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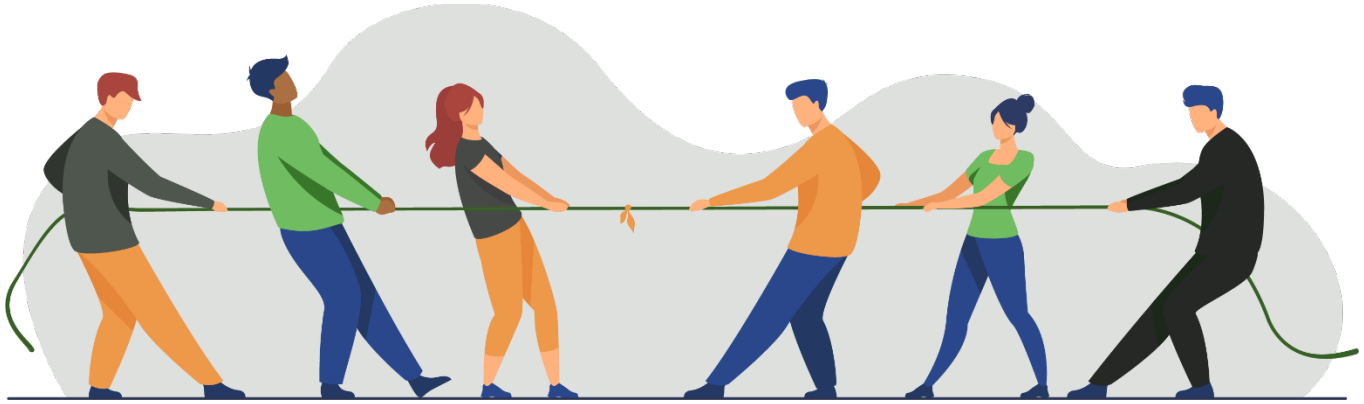
societat catalana de medicina familiar i comunitària

QUIN ÉS L'IMPACTE DELS FACTORS DE RISC MODIFICABLES EN LA MALALTIA CARDIOVASCULAR I MORT ASSOCIADA?

Dra. Laura Oromí
Metgessa de Família. CAP Comte Borrell
Grup de Treball Lípids de la CAMFIC

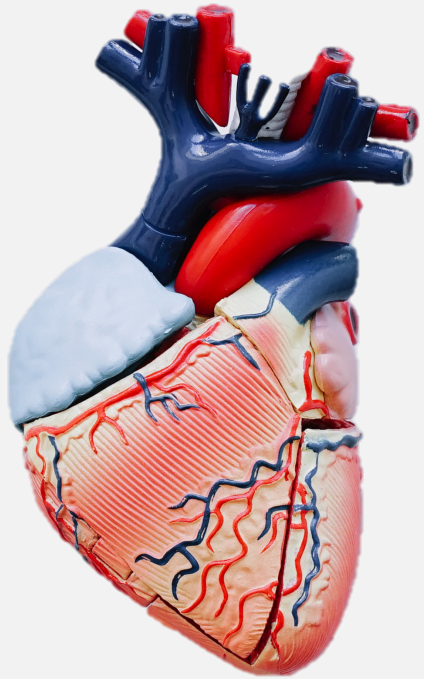
SENSE CONFLICTES D'INTERÈS



INDEX

MALALTIA CARDIOVASCULAR

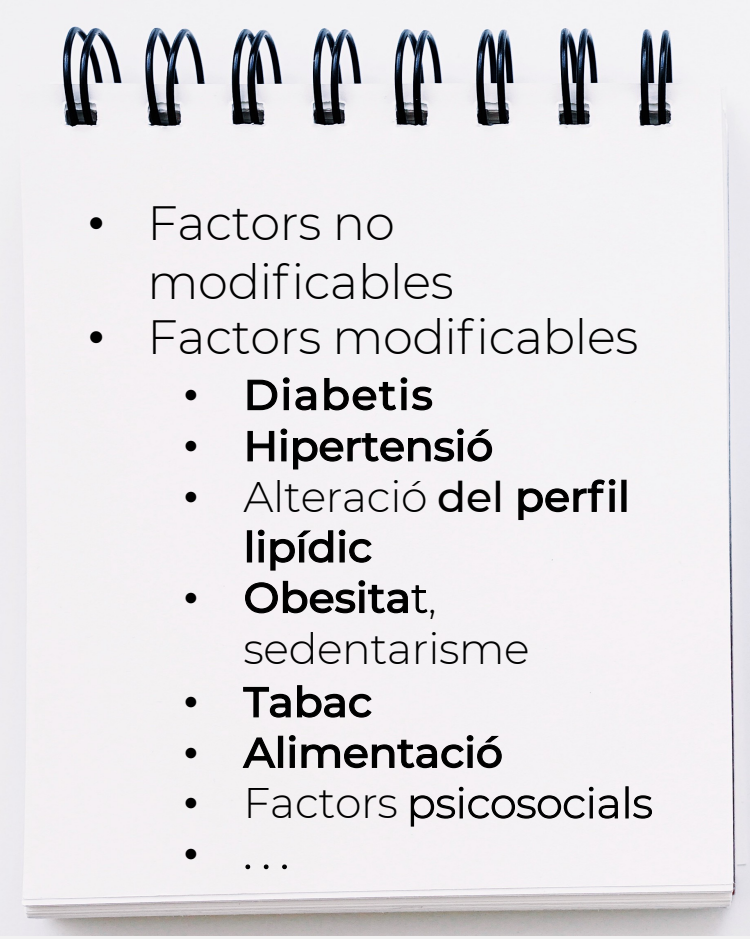
- Malaltia més **prevalent**
- Representa **1/3 de totes les morts** a nivell mundial
- **Cardiopatia isquèmica** és la principal causa de morbimortalitat a nivell mundial
- Quins factors intervenen en el seu **origen i desenvolupament?**



- Infarto de miocardio
- Cardiopatía isquémica
- Insuficiencia cardiaca
- Muerte súbita
- Cardiopatías familiares y genética
- Valvulopatías
- Arritmias
- Fibrilación auricular
- Cardiopatías congénitas
- Síndrome de Tako-Tsubo
- Tromboembolismo pulmonar
- Enfermedad de Kawasaki
- Coartación de aorta
- Foramen oval permeable
- Síndrome de Brugada
- Síndrome de Marfan
- Ductus arterioso
- Transposición de grandes vasos

N Engl J Med . 2023 October 05; 389(14): 1273–1285.

FACTORS DE RISC CARDIOVASCULAR



- Factors no modificables
- Factors modificables
  - **Diabetis**
  - **Hipertensió**
  - Alteració **del perfil lipídic**
  - **Obesitat**, sedentarisme
  - **Tabac**
  - **Alimentació**
  - Factors **psicosocials**
  - . . .

Epidemiological Approaches to Heart Disease: The Framingham Study*

THOMAS R. DAWBER, M.D., GILCIN F. MEADORS, M.D., M.P.H., AND FELIX E. MOORE, JR.

National Heart Institute, National Institutes of Health, Public Health Service, Federal Security Agency, Washington, D. C.

1948 – ACTUALITAT
ESTUDI DE COHORTS
3ª GENERACIÓ DE PARTICIPANTS

ESTUDI MÉS IMPORTANT ORIGEN
DEL QUE SABEM AVUI EN DIA

FACTORS DE RISC CARDIOVASCULAR

Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study

*Salim Yusuf, Steven Hawken, Stephanie Ôunpuu, Tony Dans, Alvaro Avezum, Fernando Lanas, Matthew McQueen, Andrzej Budaj, Prem Pais, John Varigos, Liu Lisheng, on behalf of the INTERHEART Study Investigators**

Risk factor	Sex	Control (%)	Case (%)	Odds ratio (99% CI)	PAR (99% CI)
Current smoking	F	9·3	20·1	2·86 (2·36–3·48)	15·8% (12·9–19·3)
	M	33·0	53·1	3·05 (2·78–3·33)	44·0% (40·9–47·2)
Diabetes	F	7·9	25·5	4·26 (3·51–5·18)	19·1% (16·8–21·7)
	M	7·4	16·2	2·67 (2·36–3·02)	10·1% (8·9–11·4)
Hypertension	F	28·3	53·0	2·95 (2·57–3·39)	35·8% (32·1–39·6)
	M	19·7	34·6	2·32 (2·12–2·53)	19·5% (17·7–21·5)
Abdominal obesity	F	33·3	45·6	2·26 (1·90–2·68)	35·9% (28·9–43·6)
	M	33·3	46·5	2·24 (2·03–2·47)	32·1% (28·0–36·5)
Psychosocial index	F	–	–	3·49 (2·41–5·04)	40·0% (28·6–52·6)
	M	–	–	2·58 (2·11–3·14)	25·3% (18·2–34·0)
Fruits/veg	F	50·3	39·4	0·58 (0·48–0·71)	17·8% (12·9–24·1)
	M	39·6	34·7	0·74 (0·66–0·83)	10·3% (6·9–15·2)
Exercise	F	16·5	9·3	0·48 (0·39–0·59)	37·3% (26·1–50·0)
	M	20·3	15·8	0·77 (0·69–0·85)	22·9% (16·9–30·2)
Alcohol	F	11·2	6·3	0·41 (0·32–0·53)	46·9% (34·3–60·0)
	M	29·1	29·6	0·88 (0·81–0·96)	10·5% (6·1–17·5)
ApoB/ApoA1 ratio	F	14·1	27·0	4·42 (3·43–5·70)	52·1% (44·0–60·2)
	M	21·9	35·5	3·76 (3·23–4·38)	53·8% (48·3–59·2)

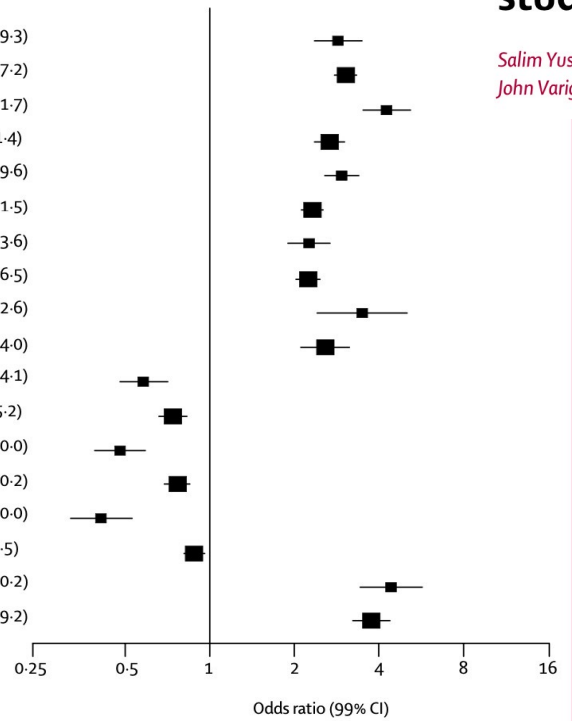


Figure 4: **Association of risk factors with acute myocardial infarction in men and women after adjustment for age, sex, and geographic region**
For this and subsequent figures, the odds ratios are plotted on a doubling scale. Prevalence cannot be calculated for psychosocial factors because it is derived from a model.

p<0·0001 for all risk factors and p=0·03 for alcohol

CASOS I CONTROLS
- 15.152 CASOS AMB IAM
- 14.820 CONTROLS SANS
52 països

Aquests 9 FACTORS van suposar el 90% del risc poblacional atribuïble en els homes i el 94% en les dones.

Yusuf S, et al. Lancet. 2004;364:937-52.

FACTORS DE RISC CARDIOVASCULAR

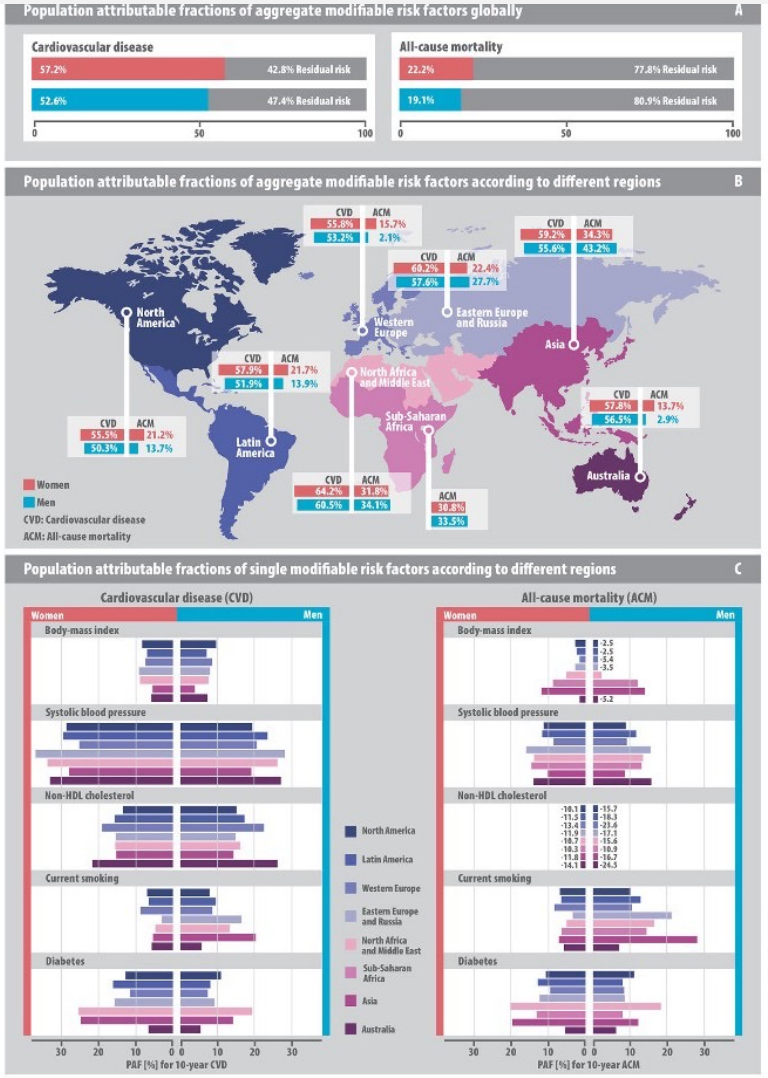


Figure 3.
Population-attributable fractions of risk factors for 10-year cardiovascular disease and all-cause mortality.
Models were computed using a one-year landmark analysis. (A) Aggregate global population-attributable fractions. (B) Population-attributable fractions for aggregate risk factors by geographic region. (C) Population-attributable fractions for single risk factors in direct regional comparison.

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Global Impact of Modifiable Risk Factors on Cardiovascular Disease and Mortality

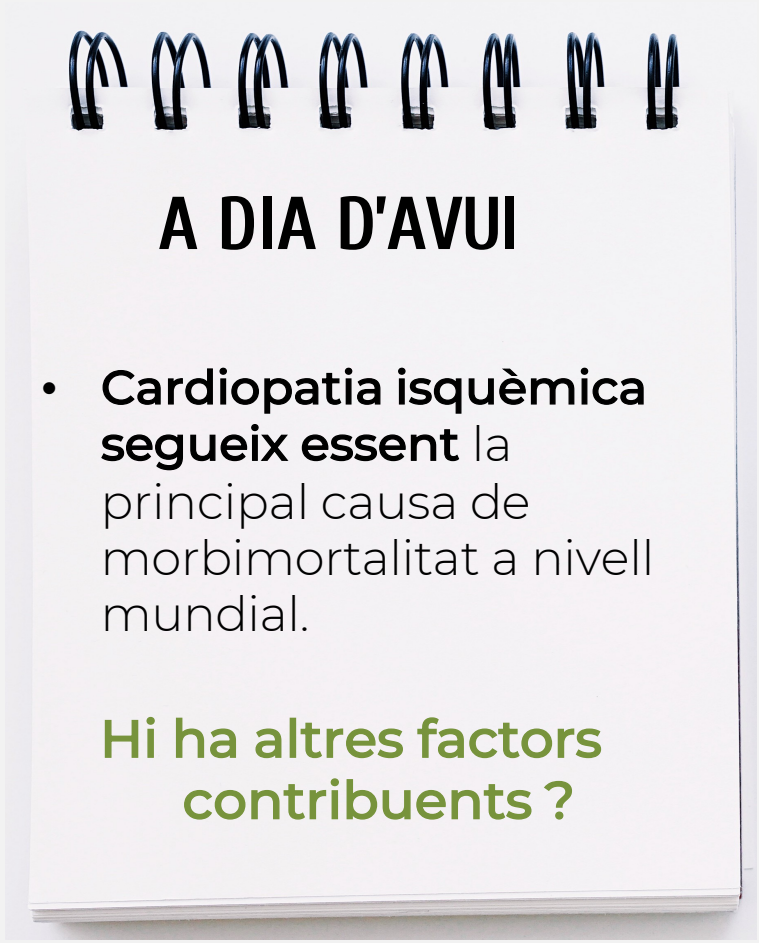
REVISIÓ DE 112 ESTUDIS DE COHORTS
34 països

Estudi de 5 FRCV modificables
IMC, TAS, no-cHDL, DM, Tabac

Incidència MCV
- 57,2% en dones
- 52,6% en homes

Morts
- 22,2% en dones
- 19,1% en homes

MALALTIA CARDIOVASCULAR AVUI



Mortality in STEMI patients without standard modifiable risk factors: a sex-disaggregated analysis of SWEDEHEART registry data

Gemma A Figtree, Stephen T Vernon, Nermin Hadziosmanovic, Johan Sundström, Joakim Alfredsson, Clare Arnott, Vincent Delatour, Margrét Leósdóttir, Emil Hagström

2021

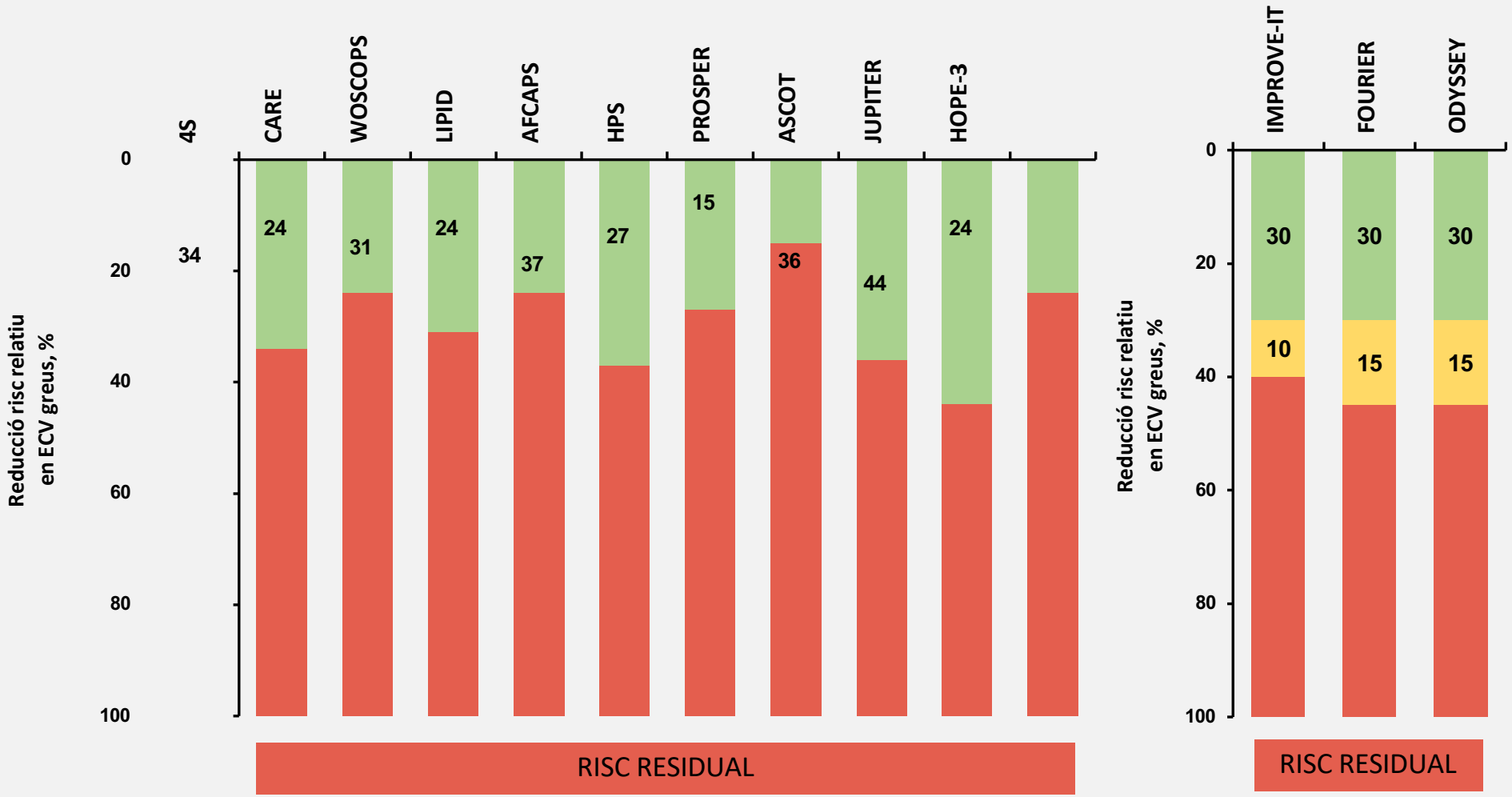
ESTUDI RETROSPECTIU
62.048 pacients amb un primer esdeveniment de IAMEST.

El 15% en absència de FRCV modificables tenien un risc augmentat de mortalitat per totes les causes.

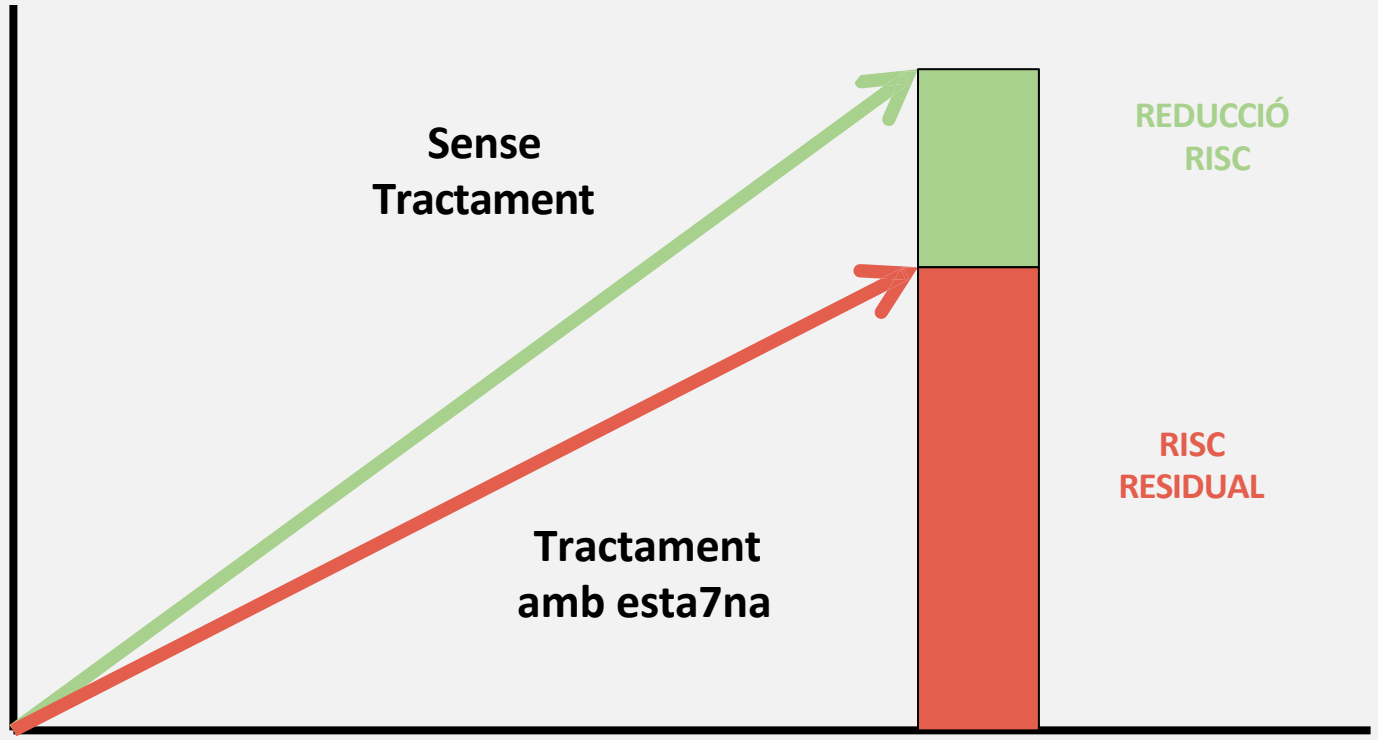
Hi ha altres **etiologies no conegudes** que predisposen a presentar Cardiopatia isquèmica ?

1. Figtree GA et al Mortality in STEMI patients without standard modifiable risk factors: a sex-disaggregated analysis of SWEDEHEART registry data. Lancet. 2021 Mar 20;397(10279):1085-1094.
2. European Heart Journal (2024) 45, 419–438

RISC RESIDUAL

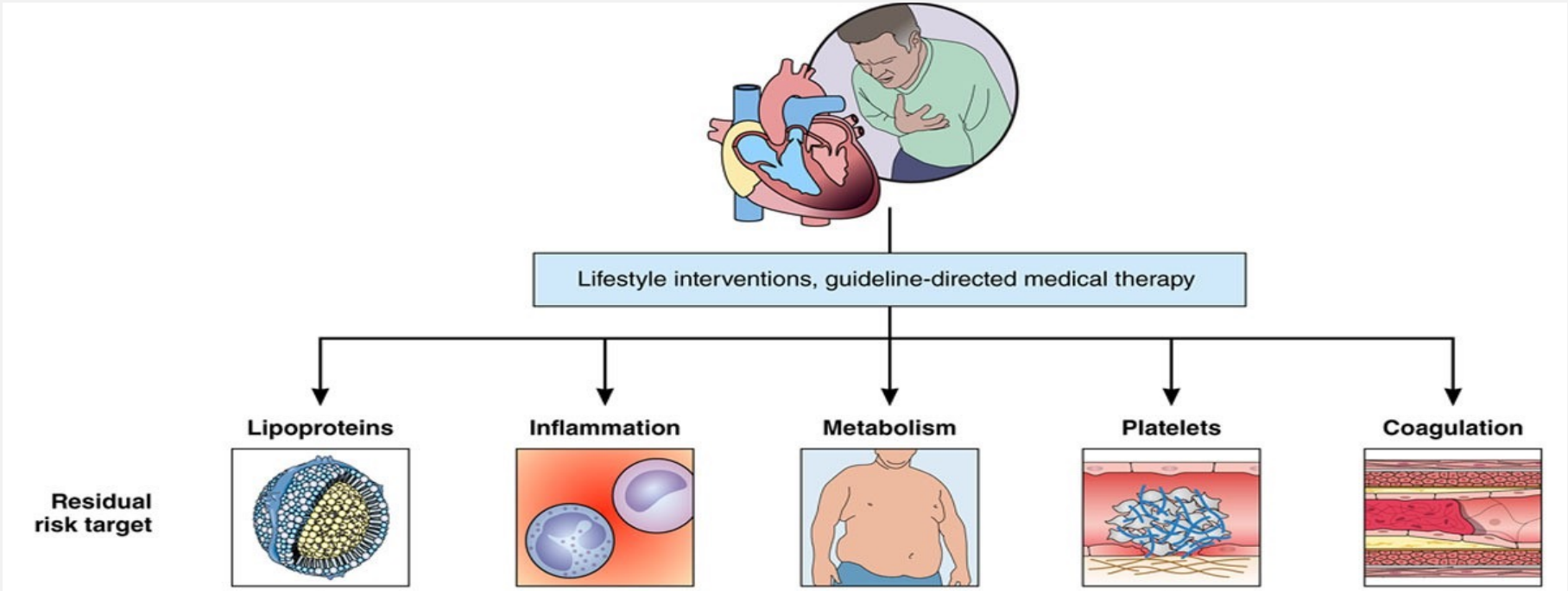


RISC RESIDUAL



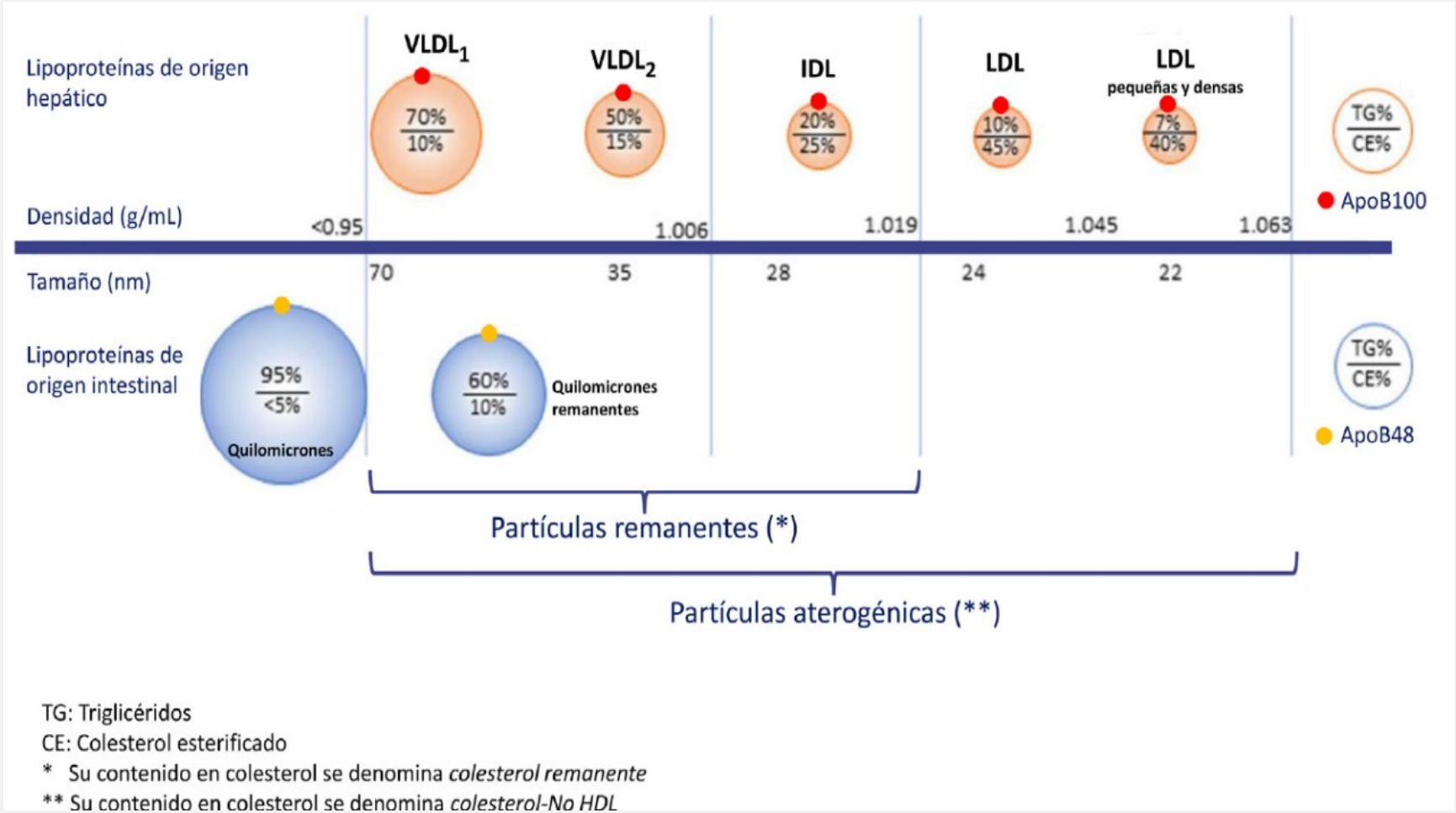
El **RCV residual** és aquell que **persisteix** malgrat els estàndards actuals de tractament i assolir els **objectius de cLDL, PA i HbA1c**

RISC RESIDUAL. LIPOPROTEINES



Patel KV, et al. Circulation. 2018;137:2551-3.

RISC RESIDUAL. LIPOPROTEINES

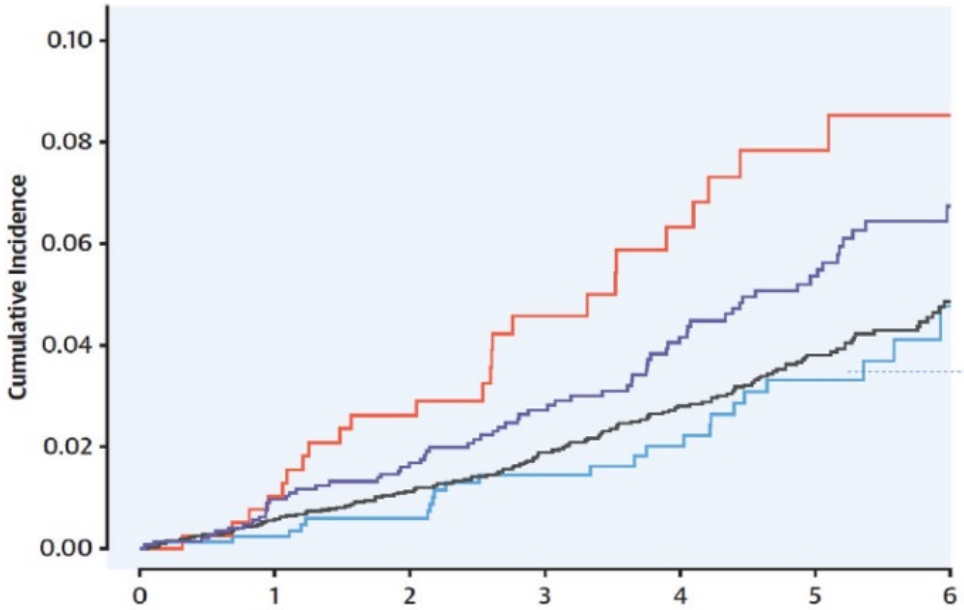


TG: Triglicéridos
CE: Colesterol esterificado
* Su contenido en colesterol se denomina *colesterol remanente*
** Su contenido en colesterol se denomina *colesterol-No HDL*

1. Modificada de :Ginsberg HN et el.. Eur Heart J. 2021;42:4791---806,http://dx.doi.org/10.1093/eurheartj/ehab551.16
2. Pintó X, Fanlo M et al. Clinica e Investigacion en Arteriosclerosis 35 (2023) 206---217.

RISC RESIDUAL. LIPOPROTEINES

INCIDENCIA DE ECV SEGÚN LAS CATEGORÍAS PREDEFINIDAS DE C-LDL Y COLESTEROL REMANENTE
Estudio Predimed

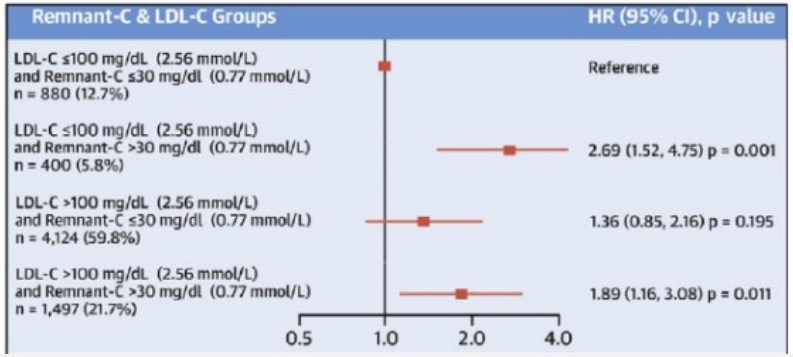


C-LDL ≤ 100 mg/dL y C-Remanente > 30 mg/dL

C-LDL > 100 mg/dL y C-Remanente > 30 mg/dL

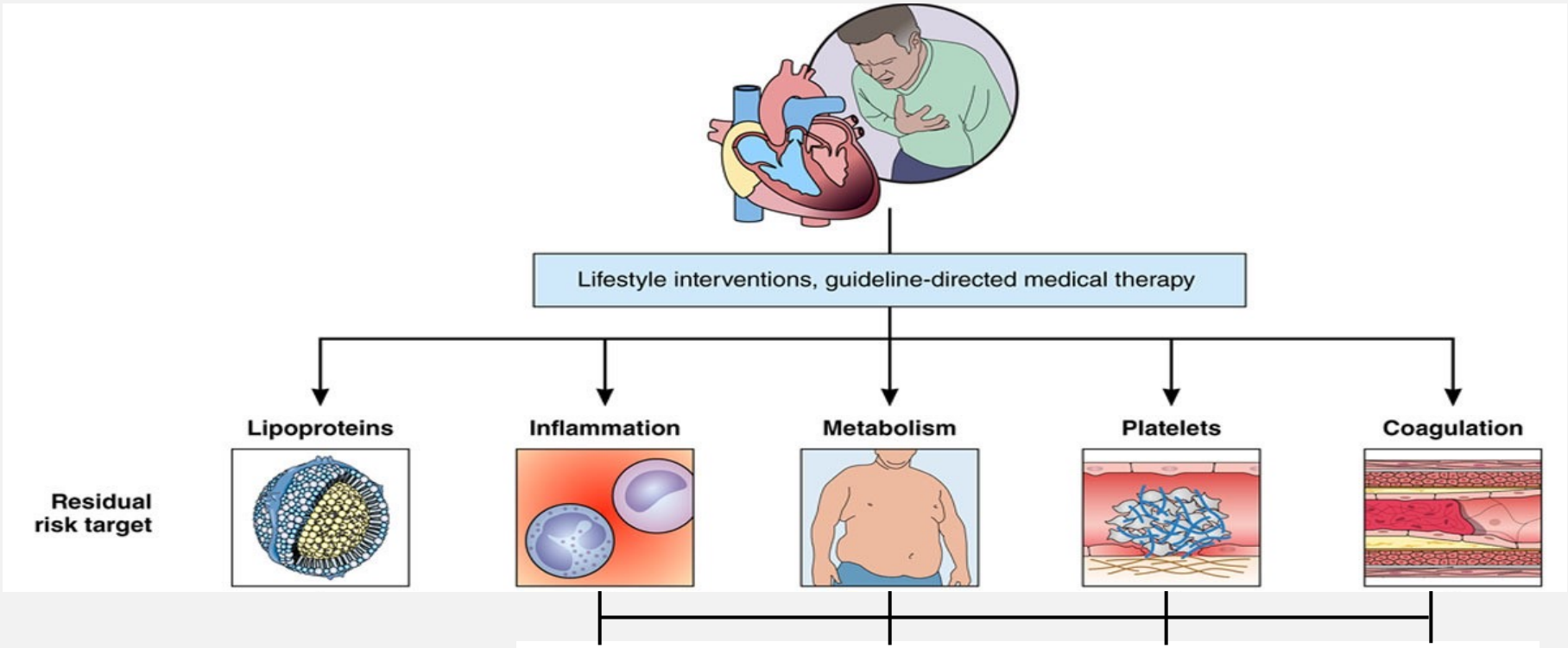
C-LDL > 100 mg/dL y C-Remanente ≤ 30 mg/dL

C-LDL ≤ 100 mg/dL y C-Remanente ≤ 30 mg/dL



1. Quispe R, et al. Eur Heart J.2021;42:4324---32.215
2. Pintó X, Fanlo M et al. Clinica e Investigacion en Arteriosclerosis 35 (2023) 206---217.

RISC RESIDUAL. ALTRES FACTORS DE RISC



Exposome in ischaemic heart disease: beyond traditional risk factors

Rocco A. Montone [1*†], Massimiliano Camilli [1,2†], Camilla Calvieri[3], Giulia Magnani [4], Alice Bonanni [1], Deepak L. Bhatt [5], Sanjay Rajagopalan[6], Filippo Crea[1,2], and Giampaolo Niccoli[4]

[1]Department of Cardiovascular Medicine, Fondazione Policlinico Universitario A. Gemelli IRCCS, L.go A. Gemelli, 1, 00168 Rome, Italy; [2]Department of Cardiovascular and Pulmonary Sciences, Catholic University of the Sacred Heart, Rome, Italy; [3]Sapienza University, Rome, Italy; [4]Department of Medicine, University of Parma, Parma, Italy; [5]Mount Sinai Heart, Icahn School of Medicine at Mount Sinai, New York, NY, USA; and [6]Cardiovascular Research Institute, Case Western Reserve University, Cleveland, OH 44106, USA

Received 8 June 2023; revised 22 December 2023; accepted 3 January 2024; online publish-ahead-of-print 18 January 2024

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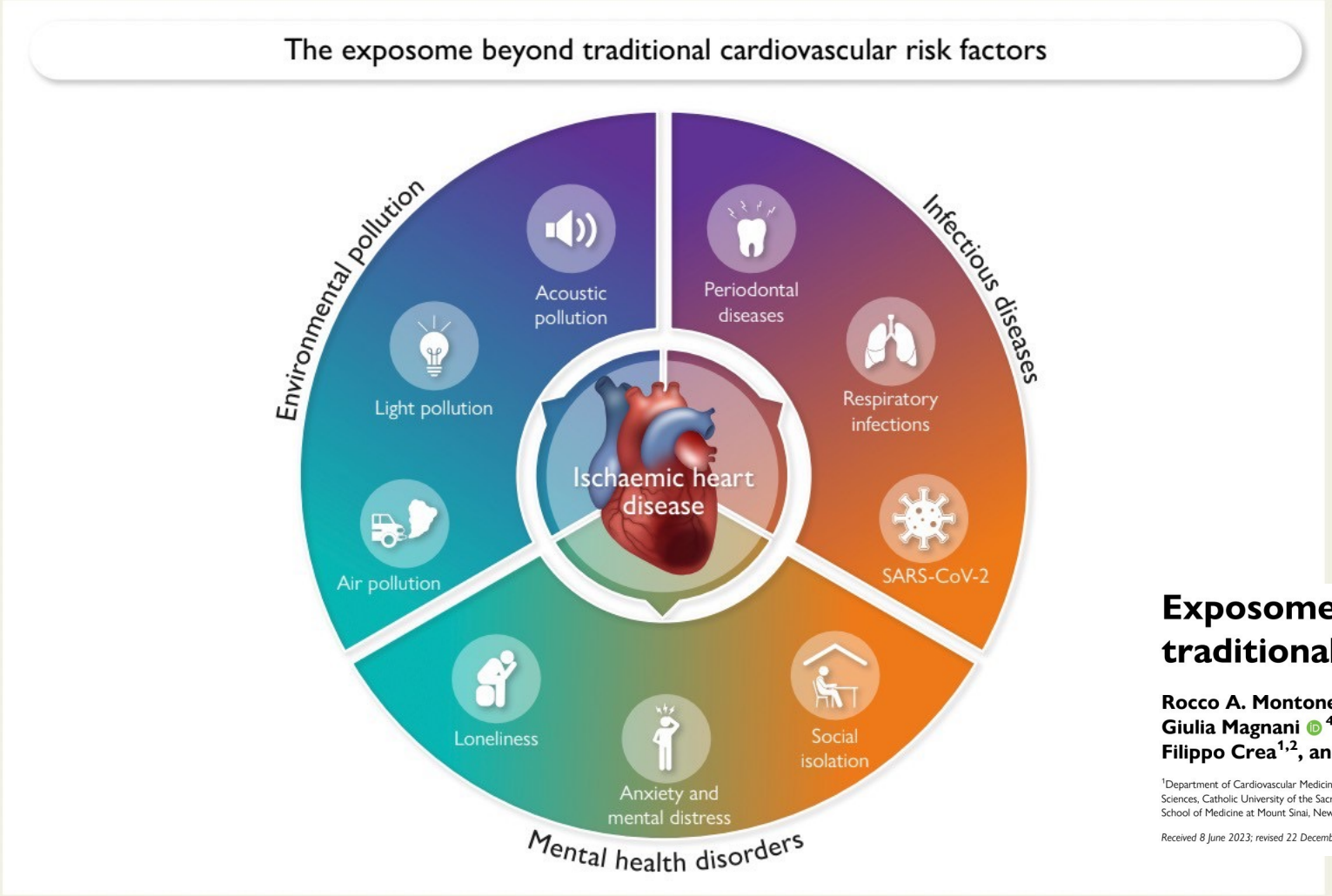
RISC RESIDUAL – ALTRES FACTORS DE RISC



Major non-traditional risk factors for ischaemic heart disease, including environmental pollution, mental health disorders, and infectious diseases, SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

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European Heart Journal (2024) 45, 419–438

RISC RESIDUAL – ALTRES FACTORS DE RISC

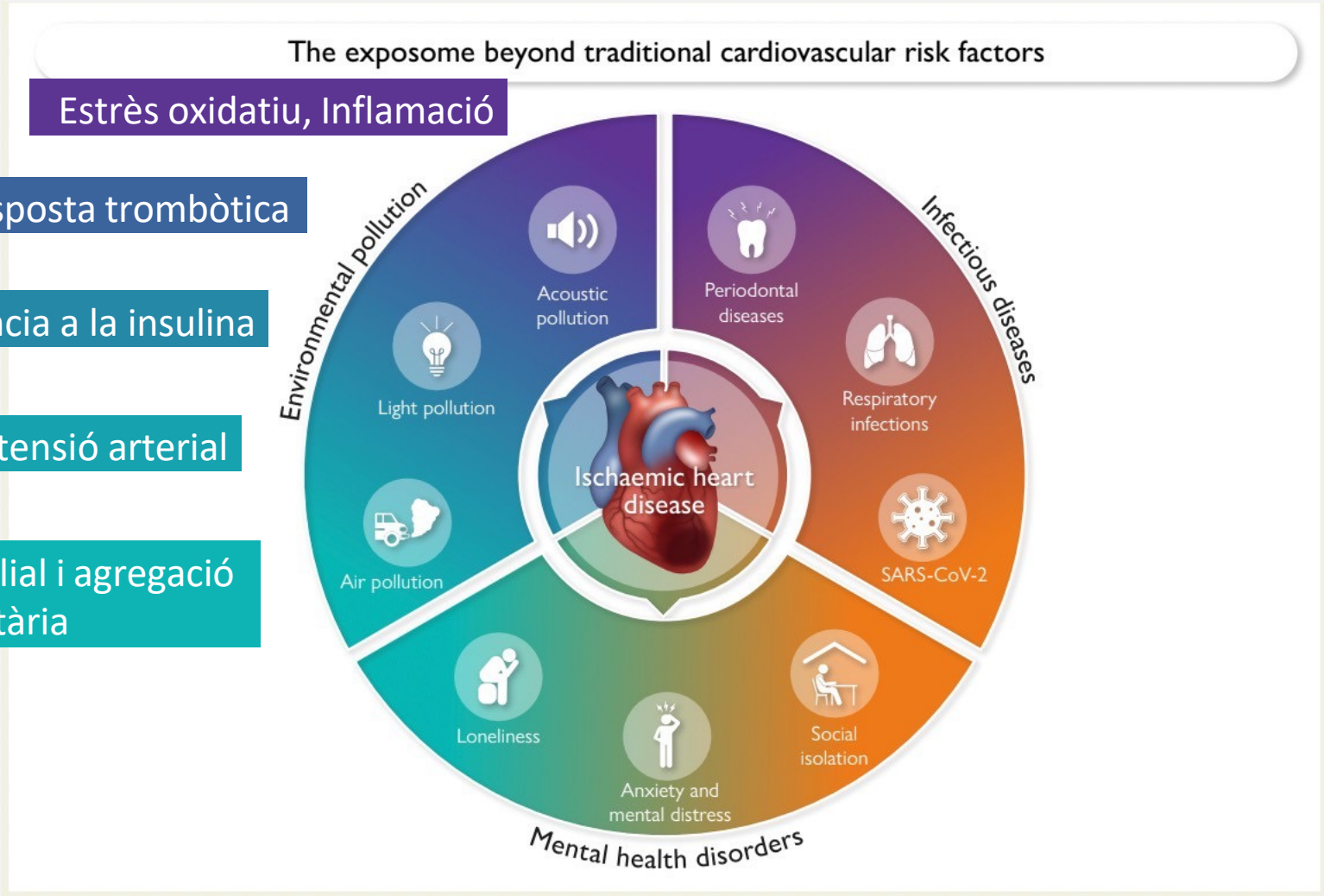
Estrès oxidatiu, Inflamació

Resposta trombòtica

Resistència a la insulina

Augment de la tensió arterial

Disfunció endotelial i agregació plaquetària



Major non-tradi\onal risk factors for ischaemic heart disease, including environmental pollu\on, mental health disorders, and infec\ous diseases, SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

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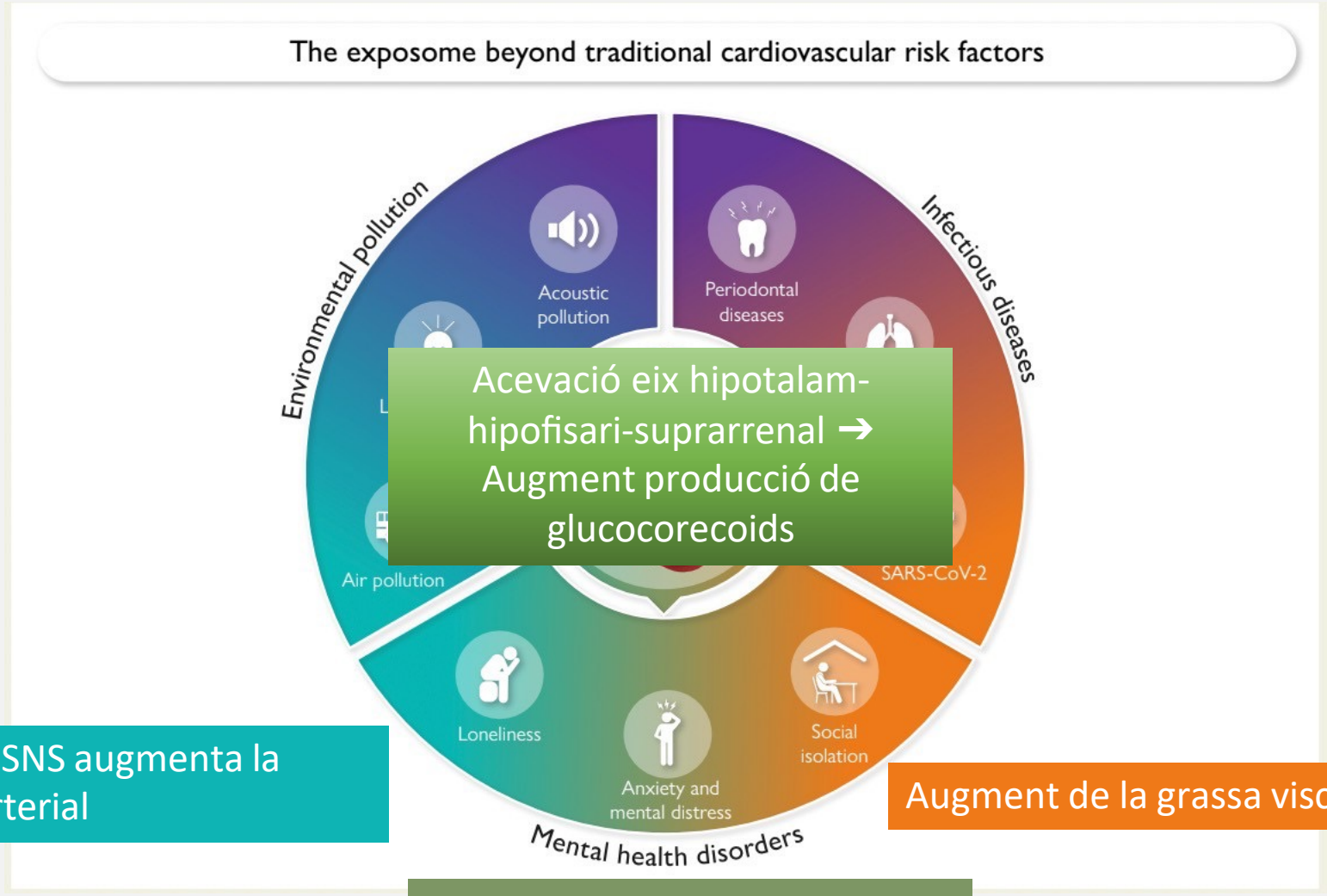
RISC RESIDUAL - ALTRES FACTORS DE RISC



Acevació eix hipotalam-hipofisari-suprarrenal → Augment producció de glucocorecoids

Activació SNS augmenta la pressió arterial

Augment de la grassa visceral

Resistència a la insulina

Major non-traditional risk factors fo on, mental health disorders, and infectious diseases, SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

European Heart Journal (2024) 45, 419–438

RISC RESIDUAL – ALTRES FACTORS DE RISC

Activació :
- factors proinflamatoris i de la coagulació
-rTLR
- LPS

Estrès oxidatiu

Augment de la permeabilitat intesenal i endotoxèmia de baix grau

Trombosi i ruptura de la placa

Major non-traditional risk factors for ischaemic heart disease, including environmental pollution, mental health disorders, and infectious diseases, SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

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RISC RESIDUAL – ALTRES FACTORS DE RISC

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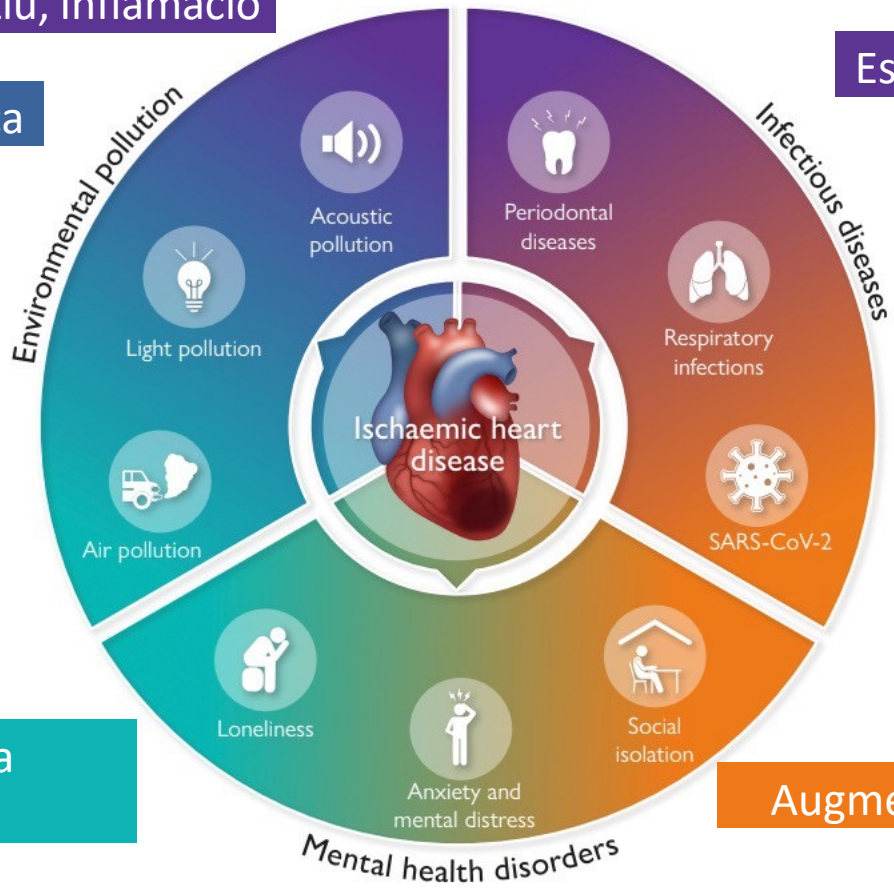

Estrès oxidatiu

Augment de la permeabilitat intestinal i endotoxèmia de baix grau

Trombosi i ruptura de la placa

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IMPACTE DELS FRCV TRADICIONALS I NO TRADICIONALS

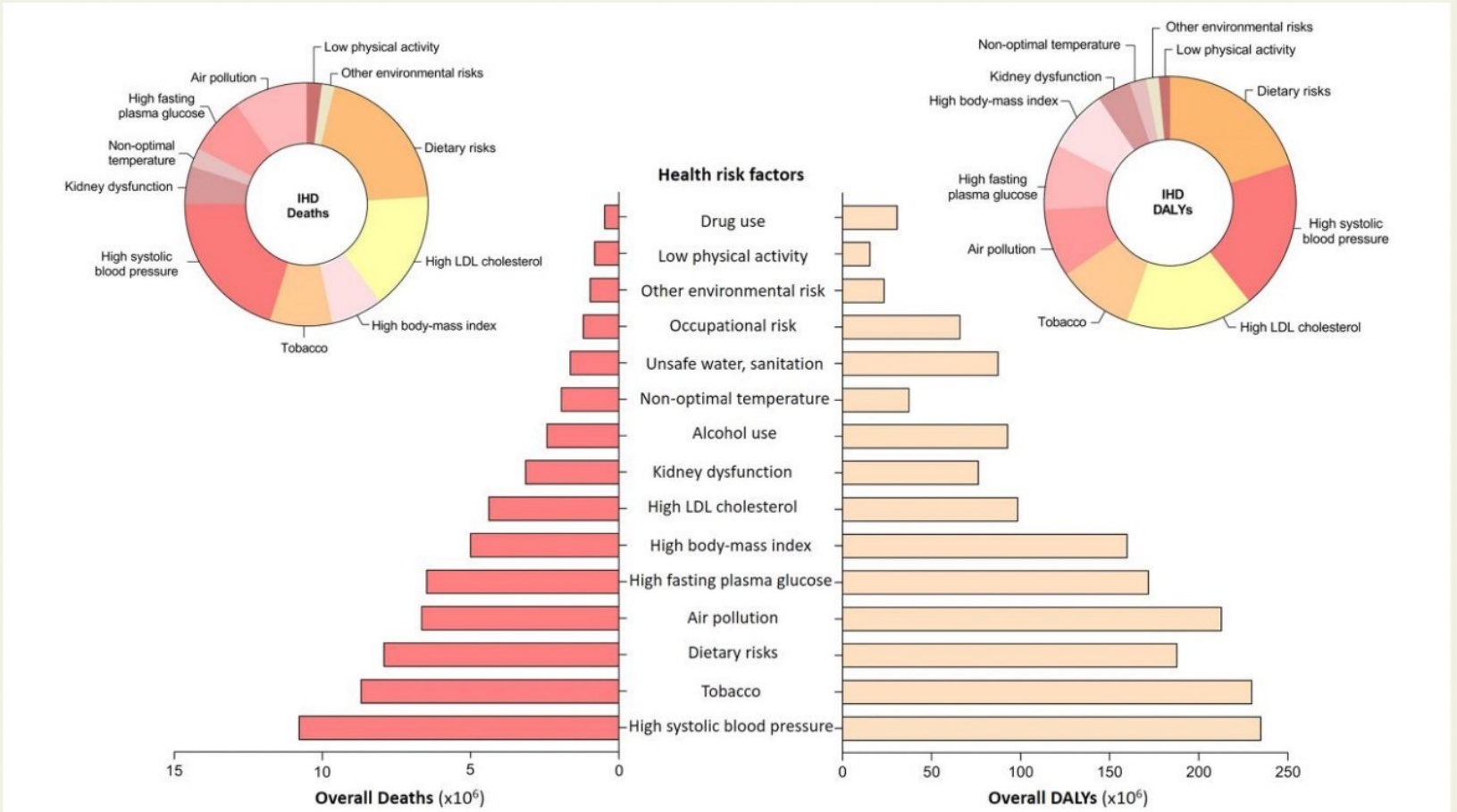

Figure 1 Impact of traditional and non-traditional risk factors on overall death, and death from ischaemic heart disease and DALYs. Data from the GBD 2019 reports[33]

Morts totals i anys de vida ajustats per discapacitat

CONCLUSIONS

1. La malaltia cardiovascular és **molt prevalent**.
2. La **cardiopatia isquèmica** continua essent la **primera causa de morbimortalitat en l'actualitat.**
3. Els **factors de risc** avaluats es mantenen **constants** en els diferents països.
4. El **risc residual** en la malaltia cardiovascular juga un **paper important**.
5. Cal abordar **altres factors** per tal de reduir la incidència de la malaltia cardiovascular.
6. La **contaminació de l'aire** ambiental s'ha convertit en la **principal causa ambiental de malalties i mort prematura arreu del món**, fins i tot en comparació amb altres factors de risc cardiovascular tradicionals.
7. Tot i ser conscients del canvi, **encara queda molt camí** per recórrer per implementar estratègies preventives i de gestió.

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