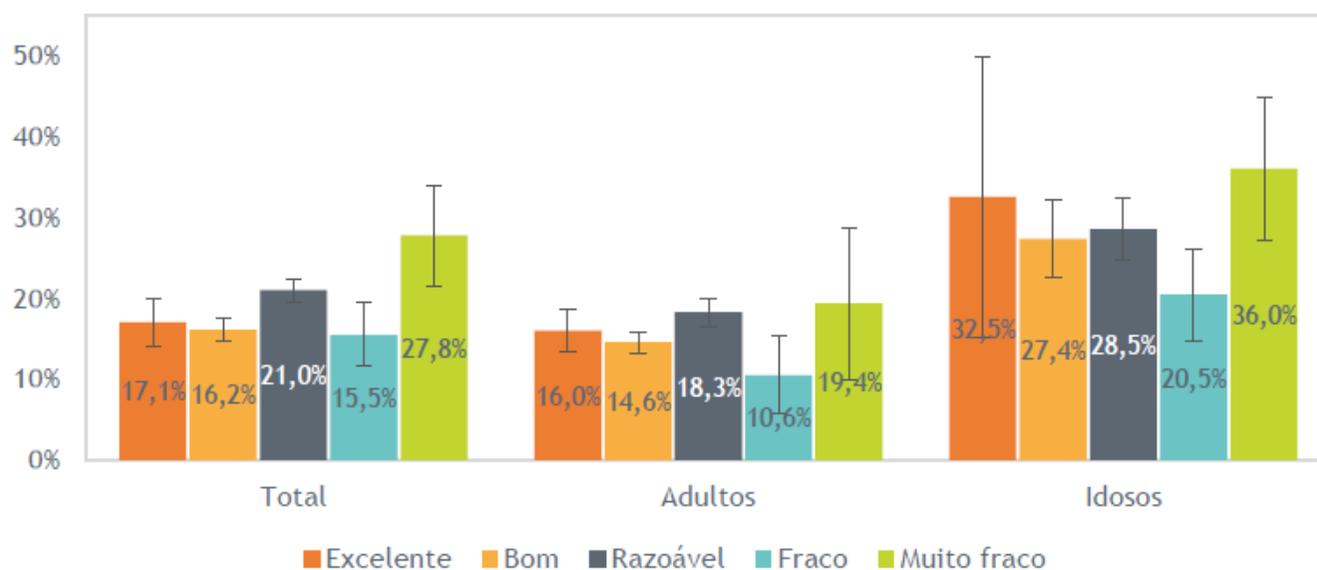


Figura 5.4. Prevalência de adesão elevada ao padrão alimentar Mediterrânico por nível de (in)segurança alimentar para o total nacional e por grupo etário, ponderada para a distribuição da população Portuguesa.



**Figura 5.5.** Prevalência de adesão elevada ao padrão alimentar Mediterrânico por nível de atividade física para o total nacional e por grupo etário, ponderada para a distribuição da população Portuguesa.



**Figura 5.6.** Prevalência de adesão elevada ao padrão alimentar Mediterrânico por categoria de auto perceção do estado geral de saúde para o total nacional e por grupo etário, ponderada para a distribuição da população Portuguesa.

**Table 1.** MAI distribution and prevalence of high adherence (MAI $\geq$ 4) for total population, by sex, age group and region (NUTS II), weighted for the distribution of the Portuguese population (IAN- AF 2015-2016).

	Mean	Median (P25-P75)	$\geq$ 4 MAI
<b>Total</b>	2.2	1.9 (1.4-2.8)	8.8%
<b>Sex</b>			
Female	2.1	1.8 (1.3-2.6)	5.8%
Male	2.4	2.1 (1.4-3.0)	11.9%
<b>Age Groups</b>			
Children, 3-9 years	1.4	1.3 (0.9-1.8)	0.8%
Adolescents, 10-17 years	1.5	1.4 (1.0-1.9)	1.1%
Adults, 18-44 years	1.9	1.7 (1.2-2.3)	3.6%
Adults, 45-64 years	2.5	2.3 (1.6-3.1)	11.7%
Elderly, $\geq$ 65 years	3.1	2.7 (2.0-3.8)	21.2%

**IOF- INE**

**Disponibilidade  
familiar de alimentos**

## ORIGINAL ARTICLE

# Portuguese households' diet quality (adherence to Mediterranean food pattern and compliance with WHO population dietary goals): trends, regional disparities and socioeconomic determinants

SSP Rodrigues<sup>1</sup>, M Caraher<sup>2</sup>, A Trichopoulou<sup>3</sup> and MDV de Almeida<sup>1</sup>

<sup>1</sup>Faculty of Nutrition and Food Sciences, Porto University, Porto, Portugal; <sup>2</sup>Centre for Food Policy, City University, London, UK and

<sup>3</sup>Department of Hygiene and Epidemiology, School of Medicine, University of Athens, Greece

● IOF

INE - Portugal

**Tamanho amostral:** 1990 - 12 403 af (40 047 indiv.)  
1995 - 10 554 af (32 124 indiv.)  
2000 - 10 020 af (28 311 indiv.)

**Unidade amostral:** Agregado familiar: pessoa/grupo de pessoas e viverem juntas e a partilharem despesas alimentares

**Método de registo (7 dias 1990 e 14 dias posteriormente):**  
registo das aquisições alimentares do AF  
(compras, autoprodução e ofertas)  
(questionário aberto)

## Adesão ao padrão alimentar Mediterrânico - MAI

<i>Household diet quality</i>	<i>Portugal</i>	
	<i>1990</i>	<i>2000</i>
MAI (median)	2.2	2.1
Percentile 10	0.9	0.9
Percentile 90	6.1	5.0
<i>% families with *</i>		
Low $\leq 2$	<u>43.8</u>	<u>47.1</u>
Intermediate 2–4	<u>34.6</u>	<u>36.6</u>
High $\geq 4$	<u>21.6</u>	<u>16.2</u>



Rodrigues SS, Caraher M, Trichopoulou A, de Almeida MD. (2008) Portuguese households' diet quality (adherence to Mediterranean food pattern and compliance with WHO population dietary goals): trends, regional disparities and socioeconomic determinants. *Eur J Clin Nutr.* 62(11): 1263-72.

## Adesão ao padrão alimentar Mediterrânico em idosos - MAI

Household Type	MAI					
	Median		Percentile 10		Percentile 90	
	1990	2000	1990	2000	1990	2000
<b>Elderly Single</b>	2.2	2.4	0.6	0.8	8.3	7.4
<b>Elderly 2 persons</b>	2.6	2.7	1.0	1.1	8.1	6.8
<b>Adult Single</b>	2.1	1.8	0.6	0.5	7.9	5.5
<b>Adult 2 persons</b>	2.4	2.3	0.9	1.0	6.9	5.6
<b>Total</b>	2.2	2.1	0.9	0.9	6.1	5.0

DM Santos, SSP Rodrigues, A Trichopoulou, MDV de Almeida. (2009)

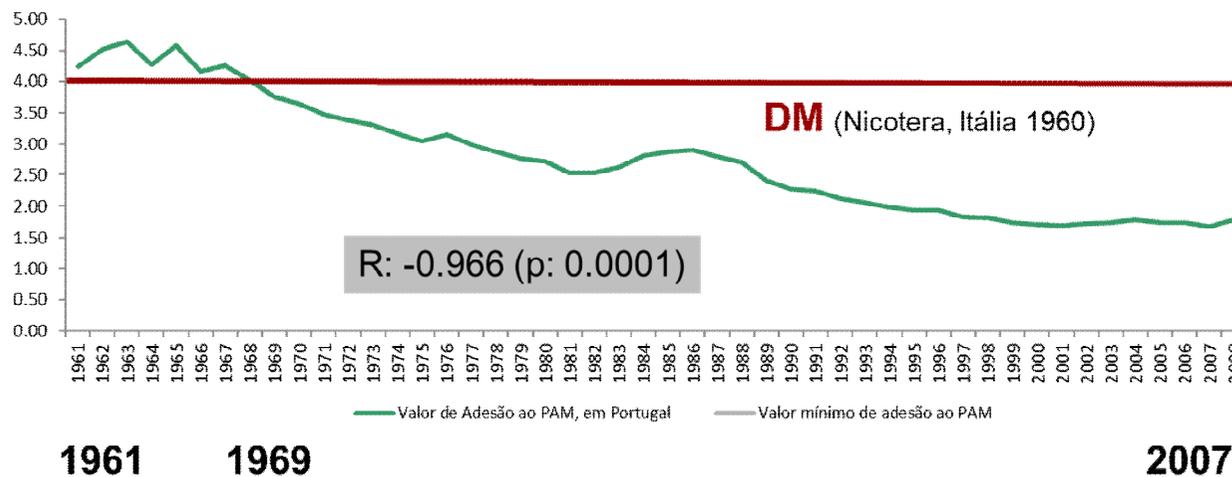
Adherence to the Mediterranean Diet by Portuguese Elderly. 4th International Academy on Nutrition and Age Related Diseases: Research and Practice. Paris 5 July 2009. JNHA. 13(Supl2): S21-S22.

**BA-FAO**

**Disponibilidade  
alimentar nacional**

# Portugal

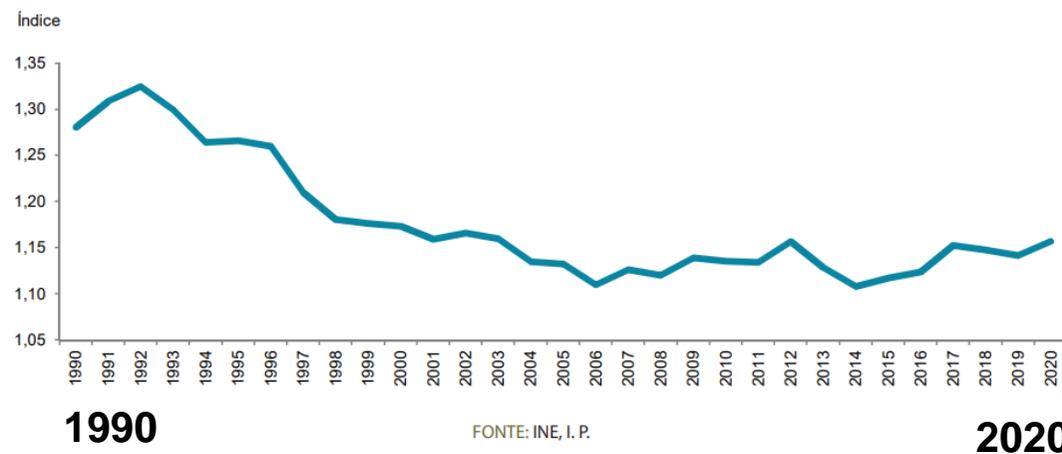
Evolução temporal, entre 1961 e 2011, do *Mediterranean Adequacy Index* (MAI) calculado para Portugal através dos dados da BA da FAO.



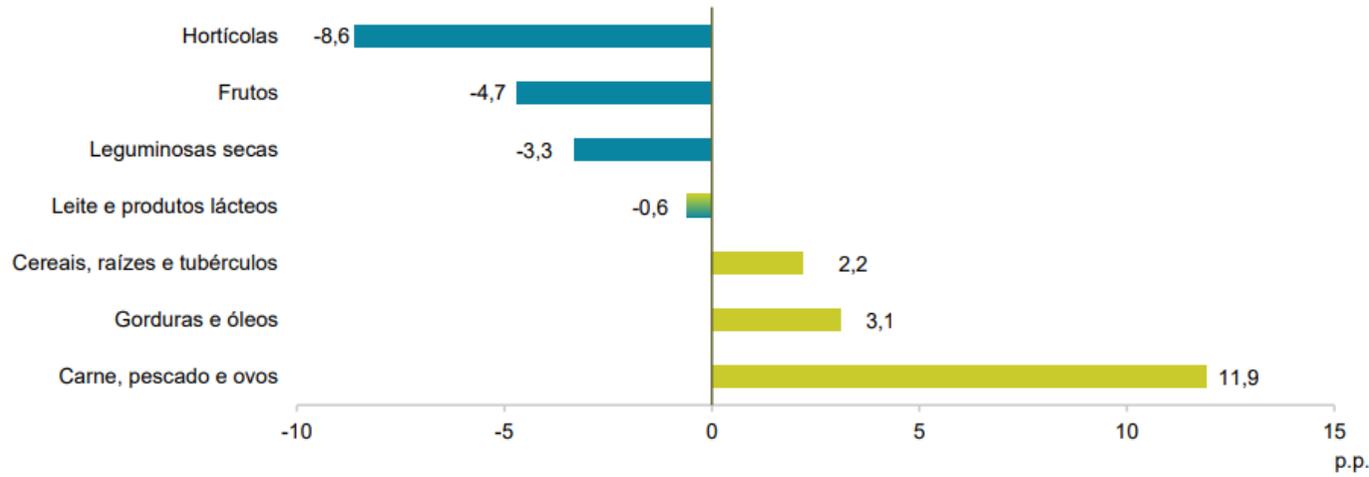
Cruz, Graça, Rodrigues, Sara  
[Adherence to the Mediterranean food pattern in Portugal-1961 to 2007](#)  
in *Annals of Nutrition and Metabolism*, 2011

## Balança Alimentar Portuguesa 2016-2020 (INE, 2021)

ÍNDICE DE ADESÃO À DIETA  
MEDITERRÂNICA - PORTUGAL



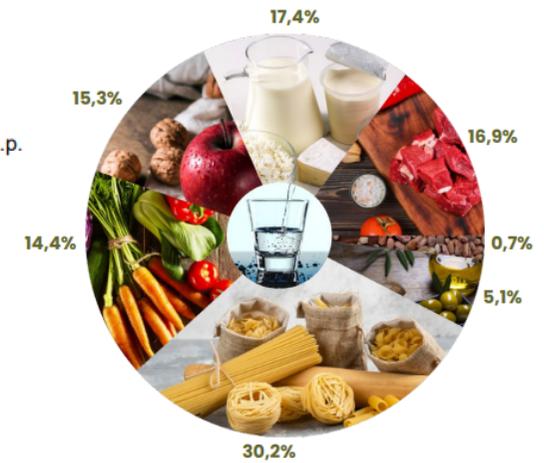
## DESEQUILÍBRIO DAS DISPONIBILIDADES DOS GRUPOS ALIMENTARES FACE AO RECOMENDADO - 2020



FORNTE: INE, I. P.



## PORTUGUESE FOOD BALANCE SHEET 2020



FORNTE: INE, I. P.

# Outros países Mediterrânicos

MAI variation between 1961-1965 and 2004-2011

1960

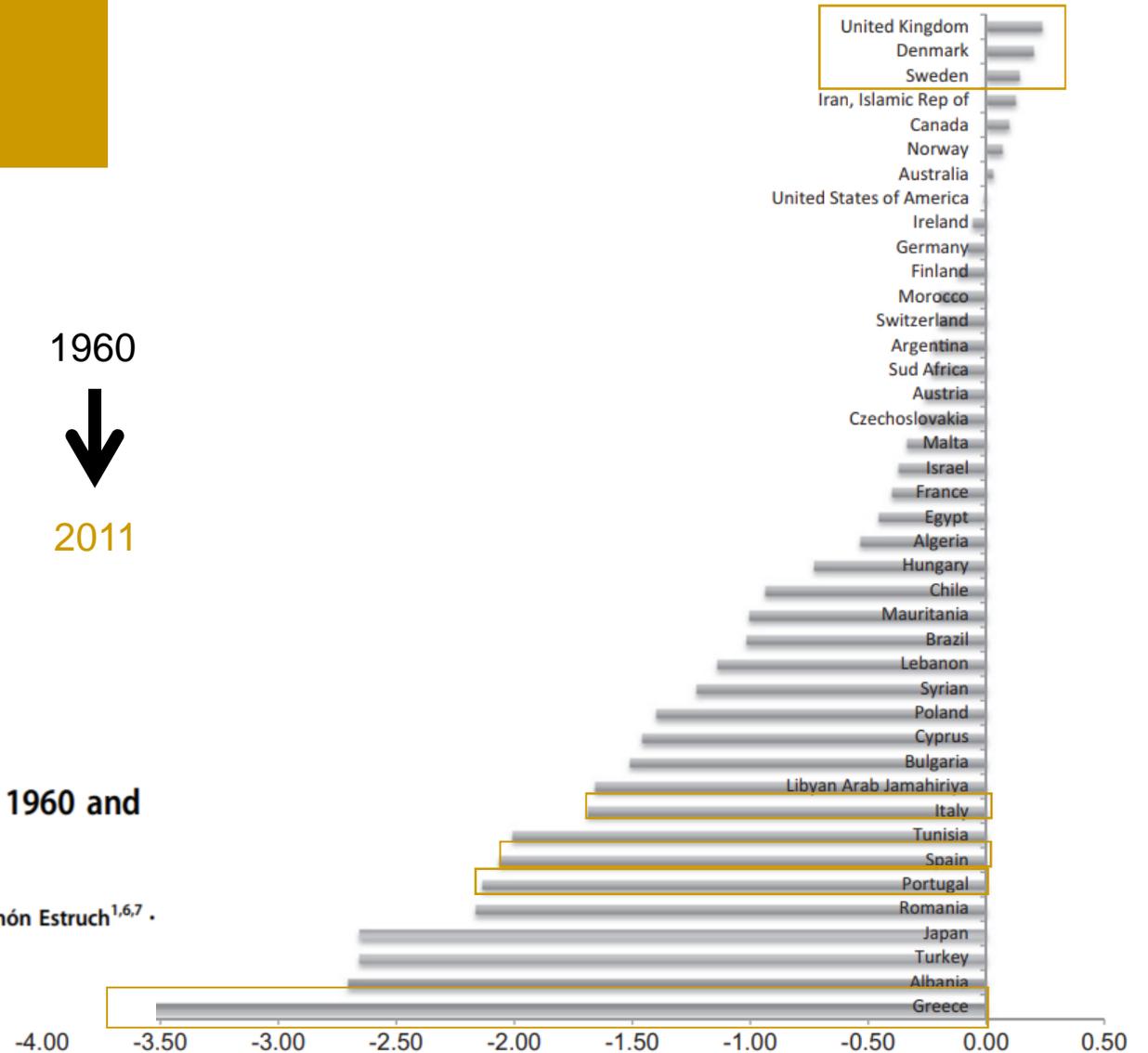


2011

## Worldwide adherence to Mediterranean Diet between 1960 and 2011

Cristina Vilarnau<sup>1,2</sup> · Denine Marie Stracker<sup>3</sup> · Anna Funtikov<sup>4</sup> · Rui da Silva<sup>5</sup> · Ramón Estruch<sup>1,6,7</sup> · Anna Bach-Faig<sup>1,2,8</sup>

Published online: 28 November 2018



**Table 3** Ranking of countries by the Mediterranean adequacy index (MAI) in the three study periods

Ranking of countries by the MAI

Countries	1961–65		2000–03		2004–11	
	Ranking	MAI	Ranking	MAI	Ranking	MAI
Greece	1	5,54	10	2,04	10	1,87
Albania	2	5,07	7	2,51	6	2,37
Turkey	3	5,03	5	2,80	7	2,37
Egypt	4	4,81	1	4,09	1	4,36
Tunisia	5	4,57	6	2,65	5	2,56
Japan	6	4,11	16	1,51	16	1,45
Romania	7	3,89	11	2,02	12	1,73
Libya	8	3,81	9	2,09	8	2,15
Algeria	9	3,61	4	2,81	3	3,07
Portugal	10	3,39	18	1,27	19	1,26
Morocco	11	3,37	3	3,25	2	3,17
Syria	12	3,35	8	2,25	9	2,12
Spain	13	3,35	21	1,19	18	1,29
Italy	14	3,30	15	1,62	14	1,61
Iran	15	2,87	2	3,65	4	2,99
Mauritania	16	2,87	13	1,77	11	1,86
Lebanon	17	2,70	14	1,72	15	1,56
Bulgaria	18	2,68	20	1,20	22	1,17
Cyprus	19	2,39	27	0,96	26	0,93
Chile	20	2,24	19	1,27	17	1,30
Brazil	21	2,05	24	1,04	24	1,03

South Africa	22	1,87	12	1,78	13	1,63
Poland	23	1,84	22	1,12	23	1,08
Israel	24	1,62	23	1,09	20	1,25
Malta	25	1,56	17	1,42	21	1,22
Hungary	26	1,48	37	0,73	36	0,75
France	27	1,28	31	0,82	31	0,88
Argentina	28	1,13	25	0,97	30	0,90
Czechoslovakia	29	1,10	30	0,83	34	0,82
Finland	30	1,04	28	0,87	27	0,92
Austria	31	0,98	38	0,73	38	0,71
Ireland	32	0,97	33	0,80	29	0,91
Norway	33	0,88	26	0,97	25	0,95
Switzerland	34	0,88	39	0,72	40	0,68
Germany	35	0,82	34	0,76	37	0,74
Sweden	36	0,72	32	0,82	33	0,86
Canada	37	0,71	36	0,75	35	0,80
Australia	38	0,68	40	0,70	39	0,71
UK	39	0,68	29	0,87	28	0,91
Denmark	40	0,67	35	0,76	32	0,87
USA	41	0,63	41	0,64	41	0,62

# Mediterranean diet adherence in the Mediterranean healthy eating, aging and lifestyle (MEAL) study cohort

Stefano Marventano, Justyna Godos, Alessio Platania, Fabio Galvano, Antonio Mistretta & Giuseppe Grosso

To cite this article: Stefano Marventano, Justyna Godos, Alessio Platania, Fabio Galvano, Antonio Mistretta & Giuseppe Grosso (2018) Mediterranean diet adherence in the Mediterranean healthy eating, aging and lifestyle (MEAL) study cohort, *International Journal of Food Sciences and Nutrition*, 69:1, 100-107, DOI: [10.1080/09637486.2017.1332170](https://doi.org/10.1080/09637486.2017.1332170)

## ABSTRACT

A decline in adherence to the Mediterranean dietary pattern has been observed over the last years. The aim of this study was to assess the level of adherence to the Mediterranean diet and possible determinants in the Mediterranean healthy Eating, Aging and Lifestyle (MEAL) study cohort. Demographic and dietary data of 1937 individuals were collected in 2014–2015 from the general population of Catania, Sicily (Italy). Food frequency questionnaires and the MEDI-LITE score were used to assess adherence to the Mediterranean diet. The score well characterised consumption of major food groups, micro- and macro-nutrients. The cohort had a general good adherence, but only a minority was highly adherent. High adherence was directly associated with education, non-smoking and physical activity and inversely with high occupational status. In conclusions, Mediterranean diet is still followed in Sicily; however, nutrition education campaigns should promote healthy traditional dietary patterns in certain groups of individuals.

**Table 1.** Mediterranean diet adherence scores by demographic characteristics of the MEAL study cohort ( $n = 1937$ ).

	Mean (SD)	<i>p</i>
Gender		.320
Men	11.9 (2.4)	
Women	12.0 (2.3)	
Age groups		<.001
<30	11.5 (2.4)	
30–39	11.6 (2.5)	
40–49	12.1 (2.4)	
50–59	12.1 (2.4)	
60–69	12.6 (1.9)	
≥70	12.1 (2.4)	
Smoking status		.431
No smoker	12.0 (2.3)	
Ex smoker	12.1 (2.4)	
Current smoker	11.9 (2.3)	
Educational level, <i>n</i> (%)		<.001
Low	12.0(2.3)	
Medium	12.3 (2.3)	
High	11.6 (2.5)	
Occupational level, <i>n</i> (%)		.007
Unemployed	12.2 (2.3)	
Low	12.3 (2.5)	
Medium	11.9 (2.5)	
High	11.7 (2.5)	
Physical activity level		<.001
Low	11.9 (2.3)	
Medium	11.7 (2.4)	
High	12.4 (2.4)	
Marital status		.003
Unmarried/single	11.8 (2.5)	
Married/partner	12.1 (2.3)	

## Food habits in a southern Italian town (Nicotera) in 1960 and 1996: still a reference Italian Mediterranean diet?

De Lorenzo A<sup>1</sup>, Alberti A, Andreoli A, Iacopino L, Serranò P, Perriello G.

### ⊕ Author information

#### Abstract

**BACKGROUND:** A follow-up analysis of cohorts surveyed in the "Seven Countries Study" has provided increasing evidence of an association between diet and morbidity or mortality from coronary heart disease (CHD) and cancer. The effects of the "Mediterranean diet" on mortality is still evident in Italy, where food patterns differ significantly in different geographical areas.

**OBJECTIVE:** To examine differences in food habits in Nicotera, one of the Italian rural areas of the Seven Countries Study, between 1960 and 1996.

**METHODS:** In 1996, 80 subjects, 37 females and 43 males, aged 40-59 years, were examined in Nicotera assessing food intake by means of a semiquantitative questionnaire of food frequency, validated for the Italian population. In 1960, food intake of a sample of Nicotera subjects was assessed by weighed record method for three seasons.

**RESULTS:** Food choices differed markedly between 1960 and 1996. Consumption of animal foods increased, as did that of cakes, pies and cookies and sweet beverages in both male and female groups; an increase of alcoholic beverages was observed only in females.

**CONCLUSIONS:** In 1960, Nicotera inhabitants were following a diet defined as a "reference Italian Mediterranean diet", but by 1996 the Nicotera diet approached that of an average Italian diet, whose characteristics fall short of a true Mediterranean diet. This change in dietary habits may be responsible for an increased risk of CHD and cancer in the general population in the absence of other factors.

*MAI*

	1960	1996
Male	9.4	2.8
Female	11.4	2.5

# The Rockefeller Study

1948 (The Rockefeller Foundation, LG. Allbaugh)

Island of Crete - Members of 128 households  
(collection of demographic, social, economic, health and dietary data)

"the food consumption levels were surprisingly good. On the whole, their food pattern and food habits were extremely well adapted to their natural and economic resources as well as their needs".

"only one out of six of the interviewed families judged the typical diet to be satisfactory"

"meat (72%), rice, fish, pasta, butter, and cheese: foods most desired to improve their diets"



**1. Relação com saúde...**

**2. Adesão...**

**(Portugal e outros países Mediterrânicos)**

**3. Promoção...**

Nomination file No. 00884

- Nomination form: [English](#) | [French](#)
- Consent of communities - Greece : [Greek/French/English](#)
- Consent of communities - Cyprus: [Greek/English](#)
- Consent of communities - Croatia: [Croatian/English](#)

Decision

Inscription: [8.COM 8.10](#)

# Mediterranean diet

[Cyprus, Croatia, Spain, Greece, Italy, Morocco and Portugal](#)

Inscribed in 2013 ([8.COM](#)) on the Representative List of the Intangible Cultural Heritage of Humanity

The Mediterranean diet involves a set of skills, knowledge, rituals, symbols and traditions concerning crops, harvesting, fishing, animal husbandry, conservation, processing, cooking, and particularly the sharing and consumption of food. Eating together is the foundation of the cultural identity and continuity of communities throughout the Mediterranean basin. It is a moment of social exchange and communication, an affirmation and renewal of family, group or community identity. The Mediterranean diet emphasizes values of hospitality, neighbourliness, intercultural dialogue and creativity, and a way of life guided by respect for diversity. It plays a vital role in cultural spaces, festivals and celebrations, bringing together people of all ages,



Activate Windows  
Go to Settings to activate Windows.

REPORTS

# A New Food Guide for the Portuguese Population: Development and Technical Considerations

S. S. P. Rodrigues, MPH; B. Franchini; P. Graça, PhD; M.D.V. de Almeida, PhD

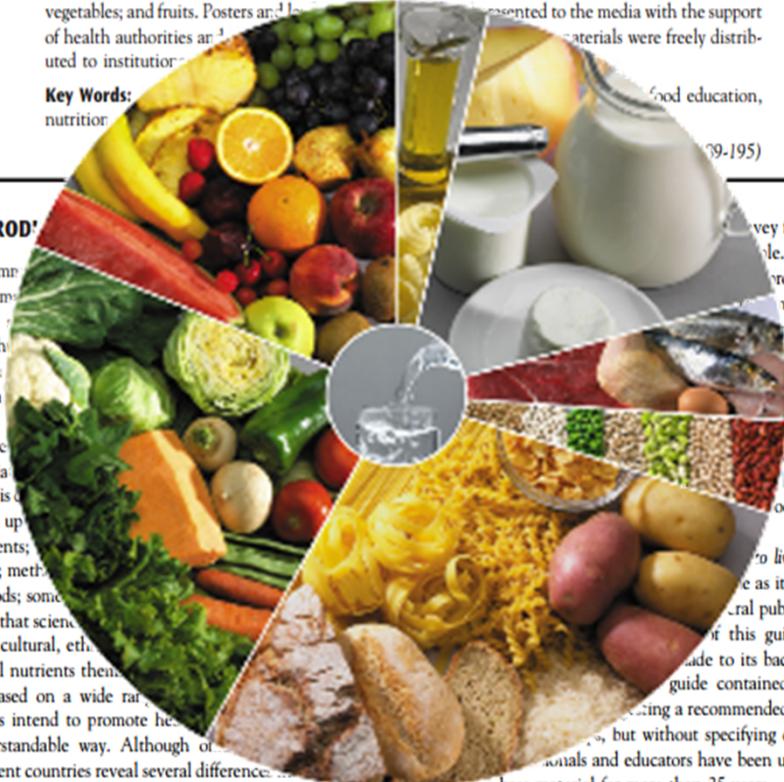
ABSTRACT

The methodological approach used for the development of a new food guide for the Portuguese population is discussed. The new food guide, composed of seven groups, was achieved with the assistance of an expert panel, using existing international recommendations and nutrient composition tables. A range of recommended food portions was established for the groups of fats and oils; milk and dairy products; meat, fish, seafood, and eggs; pulses; potatoes, cereals, and cereal products; vegetables; and fruits. Posters and leaflets were presented to the media with the support of health authorities and educational institutions. Materials were freely distributed to institutions.

**Key Words:** food education, nutrition

INTRODUCTION

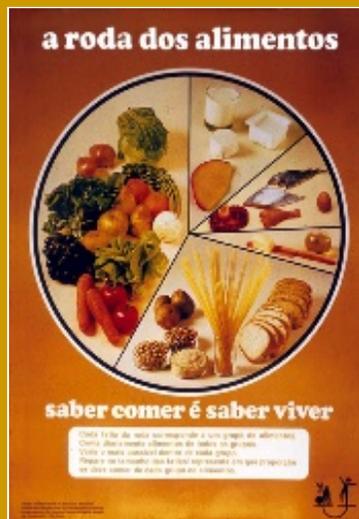
Recommendations of human health to be healthy, the saturation of these choices, recommendations for this made up nutrients; foods; methods of foods; some tions that science have cultural, et al. vidual nutrients them. Based on a wide range of guides intend to promote understandable way. Although of different countries reveal several differences food groupings, and recommendations, it is quite noticeable that they all have the same main goal—to transform food



Pinho I, Franchini B, Rodrigues SSP. Guia alimentar mediterrânico: relatório justificativo do seu desenvolvimento. Direção Geral da Saúde. Programa Nacional para a Promoção da Alimentação Saudável. 2016.

# Evolução do guia português

1977



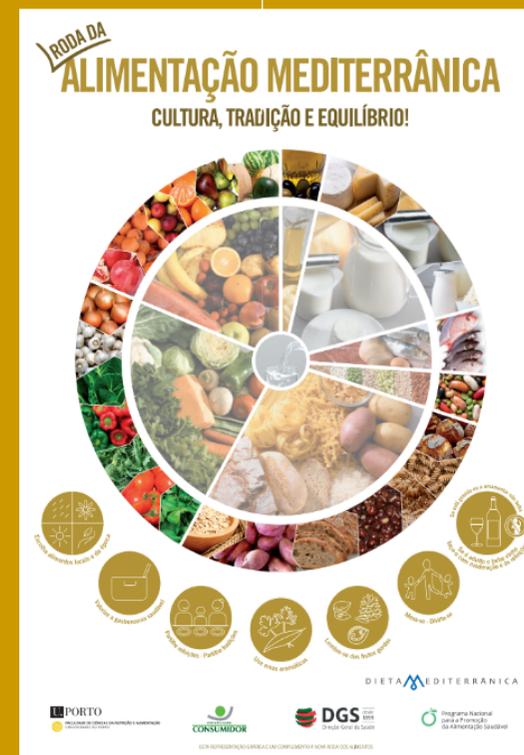
Desenvolvimento

2003



Reformulação

2016



Complemento

# Roda da Alimentação Mediterrânica

CULTURA,  
TRADIÇÃO  
E EQUILÍBRIO!



COMPLEMENTO  
À RODA DOS ALIMENTOS



Rodrigues, S., Franchini, B., Pinho, I., & Graça, A. The Portuguese Mediterranean diet wheel: Development considerations. British Journal of Nutrition 2021



DIETA  MEDITERRÂNICA

# “Prodigiosa alimentação Mediterrânica”

Emílio Peres (Rev.AH, 1996)

## Características:

- 1) A comida da jornada distribui-se por 4 ou 5 refeições, **conforme a estação do ano**; cada uma delas correlacionada em composição e tamanho com o esforço nos períodos laborais que se lhes seguem. Sobressai um primeiro almoço que não é pequeno e um almoço maior que o jantar.
- 2) **A refeição congrega quem nela comunga e é tranquilizante e apaziguadora.** Utiliza um conjunto variado de alimentos diferentes, em pequenas porções; de facto, consiste num conjunto de cibos, ou seja, de pratinhos.
- 3) É elevado o consumo de pão e de outros alimentos cerealíferos, e de leguminosas secas.
- 4) É generosa a utilização de produtos hortícolas e frutos em natureza, nomeadamente de folhas verdes, e legumes e frutos de polpa colorida, diferentes conforme a época. E, todo o ano, alhos e cebolas, e o petiscar de frutos secos - figos, uvas-passas, alperces, ameixas, etc. - azeitonas e sementes - nozes, amêndoas, pistácios, etc.
- 5) Utilização permanente e predominante de azeite, como gordura de adição para temperar e cozinhar. Em algumas subregiões, de outra gordura monoinsaturada e banha de porco.
- 6) Consumo modesto de lacticínios, mais frequente sob forma de queijo e, nalgumas regiões, de iogurte.
- 7) Várias vezes por semana, consumo parcimonioso de ovos, pescado seco ou fresco, e carne de animais de terreiro (aves, coelho) ou de pequenos animais de pasto (borrego). Consumo de carnes vermelhas confinado a poucas vezes por mês, no geral, em dias festivos e santificados.
- 8) Bebidas preferidas são o vinho tinto, chá e infusões de ervas; vinho, em dias comuns, traçado em água.
- 9) **Culinária simples e com pouco tempo de lume.**
- 10) **Delineação rigorosa entre festim e comer comum.**

# Relationship between cooking habits and skills and Mediterranean diet in a sample of Portuguese adolescents

## Authors

**Fernanda Maria da Rocha Leal**

*FCUP and FCNAUP,  
Universidade do Porto,  
Portugal*

**Bruno Miguel Paz Mendes de Oliveira**

*FCNAUP and LIAAD-INESC  
LA, Universidade do Porto,  
Portugal*

**Sara Simões Pereira Rodrigues**

*FCNAUP and ISPUP,  
Universidade do Porto  
R. Dr. Roberto Frias  
(à FEUP)  
4200-465 Porto, Portugal  
Email: saraspr@fcna.up.pt*

## Abstract

**Aims:** To assess the cooking habits and skills of adolescents and its relation to Mediterranean diet adherence.

**Methods:** Adolescents ( $N = 390$ ) from the seventh, eighth and ninth grades in a school from a semi-urban region in northern Portugal were asked to fill in a questionnaire. The questionnaire assessed self-reported cooking habits and skills, for example enjoying and knowing how to cook and wanting to cook and learn more. Answers were taken on a scale from 0 to 5, 0 being 'no' and 5 being 'very much'. Learning sources, cooking frequency, and confidence in cooking ten particular foods were also assessed using the following answers: 'no, never', 'yes, with help from family/friends', 'yes, all by myself'. Adherence to Mediterranean diet was evaluated using the KIDMED index.

**Results:** Adolescents who said that they cooked, did so usually between one and four times a month (56.2%). A high proportion of respondents had never cooked vegetables (57%), fish (51%) and soup (49%). Girls were more likely to have cooked foods listed in the questionnaire ( $p \leq .002$ ). Adolescents who did not know how to cook (8.7%) stated that the main reasons were that they had someone to cook for them (47%) and had no interest (35%). Those who



**Adherence to the Mediterranean diet was positively associated to better cooking habits and skills.**



## OBJECTIVE 5

### Strengthen governance, intersectoral alliances and networks for a health-in-all-policies approach

Strengthen coordinated action at different administrative levels and across government departments to ensure coherence among all policies that influence food systems and the food supply, with a view to promoting, protecting or reinstating healthy and sustainable diets (high in vegetables, fruit and whole grains, with limited intake of saturated fat, *trans* fats, sugar and salt). Some diets in parts of Europe are consistent with the characteristics of a healthy diet, notably the Mediterranean diet<sup>5</sup> and the new Nordic diet.



### Metas de Saúde a 2020

O PNPAS estabeleceu **6 metas** para 2020:



# Como foi gasto o dinheiro no SNS em 2015

Em milhares de euros



**Obrigada pela atenção!**

**Sara Rodrigues**  
([saraspr@fcna.up.pt](mailto:saraspr@fcna.up.pt))