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Editorial
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Towards a More Advanced Approach to Cardiovascular Risk Factors in Patients with Severe Mental Disorders

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Editorial

People with a Severe Mental Disorder (SMD) have a shorter life expectancy than the general population, which is around 15 to 25 years less [1]. Although deaths from suicide and other non-natural causes are higher in this group, premature mortality is mainly attributed to preventable physical illnesses and medical conditions, especially cardiovascular diseases [2]. These diseases contribute 17% and 22% to the reduction in life expectancy in men and women, respectively [3]. There is a time trend towards a greater increase in cardiovascular diseases in this population group, further widening the gap between people with SMD and the general population [4].

A meta-analysis pooling data from more than three million SMD patients concluded that 10% of people with SMD at an average age of 50 years already have comorbid Cardiovascular Disease (CVD). Furthermore, they have a 53% increased risk of CVD compared to controls, as well as a 51% increased risk for coronary heart disease and 42% for cerebrovascular disease [2]. Another meta-analysis, involving 30 million participants, showed that the CVD mortality rate in people with SMD is about twice that of the general population. Within the SMD group, patients with schizophrenia have higher mortality than those with bipolar disorder.

Among the factors associated with morbidity and mortality in patients with SMD, two main types of determinants have been described: some related to the patient and others to health systems. The former include: i) unhealthy lifestyles (sedentary lifestyle, unhealthy eating habits, smoking, obesity); ii) the effects of psychotropic drugs (increased appetite, hyperglycemia and hyperlipidemia); iii) predisposition to cardiometabolic diseases; iv) poor adherence to treatment; v) low health literacy; and vi) impaired cognition [3,5]. Factors related to health systems include: i) inequalities in access to care (lower rates of diagnostic procedures, delays in initiating treatment); ii) negative attitudes of professionals towards patients with SMD; iii) limited mental health literacy among health professionals; and iv) inadequate funding for mental health research [3]. These factors ultimately lead to the development of Cardiovascular Risk Factors (CVRFs), among which modifiable CVRFs are a focus of attention. The likelihood of presenting CVRFs in people with SMD is increased compared to the general population, such that the probability of presenting obesity is 1.5 to 2 times higher in people with SMD compared to the general population, while smoking, diabetes mellitus, arterial hypertension and metabolic syndrome are 2 to 3 times higher, and dyslipidemia is around 5 times higher [6]. Sedentary lifestyles and unhealthy, high-calorie diets are more frequent. Moreover, the use of antipsychotics and other psychotropic drugs, a cornerstone of treatment in SMD, are associated with metabolic alterations, although the effect is more evident in some drugs than in others [7]. These unhealthy habits and lack of adherence to medication accelerate the pathophysiological processes of atherosclerosis and advance the age of onset of CVD [8]. Moreover, in this subgroup of people, screening, diagnosis, treatment and control of CVRFs lags behind the rest of the population [6]. There has been evidence of reduced recording of smoking, poorer diabetes control, reduced likelihood of being diagnosed with arterial hypertension and of receiving lipid-lowering treatment in patients on SMD [9].

Given the high morbidity and mortality due to physical comorbidities in people with SMD, specific national and international guidelines have been developed to address physical comorbidities and minimize cardiometabolic side effects of pharmacological treatment. The evidence on healthy lifestyle interventions in people with SMD is extensive, although the results are mixed and the impact on cardiovascular risk is often unknown.

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The use of conventional cardiovascular risk scales in SMD has been questioned because, among other things, these scales underestimate cardiovascular risk in SMD patients [10]. New scales have been evaluated, among them the British QRISK3 scale; this cardiovascular risk index is the latest version of the original scale developed in 2007. It estimates the 10-year probability of suffering a coronary event (myocardial infarction or stroke) and includes additional risk factors such as the use of second-generation atypical antipsychotics, diagnosis of SMD and others, in addition to the classic factors included in the Framingham tables [11]. There is also the Prediction and Management of cardiovascular Risk for people with Severe Mental Illnesses (PRIMROSE) scale, which predicts the 10-year risk of new episodes of CVD (myocardial infarction, angina pectoris, stroke or major coronary surgery) in people with SMD. Designed by British researchers, it introduces the diagnosis of SMD, alcohol consumption and treatment with second-generation antipsychotics and antidepressants [12]. However, these scales have not been validated for the majority of European countries, so it is still essential to determine which patients present a higher risk in the group of people suffering from SMD. Thus, the emergence of new CVR markers, both biochemical markers such as Lipoprotein (a), as well as the incorporation of Intima-Media Thickness (IMT) may improve risk stratification and be useful in identifying those individuals who will require preventive intensification because they already have subclinical CVD [13,14].

Furthermore, the application of Artificial Intelligence (AI) in the field of mental health has been growing in popularity in recent years [15]. AI has great potential to improve the quality of clinical care in this field and has been used in a variety of areas, such as diagnosis and treatment, monitoring, prevention of mental illness, preliminary screening and prognosis [16]. One of the main advantages of using AI in mental health is its ability to provide more effective clinical support. AI algorithms can help healthcare professionals make more informed and accurate decisions about the treatment and management of mental illness. For example, they can identify patterns and risk factors that may have been missed in a traditional clinical assessment. However, one of the greatest potential benefits of using AI in mental health is its ability to foster more personalized care and empower the patient. Treatment and follow-up plans can be tailored to the individual patient's needs thanks to AI, which can increase the effectiveness of treatment and improve the patient's experience. In addition, AI can also be used to help patients make informed decisions about their own health and well-being, which can empower them and make them feel more involved in their own care. Mental health professionals could incorporate these tools in the management of cardiovascular risk [17]. This new approach would encourage more personalized care [18], not only as an element of patient empowerment in the decisions they can make about their cardiovascular risk, but also by providing the advantages of individual strategies (personal counselling, responding to specific patient needs and a tailored action plan) that outweigh the benefits of group sessions [7].

The approach advocated by the World Health Organization, which calls for the management of chronic diseases based on six objectives are applicable to the management of CVRFs in people with SMD. Identification of the patient population, health assessment, risk stratification, engagement, patient-centered interventions and impact evaluation are the primary objectives [19]. This approach implies the integration of multidisciplinary teams into clinical practice, going beyond the nurse-physician binomial and prioritizing a holistic and patient-centered approach rather than a problem-centered approach. In this regard, evidence on multimodal approaches to the management of CVD in SMD patients is scarce. In a multimodal approach in England to improve cholesterol levels and cardiovascular risk by promoting healthy lifestyles and behaviors and medication adherence, no significant differences between groups were observed after 12 months [20]. Another multimodal intervention in Maryland, with an intervention that included behavioral counselling, care coordination and care management in SMD with at least one CVRF (arterial hypertension, diabetes, dyslipidemia, smoking and/or overweight or obesity), significantly reduced the cardiovascular risk score after 18 months (12.7% relative risk reduction) using the Framingham function [21]. In this intervention, health professionals coordinated with mental health staff to support the achievement of the targets. In a third research project carried out in Catalonia with the aim of promoting healthy habits and improving cardiovascular risk through a brief psychoeducational intervention, no significant improvements were observed in the different variables studied after one year [22].

Our group developed a pilot randomized clinical trial involving 46 patients with schizophrenia. Participants were included because they had a poorly controlled CVRF (arterial hypertension, diabetes, hypercholesterolemia or smoking). The intervention group received a patient-centered intervention designed by a multidisciplinary team (family doctors, psychiatrist, pharmacist, nurse and psychologist) that included lifestyle promotion, pharmacological management of CVRFs, optimization of psychotropic drugs and motivational psychotherapy. The intervention group obtained a reduction in the REGICOR risk score (relative risk reduction of 20.9%) 6 months after the intervention.

Interventions in addressing CVRFs need to be as early as possible [23], and in our opinion need to include a multimodal approach involving a multidisciplinary team (family physicians, psychologists, pharmacists, exercise professionals, psychiatrists, nurses and dietitians) to effectively and simultaneously increase behavioral changes [1,23]. These strategies need to take into account each individual patient, tailoring the action plan based on the patient's preferences with the advice of professionals. They also need to have the support in decision-making of the AI that will allow the patient to visualize the changes that would occur based on the prediction of CVRF reduction, according to the CVRF they face, so that the patient can decide which CVRF they think is most feasible to address. In addition, for the professional, the AI can provide greater homogenization of the treatment of CVRFs by means of decision algorithms based on updated guidelines.

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