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EDITORIAL

Diabetes as a paradigm of the impact of non-communicable diseases[☆]



Diabetes como paradigma del impacto de las enfermedades no transmisibles

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Non-communicable diseases, in particular chronic diseases with high prevalence, pose a challenge for the health systems of the European Union. Diabetes is the paradigm of chronic disease in terms of its scale and consequences¹, which probably makes it the biggest challenge for Spanish health this century.

In this regard, the work of Ruiz-García et al.² highlights the extent of the problem. In terms of its main outcome, diabetes has a gross prevalence of 15.6% in the primary care setting, which falls to 13% when adjusted for age and gender. However, the study that covers adults from 18 to 102 years of age provides more striking data, since 30% of people over 70 have diabetes. This means that in the group of people who are most reliant on our health system, i.e., the over-70s, approximately one in three has diabetes. But we should not be lulled into thinking that this is a one-off study in a specific area. In Spain, as the authors themselves comment, there are previous population studies that show similar prevalence data. To cite one such example, in the study Di@betes.es,³ in which diabetes with oral glucose overload was actively sought, the prevalence in the adult population was approx-

imately 14%. Furthermore, a review of the earliest studies on the prevalence of diabetes to the most recent in Spain reveals an increasing prevalence from 6 to 7% in the first publications to 12–15% today. This is due in part to the inversion of the population pyramid in which the population of the over-65s is constantly increasing, a population in which the prevalence of diabetes is markedly increased, and in part to the increased awareness of healthcare professionals and of the health system in actively looking for the disease.

The authors of the paper comment that a limitation of their work is not having used oral glucose overload as a systematic diagnostic test for diabetes in the study population. This limitation further highlights the extent of the problem since it raises the question, what would have happened to the gross prevalence if overload had been used systematically? The prevalences found would probably have been higher. I already anticipate that in the next few years, when we have sufficient data from systematic screening programmes for the silent disease using electronic records of clinical chemistry tests, where fasting blood glucose and HbA1c serve as screening markers, this prevalence will probably increase by around five points, reaching 20% of the adult population.

If we look more closely at the study, Fig. 1, there are two relevant pieces of data that highlight the close relationship between age and diabetes. The prevalence shoots up from age 40 and finally stabilises at 14% around age 69. This means that in the “working” adult population, the health problem is disturbing. Classically, when we think of diabetes, we

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associate it with people over 55 years of age, a notion that we should change. The other piece of data is that prevalence doubles from 70 years of age to encompass 30% of the population. Given that the population pyramid in Spain is being inverted and the number of people over 70 years of age is growing, this will necessarily lead to a greater increase in the prevalence of people with diabetes in the coming years.

But do these figures have any impact beyond their number? They do indeed, given that diabetes is a chronic disease that has devastating consequences for the health system and for the patient if it is not treated properly, due to the development of chronic complications.¹ Diabetes is currently the main cause of non-traumatic amputations, blindness, end-stage renal disease requiring dialysis and kidney transplantation, and is one of the main causes of cardiovascular disease and cardiovascular mortality. In addition, from the moment it is diagnosed, diabetes requires close monitoring by healthcare professionals, clinical chemistry tests to control and monitor the disease, complementary tests and other health resources. These consequences represent huge personal and healthcare costs, making diabetes the disease with the highest healthcare expenditure in the USA and probably in Europe 1. It is worth noting that the increasingly adequate management of hyperglycaemia and the control of classic cardiovascular risk factors have lowered the incidence of chronic hyperglycaemia-related complications in the last decade.

This good hyperglycaemia management has reduced the incidence and severity of classic chronic complications and mortality, but has raised other problems related to the disease,⁴ which are also highlighted in the study by Ruiz-García et al.² As shown in Tables 2 and 3, there are a significant number of comorbidities associated with the disease: cardiovascular disease, non-alcoholic fatty liver (hepatic steatosis), heart failure, erectile dysfunction and COPD. These are in addition to the classic comorbidities traditionally associated with diabetes: metabolic syndrome, including high blood pressure, dyslipidaemia and abdominal obesity, and obesity. At this point, it is important to add that other studies show significant associations in the non-diabetic population of the same age and gender, with a higher prevalence in people with diabetes of depression, cognitive impairment, falls and hip fractures and some types of cancer.

However, proper management of hyperglycaemia, arterial hypertension and dyslipidaemia is expensive, which forces us to use cost-effective strategies when prescribing medicines. That means we have to answer the following question: of these 15% of people with diabetes, who would benefit from treatment intensification? The hyperglycaemia management guidelines recommend personalising the treatment of hyperglycaemia, aiming for glycated haemoglobin values below 6.5–7% if possible. This means using two or more hypoglycaemic drugs, if possible with proven efficacy in cardiovascular prevention. According to the study by Ruiz-García et al.,² 75% of diabetics have high blood pressure, which means they have to take at least two hypotensive drugs with evidence of renal protection. In addition to the above, as specified by the cardiovascular prevention guidelines, it is important to add that diabetes is a cardiovascular risk equivalent. Most people with diabetes have high or very

high cardiovascular risk, which requires therapeutic targets of LDL-C <50 mg/dl to be set in many patients and the use of at least two lipid-lowering drugs.⁵ In addition, the subgroup of people with diabetes and those in cardiovascular secondary prevention in particular would benefit the most from intensive lipid-lowering treatment. In the study by Ruiz-García et al.,² 95% of people with diabetes are classified as high or very high cardiovascular risk. Therefore, whenever we think about diabetes, we should not only think of hyperglycaemia and the related chronic complications, but of other multiple comorbidities. The prevalence of these comorbidities increases in people over 70 years of age, where the prevalence of diabetes also shoots up, generating a spiral that complicates the management of the disease. This makes diabetes, comorbidities and the elderly with their additional geriatric syndromes and polypharmacy a challenge, resulting in enormously complex pharmacological and non-pharmacological management.

The study by Ruiz-García et al.² clearly shows a snapshot of the problem in the primary health care setting, but which extends to and has an impact on specialised and hospital care due to the above comorbidities.

Now that the extent and impact of the problem on health has been described, are we really prepared for its management? In my opinion, we are far behind the problem and the stagnation of the health system will not make quick and comprehensive management possible.

As the article demonstrates, diabetes and obesity go hand in hand, and the prevalence of diabetes increases substantially after the age of 40. Obesity is an aetiological factor of diabetes. We therefore have to develop initiatives to improve the prevention and treatment of obesity, especially in children and young people, reduce the intake of simple carbohydrates, promote regular physical activity and insist on health education in these age segments of our population. Because diabetes prevention should be the primary goal. As already noted, the preventive policies developed in this regard in Spain have been partial, without a global initiative in the medium-long term.

If we fail to reduce the incidence of diabetes, what should the system do once we are diabetic? In my opinion, screening programmes for chronic complications and comorbidities should be implemented. It should be clearly defined what, who, how and where to manage this 15% of the population to make the system sustainable. It should be defined for whom treatment should be intensified and thereby make pharmacological and non-pharmacological intervention strategies more cost effective. Some initiatives are producing good results using care route strategies in diabetes. There must be continuous multidisciplinary cooperation in the management of these people with diabetes, without distinguishing between specialised care, primary care, the actions of medical personnel or healthcare professionals (educators, nurses, dietitians, nutritionists, podologists, pharmacists) and non-healthcare professionals (social workers, patient associations, etc.). To date, different Autonomous Communities have defined strategic care plans for people with diabetes, which unfortunately have not been fully implemented due to the lack of involvement of healthcare managers. This heterogeneity in the application of global care and assistance strategies for people with diabetes shows the lack of equity in our health system,

which is fragmented, micro-managed and uncoordinated. Something our patients do not understand.

In summary, the study by Ruiz-García et al. highlights a complex health problem of enormous scale, which already requires, without delay, clear global plans and policies for the management of this chronic disease, as well as programmes for the prevention of the disease and its complications or comorbidities, maintained care, complex and personalised treatments, holistic management of patients, coordination strategies between care levels and multidisciplinary teams. All this is necessary in order to minimise the impact of diabetes on the patient and the health system.

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