Prevalence of known and unknown cardiovascular risk factors in Central Spain

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A large cross sectional study through Primary Health Care professionals

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Background

- **Cardiovascular diseases are the first cause of death in Spain.**

- **In our health system, risk factors for ischemic cardiopathy and cerebrovascular disease are detected and controlled in Primary Care.**
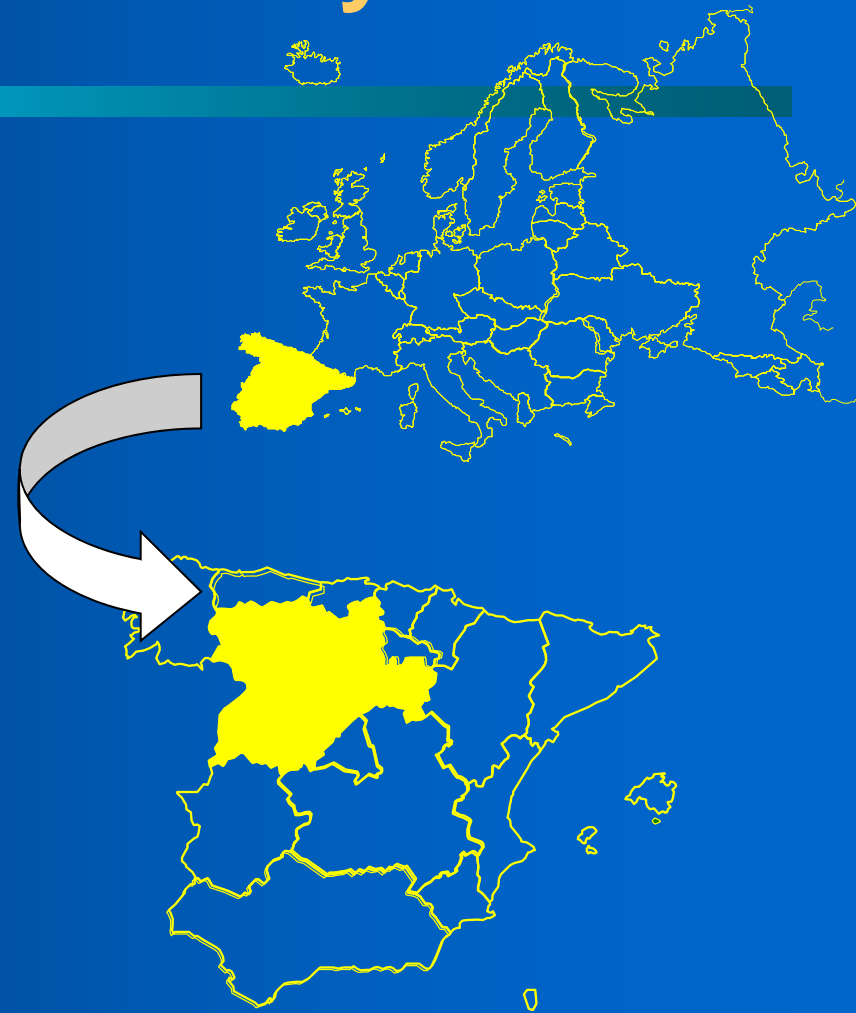
Objective of the study

Estimate the prevalence of main cardiovascular risk factors:

- **Hypertension**
- **Diabetes**
- **Hyperlipemia**
- **Smoking habits**

in the population of Castilla y León (Central Spain).

Method

● **A two stage random sampling in 22 clusters was done in a sample frame of 2,126,894 persons aged 15 and above.**

● **2,301 GP's in the Public Health Service were the primary sample units, and people in the list of each doctor, the secondary sample units.**

Method

- **Each GP in the sample was asked to call 25 persons from the second stage sample.**
- **Each person signed an informed consent.**

Method

Study variables:

- **Anamnesis (familiar and personal medical history).**

- **Medical exploration (weight, height, abdominal perimeter, blood pressure and ECG).**

- **Biochemical analysis (glucose, lipids, hemogram and other complementary tests).**

Results

- **194 out of 198 GP's in the sample (98%) participated in the study.**
- **From an original sample of 4,610 people, 4,012 (87,03 %) completed the study.**

  (0,19% of the population of the study)

Hypertension estimates

- **Hypertension had already been diagnosed in 22.27% of the population.**

- **Among the non-diagnosed people, 21.53% had a systolic or diastolic blood pressure equal or higher than 140 mmHg or 90 mmHg respectively.**

- **We estimated a global prevalence of hypertension of 38.77% (95%CL:36.55%-40.99%).**

Diabetes estimates

- **Diabetes was known in 6.73%.**
- **Fasting plasma glucose was equal or higher than 126 mg/dl in 2.30% of non diabetics.**
- **We estimated a global prevalence of diabetes of 8.83% (95%CL:7.70%-9.96%).**

Hyperlipemia estimates

- **Hyperlipemia was registered in 21.75% of the population.**

- **We found hypercholesterolemia (basal cholesterol equal or higher than 250 mg/dl) among 9.32% of no diagnosed people.**

- **The global prevalence of hyperlipemia was estimated at 28,94 (95%CL: 27.12%-30.75%).**

Smoking habits estimates

- **Prevalence of smoking was estimated at 24.68% (95%CL: 22.75%-26.62%).**

Conclusions

An important percentage of people are unaware of their cardiovascular risk, specially among those who are in stage I or II of hypertension. The 25% of the diabetes and hyperlipemias stay undiagnosed.

We concluded that the diagnosis and medical control of people at risk for cardiovascular diseases should be improved.

Key lessons

Primary Health Care professionals are placed in the best position to study cardiovascular risk factors in general population, reducing the "non-response" and allowing the study of clinical background and other variables related to clinical practice

Further research in this topic

A bank of DNA and blood samples from this research will be used (in a second phase) to study :

- – **Cardiovascular risk markers**
- – **Genetic polymorphism in CV risk factors (cholesterol, diabetes, etc.)**
- – **Gene-environment interaction**