

Cardiovascular Diseases: A State of the Art in Spain and Andalusia

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ABSTRACT

The data of epidemiology of the cardiovascular diseases in Europe published in EHJ shows that it is the first cause of death in men 39% and 47% in women. In Spain, the CVD mortality in 2018 was: 28.3%, of this 28.3%: 53.69% in women and 46.3% in men. Andalusia has a CVD mortality of 32%, being the first in mortality at Spain. If we can see the results from the European Society of Cardiology ESC-EORP EUROASPIRE V Registry, with 8 Spanish hospitals, a large majority of coronary patients have unhealthy lifestyles in terms of smoking, diet, and sedentary behavior. We believe that to improve these data, the prevention and cardiac rehabilitation programs play an important role, as well as the implantation of the Andalusian network of cardiac rehabilitation. At this point, I will review the situation of these programs in Spain and Andalusia.

Keywords: Cardiovascular diseases; Cardiac rehabilitation

INTRODUCTION

Cardiovascular diseases are ranked among the leading causes of death in industrialized countries. Spain has a population near to 47 million people (Figure 1) with a mortality of 28.30%, 53.69% in women and 46.3% in men [1] (Figures 2 and 3). Andalusia, a region with 8.5 million people has first place in the mortality ranking in Spain, with 300.4 × 100.000 inhabitants (32%). In this point we have two important papers published in Cardio Core [2,3] the official magazine of our Andalusian Society of Cardiology, showing the results of a survey about the cardiac mortality in general, although with a downward trend, and in the different provinces, with higher mortality in Seville and Cadiz.

METHODOLOGY ADOPTED

In this paper, we have analyzed the situation of cardiovascular disease in Europe with the following sources: Cardiovascular Disease Statistics 2019 On behalf of the Atlas Writing Group, and the ESC-EORP EUROASPIRE registry [4]. In Spain, we analyzed the mortality from cardiovascular disease with the data provided by the National Statistics Institute for 2018 and also in Andalusia [1].

Also, in Andalusia, from first April to 30th November 2015 were

identified all centers with Cardiac Rehabilitation Units and were sent a survey with 17 questions [5]. Finally, to improve the results in terms of mortality in Andalusia due to cardiovascular disease, we have developed the implementation of a Cardiac Rehabilitation Healthcare Network.

RESULTS

In Spain we have the most important survey is the E-REURECA (Figures 4 and 5) where Andalusia ranks first in the number of

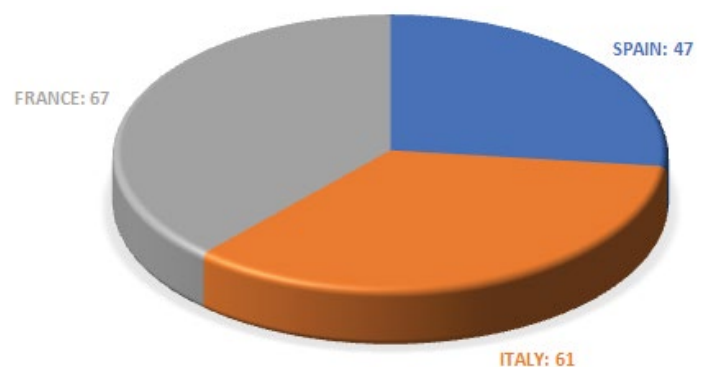


Figure 1: Million inhabitants.

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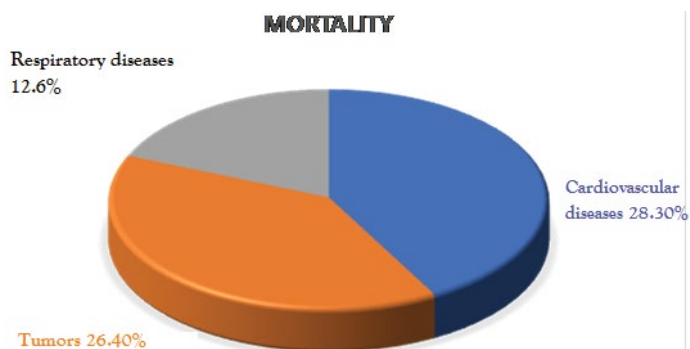


Figure 2: Cardiovascular mortality in Spain 2018.

MORTALITY BY GENDER

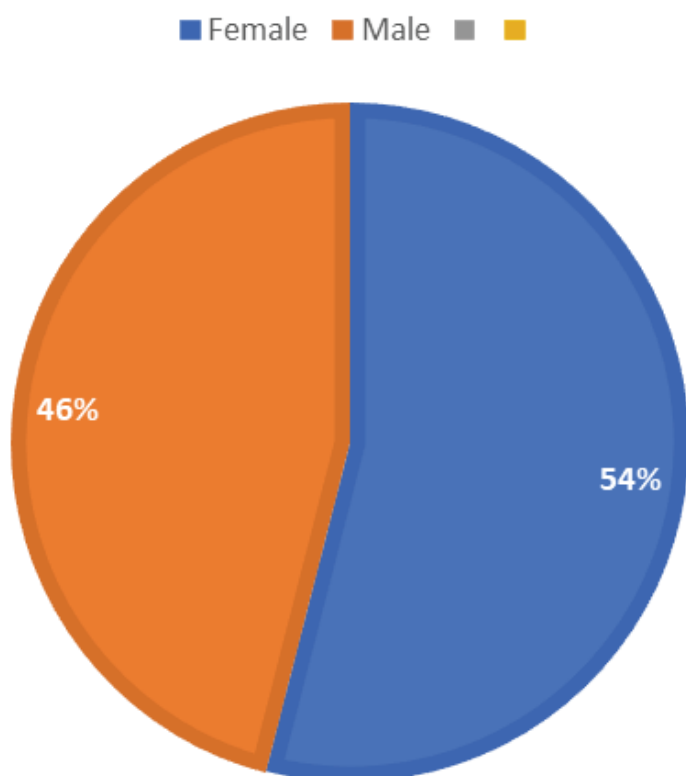


Figure 3: Mortality by gender.

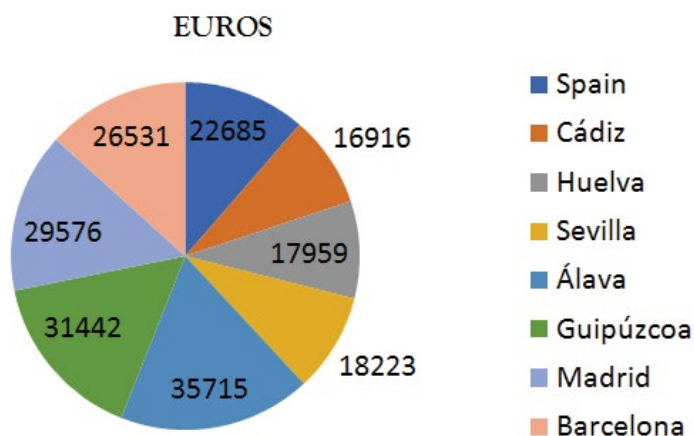


Figure 4: Gross Domestic Product (GDP).

units in Spain. This study was made for the Section of Prevention and Cardiac Rehabilitation of the Spanish Society of Cardiology and these were the data:

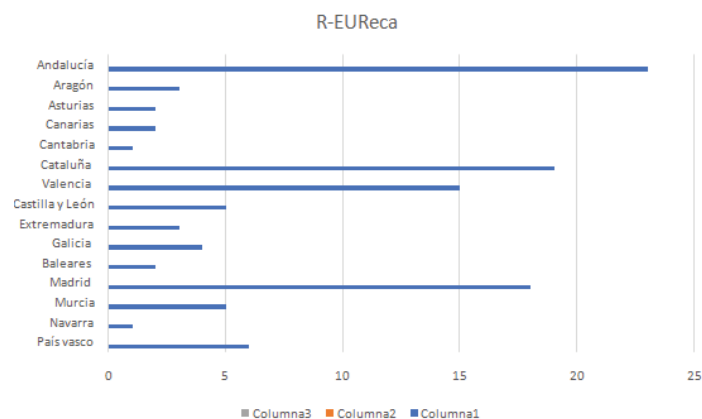


Figure 5: Spanish Registry of Cardiac Rehabilitation Units. R-EUREca.

The Cardiac Rehabilitation in Andalusia

In Andalusía we have 23 centers, 17 in the hospitals and 6 treat patients on an outpatient basis [5].

The Cardiac Prevention and Cardiac Rehabilitation Section of the Andalusian Society of Cardiology carried out the following survey to find out the state of the units, and these are the results:

23 Cardiac Rehabilitation Units in Andalusia:

- 54.5% (13) Third level hospitals
- 31.8% (7) First level hospitals
- 13.6% (3) Private centers

58.2% Coordination with primary assistance:

- 57.1% Phase II
- 42.9% Phase III

In the year 2018 we attended to 2468 patients with these pathologies:

- 88% IHD
- 86% ACS
- 9% Stable
- 5% with by-pass
- 6% with heart failure
- 4% with valvular surgery
- 2% Other pathologies

The low number of patients treated with heart failure is striking.

We think that a way to improve this data can be achieved with the implementation of a network.

DISCUSSION

Andalusia has higher mortality due to cardiovascular diseases, ischaemic heart diseases and cerebrovascular diseases than Spain, and the differences have increased in the years studied. The trend is decreasing for the three causes of death in Andalusia and Spain, with different rates of decreases depending on the cause, sex and residence in Andalusia and Spain [6]. There well-defined and relatively stable patterns in Andalusia, with higher mortality in the western provinces than in the East, with a general trend death due to IHD declining [3].

And what can be the possible reasons that explain these data, for us are high prevalence of CVRF, Spain has a gross domestic product about 30.000 euros, but the lowest gross domestic product is in Cádiz, Huelva and Seville, the 3 westernmost provinces of Andalusia, and there is high unemployment in Cádiz: 30% Unemployed youth \approx 40% (Figures 4 and 5).

We believe that to improve these results, prevention and cardiac rehabilitation programs play an important role. At this point, we will review the situation of these programs in Spain and Andalusia.

It is striking (as in Spain and Europe) that there is higher mortality in women than in men, and we think that the reasons may be:

1. The woman later goes to the centers to be attended by Ischemic heart disease.
2. The coronary system is different from that of men.
3. Lesions are more complex and diffuse.

Implementation of the Andalusian network of cardiac rehabilitation

A network is based on a set of programs and services that cooperate with each other, through actions and actors that seek to favor the alignment of interests for the achievement of a common objective, which benefits not only the institutions, but also their users [7], and for its design you need:

1. Planning:
 - Demography and demand
 - What resources do we have?
 - Where do we want to go?
2. Implementation
3. Evaluation

In our region we are 8.38 million people and in the year 2018, and we had >13 thousand ACS, >13 thousand Heart failure, 3633 Mayor cardiac surgeries, 649 CABG, 475 VAIT and 35 Heart transplants.

In terms of resources, we have already expressed ourselves with 22 units in the region and with the causes attended in 2018. Regarding the strategies, they all go through their implementation with primary assistance, so we have programs of training like prevention programs in primary assistance, which is an online

program with all the primary care centers in the region, and develop communication tools between the various care levels, and finally: the performance of joint action protocols. The benefits of implementing our network will be reflected in the accessibility, equality, patient education and involvement, adherence, quality, continuous assessment, professional skills, training, and research.

CONCLUSION

Spain has a lower mortality (28% with higher proportions in women than in men) than in Europe (39% in men and 47% in women). In Andalusia mortality rates (32% with a higher proportion in women) are higher than in Spain. Also, in Andalusia, there is a significant development of secondary prevention programs and cardiac rehabilitation, mainly in tertiary hospitals, although coverage acute coronary syndromes hospitalized was only 10%. Finally, we think that the implantation of a cardiac rehabilitation healthcare network in Andalusia is necessary to improve mortality rates.

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