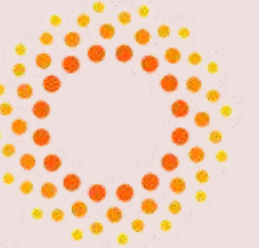




TENDÈNCIES DIETÈTIQUES ACTUALS: UNA MIRADA CRÍTICA

TUTOR: ANDER BURGAÑA
LAURA MONTERO
JOSÉ GAMBÍN
DUNIA HERNÁNDEZ

DIETA CETOGÈNICA



MútuaTerrassa



HIDRATOS DE CARBONO



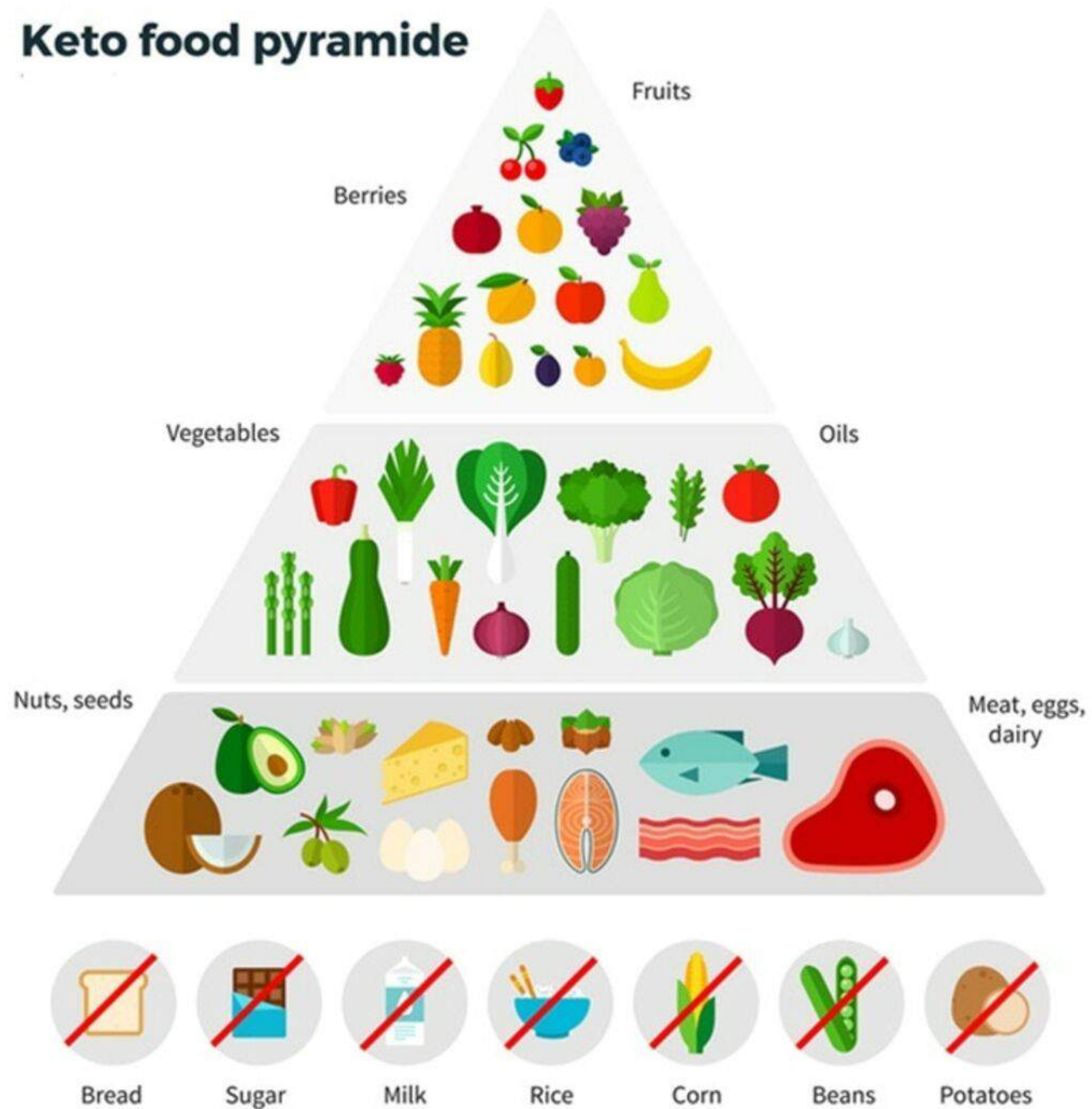
PROTEINAS



GRASAS



Keto food pyramide



Dieta cetogénica

1

1. Suprimir ingesta de glucosa
2. Depleción de los depósitos de glucógeno



Grasas ω -3

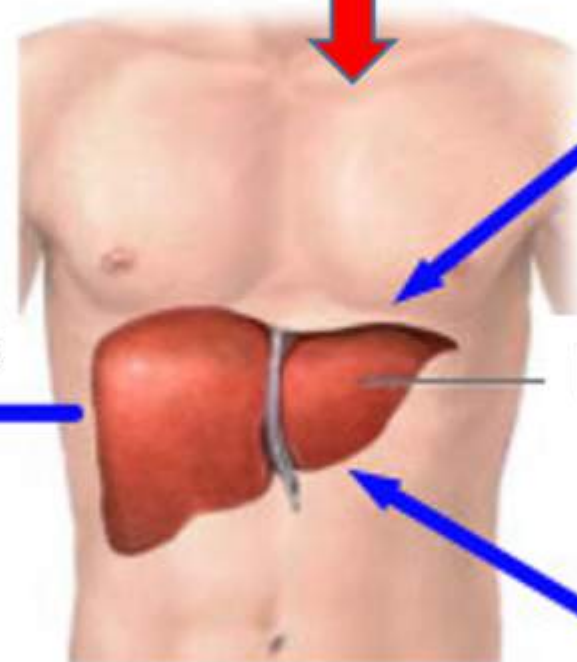


Grasas saturadas y trans

3

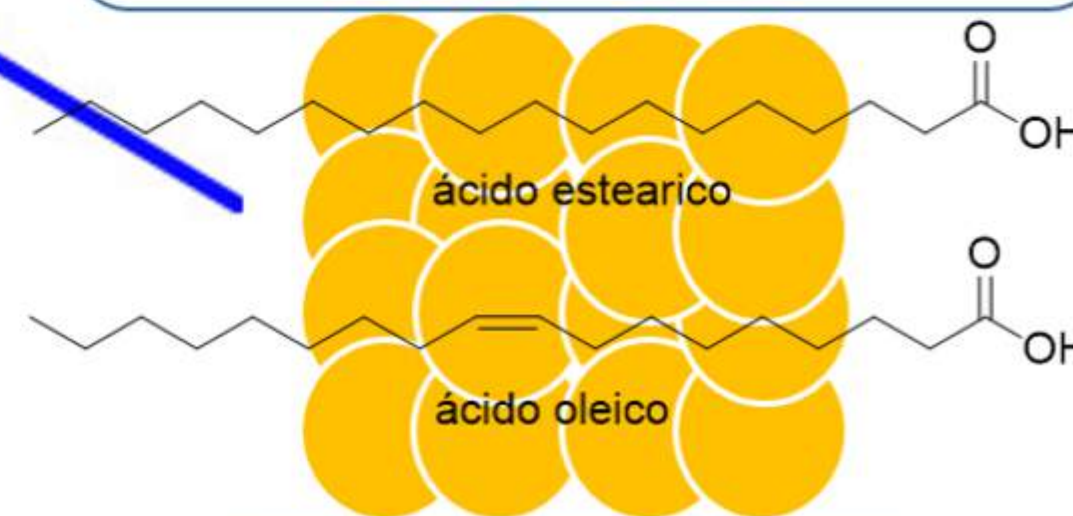
β -oxidación

hígado



2

El tejido adiposo empieza a gastarse o aumentamos su ingesta (dieta cetogénica)

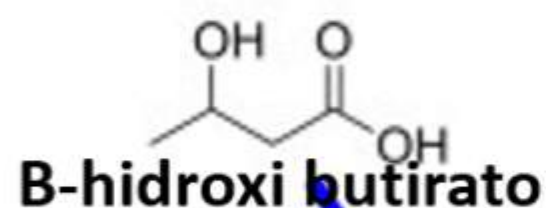
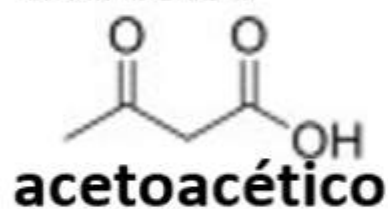


Tejido adiposo

4

Tres cuerpos cetónicos

Dan energía a cerebro, músculos y corazón



DIETA CETOGÉNICA Y DIABETES

*Efficacy of low carbohydrate diet for type 2 diabetes mellitus management: A systematic review and meta-analysis of randomized controlled trials. 2017

-9 estudios con 734 pacientes DM2

-Dieta HdC <25% vs HdC >45%

Reduccion HbA1c

Reduccion peso 12meses

Aumento HDL

No cambios en LDL

No cambios en peso >12meses

Mala adherencia

(Why do obese patients not lose more weight when treated with low-calorie diets? A mechanistic perspective. Heymsfield SB1, Harp JB, Reitman ML, Beetsch JW, Schoeller DA, Erondun N, Pietrobelli A.)

Numerosos estudios dieta baja en fibra vs Ca colorectal

Refined grains refers to the grains themselves, or products of such grains, that have been mechanically processed to remove one or more of the bran, germ or endosperm. This is in contrast to wholegrains (or their products) which contain all three constituents.

2 The evidence for foods containing dietary fibre and colorectal cancer includes both foods that naturally contain fibre and foods that have had fibre added.3 The evidence for aflatoxins and liver cancer relates to foods that may be contaminated with aflatoxins and includes cereals (grains) as well as pulses (legumes), seeds, nuts and some vegetables and fruit. The studies reported on elevated levels of biomarkers of aflatoxin exposure.4 People who smoke or used to smoke tobacco.5 The Panel's conclusion for non-starchy vegetables (greater intake) and breast cancer relates to evidence for breast cancer overall (menopausal status not specified). The observed association was in oestrogen receptor-negative (ER-negative or ER-) breast cancer only.....

Efectos secundarios

Fatigabilidad, trastornos GI, arritmias cardíacas, nefrolitiasis, estreñimiento, halitosis, calambres musculares, dolores de cabeza, diarrea, fracturas óseas, pancreatitis

Dieta cetogénica y epilepsia

Resultados positivos en :

-crisis generalizadas refractarias a FAE ¹

--Estudios actuales asocian con papel neuroprotector en pacientes pediátricos con epilepsia ²

1-Jff DM, Postular D, Lambrechts DAJE, Majoie MHJM, De Kinderen RJA, Hendriksen JGM, et al. Cognitive and behavioral impact of the ketogenic diet in children and adolescents with refractory epilepsy: a randomized controlled trial. *Epilepsy Behav* 2016; 60: 153-7

2-Kinsman SL, Vining EP, Quaskey SA, Mellits D, Freeman JM. Efficacy of the ketogenic diet for intractable seizure disorders: review of 58 cases. *Epilepsia* 1992; 33: 1132-6

DASH



Dietary Approaches to Stop Hypertension

Enfoques
Alimentarios para
Detener la
Hipertensión

- Desarrollado por el INH (National Institutes of Health) (1993-1997)
- Objetivo de controlar la Hipertensión
- Se basa en:
 - reducir el consumo de sal (2300mg -(1500mg))
 - aumentar la ingesta de frutas, verduras, cereales integrales o las legumbres
 - reducir el consumo de carnes rojas, dulces , bebidas azucaradas..
 - Ejercicio diario (30´dia)

The DASH Diet

To Treat High Blood Pressure

Fats & Sweets
Limit or Avoid



Legumes & Nuts
4-5 Servings/ Week



Low Fat Dairy
2-3 Servings/ Day



Lean Protein
< 8 Servings/ Day



Vegetables:
4-5 Servings/ Day



Whole Grains
6-8 Servings/ Day



DASH e Insuficiencia Cardíaca

Dietary Approaches to Stop Hypertension Diet Concordance and Incident Heart Failure: The Multi-Ethnic Study of Atherosclerosis. Campos CL₁, Wood A₂, Burke GL₃, Bahrami H₄, Bertoni AG₃

- Estudio de cohortes 4,478 participantes 45-78a seguidos durante 13 años**
- Incidencia menor de un 40 % de IC en quienes seguían dieta DASH más estricta**

- **Estudios con evidencias**
(HTA, IC, menopausia, depresión...)
- **Promueve estilo de vida saludable**
(ejercicio, alimentación equilibrada)
- **Disminución de TA en hipertensos E1 (5-20mmhg)**
- **Disminuye incidencia de IC**

Hasta 40% hipertensos no responden a consumo de sal

ADHERENCIA

DIETA PALEOLÍTICA

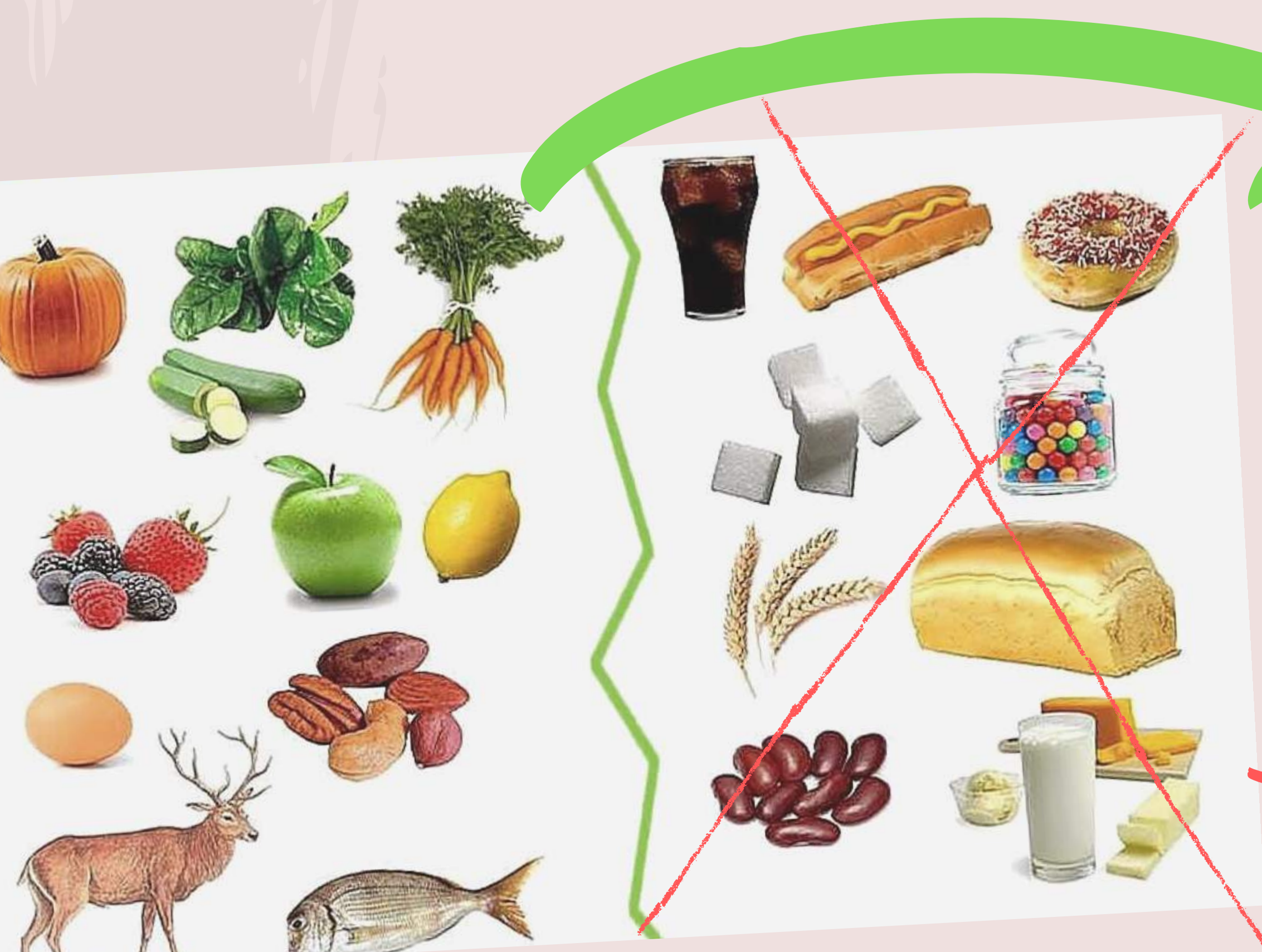


Mútua Terrassa





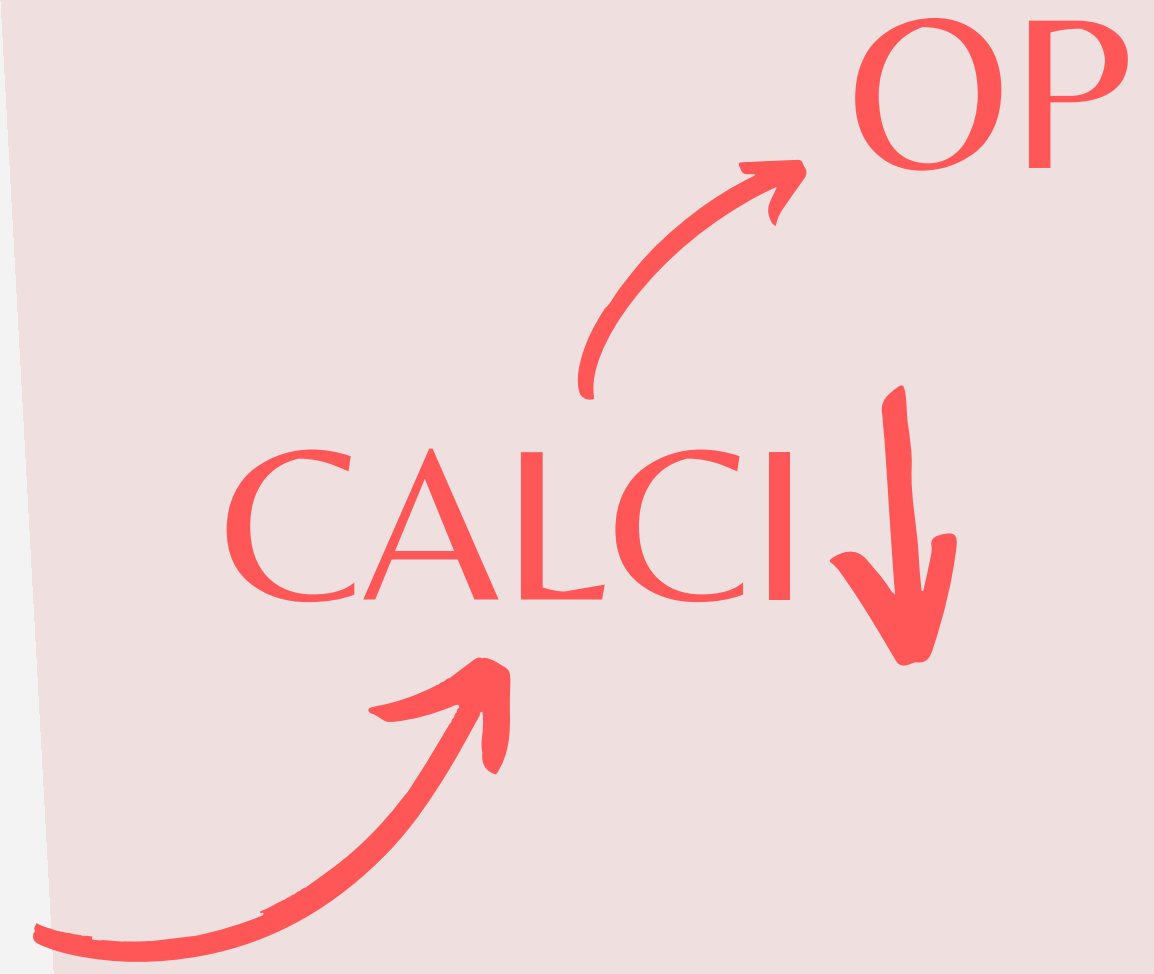
DIETA PALEOLÍTICA



FIBRA

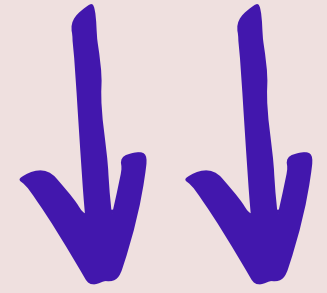
OP

CALCI ↓





MútuaTerrassa



PES CORPORAL

Journal of Diabetes Science and Technology
Volume 3, Issue 6, November 2009
© Diabetes Technology Society

N 13

The Beneficial Effects of a Paleolithic Diet on Type 2 Diabetes and Other Risk Factors for Cardiovascular Disease

David C. Klonoff, M.D., FACP

Clinical Study

J Otten and others

GLP-1, GIP and glucagon in weight loss

181:1

419-429

Postprandial levels of GLP-1, GIP and glucagon after 2 years of weight loss with a Paleolithic diet: a randomised controlled trial in healthy obese women

Julia Otten¹, Mats Ryberg¹, Caroline Mellberg¹, Tomas Andersson¹, Elin Chorell¹, Bernt Lindahl¹, Christel Larsson², Jens Juul Holst³ and Tommy Olsson¹

¹Department of Public Health and Clinical Medicine, Umeå University, Umeå, Sweden, ²Department of Food and Nutrition, and Sport Science, University of Gothenburg, Gothenburg, Sweden, and ³NNF Center for Basal Metabolic Research and Department of Biomedical Sciences, University of Copenhagen, Copenhagen, Denmark

N 70

Influence of Paleolithic diet on anthropometric markers in chronic diseases: systematic review and meta-analysis

11 artículos
N 182

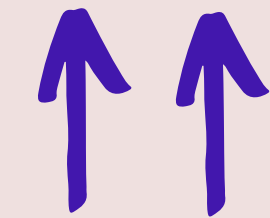
Ehrika Vanessa Almeida de Menezes^{1,2}, Helena Alves de Carvalho Sampaio¹, Antônio Augusto Ferreira Carioca^{2,3}, Nara Andrade Parente^{1,2*}, Filipe Oliveira Brito^{1,2}, Thereza Maria Magalhães Moreira^{1,4}, Ana Célia Caetano de Souza^{5,6} and Soraia Pinheiro Machado Arruda^{7,8}

4 ensayos
N 159

Paleolithic nutrition for metabolic syndrome: systematic review and meta-analysis^{1,2}

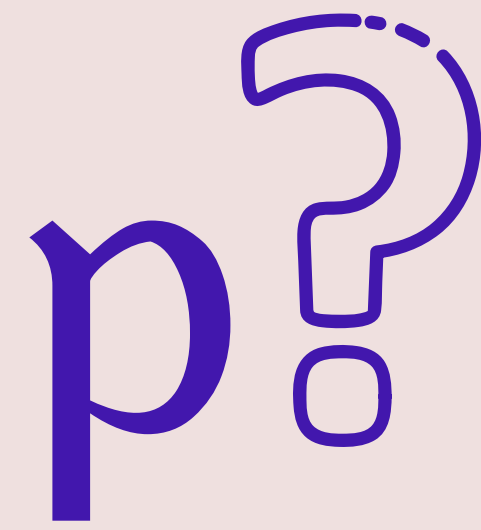
Eric W Manheimer^{3,6*}, Esther J van Zuuren⁴, Zbys Fedorowicz³ and Hanno Pijl⁵

³Bahrain Branch of Cochrane, Awali, Bahrain; and Departments of ⁴Dermatology and ⁵Internal Medicine, Section Endocrinology, Leiden University Medical Centre, Leiden, Netherlands



GLP-1

- SACIETAT
- MANTINDRE EL PES

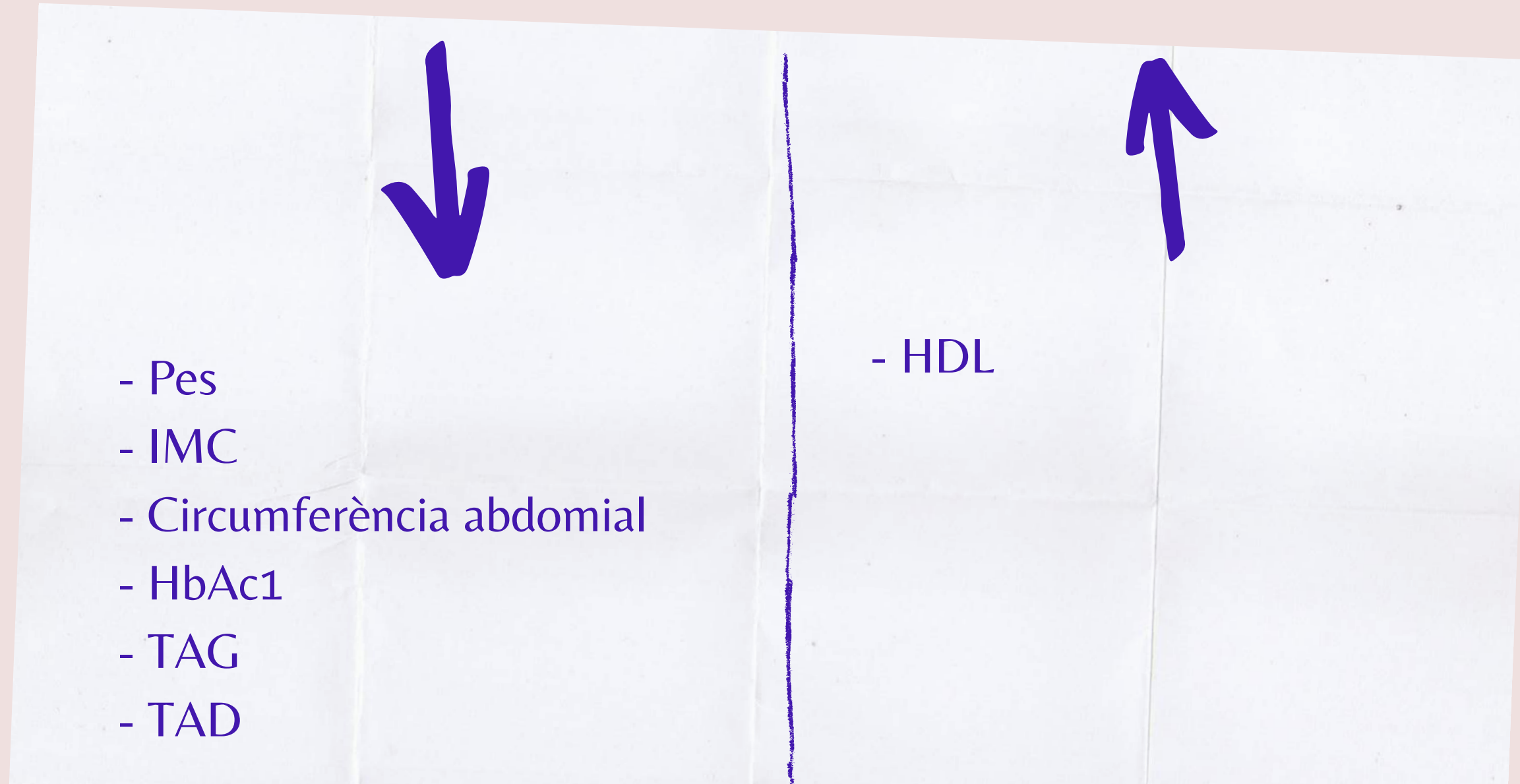


PALEO vs. DIABETOGENICA

KLONOFF, DAVID C. "THE BENEFICIAL EFFECTS OF A PALEOLITHIC DIET ON TYPE 2 DIABETES AND OTHER RISK FACTORS FOR CARDIOVASCULAR DISEASE." JOURNAL OF DIABETES SCIENCE AND TECHNOLOGY, 3 NOV. 2009.

N 13

N 13 pacientes DM2 aleatorizados; ensayo cruzado abarca 2 periodos consecutivos de 3 meses cada periodo

- 
- Pes
 - IMC
 - Circumferència abdominal
 - HbAc1
 - TAG
 - TAD

- HDL

PALEO vs. DIABETOGENICA

KLONOFF, DAVID C. "THE BENEFICIAL EFFECTS OF A PALEOLITHIC DIET ON TYPE 2 DIABETES AND OTHER RISK FACTORS FOR CARDIOVASCULAR DISEASE." JOURNAL OF DIABETES SCIENCE AND TECHNOLOGY, 3 NOV. 2009.

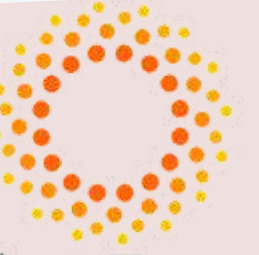
N 13



MENOR INGESTA CALÒRICA PER AIGUA DE FRUITES I VERDURES



MENOR FRCV



Mútua Terrassa

DIETA MACROBIÒTICA





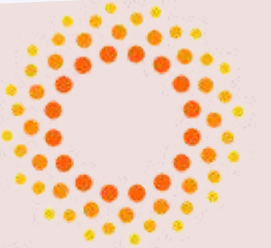
DIETA MACROBIÒTICA



- GRASA I PROTEÏNA ANIMAL
- SUCRES REFINATS
- CONSERVES
- COLORANTS
- LÀCTICS
- TOMÀQUETS
- ALBERGÍNIA
- PATATES
- FRUITES TROPICALS



!!! H2O !!!



DIETA MACROBIÒTICA



Ferro

Calci

Vit A, B12, C,

D

Proteïnes





MICROBIOTA INTESTINAL

- PRODUEIX VITAMINES
- SINTETITZA AMINOÀCIDS
- TRANSFORMA ÀCID BILIAR
- FERMENTA SUSTRATS NO DIGERIBLES
- PRODUEIX ÀCIDS GRASSOS DE CADENA CURTA

DESPLAÇAMENT DE PATÒGENS

MASLOWSKI KM, ET AL. "REGULATION OF INFLAMMATORY RESPONSES BY GUT MICROBIOTA AND CHEMOATTRACTANT RECEPTOR GPR43." NATURE. 2009;461:1282-1286.

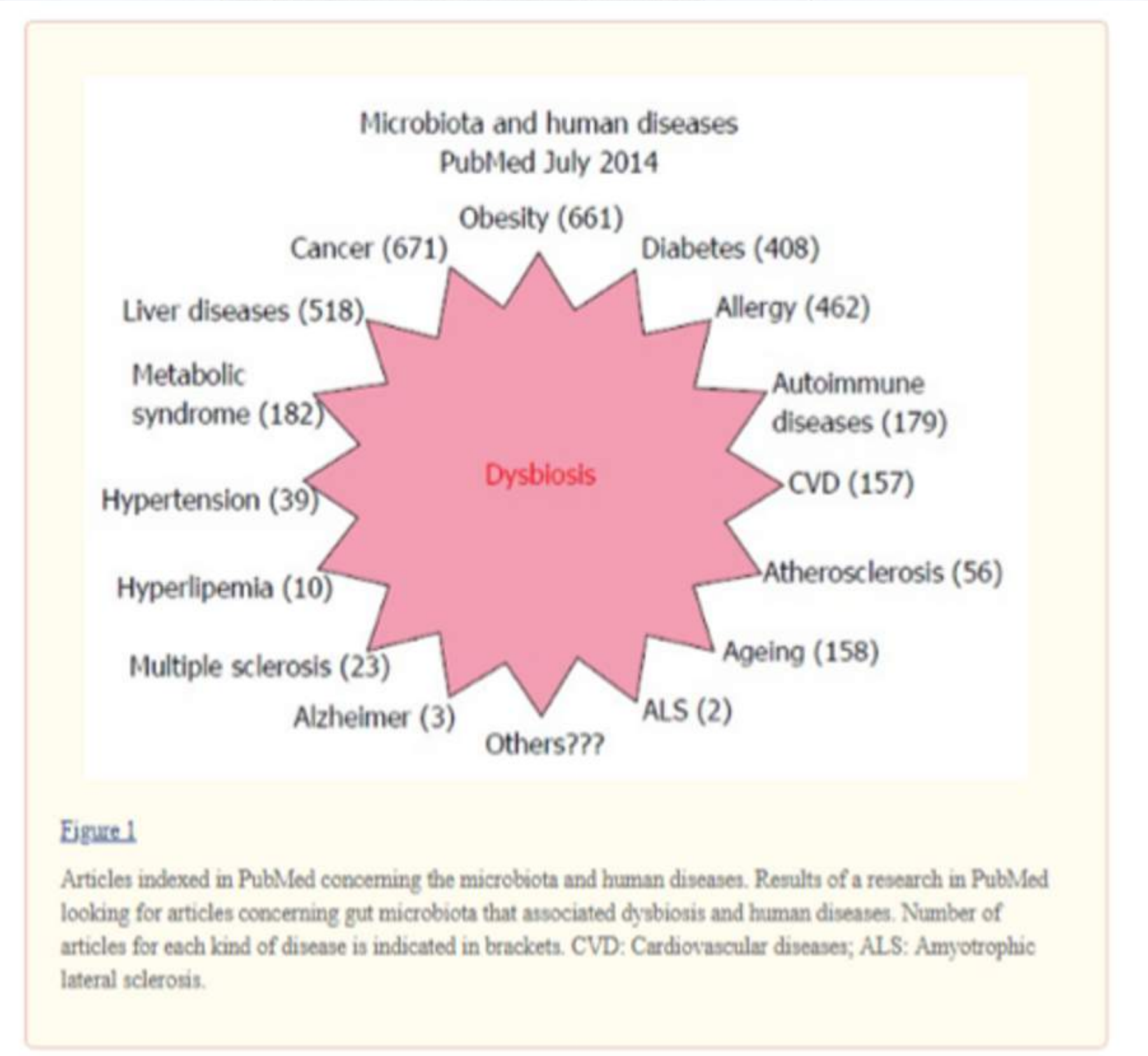


Figure 1

Articles indexed in PubMed concerning the microbiota and human diseases. Results of a research in PubMed looking for articles concerning gut microbiota that associated dysbiosis and human diseases. Number of articles for each kind of disease is indicated in brackets. CVD: Cardiovascular diseases; ALS: Amyotrophic lateral sclerosis.

Ma-Pi

- PES
- IMC
- TA
- GBA
- HBA1C
- PERFIL LIPÍDIC

CURT - MIG PLAÇ
follow up 6 mesos

N 40



Ma-Pi vs. DIABETOGENICA

- PES
- IMC
- HBA1C <5,7%
- **PERFIL LIPÍDIC**







MAJOR AUGMENT DE LDL PERÒ DINS DELS VALORS RECOMANATS
ACTUALMENT (TOT <200 MG/DL Y LDL<100MG/DL)



DIETA VEGETARIANA / VEGANA

INTERNATIONAL VEGETARIAN UNION

"A diet of foods derived from plants, with or without dairy products, eggs and/or honey"

							
VEGETARIÀ	Ovolactovegetarià	✓	✓	¿?	X	X	¿?
	Lactovegetarià	X	✓	¿?	X	X	¿?
	Ovovegetarià	✓	X	¿?	X	X	¿?
	Vegetarià estricte	X	X	X	X	X	¿?
	Vegà	X	X	X	X	X	X

I d'on treuré l'omega 3 del peix?

És dolent per al meu/ra fill/a?

I QUAN EM QUEDI EMBARAÇADA QUÈ?

TING RISC DE DESNUTRICIÓ?

Em faltaran proteïnes?

Es cert que m'engreixaré perquè menjaré més hidrats de carboni?

Beneficis

- Millora la microbiota
- Reducció de marcadors inflamatoris
- Reducció del pes corporal, reduint el greix visceral.
- Menor LDL
- Menor pressió arterial
- Major sensibilitat a la insulina i, per tant, menor incidència de DM2
- Menor incidència de càncer intestinal

Riscos

- Excés de CH
- Desnutrició:

Estudi NHANES

(% que no assolien les recomanacions mínimes)

	OMNI	VEG
A	50	48
C	43	37
E	94	90
Mg	61	62
Fe	7,5	17
Ca	50	52
Zn	10	51
B12	2,6	28
Proteïna	1,3	34

Vit C

Llegums en remull

Suplementar?

Aminoàcids essencials

Vegetarian Diets and Blood Pressure A Meta-analysis

Yoko Yokoyama, PhD, MPH; Kunihiro Nishimura, MD, PhD, MPH; Neal D. Barnard, MD; Misa Takegami, RN, PhD, MPH; Makoto Watanabe, MD, PhD; Akira Sekikawa, MD, PhD; Tomonori Okamura, MD, PhD; Yoshihiro Miyamoto, MD, PhD



Contents lists available at ScienceDirect

Clinical Nutrition

journal homepage: <http://www.elsevier.com/locate/clnu>

Meta-analyses

Effect of vegetarian dietary patterns on cardiometabolic risk factors in diabetes: A systematic review and meta-analysis of randomized controlled trials

Effie Vigiliouk ^{a, b}, Cyril WC. Kendall ^{a, b, c}, Hana Kahleová ^{d, e}, Dario Rahelić ^f, Jordi Salas-Salvadó ^{g, h}, Vivian L. Choo ^{a, b, i}, Sonia Blanco Mejia ^{a, b}, Sarah E. Stewart ^{a, b}, Lawrence A. Leiter ^{a, b, j, k, l}, David JA. Jenkins ^{a, b, j, k, l}, John L. Sievenpiper ^{a, b, k, l, *}

RESEARCH

Review



A Systematic Review and Meta-Analysis of Changes in Body Weight in Clinical Trials of Vegetarian Diets

Neal D. Barnard, MD; Susan M. Levin, MS, RD, CSSD; Yoko Yokoyama, PhD, MPH



Public Health Nutrition: 20(15), 2713–2721

Review Article

Association of vegetarian diet with inflammatory biomarkers: a systematic review and meta-analysis of observational studies

Fahimeh Haghghatdoost ^{1, 2}, Nick Bellissimo ³, Julia O Totosy de Zepetnek ³ and Mohammad Hossein Rouhani ^{1, 2, *}

A TENIR EN COMPTE QUAN FEM CONSELL:

Vitamina B12

- Analíticament, no es pot distingir la cobalamina biodisponible d'anàlegs.
- Intervé en la conversió de **àcid metilmelònic** (€€€) a succinil-CoA i de **homocisteina** (dx exclusió) a metionina
- Necessitats/suplementació:
 - En aliments suplementats: 2,4 mcg/d (poc viable)
 - Farmacològic (**cianocobalamina**):
 - 25-100mcg/d
 - **2000mcg/setmana**:
 - Comprimits 1000mcg (Lamberts 17€/30 setmanes;; Solgar 33€/50 setmanes)
 - Ampolles 1000mcg (Optovite 2,30€/2,5 setmanes: 27,6€/30 setmanes; 46€/50 setmanes)

Proteïnes

GRAMS DE PROTEÏNA PER CADA 100G	
ANIMAL	VEGETAL
Pollastre 22g	Soja 40g*
Vadella 25g	Llenties 26g
Tonyina 25g	Festucs 21g*
Lluç 12g	Sèsam 18g
Salmó 20g	Quinoa 14g*

Tempék



Soja
fermentada

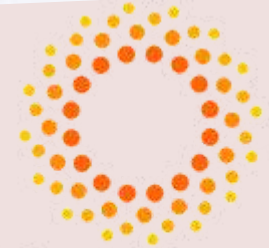
Miso



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- Neal D. Barnard, Susan M. Levin, Yoko Yokoyama. A Systematic Review and Meta-Analysis of Changes in Body Weight in Clinical Trials of Vegetarian Diets. *Journal of the Academy of Nutrition and Dietetics*. 2015. 115(6): 854-969.
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- Brzezjriska M, Kucharska A, Sinska B. Vegetarian diets in the nutrition of pregnant and breastfeeding woman. *Pol Merkur Lekarski*. 2016; 40(238): 264-8.
- **Martinez-Argüelles L. Vegetarianos con ciencia. 1º ed. Madrid. Arcopress; 2016.**





DEJÚ INTERMITENT

Estratègia nutricional que se centra a **estipular els intervals d'ingesta i de dejú, amb la finalitat de perdre pes, millora de la composició corporal i del perfil cardiometabòlic.** No es tracta d'un patró dietètic que es centri en canvis alimentaris quantitativus o qualitativus.

Opcions de dejú intermitent:

1. *Alimentació restringida al temps (finestra de dejú / finestra d'ingesta).*

- 16/8 amb o sense Restricció Calòrica (RC)
- 18/6 amb o sense RC
- 12/12 amb o sense RC

2. *Alternate Day Fasting (ADF):*

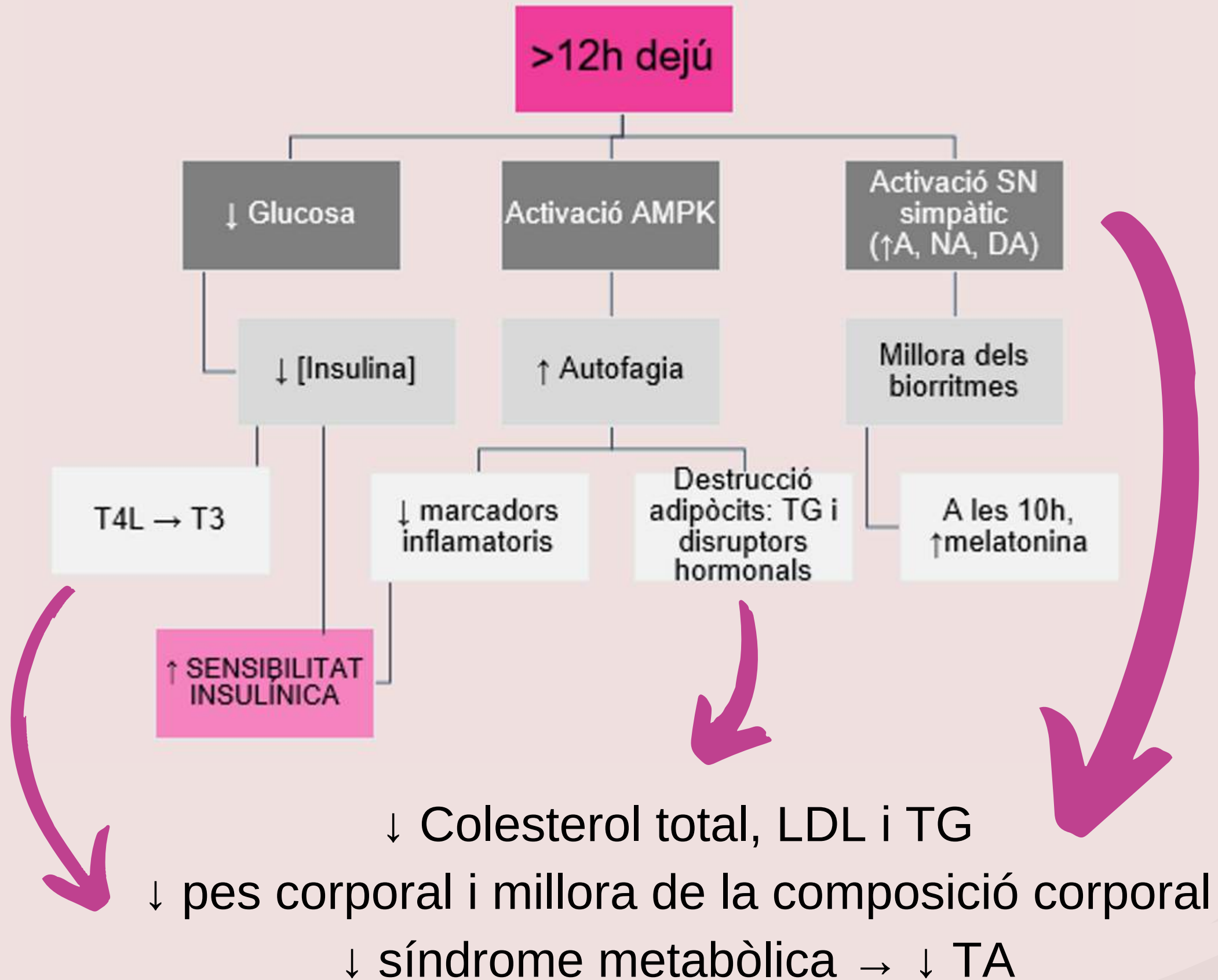
ADF Ad libitium + 800/600 Kcal, a dies alterns

ADF Ad libitium + 25% de Kcal, a dies alterns

ADF Ad libitium + 24h a 0 Kcal (1-2 dies/setmana)



Beneficis



Riscos

- Adherència
- TCA
- Ansietat
- Ús de medicació liposoluble
- ↑ cortisol → ↑ glucosa → ↑ INS





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journal homepage: www.elsevier.com/locate/jnim



Impact of diurnal intermittent fasting during Ramadan on inflammatory and oxidative stress markers in healthy people: Systematic review and meta-analysis

Mo'ez Al-Islam E. Faris^{a,*}, Haitham A. Jahrami^{b,c}, Asma A. Obaideen^d, Mohamed I. Madkour^e

Proceedings of the Nutrition Society (2017), **76**, 361–368

doi:10.1017/S0029665116002986

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Nutrition Society Summer Meeting 2016 held at University College Dublin on 11–14 July 2016

Conference on 'New technology in nutrition research and practice' Postgraduate Symposium

Effects of intermittent fasting on glucose and lipid metabolism

Rona Antoni^{1*}, Kelly L. Johnston², Adam L. Collins¹ and M. Denise Robertson¹



Nutrition, Metabolism & Cardiovascular Diseases (2018) **28**, 698–706



ELSEVIER

Available online at www.sciencedirect.com

Nutrition, Metabolism & Cardiovascular Diseases

journal homepage: www.elsevier.com/locate/nmcd

Effect of intermittent versus continuous energy restriction on weight loss, maintenance and cardiometabolic risk: A randomized 1-year trial

T.M. Sundfør^{*}, M. Svendsen, S. Tonstad



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- Headland M, Clifton PM, Carter S, Keogh JB. Weight-Loss Outcomes: A systematic review and meta-analysis of intermittent energy restriction trials lasting a minimum of 6 months. Nutrients. 2016; 8(6): E354.



petits canvis

PER MENJAR MILLOR

més

FRUITES
I HORTALISSES

LLEGUMS

FRUITA SECA

VIDA ACTIVA
I SOCIAL



canvia

AIGUA

ALIMENTS INTEGRALS

OLI D'OLIVA
VERGE EXTRA

ALIMENTS DE
TEMPORADA I PROXIMITAT



GAUDIM MENJANT



menys

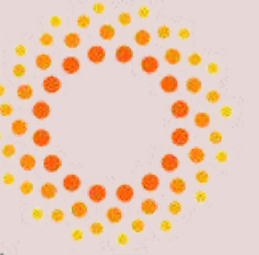
SAL

SUCRES

CARN VERMELLA
I PROCESSADA

ALIMENTS
ULTRAPROCESSATS





Mútua Terrassa

**MOLTES
GRÀCIES**