Commentary

High awareness of diabetes as a key cardiovascular risk factor among healthcare professionals but suboptimal treatment: Results from a survey of the European Association of Preventive Cardiology

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Currently, more than 400 m people worldwide are affected by diabetes mellitus and the prevalence is expected to exceed 600 m people by 2045, which is particularly due to the rise in the number of patients with type 2 diabetes mellitus (T2DM).[1] Patients with T2DM have twice the risk of suffering from cardiovascular disease (CVD), which contributes to a significantly elevated mortality rate compared to people without T2DM.[2] Early detection and a multifactorial treatment approach aiming at prevention of micro- and macrovascular complications, are key factors in the care of people with T2DM.[3] However, successful detection and treatment starts with a proper awareness by healthcare professionals. Therefore, the European Association of Preventive Cardiology (EAPC) initiated a survey, conducted in 2019 in the framework of the European Society of Cardiology (ESC)/EAPC Diabetes and CVD educational programme, with the aim of assessing this awareness and implementation of preventive strategies for diabetes among healthcare professionals across a selection of European countries (France, Germany, Italy, Poland, Russia, Spain, Sweden, Turkey, United Kingdom) as well as Brazil. In total, full surveys from 400 respondents (±38% female, most often aged between 36–55 years) were collected, within which most participants reported 'preventive cardiology', 'coronary artery disease – acute cardiac care', 'heart failure', 'hypertension' or 'imaging' as their main area of specialism.

According to this survey, around 5% and 26% of all patients in daily practice of the respondents is estimated to suffer from type 1 diabetes mellitus and T2DM,

respectively. In patients with established coronary artery disease around 25–30% have established diabetes and, in addition, up to 20% have newly detected diabetes when investigated with the oral glucose tolerance test.[4–7] The prevalence of diabetes is also particularly high in other manifestations of CVD, such as heart failure.[8] This reiterates the importance of the awareness of diabetes in the preventive cardiology community and the need for treatment and preventive care. Fortunately, according to the survey, around 90% of the respondents reported that a focus on diabetes in everyday practice (concerning cardiovascular health) is considered as 'important' up to 'very important'. Moreover, a similar percentage of respondents

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reported being 'motivated' up to 'very motivated' to engage in CVD prevention in patients with diabetes. These results seem to verify that many healthcare professionals within the preventive cardiology community are aware not only that CVD prevention is important in diabetes patients, but also that diabetes is acknowledged as a very important risk factor in patients with established CVD. In their daily practice, most respondents relied on guidelines from the ESC (>80% of the respondents), and less on national guidelines (±45% of the respondents) or guidelines from the European Association for the Study of Diabetes (±30% of the respondents) in the prevention of CVD in people with diabetes. These data thus show that the ESC guidelines are important for the majority of the respondents but the replies also indicate that other guidelines such as national guidelines or diabetes association guidelines are used in combination. As a result, in order to avoid confusion and differences in prevention and treatment, it is important that these guidelines are aligned. Also about 62% of the respondents reported that their colleagues are 'knowledgeable' (±50% of respondents) up to 'very knowledgeable' (±12% of respondents) about the current clinical diabetes and CVD guidelines. Ideally, this percentage should have been greater, and it may indicate that the respondents judged their own knowledge to be better than their colleagues.

It follows that it remains to be assessed whether this awareness and reliance on clinical guidelines does also translate into effective risk factor management in diabetes patients. According to the clinical guidelines, optimal glycaemic control and the control of blood pressure and lipids should be achieved to minimise the risk of micro- and macrovascular complications in patients with diabetes.[3] Nonetheless, optimal glycaemic control, blood pressure and lipids are only achieved in 55%, 67% and 60% of all diabetes patients, respectively, according to the survey's respondents. These estimations are in line with previous objective measurements: both in patients with diabetes[4] as well as in patients with coronary artery disease,[5] the management of these three important CVD risk factors remains suboptimal. So clinicians and institutions regularly dealing with diabetes patients could benefit from new incentives or treatment strategies in order to optimise diabetes treatment. The question thus arises: what is then needed to optimise diabetes care within the preventive cardiology community?

An analysis of the barriers to optimal prevention of CVD in patients with diabetes was included in this survey as well. According to the respondents, the most important barriers (reported in >50% of the respondents) were: 'limited time during the patient appointment', 'patients with diabetes are only focused on lowering glucose' and 'limited knowledge of the cardiovascular benefits of the different diabetes drugs'. Therefore, a multidisciplinary approach is mandatory in patients with diabetes, and more efforts should be made, in patient education and empowerment and in
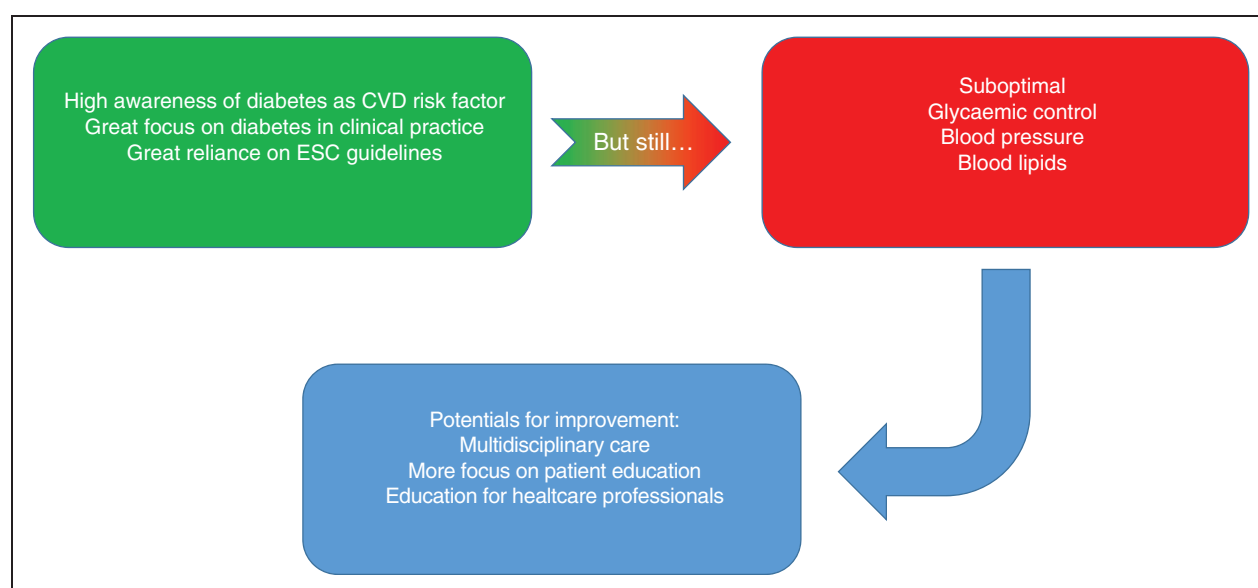
Figure 1. Current shortcomings in diabetes care and potential for improvement. CVD: cardiovascular disease; ESC: European Society of Cardiology.

education for healthcare professionals (Figure 1). A way to achieve this could be by installing multidisciplinary diabetes care teams so that healthcare professionals with different backgrounds and expertise may get the opportunity and (more) time to implement guidelines and available tools in the care of diabetes patients. Hereby, the different aspects of diabetes (e.g. micro- and macrovascular complications, risk factor control, nutrition, psychosocial aspects, physical activity, etc.) can be addressed in a tailored treatment.[3,9] By transfer of knowledge from these different healthcare professionals to the patient, this process may lead to better education of diabetes patients and better target achievement in terms of blood pressure and lipids, glycaemic control and lifestyle. Health literacy is indeed low in a significant number of patients with diabetes, and research has shown that improving this literacy does lead to better diabetes care.[3,10] But, in addition, healthcare professionals themselves may need more education on their specific roles, duties and impact in such care. In this regard, the development and distribution of educational tools is highly relevant. Such tools can serve both patients and healthcare professionals. In line with this reasoning, the respondents from this survey felt that 'awareness and educational resources for patients' (in 86% of respondents), 'multidisciplinary strategies programmes' (in ±90% of respondents), 'adapted educational activities for healthcare professionals' (in ±80% of respondents) and 'educational tools for guideline implementation' (in ±86% of respondents) are 'important' up to 'very important' tools to improve prevention of CVD in patients with diabetes. Other tools/instruments, however, were scored as less important, such as 'telemedicine tools' and 'accreditation schemes'. However, installing multidisciplinary diabetes care teams, with a stronger focus on education as well, does require more investment in personnel and equipment. The latter might be a significant logistic barrier. On the other hand, when compared to usual care, the healthcare costs and utilisation in multidisciplinary collaborative care models seem comparable without incurring excessive economic costs.[11] As a result, the preventive cardiology community, and in particular the diabetes patient, would greatly benefit from the installation of such multidisciplinary teams.

This survey should be evaluated in light of its potential shortcomings, such as a selection bias (clinicians with a particular profile may have responded), reporting bias and the lack of data from other European countries and/or regions. The full data from this survey can be consulted at https://www.escardio.org/Education/Diabetes-and-CVD.

To conclude, healthcare professionals in the preventive cardiology community of Europe and Brazil are well aware of diabetes as an important CVD risk factor, and are highly motivated to treat diabetes. However, current care models do not achieve optimal control of blood glucose and sometimes different guidelines are used. Multidisciplinary diabetes care with greater investment in education, both for healthcare professionals and patients, seems warranted. Moreover, it is important that the different clinical guidelines are well aligned.

Declaration of conflicting interests

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