VI Y LA DIETA MEDITERRÀNIA

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FIVIN

Circulation

ORIGINAL RESEARCH ARTICLE

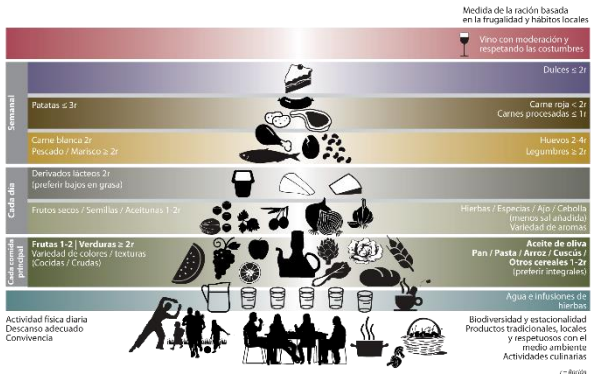
2018

Impact of Healthy Lifestyle Factors on Life Expectancies in the US Population

123.219 personas seguidas 35 a.

Índice de masa corporal (IMC) 18,5-22,9 m^2

No fumador ni exfumador



Alimentación saludable

≥ 6 h/semana

Consumo de alcohol moderado 5-14,9 g/día

ESPERANZA DE VIDA A LOS 50 AÑOS

SEGÚN LA ADHERENCIA A LOS ESTILOS DE VIDA SALUDABLE

NULA

- Mujeres: **+ 29,0 años**
- Hombres: **+ 25,5 años**

MÁXIMA

- Mujeres: **+ 43,1 años**
- Hombres: **+ 37,6 años**

Alcohol use and burden for 195 countries and territories, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016

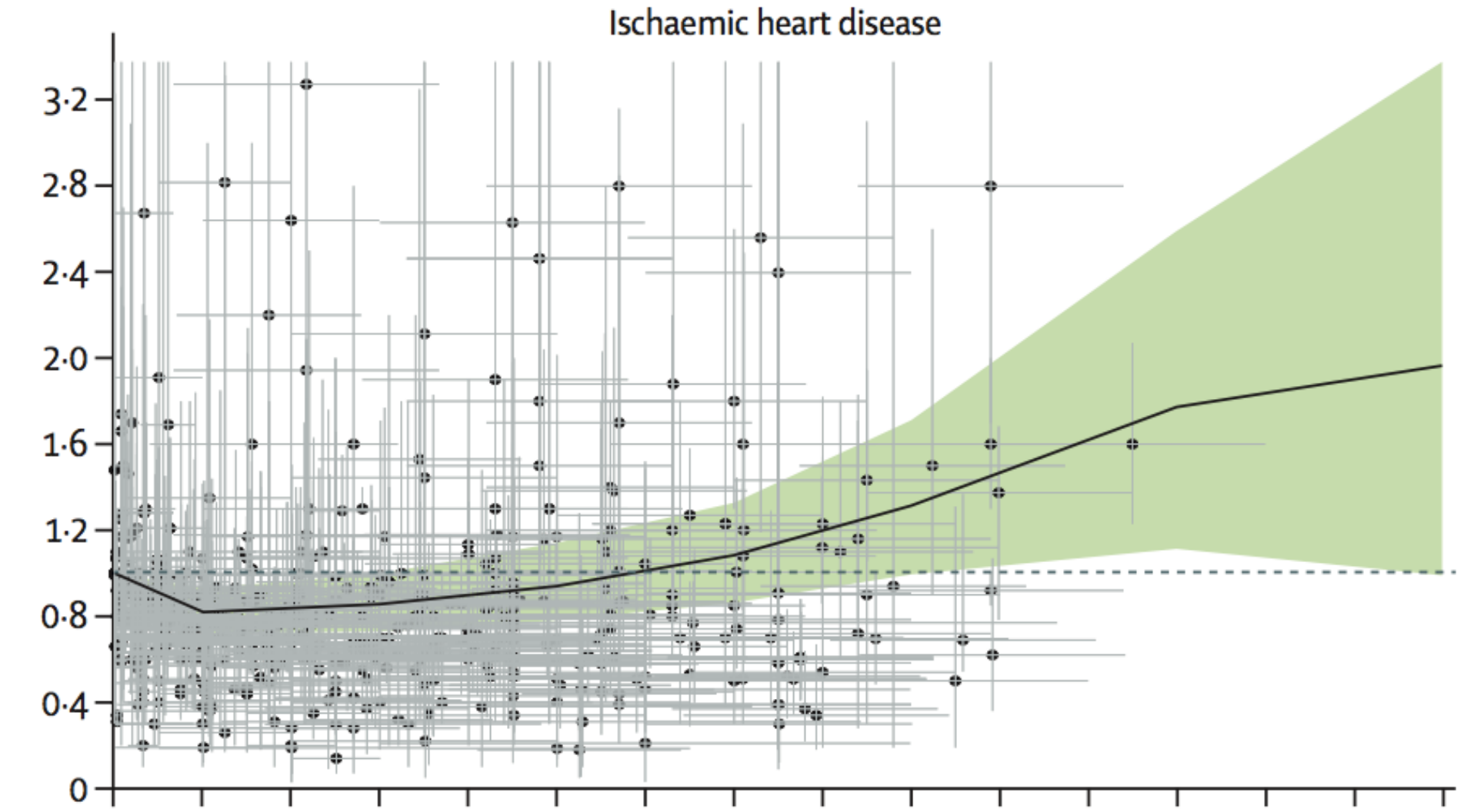
GBD 2016 Alcohol Collaborators*

"Interpretación El consumo del alcohol es uno de los principales factores de riesgo de enfermedad a nivel mundial y es responsable de un empeoramiento sustancial de la salud. **Observamos que el riesgo de mortalidad por todas las causas, y por cáncer específicamente, se incrementa cuando aumentan los niveles de consumo, y el nivel de consumo que minimiza la pérdida de salud es cero**. Estos resultados sugieren que podría ser necesario revisar las políticas de control para el alcohol a nivel mundial, reenfocando nuestros esfuerzos en reducir el consumo de alcohol en la población general."

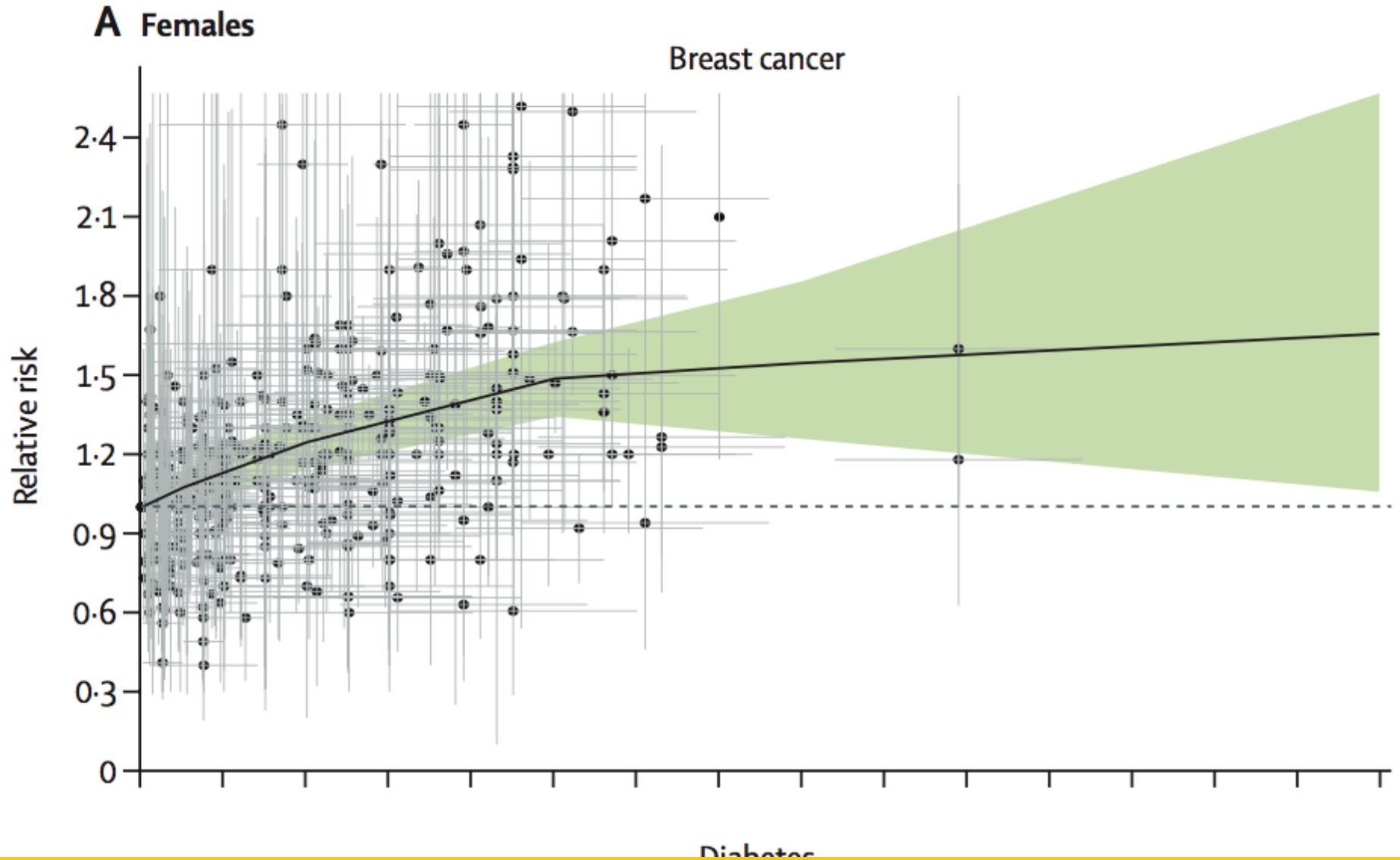
Lancet 2018

http://dx.doi.org/10.1016/S0140-6736(18)31310-2

ALCOHOL Y CARDIOPATÍA ISQUÉMICA



ALCOHOL Y CÁNCER DE MAMA



DOBLE CARA DEL ALCOHOL

MANIFESTACIONES CRÓNICAS

- Síndrome de dependencia alcohólica
- Hepatopatía alcohólica (esteatosis, fibrosis, cirrosis alcohólicas)
- Gastritis crónica. Malabsorción intestinal.
- Pancreatitis aguda y crónica
- Miocardiopatía y miopatía alcohólicas
- Demencia y Encefalopatías alcohólicas
- Polineuritis alcohólica

EFECTOS TÓXICOS SOBRE EL SISTEMA CARDIOVASCULAR

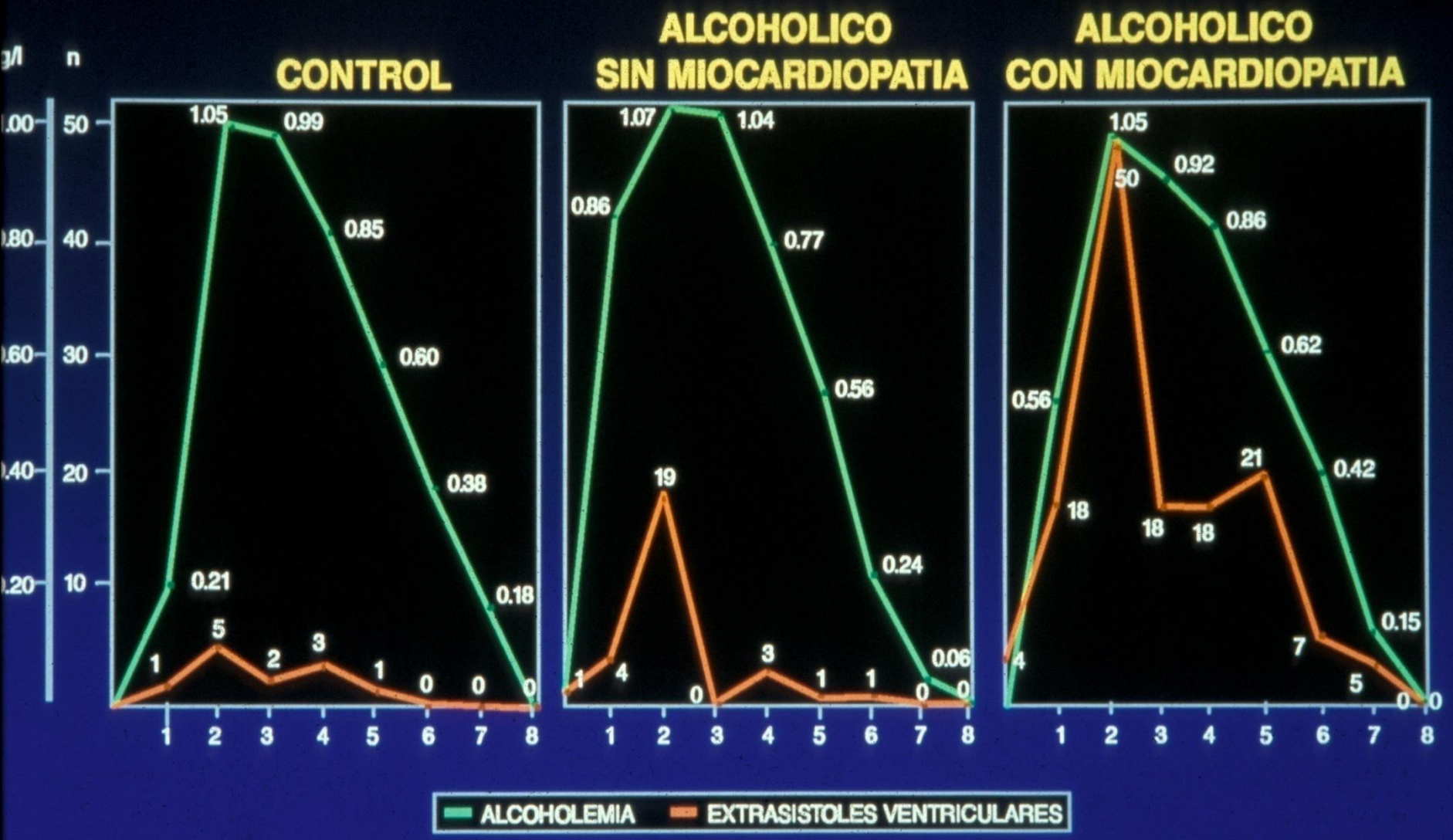
EFECTOS AGUDOS

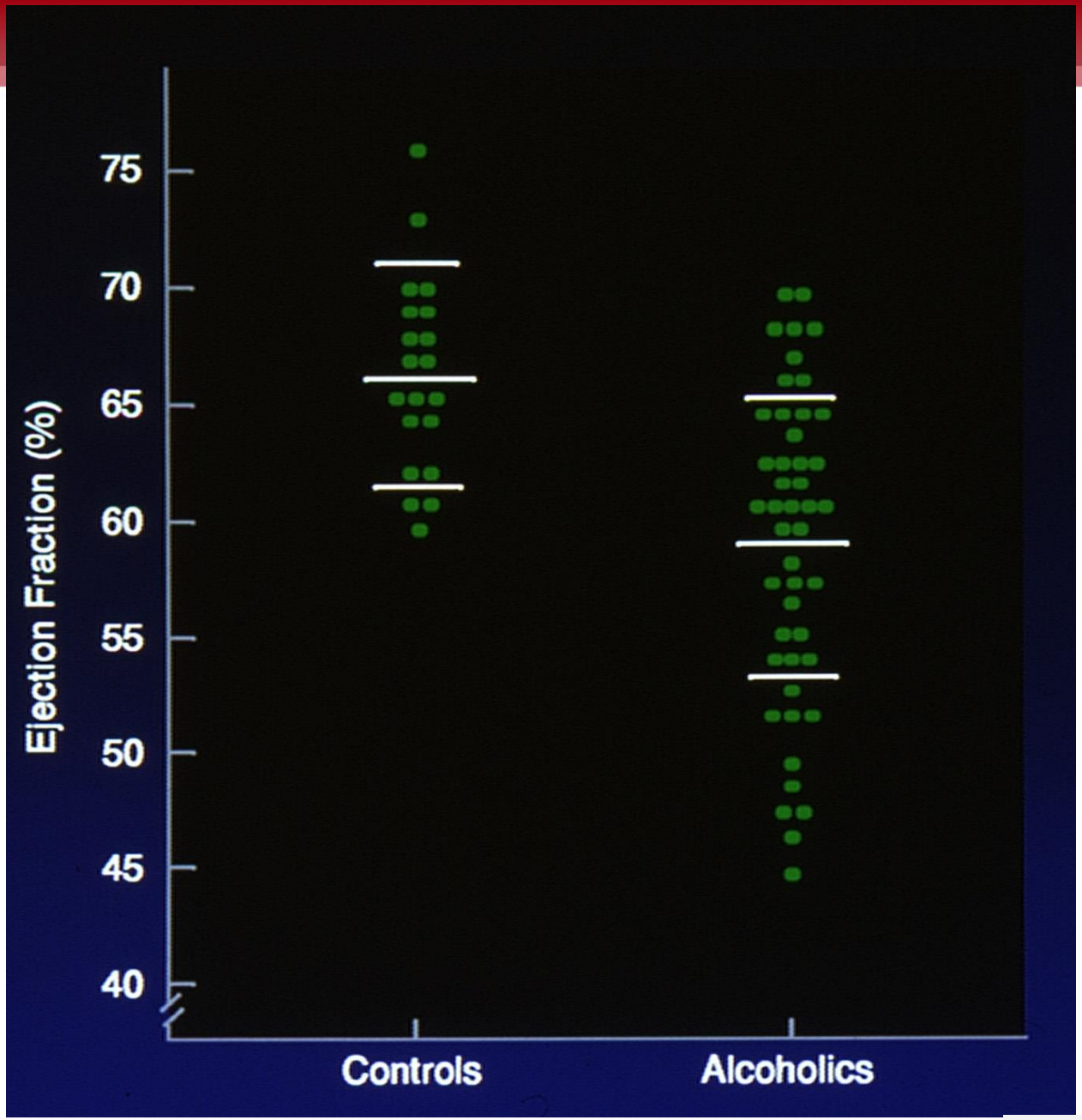
- Arritmias cardíacas - Síndrome de corazón del fin de semana
- Disfunción ventricular
- Hipertensión arterial
- Muerte súbita

EFECTOS CRÓNICOS

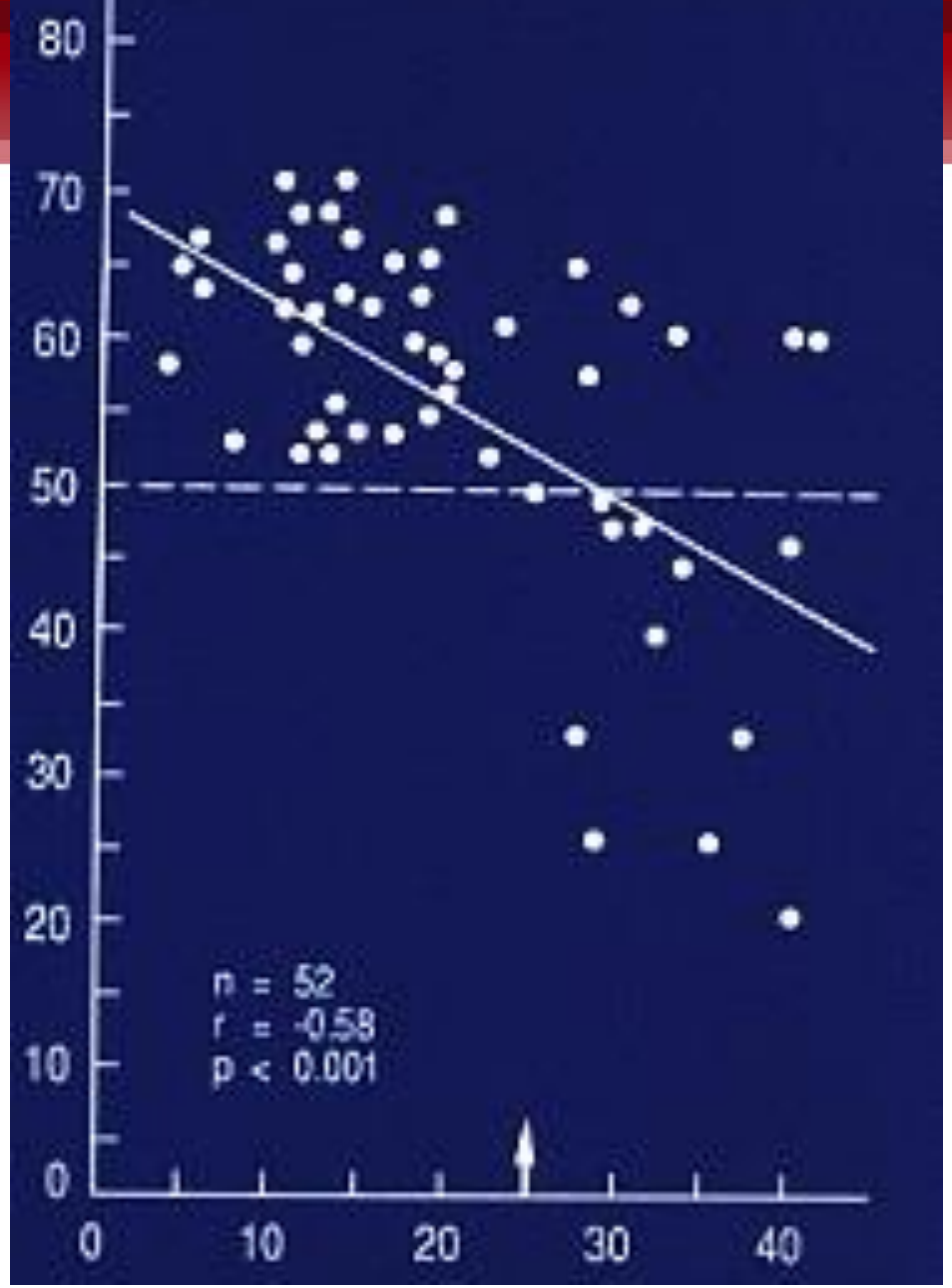
- Disfunción sistólica
- Disfunción diastólica
- Miocardiopatía subclínica
- Miocardiopatía clínica

ARRITMIAS TRAS INGESTA DE ETANOL



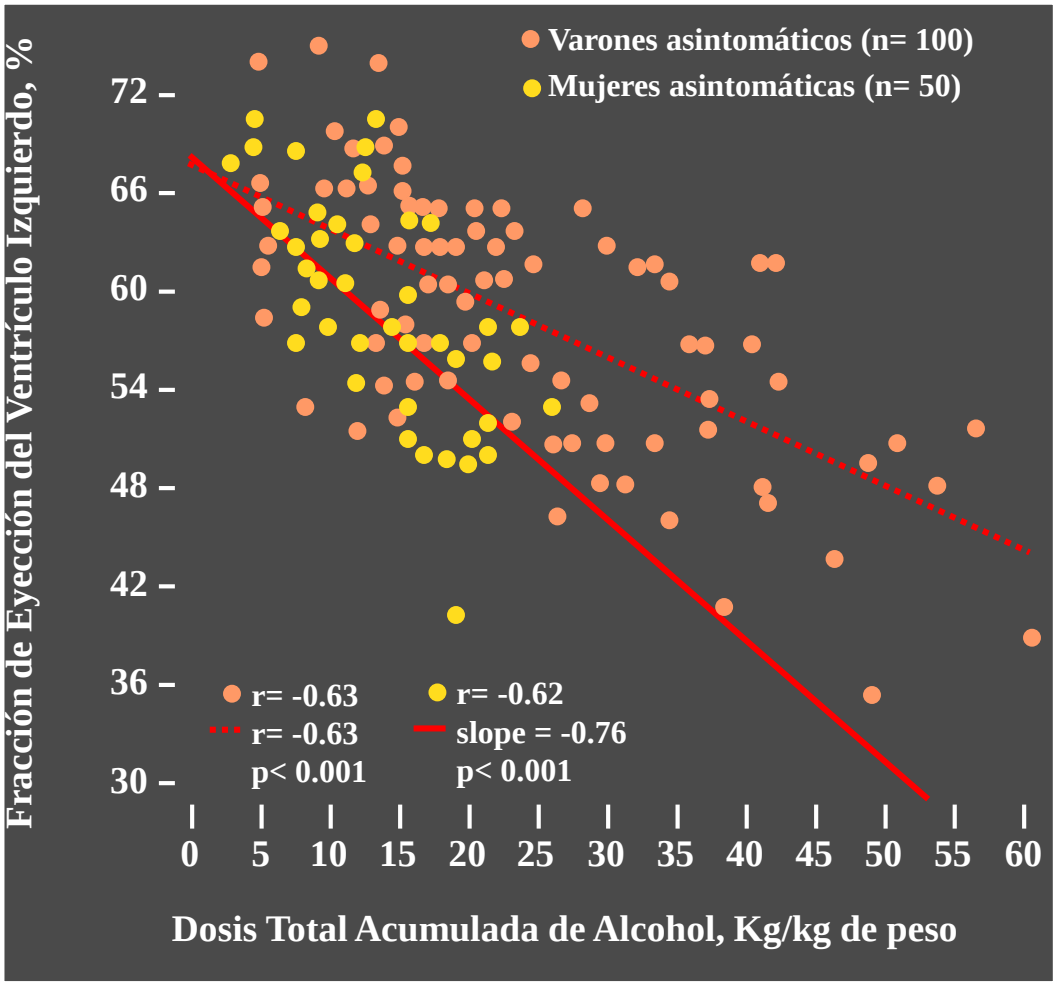


N Engl J Med 1989



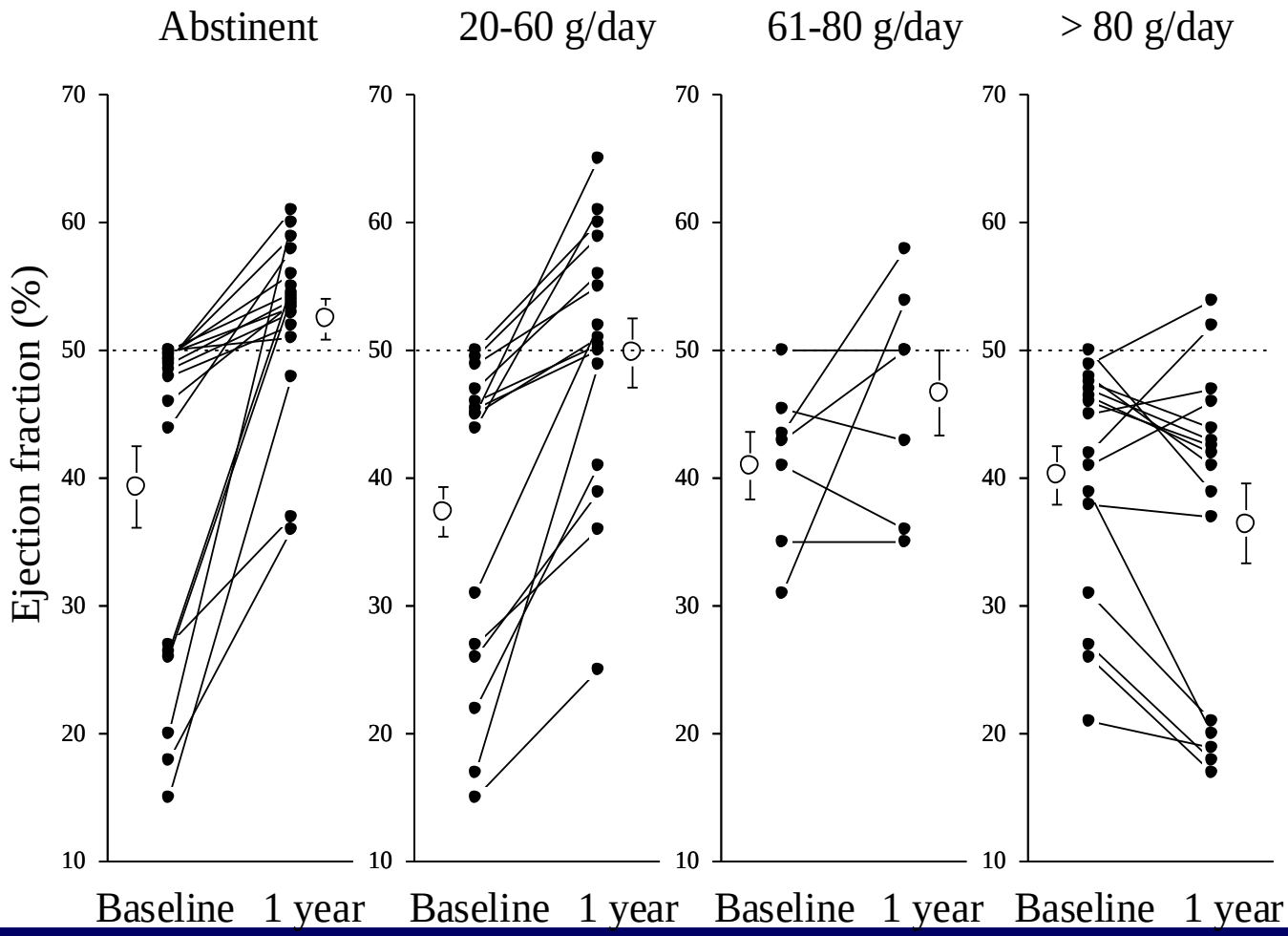
N Engl J Med 1989

Efectos Tóxicos sobre el Sistema Cardiovascular



JAMA 1995

INFLUENCE OF ETHANOL ON LV-EF CHANGES

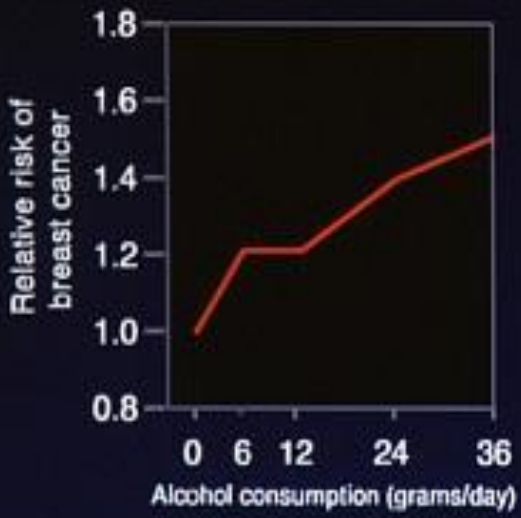


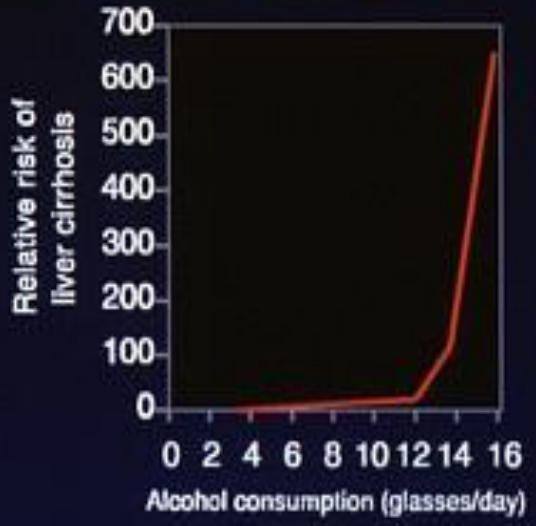
LA CARA POSITIVA

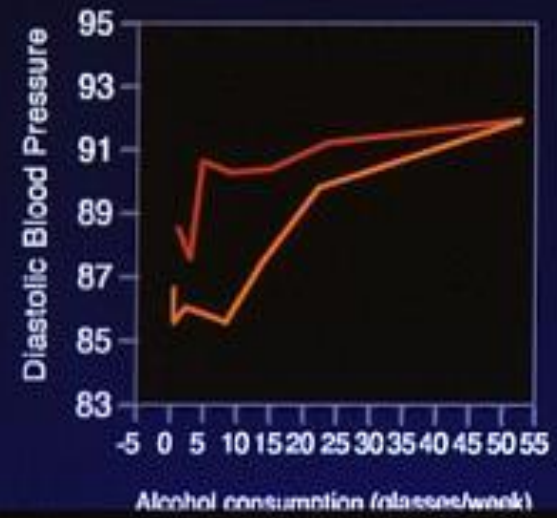
CONSUMO MODERADO DE VINO

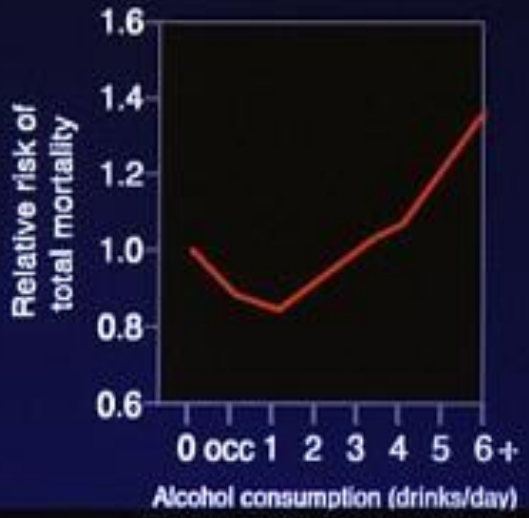
DOSE-RESPONSE RELATIONSHIP

ALCOHOL INTAKE vs ALCOHOL-RELATED OUTCOMES

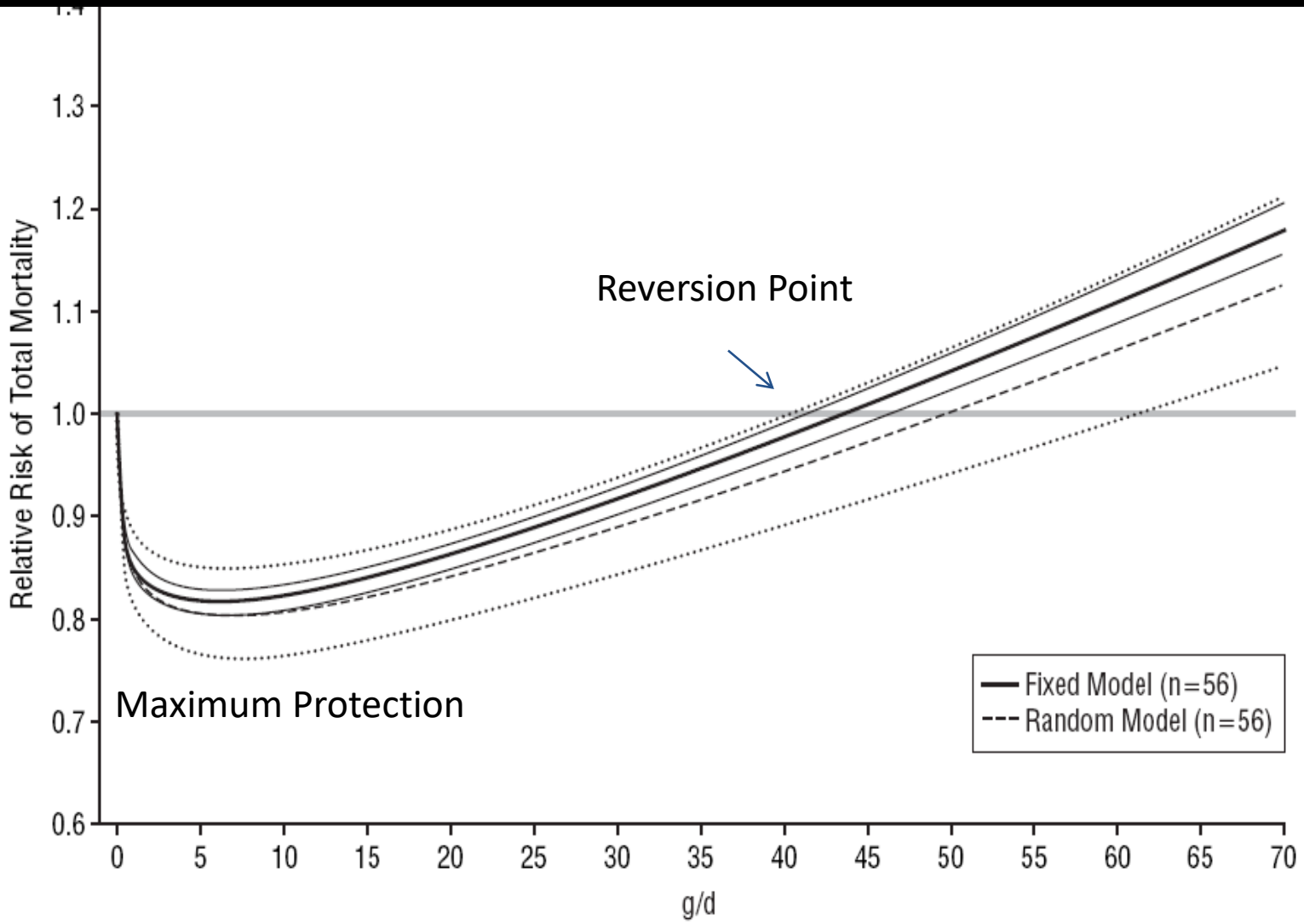






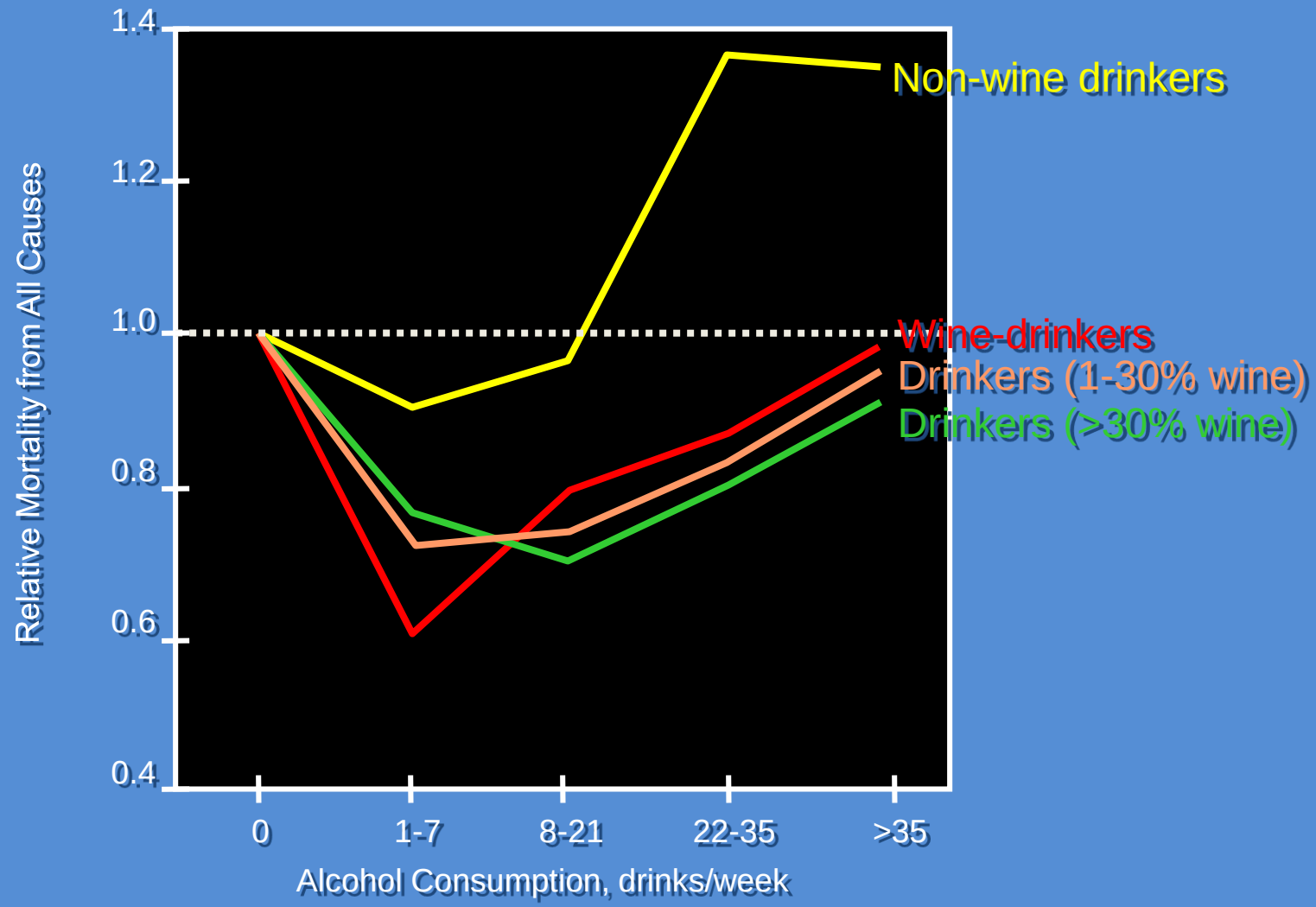


ALCOHOL CONSUMPTION AND MORTALITY FOR ANY CAUSE



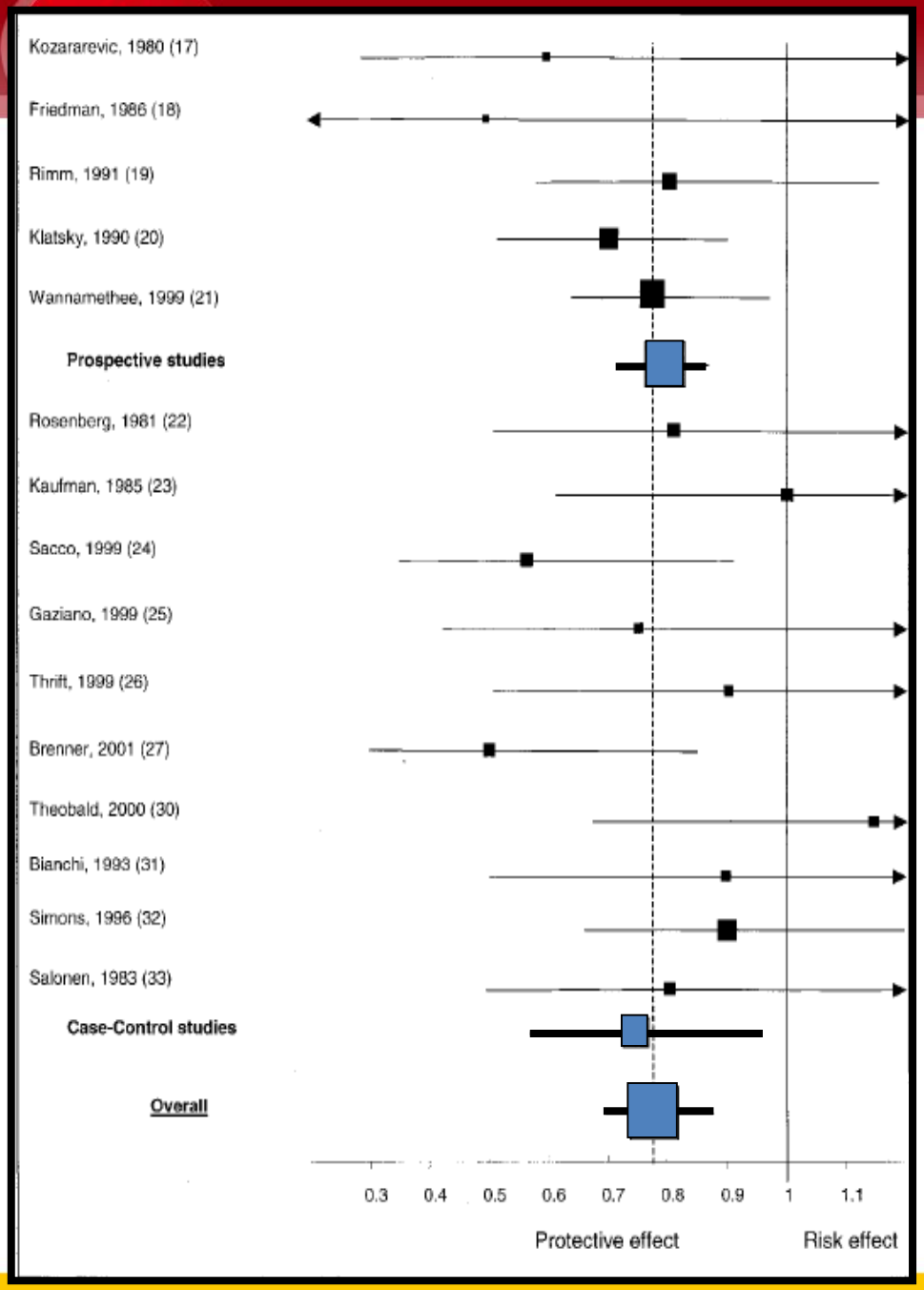
Thirty-four studies provided 56 independent dose-response curves for a total of 1,015,835 subjects and 94,533 deaths from any cause. The association with a lower mortality was apparen up to 42 g/d and the lowest mortality was seen at 6 g/d, (RR, 0.81 [CI, 0.80-0.83]).

RELATIVE RISK FOR DEATH FROM ALL CAUSES IN RELATION TO TOTAL ALCOHOL INTAKE



Relative risk is set at a 1.0 among non drinkers (<1 drinks/week)

Ann Intern Med 2000



Meta-analysis: Consumption of different alcoholic beverages and vascular risk

Reduction of vascular risk

- **Wine: –32%**
- **Beer: –22%**

Circulation 2002

Possible Mechanisms of Beneficial Effects of Moderate Consumption of Alcohol

Prevention of arterial lesions

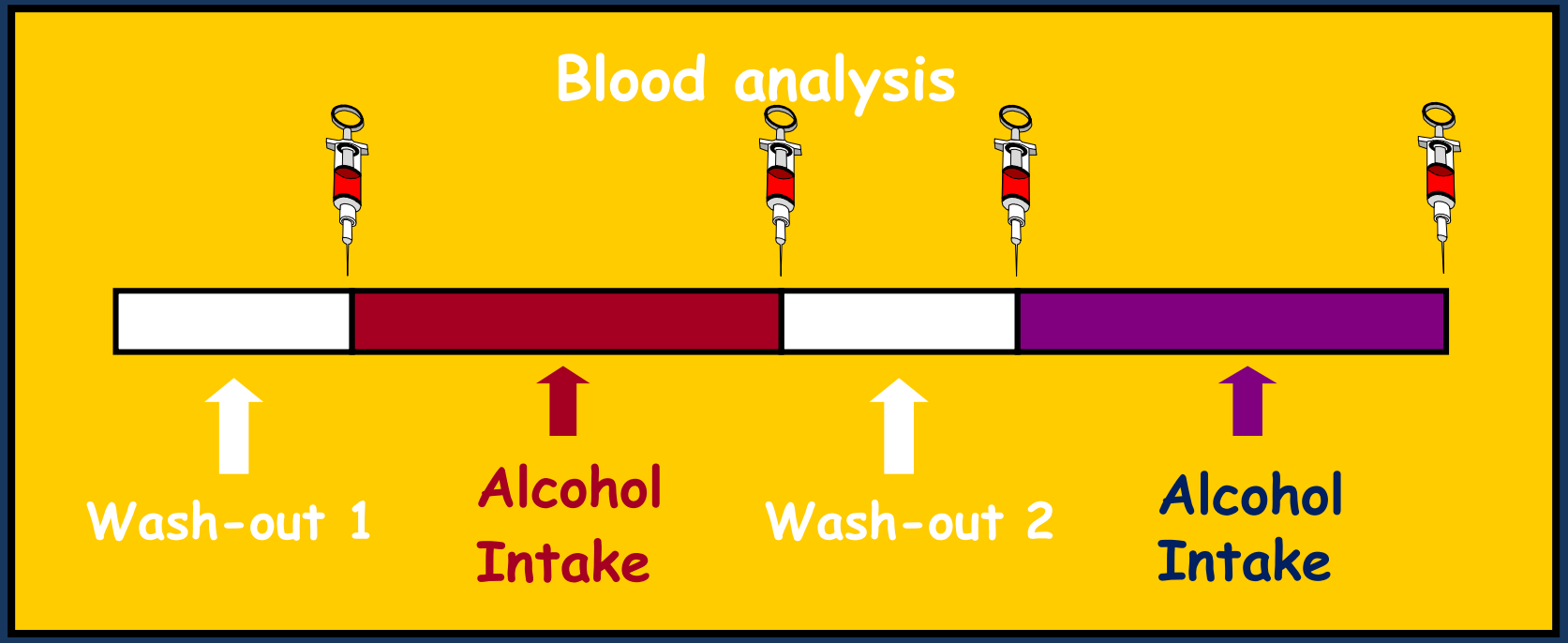
- Increase in HDL-cholesterol
- Reduction in the oxidation of LDL- cholesterol particles
- Changes in the endothelium of arterial wall
- Improving insulin sensitivity or others

Prevention of arterial thrombosis

- Reduction of platelet aggregation
- Inhibition of clot formation
- Activation of fibrinolytic system

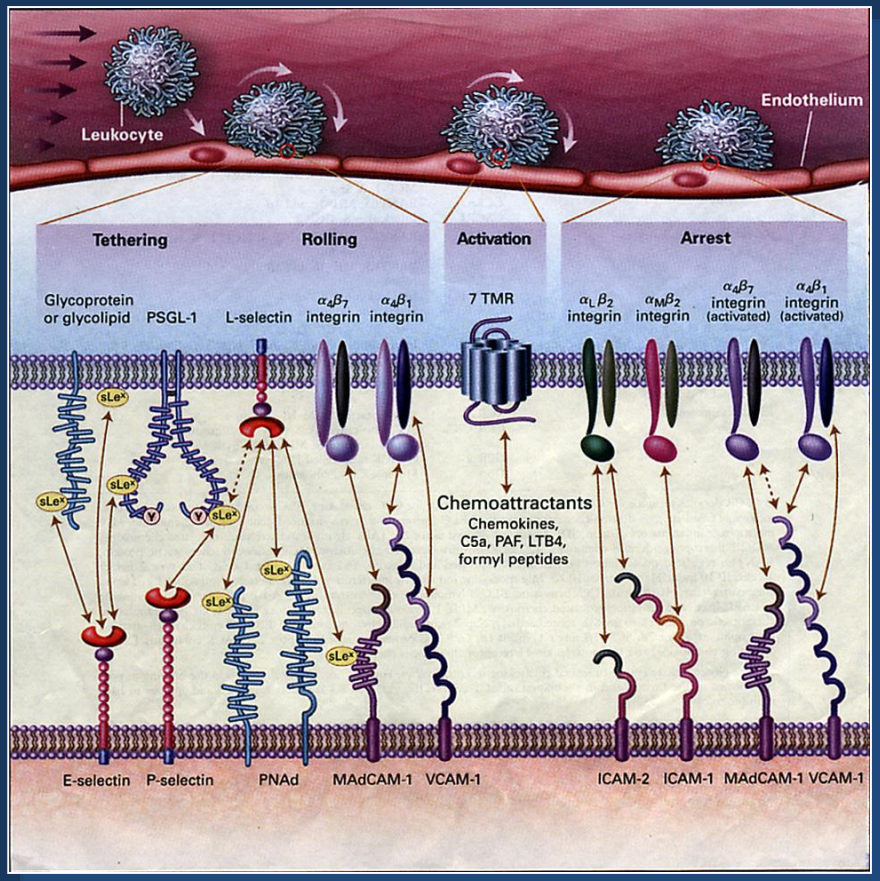
Methodology

Design: Randomized prospective cross-over clinical trials



- **Consumption of 20 (women) - 30 (men) g/day of alcohol**
- **Comparations: Polyphenol-rich alcoholic beverage vs polyphenol-poor alcoholic beverage.**

LYMPHOCYTE AND MONOCYTE ADHESION MOLECULES AND CHEMOKINES



- LYMPHOCYTE FUNCTION-ASSOCIATED ANTIGEN – 1 (LFA-1)
- MAC – 1
- VERY LATE ACTIVATION ANTIGEN – 4 (VLA-4)
- CD40 , CD45
- SYALIL-LEWIS
- MONOCYTE CHEMOTACTIC PEPTIDE -1 (MCP-1)

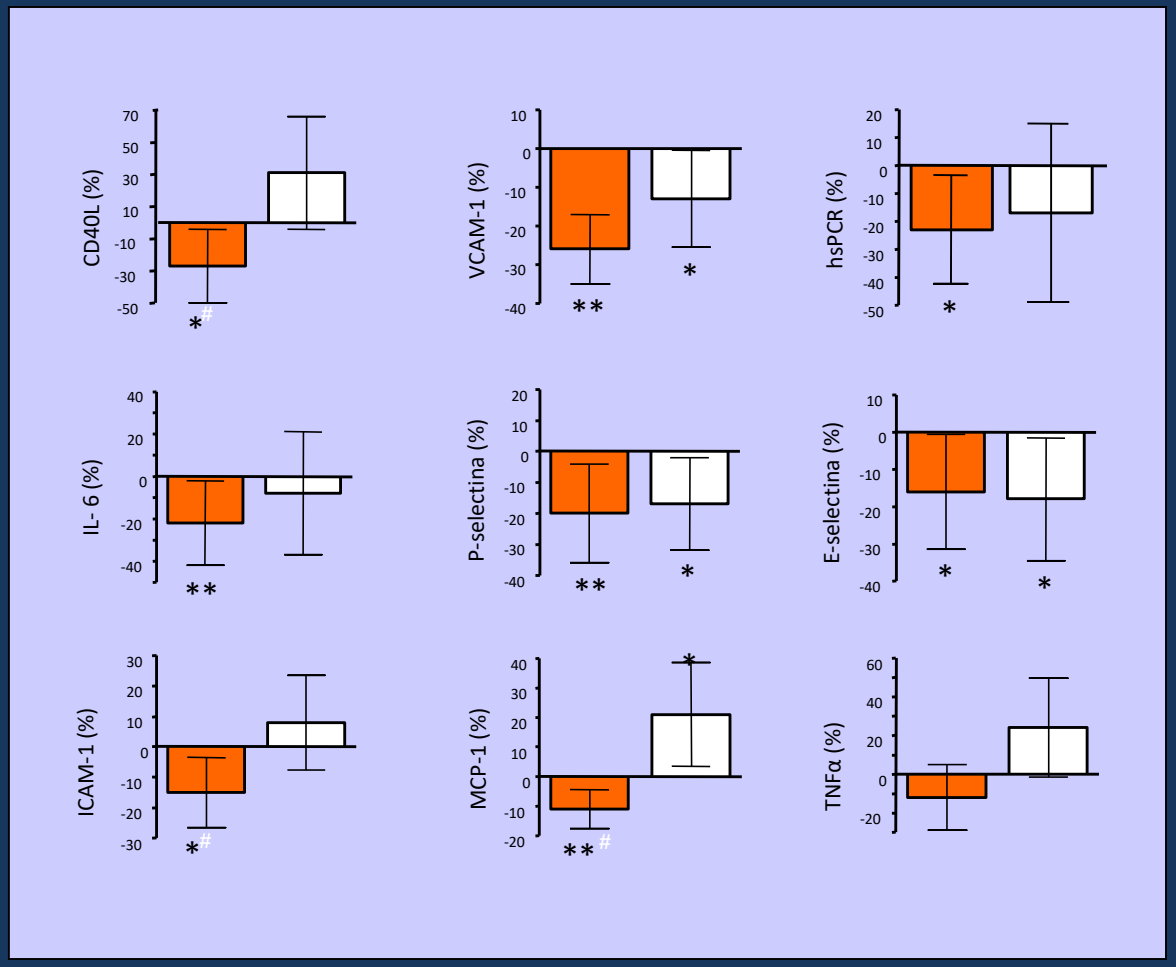
Adhesion Molecules Analysis in Lymphocytes and Monocytes

	Alcohol - PP		Alcohol + PP	
	Before	After	Before	After
T lymphocytes				
LFA_1 (MFI)	126.3 ± 47.8	135.7 ± 40.6	139.4 ± 34.7	142.7 ± 26.4
VLA_4 (MFI)	32.0 ± 8.3	33.9 ± 9.8	36.2 ± 7.5	31.2 ± 7.5
Monocytes				
LFA_1 (MFI)	192.8 ± 89.4	255.4 ± 117.4	187.5 ± 44.2	136.6 ± 44.2
Mac_1 (MFI)	88.4 ± 45.6	97.9 ± 65.8	78.0 ± 37.0	57.2 ± 27.9
VLA_4 (MFI)	41.4 ± 17.1	53.4 ± 28.9	44.1 ± 21.3	29.7 ± 10.6
MCP_1 (MFI)	27.9 ± 24.5	24.7 ± 16.1	31.4 ± 20.7	17.0 ± 10.4

$P \leq 0.05$ $P \leq 0.001$

ATHEROSCLEROSIS 2004; 175:117-23

Changes in adhesion molecules and other inflammatory markers



*$P < 0.05$

**$P < 0.01$

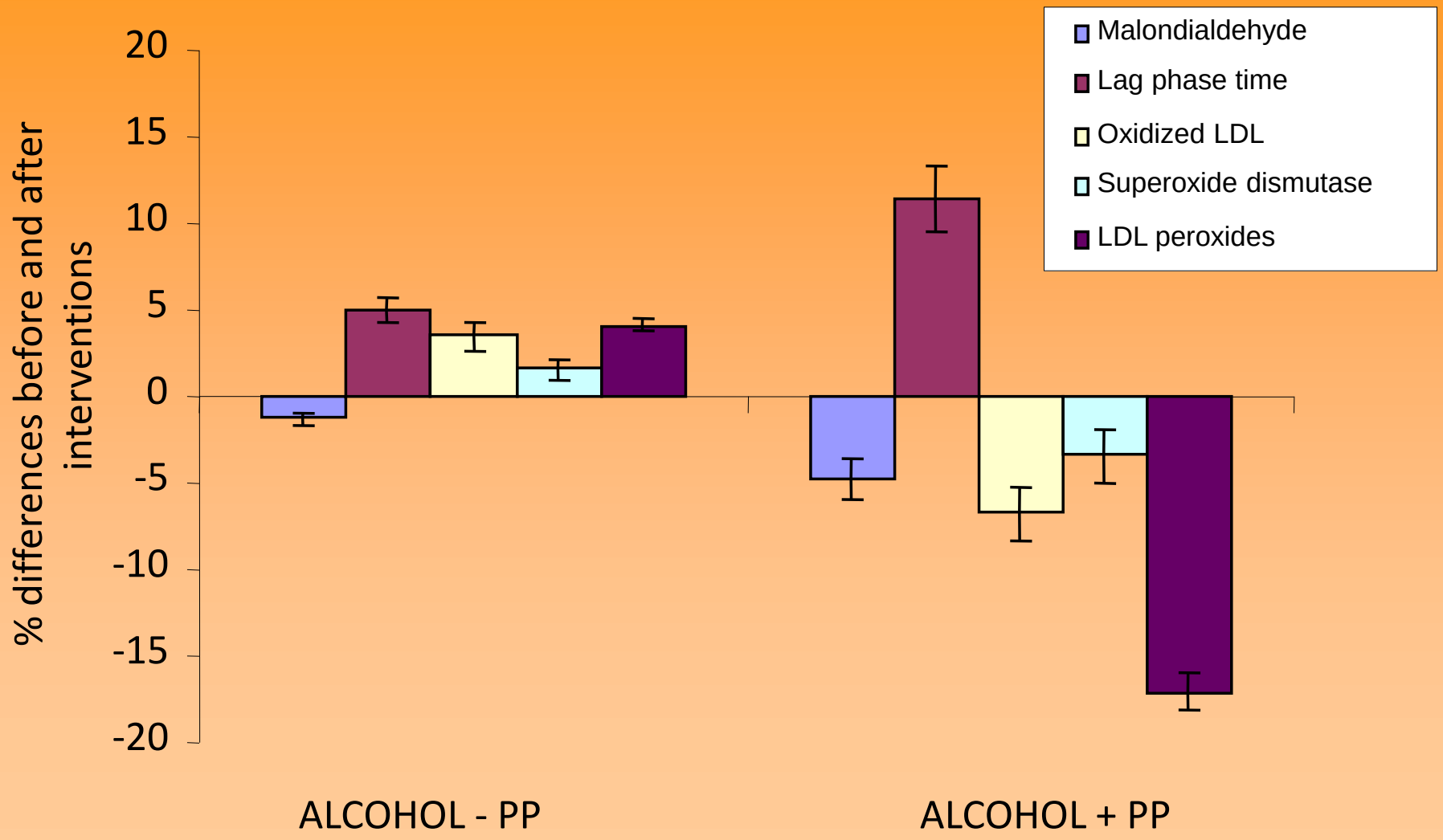
#$P < 0.05$

Alcohol - PP

Alcohol + PP

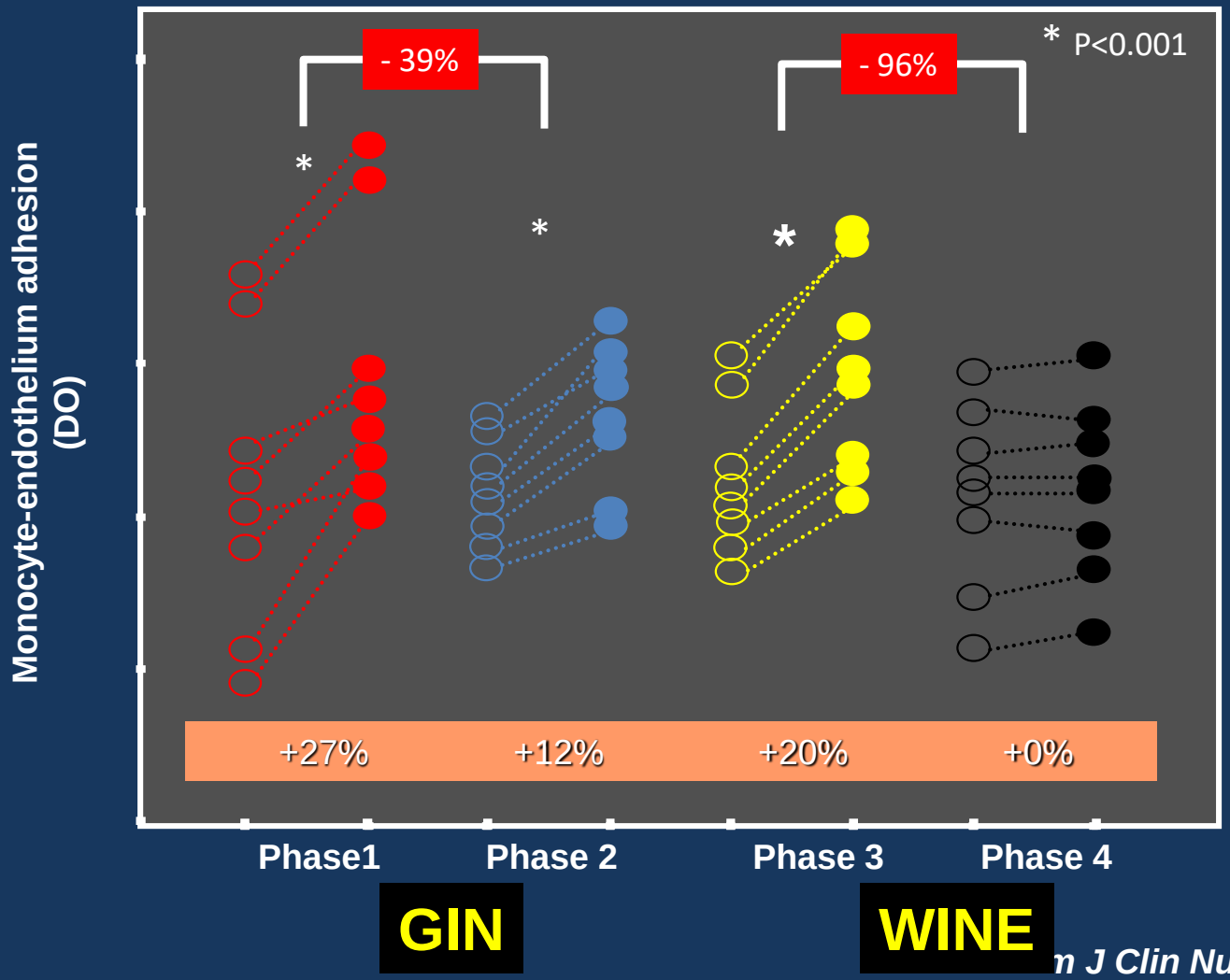
Vázquez-Agell, et al; J Nutr, 2007

EFFECTS OF ALCOHOLIC BEVERAGES WITH AND WITHOUT POLYPHENOLS ON OXIDATIVE STRESS



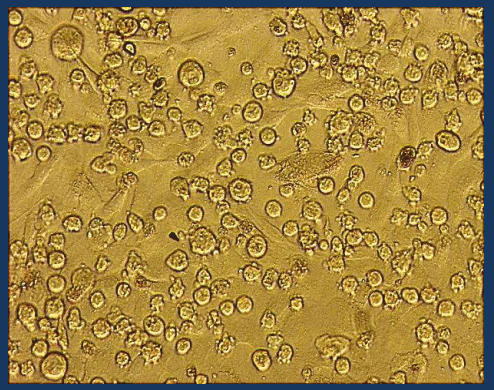
Alcohol and Arteriosclerosis

Values of monocytary adhesion to an endothelial line in basal conditions and following stimulation with TNF-α

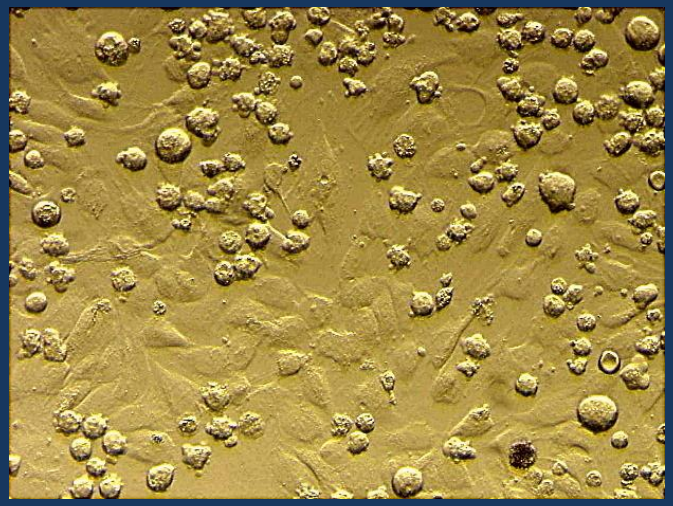


m J Clin Nutr 2004; 80:225-30

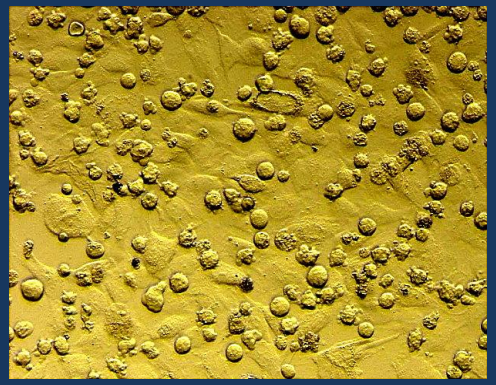
ASSAY OF MONOCYTE-ENDOTHELIAL ADHESION (endothelial line Ea.Hy926)



WASH-OUT

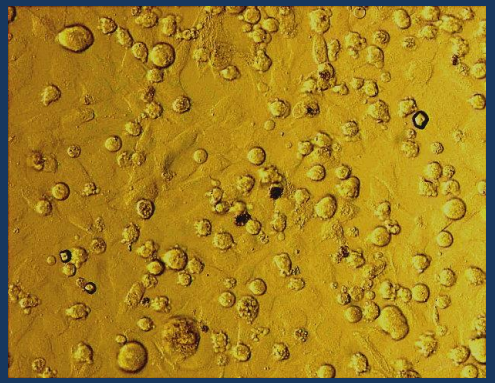


TNF-α



GIN

BASELINE



RED WINE

STUDY DESIGN

- Open
- Crossover
- Randomized

WASH OUT

15 days

1st INTERVENTION 2nd INTERVENTION 3rd INTERVENTION

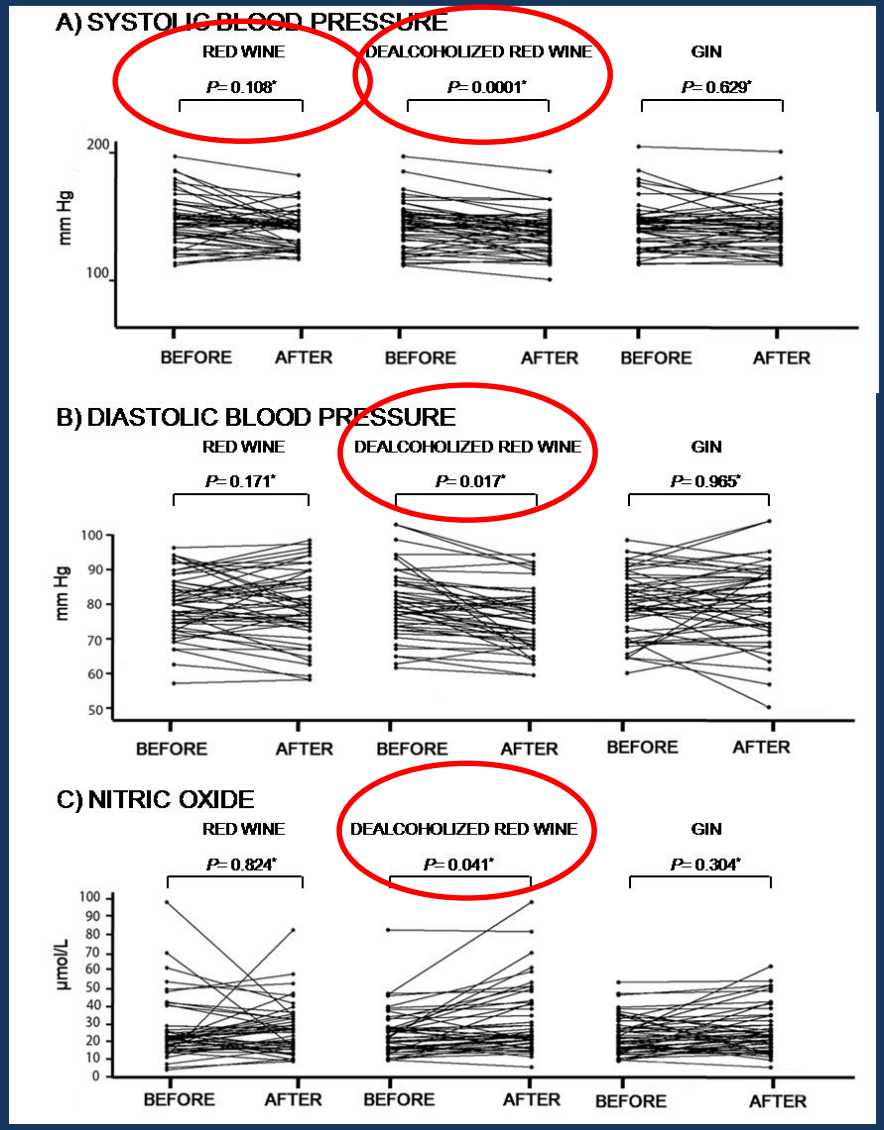
28 days 28 days 28 days

Interventions:

- RW: 272mL red wine (30g OH)
- DRW: 272mL dealcoholized red wine
- G: 100mL gin (30g OH)

Baseline Samples	1st Intervention Samples	2nd Intervention Samples	3rd Intervention Samples

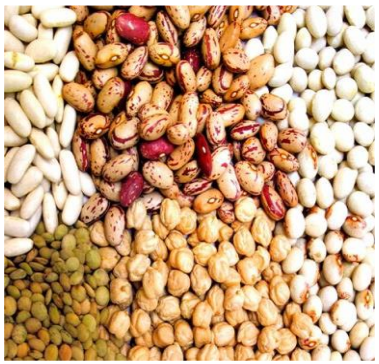
EFFECTS OF WINE POLYPHENOL ON BLOOD PRESSURE (I)



Circulation Res 2012

Efectos de la Dieta Mediterránea en la Prevención Primaria de la Enfermedad Cardiovascular

(Estudio PREDIMED)



Sample Size and Randomization

7,447 participantes

Dieta Mediterránea
Aceite Oliva Virgen Extra
(1L/semana)

n=2.543

Dieta Mediterránea
Frutos Secos
(30g/día)

n=2.454

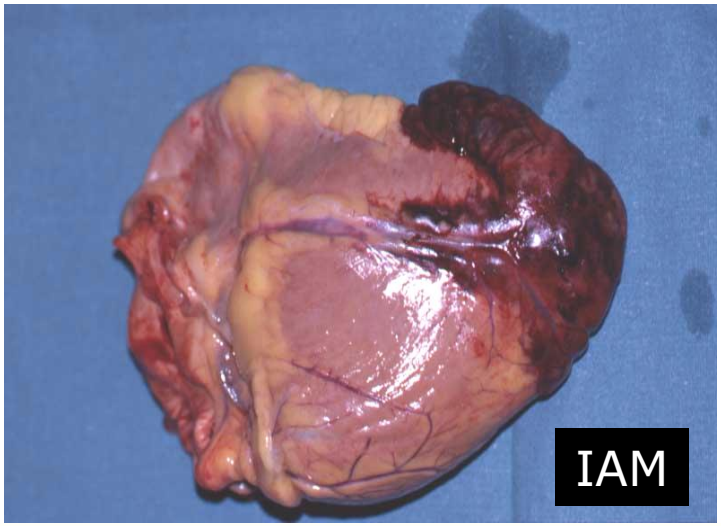
Dieta Baja en Grasa
"American Heart
Association guidelines"

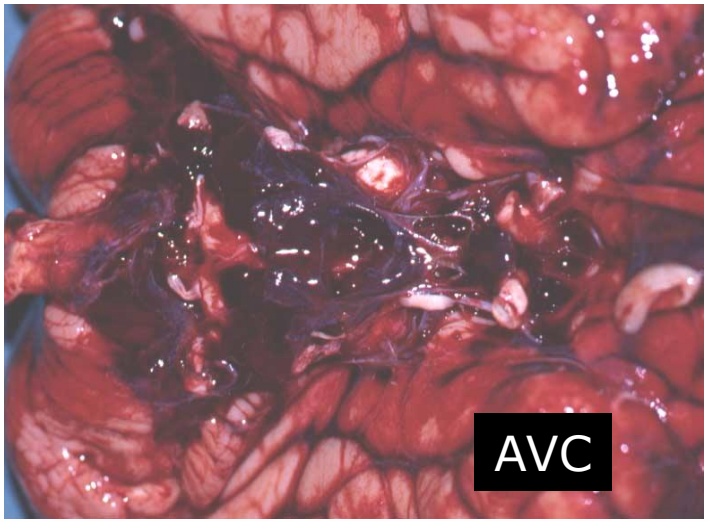
n=2.450

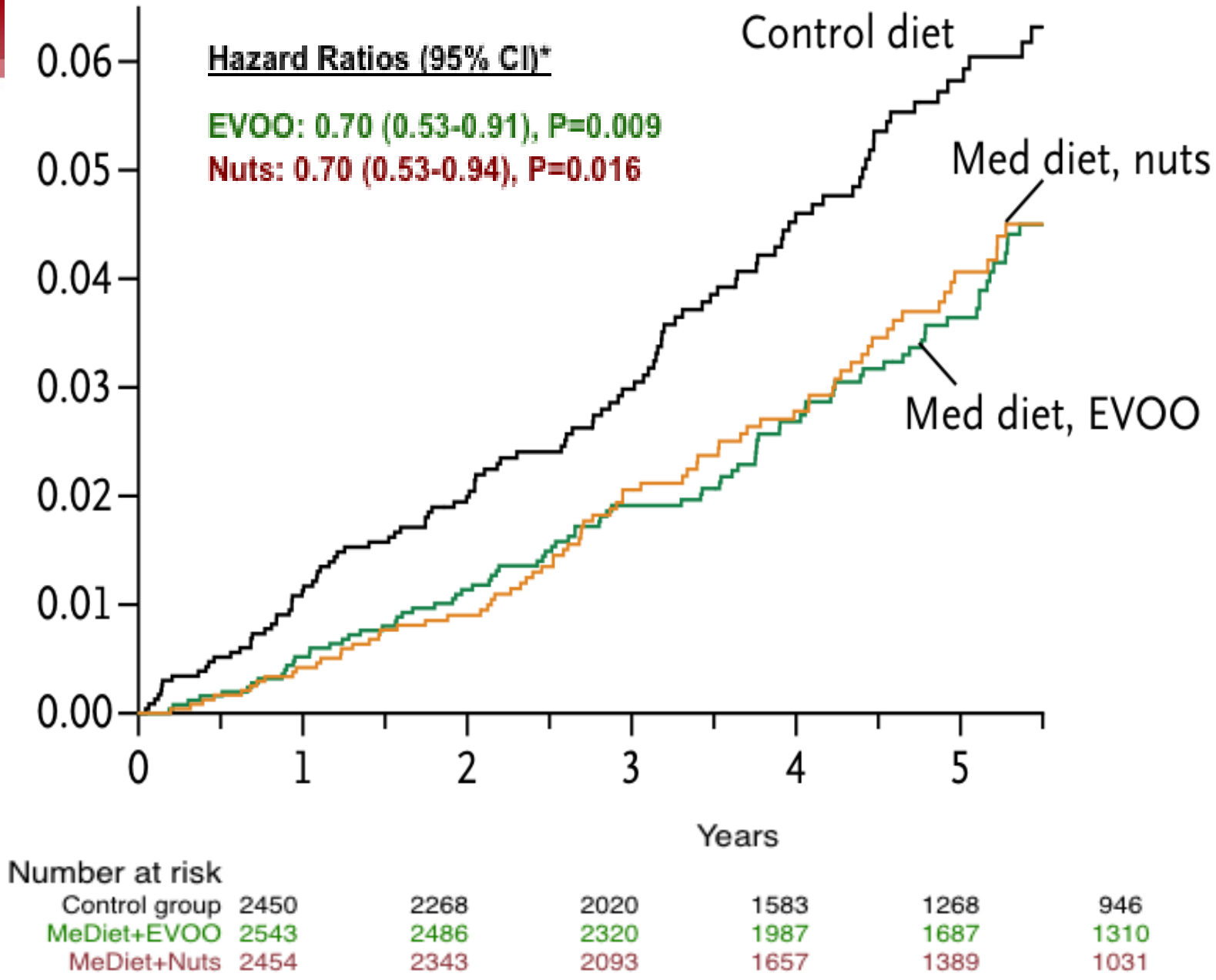
Variables Finales

VARIABLES PRIMARIAS

Muerte Cardiovascular
Infarto Agudo de Miocardio
Accidente Vascular Cerebral





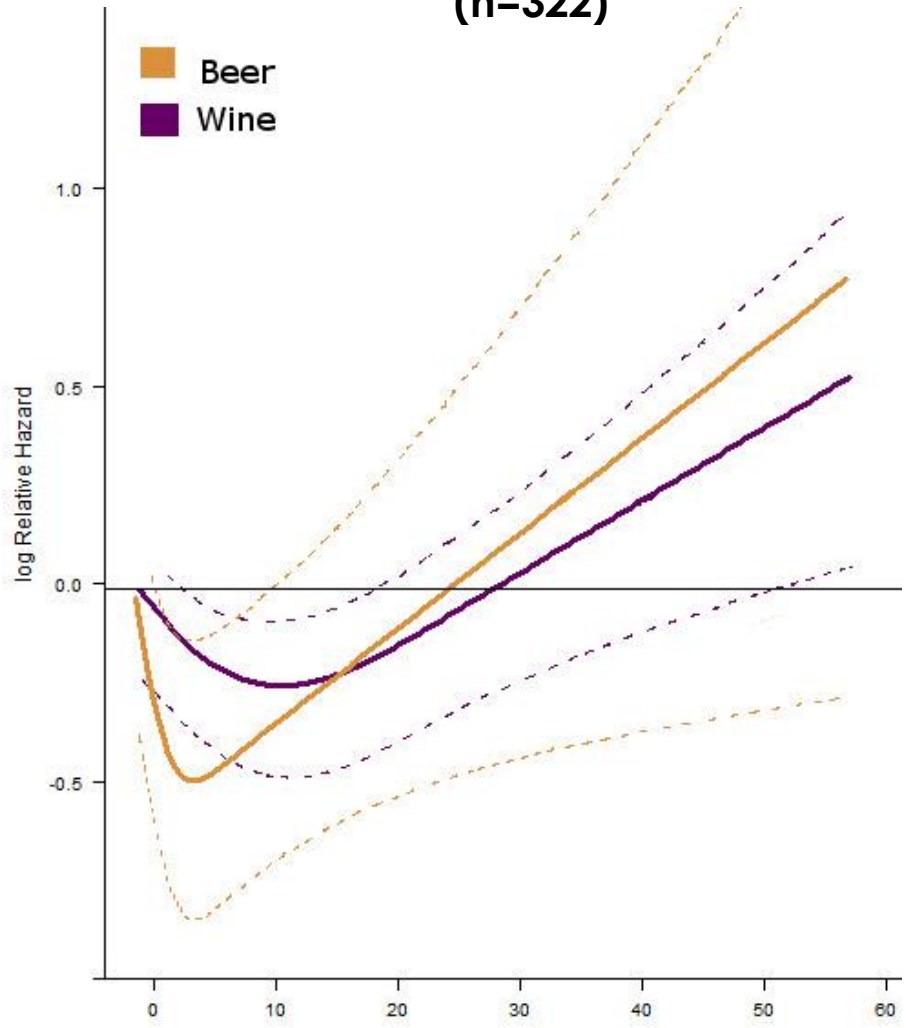


Number at risk

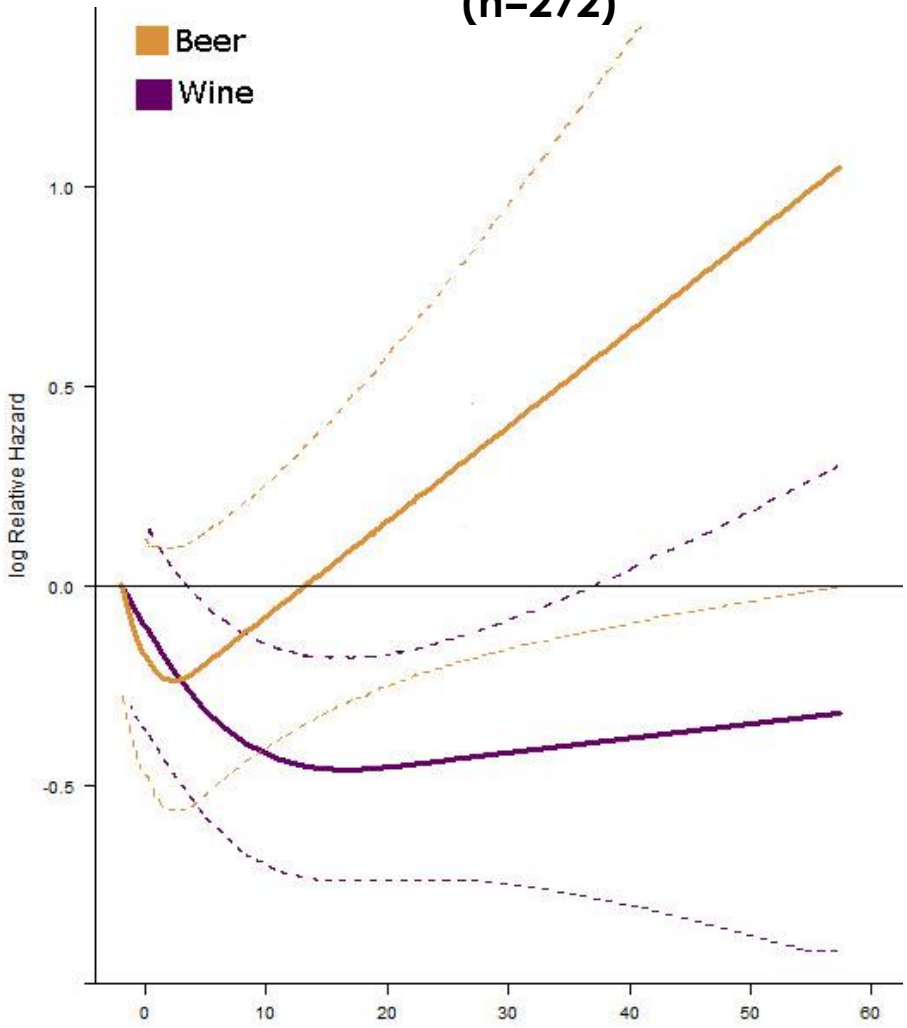
Control group	2450	2268	2020	1583	1268	946
MeDiet+EVOO	2543	2486	2320	1987	1687	1310
MeDiet+Nuts	2454	2343	2093	1657	1389	1031

EFECTOS DEL VINO SOBRE LAS VARIABLES FINALES

Total mortality (n=322)

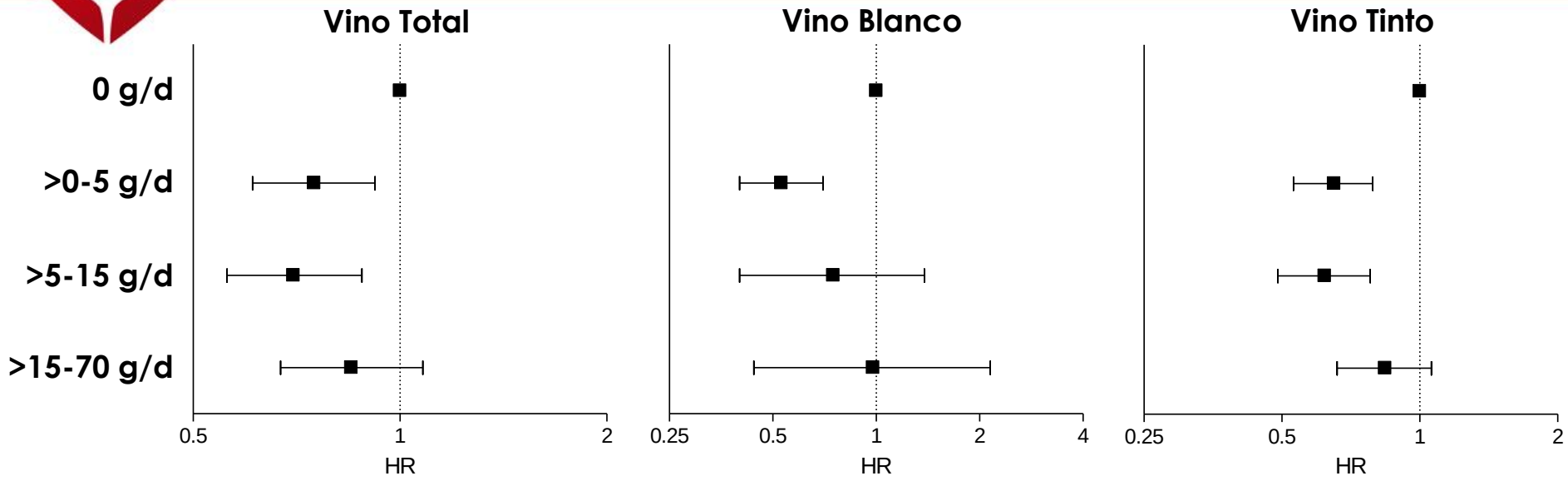


Cardiovascular event (n=272)



Manuscript under preparation

TODOS LOS VINOS SON IGUALES ? EF. MORTALIDAD TOTAL



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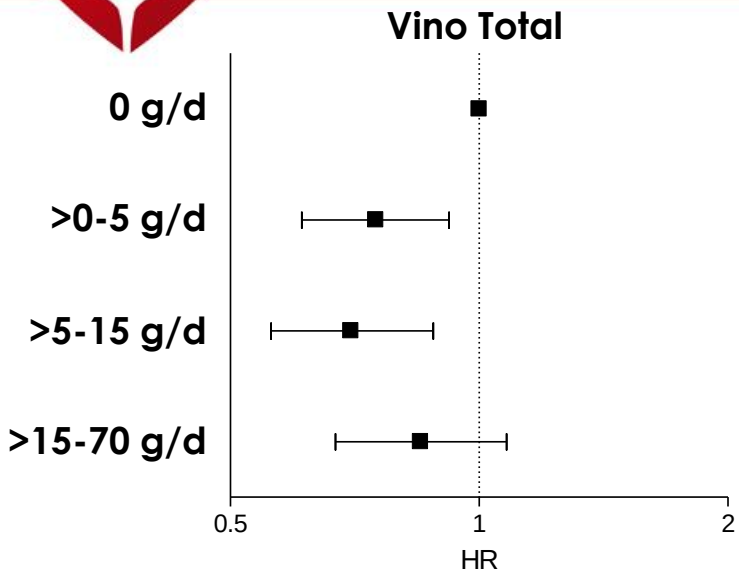
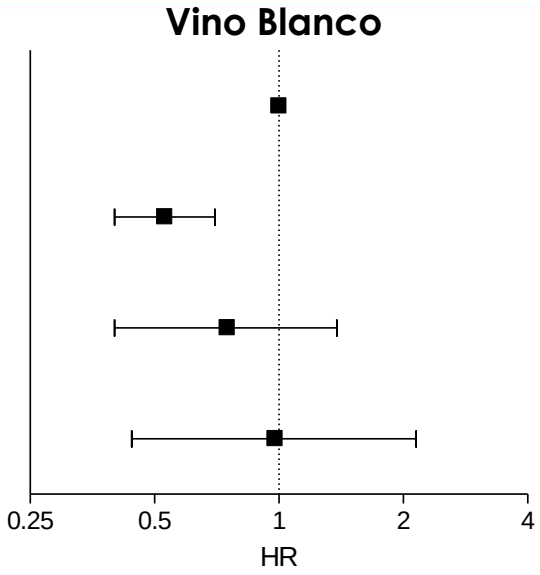
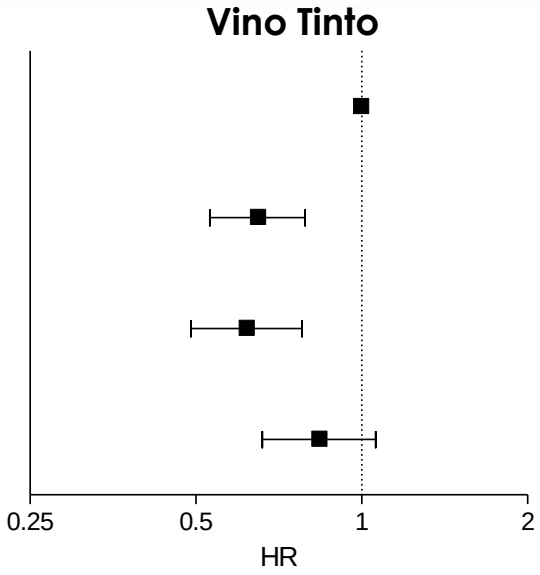
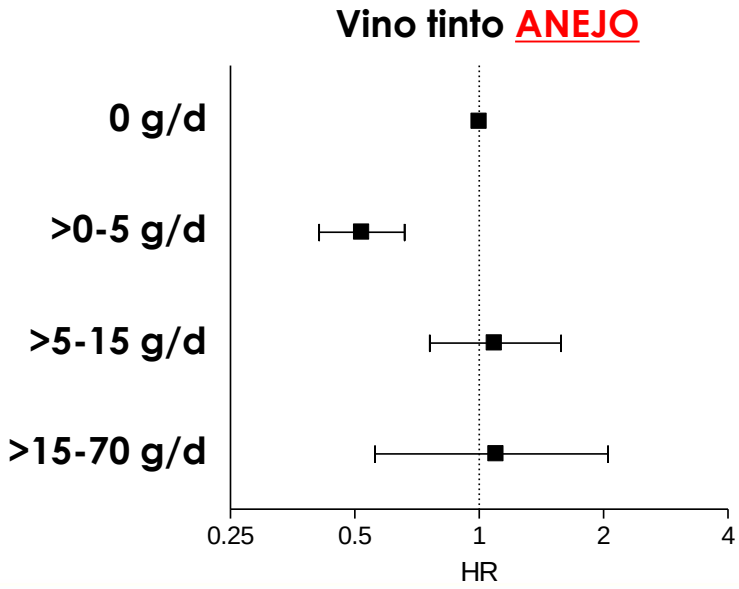
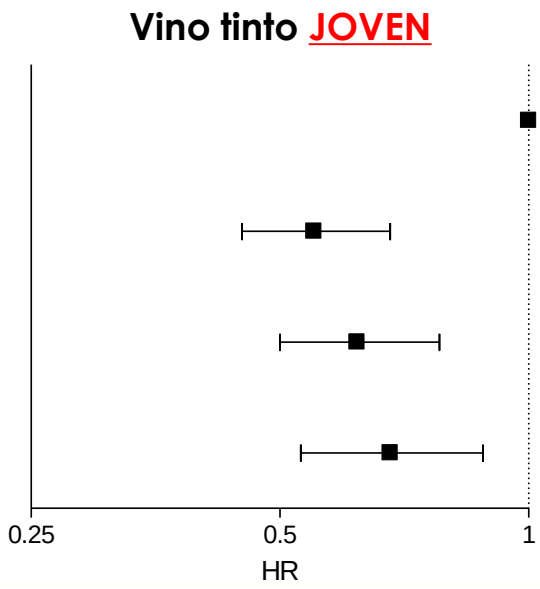






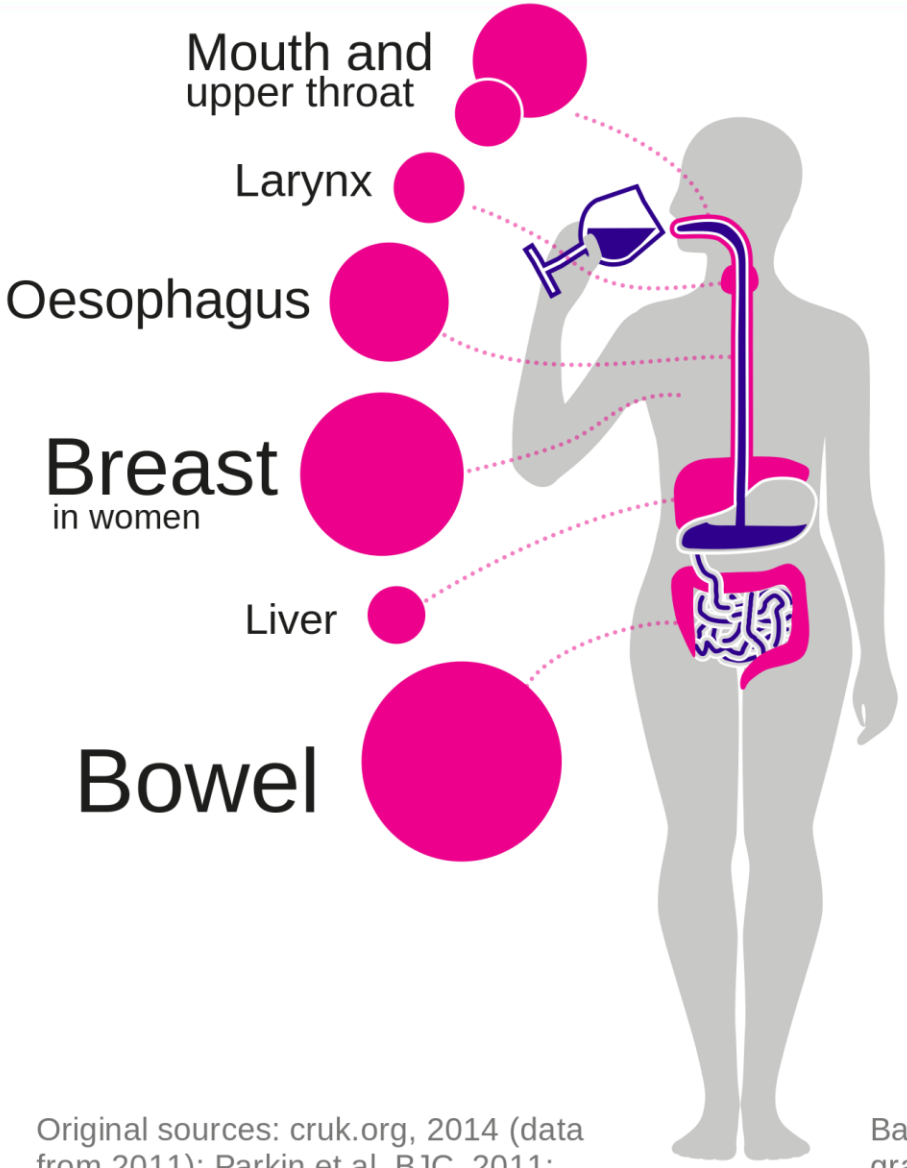




Manuscript under preparation

ALCOHOL Y CÁNCER

ALCOHOL: CAUSA DE 7 TIPOS DE CÁNCER



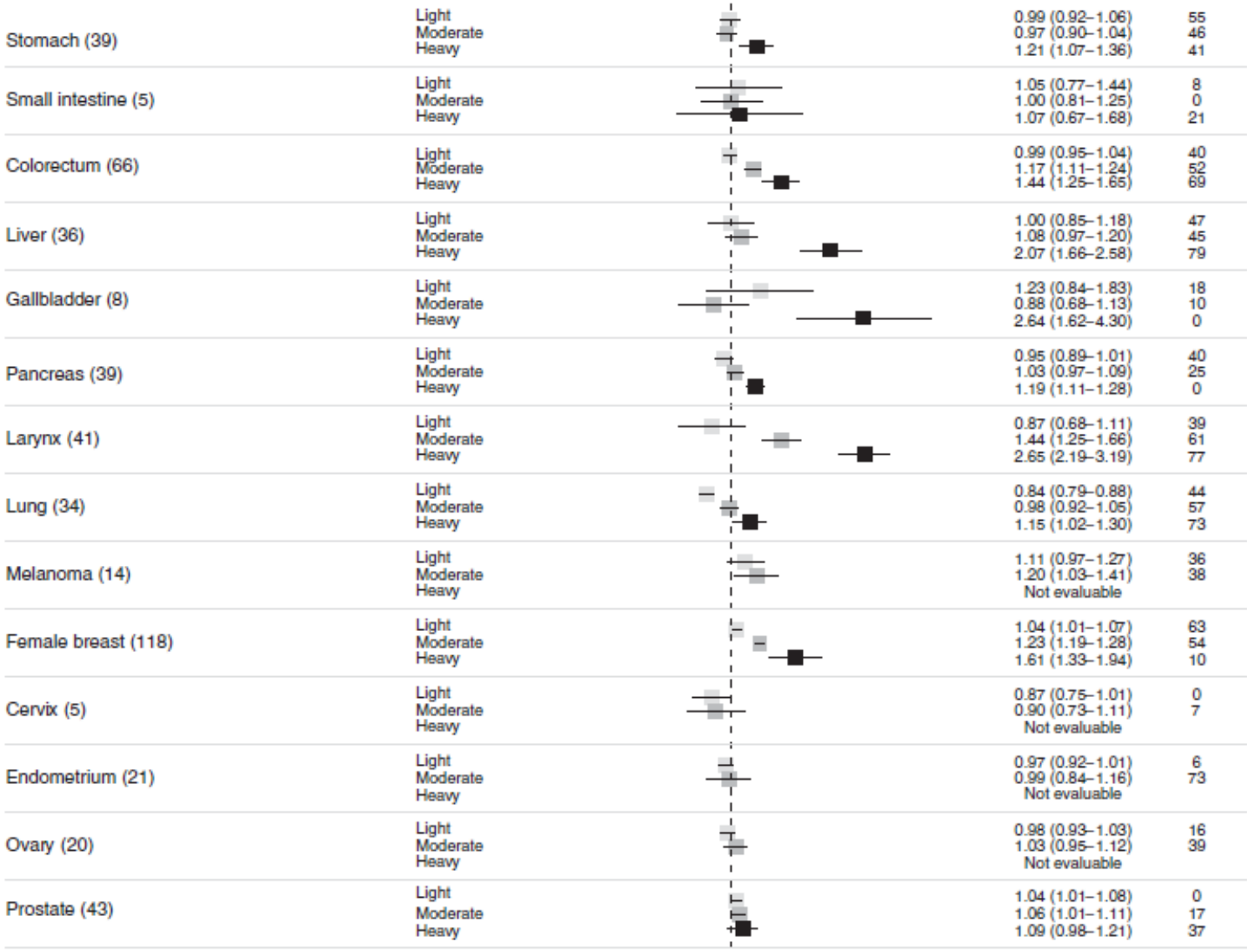
4 WAYS ALCOHOL CAUSES CANCER

- Damages cells
- Increases damage from tobacco
- Affects hormones linked to breast cancer
- Breaks down into cancer-causing chemicals

Original sources: cruk.org, 2014 (data from 2011); Parkin et al, BJC, 2011;

Based on a Cancer Research UK graphic published in 2014

META-ANALYSIS DE ALCOHOL Y CANCER



Stomach (39)	Light	0.99 (0.92–1.06)	55
	Moderate	0.97 (0.90–1.04)	46
	Heavy	1.21 (1.07–1.36)	41
Small intestine (5)	Light	1.05 (0.77–1.44)	8
	Moderate	1.00 (0.81–1.25)	0
	Heavy	1.07 (0.67–1.68)	21
Colorectum (66)	Light	0.99 (0.95–1.04)	40
	Moderate	1.17 (1.11–1.24)	52
	Heavy	1.44 (1.25–1.65)	69
Liver (36)	Light	1.00 (0.85–1.18)	47
	Moderate	1.08 (0.97–1.20)	45
	Heavy	2.07 (1.66–2.58)	79
Gallbladder (8)	Light	1.23 (0.84–1.83)	18
	Moderate	0.88 (0.68–1.13)	10
	Heavy	2.64 (1.62–4.30)	0
Pancreas (39)	Light	0.95 (0.89–1.01)	40
	Moderate	1.03 (0.97–1.09)	25
	Heavy	1.19 (1.11–1.28)	0
Larynx (41)	Light	0.87 (0.68–1.11)	39
	Moderate	1.44 (1.25–1.66)	61
	Heavy	2.65 (2.19–3.19)	77
Lung (34)	Light	0.84 (0.79–0.88)	44
	Moderate	0.98 (0.92–1.05)	57
	Heavy	1.15 (1.02–1.30)	73
Melanoma (14)	Light	1.11 (0.97–1.27)	36
	Moderate	1.20 (1.03–1.41)	38
	Heavy	Not evaluable	
Female breast (118)	Light	1.04 (1.01–1.07)	63
	Moderate	1.23 (1.19–1.28)	54
	Heavy	1.61 (1.33–1.94)	10
Cervix (5)	Light	0.87 (0.75–1.01)	0
	Moderate	0.90 (0.73–1.11)	7
	Heavy	Not evaluable	
Endometrium (21)	Light	0.97 (0.92–1.01)	6
	Moderate	0.99 (0.84–1.16)	73
	Heavy	Not evaluable	
Ovary (20)	Light	0.98 (0.93–1.03)	16
	Moderate	1.03 (0.95–1.12)	39
	Heavy	Not evaluable	
Prostate (43)	Light	1.04 (1.01–1.08)	0
	Moderate	1.06 (1.01–1.11)	17
	Heavy	1.09 (0.98–1.21)	37

Br J Cancer. 2015 Feb 3;112(3):580-93.

CONSUMO MEDIO SEMANAL DE VINO/ALCOHOL

CONSUMO
Diario vs. Semanal

Cancer Causes Control (2016) 27:1049–1058
DOI 10.1007/s10552-016-0778-6

ORIGINAL PAPER

Alcohol intake, drinking patterns, and prostate cancer risk and mortality: a 30-year prospective cohort study of Finnish twins

Barbra A. Dickerman[1] · Sarah Coseo Markt[1] · Markku Koskenvuo[2] · Eero Pukkala[3,4] · Lorelei A. Mucci[1] · Jaakko Kaprio[2,5,6]

Table 2 Average weekly alcohol consumption category (average of 1975 and 1981), binge drinking status (1981), and prostate cancer risk and mortality (HR, 95 % CI), Older Finnish Twin Cohort, 1981–2012

	Person-years	Prostate cancer incidence					Prostate cancer-specific mortality				
		No. events	Age-adjusted		Fully adjusted[a]		No. events	Age-adjusted		Fully adjusted[a]	
			HR	95 % CI	HR	95 % CI		HR	95 % CI	HR	95 % CI
Alcohol consumption category[b]											
Light drinkers	89,453	185	1.00 (ref)		1.00 (ref)		33	1.00 (ref)		1.00 (ref)	
Abstainers[c]	18,993	56	1.21	0.90, 1.62	1.27	0.94, 1.71	17	**1.95**	**1.10, 3.48**	**1.90**	**1.04, 3.47**
Moderate drinkers	135,646	266	**1.26**	**1.05, 1.52**	1.20	0.99, 1.46	45	1.24	0.79, 1.93	1.22	0.76, 1.97
Heavy drinkers	45,250	94	**1.55**	**1.21, 1.99**	**1.46**	**1.12, 1.91**	15	1.47	0.79, 2.73	1.32	0.66, 2.62
Binge drinking status[d]											
No	145,568	326	1.00 (ref)		1.00 (ref)		60	1.00 (ref)		1.00 (ref)	
Yes	122,088	206	**1.35**	**1.12, 1.61**	**1.28**	**1.06, 1.55**	27	1.01	0.63, 1.60	0.87	0.52, 1.45

CURRENT DRINKING AND OUTCOMES BY INCOME REGION

Alcohol consumption and cardiovascular disease, cancer, injury, admission to hospital, and mortality: a prospective cohort study

Andrew Smyth, Koon K Teo, Sumathy Rangarajan, Martin O'Donnell, Xiaohe Zhang, Punam Rana, Darryl P Leong, Gilles Dagenais, Pamela Seron, Annika Rosengren, Aletta E Schutte, Patricio Lopez-Jaramillo, Ayetkin Oguz, Jephat Chifamba, Rafael Diaz, Scott Lear, Alvaro Avezum, Rajesh Kumar, Viswanathan Mohan, Andrzej Szuba, Li Wei, Wang Yang, Bo Jian, Martin McKee, Salim Yusuf, on behalf of the PURE Investigators*

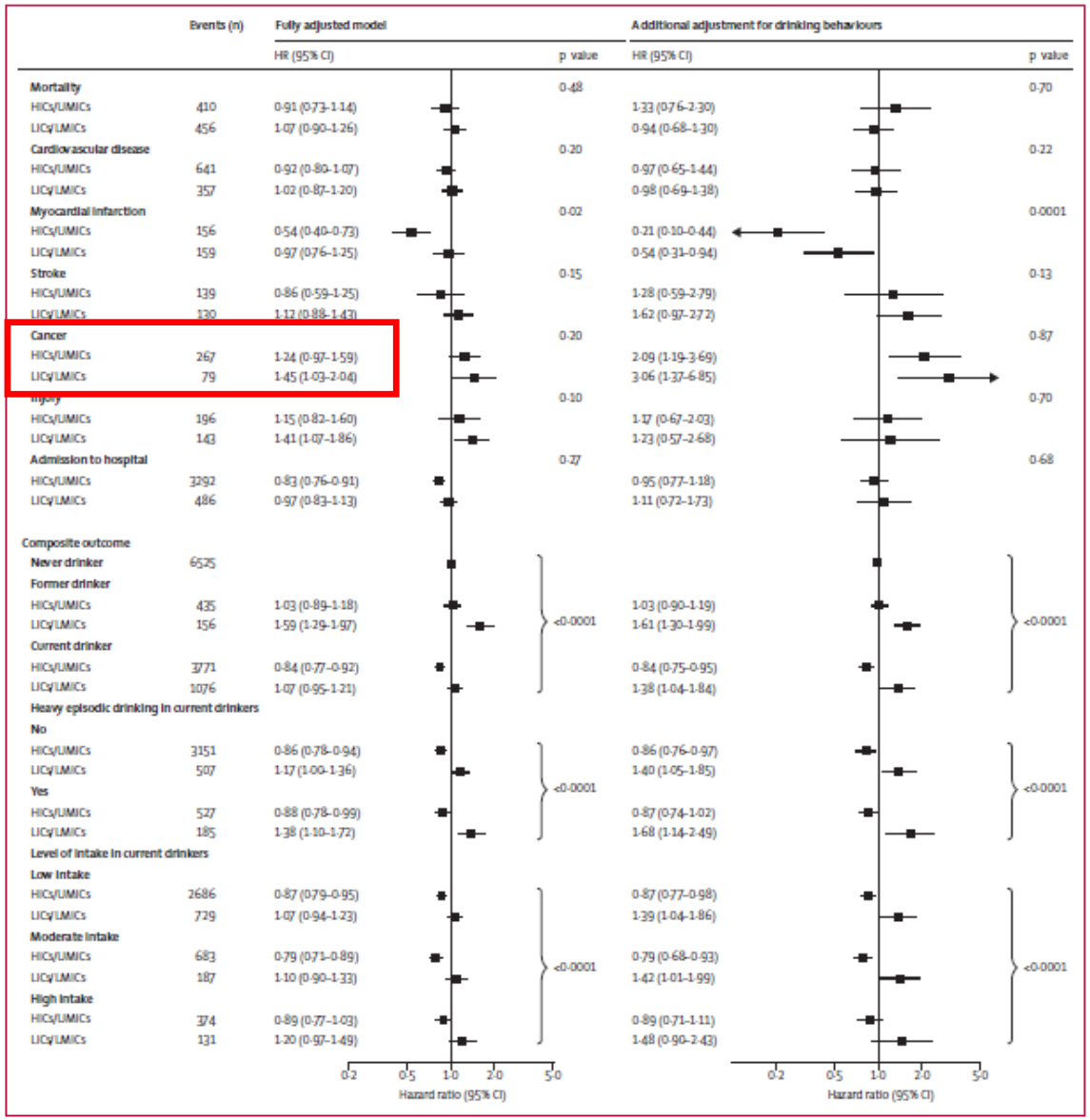


Figure 3: Association between current drinking and outcomes by income region

NIVEL SOCIO-ECONÓMICO

PROBLEMAS COMMÚNMENTE OBSERVADOS EN LAS PUBLICACIONES

MAL REGISTRO (*UNDER-REPORTING*) DEL ALCOHOL puede aumentar el riesgo de ciertos cánceres con un consumo "moderado" de bebidas alcohólicas.

EFECTOS MIXTOS de consumo bajo y moderado con un consumo excesivo o el abuso, que no permite delimitar las diferencias en los efectos sobre la salud.

EFECTOS DIFERENTES según el **TIPO DE BEBIDA** ALCOHÓLICA consumida. Efectos diferentes si el consumo es preferentemente de vino, cerveza o destilados.

Importancia del **PATRON DE CONSUMO**: consumo moderado regular vs. consumo excesivo ('binge').

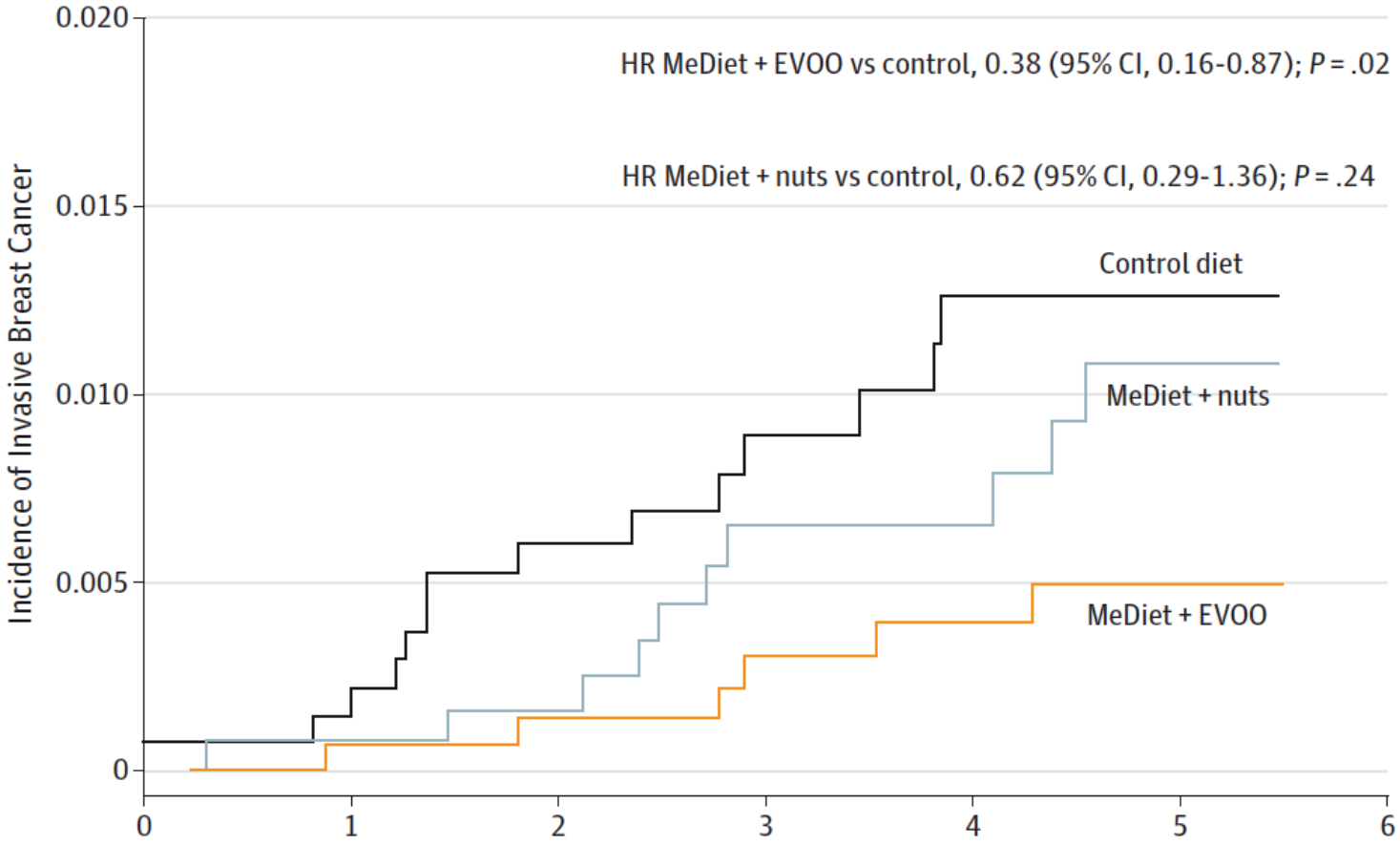
ESTUDIO PREDIMED

EFECTOS DE UNA INTERVENCIÓN CON DIETA MEDITERRÁNEA SOBRE LA INCIDENCIA DE CÁNCER

EFECTOS SOBRE EL CÁNCER DE MAMA

JAMA Intern Med. 2015;175(11):1752-1760.

Figure 1. Incidence of Invasive Breast Cancer, According to the Intervention Group



No. at risk						
MeDiet + EVOO	1476	1463	1369	1184	1013	785
MeDiet + nuts	1285	1271	1117	879	741	532
Control diet	1391	1353	1209	940	759	573

CONSUMO DE VINO Y MORTALIDAD POR CÁNCER

Stratified analysis of mortality. Hazard ratios of mortality (95% confidence intervals) according to the type of death and daily alcohol intake and dietary intervention

		WINE				
Groups according to alcohol intake (g/d)	n, cases	0	>0-5	>5-15	>15-70	*p* for interaction
Cardiovascular death						0.74
Mediterranean Diet	4786, 53	1.00 (ref.)	0.89(0.41-1,92)	0.62(0.25-1.51)	0.36(0.11-1.19)	
Control	2368, 26	1.00 (ref.)	0.69(0.18-2.54)	1(0.26-3.79)	0.57(0.10-3.39)	
Cancer death						0.03
Mediterranean Diet	4786, 93	1.00 (ref.)	0.60(0.32-1.11)	0.52(0.25-1.06)	0.54(0.32-0.99)	
Control	2368, 34	1.00 (ref.)	2.13(0.75-6.45)	2.09(0.62-6.99)	1.90(0.45-7.98)	
Death from other causes						<0.01
Mediterranean Diet	4786, 68	1.00 (ref.)	0.44(0.22-0.89)	0.73(0.35-1.46)	0.44(0.15-1.28)	
Control	2368, 65	1.00 (ref.)	1.85(0.64-5.30)	0,89(0.24-3.28)	1.40(0.35-5.65)	

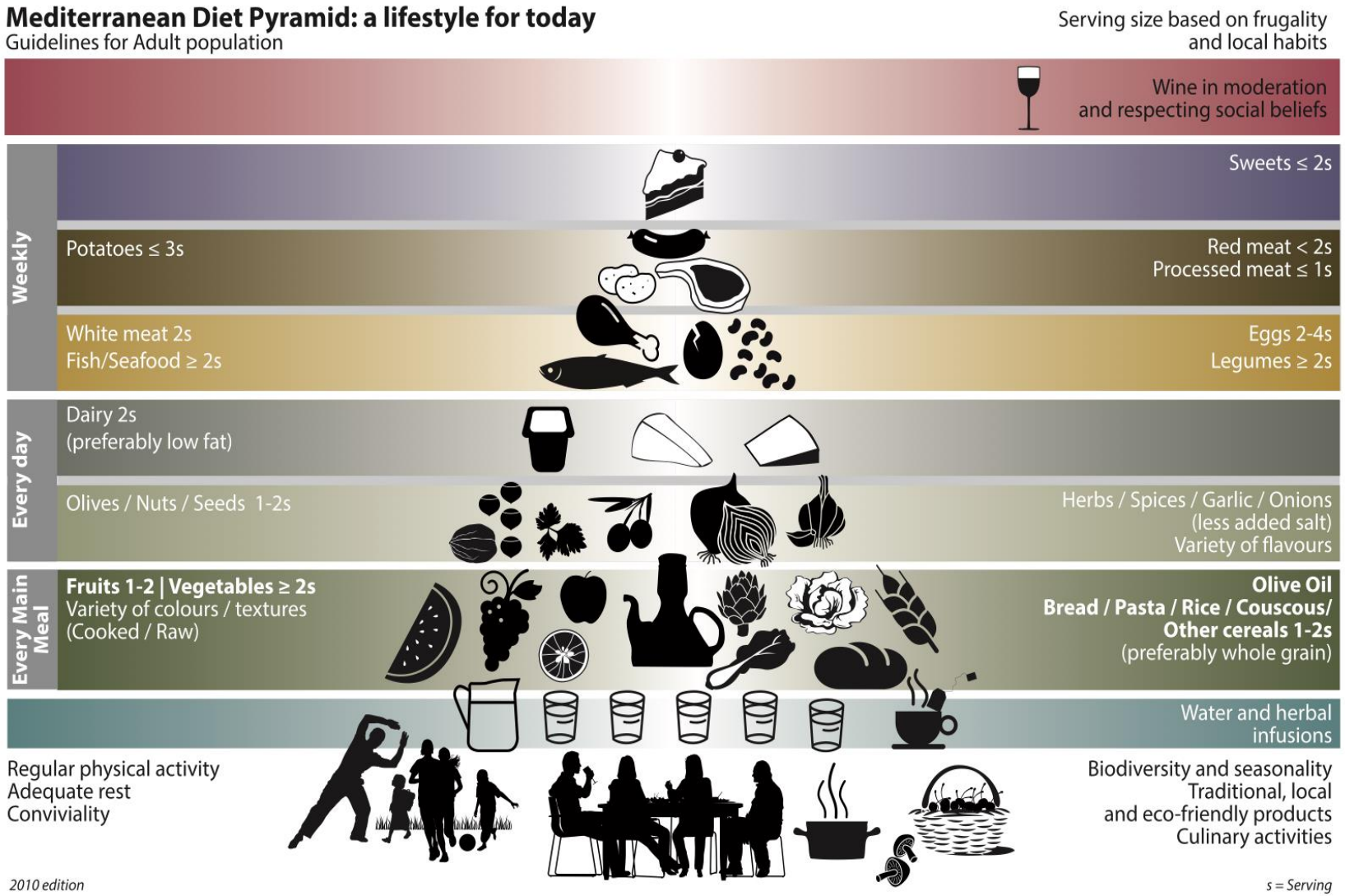
NEGATIVE EFFECTS

- Alcohol Dependence Syndrome
- Liver Cirrhosis
- Dilated Cardiomyopathy
- Encephalopathies
- Polineuropathy, Myopathy
- Fetal Alcohol Syndrome
- Accidents and Violence

POSITIVE EFFECTS

- Overall Mortality
- Cardiovascular Disease
- Cancer
- Alzheimer Disease
- Gall and Kidney Stones
- Non-insulin dependent Diabetes
- Rheumatoid Arthritis

MEJOR OPCIÓN



MOLTES GRACIES!