Gaps in Risk Factor Management in Europe

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Review of high risk patients not meeting the recommended guidelines for the risk factors

- Hypertension
- Dyslipidaemia
- Smoking
- Physical activity
- Obesity
ESC Prevention of Cardiovascular Disease programme Report on unmet prevention needs

Review of published data meeting the inclusion criteria:
- High risk CHD patients from any country in Europe
- Papers published from 2010, reporting % of population with specific risk factor

Overview of sources
- Two core datasets included:
  - EURASPIRE V Hospital Arm Main Results (red)
  - SURF Eur J Prev Cardiol, 23, 1202-10 (orange)
- Data from an additional 26 published papers (green & purple)
- Data from up to 31 countries
Hypertension

- **Recommendations from ESC 2016 prevention guidelines**
  - >140/90 and <140/80 diabetics

- **Hypertension prevalence**
  - Overall: 50%
  - Minimum: 31% Greece
  - Maximum: 89% Russia

- **10 mmHg reduction in SBP or a 5 mmHg reduction in DBP** is associated with a reduction of*
  - 20% major CV events
  - 10 - 15% all-cause mortality
  - 35% stroke
  - 40% heart failure

- **50% treated hypertension patients still below the target**

*Williams et al. 2018 ESC/ESH Hypertension Guidelines*
Dyslipidaemia

- Figure: achieving patients cholesterol LDL level: <1.8 mmol/l or <70 mg/dL for high-risk CVD patients or lipid lowering drugs

- Dyslipidaemia prevalence
  - 67% SURF: despite 87% statin use & 10% other lipid lowering drugs
  - 68% EUROASPIRE V (hospital arm): despite 84% being on lipid lowering drugs.
  - Minimum: 45% Finland
  - Maximum: 90% Lithuania

- Weight reduction of 1Kg leads to an increase of 0.01 mmol/L HDL-C *

- Physical activity (25-30Km week brisk walking or equivalent) increases HDL-C by 0.08-0.15 mmol/L

- Smoking cessation increases HDL-C

Mach et al. 2019 ESC/EAS Dyslipidaemia Guidelines
Smoking

- The risk charts indicate that smoking cessation generally half the cardiac risk
- Smoking increases the risk of DM, CVD and premature death

Smoking prevalence
- Overall: 21%
- Minimum: 10% Sweden, UK, Ukraine
- Maximum: 45% Germany
Obesity

- Recommendations: Maintain normal or reduce weight to normal range
- Increasing body weight causes increases in
  - BP, dyslipidaemia, insulin resistance, Type 2DM, systematic inflammation
  - cardiac events, CVD & all mortality
- BMI >30 kg/m²
  - Overall: 34%
  - Minimum: 16% Serbia
  - Maximum: 51% United Kingdom
- Effect of weight loss
  - 5.1Kg decreases SBP by 4.4 & DBP 3.6*
  - 10Kg decreases LDL by 0.2 mmol/Kg**
  - Moderate weight loss delays conversion of IGT to TYPE 2DM***

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*Hall et al. 2015 *Cir Res*:116,991-1006
**Mach et al. 2019 ESC/EAS Dyslipidaemia Guidelines
***Cosentino et al. 2019 ESC Diabetes..... Guidelines
Not meeting physical activity guidelines

- **Recommendations from ESC 2016 prevention guidelines**
  - >150min moderate physical activity or 75 minutes vigorous activity per week

- **Physical activity**
  - Decreases the incidence of CVD and all cause mortality
  - Positive effect on:
    - BP, LDL, HDL, body weight,
    - delays conversion of IGT to TYPE 2DM, improves glycaemic control and CVD complications*

- **Percentage of high risk CVD population that do not meet current recommendations**
  - Overall: 59%
  - Minimum: 27% France
  - Maximum: 88% Poland

Cosentino et al. 2019 ESC Diabetes..... Guidelines
Overview

- Dyslipidaemia
- Physical Activity
- Hypertension
- Obesity
- Smoking
### Overview

- **Of countries in the top 10 for each of the risk factors countries**
  - Russia in top 10 for 4 risk factors

- **Countries in top 10 for 3 risk factors**
  - Bulgaria
  - Czech Rep.
  - Germany
  - Italy
  - Romania

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<th>Smoking</th>
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<th>Dyslipidaemia</th>
<th>Obesity</th>
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Thank you for your attention

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