Original article

Prevalence and awareness of cardiovascular risk factors in patients with schizophrenia: A cross-sectional study in a low cardiovascular disease risk geographical area[☆]

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Abstract

Objective: Prevalence of cardiovascular disease is high in schizophrenia. Our aim is to estimate the prevalence of cardiovascular risk factors (CVRF) among schizophrenia patients.

Method: National cross-sectional study in patients diagnosed with schizophrenia under treatment with second generation antipsychotics and admitted to short-stay hospitalisation units.

Results: A sample of 733 consecutively admitted patients was enrolled; the most prevalent CVRFs were smoking 71% (95% CI: 67–74%) and hypercholesterolemia 66% (61–70%) followed by hypertriglyceridemia 26% (26–32%), hypertension 18% (15–21%) and diabetes 5% (4–7%). Metabolic syndrome showed 19% (95% CI: 16–23%) prevalence or, according to updated definitions (Clin Cornerstone 7 [2005] 36–45), 24% (95% CI: 20–28%). The rate of patients within the high-risk range of a 10-year fatal cardiovascular event was 6.5%. CVRFs under routine management were diabetes (60%), hypertension (28%) and, to a lesser extent, dyslipemia (14%). Treatment for CVRFs was associated to gender, men for hypertension OR = 25.34, $p < 0.03$ and women for diabetes OR = 0.02, $p < 0.03$.

Conclusion: We found that CVRFs in schizophrenia were prevalent and under-diagnosed, and thus with insufficient therapeutic management.
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Keywords: Risk factors; Schizophrenia; Disease management; Physical health; Comorbidity

1. Introduction

Comorbidity is often present between schizophrenia and general medical conditions and people with schizophrenia may be at special risk for disorders associated to poor self-care, institutionalisation (e.g. tuberculosis, hepatitis), substance abuse (emphysema and other smoking-related conditions, HIV-related diseases) or antipsychotic-induced movement disorders [28]. It has also been described that people who suffer from schizophrenia have a 20% shorter life expectancy than the general population and also greater vulnerability to several illnesses, including diabetes, coronary heart disease, hypertension and emphysema [29,25]. The prevalence of cardiovascular disease is higher in patients with schizophrenia than in the general population [32,35], and death from cardiovascular causes contributes to the mortality rate in these patients [15]. This observed increased risk of arteriosclerosis and sudden death in schizophrenia is irrespective of the effect of antipsychotic drugs [16].

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The risk of developing metabolic disorders has been described to be greater in patients with mental disorders; for instance, diabetes and obesity are from 1.2 to two times more common in patients with schizophrenia than in the general population, and a lipid elevation is also often observed [7]. Poor diet, no exercise and excess body weight are, among others, the most important predisposing factors.

In contrast, it has been shown that individuals with schizophrenia are rarely treated for their physical illnesses in the early and less severe phases [31]. Epidemiological studies provide prevalence data which help to identify patients at high risk of suffering cardiovascular diseases or presenting related metabolic disorders [9].

In this case, we aimed to conduct a confirmatory study to ascertain the prevalence of cardiovascular risk factors among schizophrenia patients under treatment with new generation antipsychotic drugs. The study was performed in short-stay psychiatric units in order to perform a complete examination of in-patients. Additionally, the frequency with which cardiovascular risk factors were identified and treated within the national health system at specialist level was documented as a secondary objective.

The RICAVA study provides prevalence figure for cardiovascular risk factors among schizophrenia patients in a southern European area and documents the management of these patients regarding general physical healthcare.

2. Methods

Descriptive cross-sectional study in a sample of patients with schizophrenia treated with new generation antipsychotics admitted to short-stay psychiatric hospitalisation units in the Spanish national health system. The centres participating in the study regularly perform blood tests on patients while they are admitted.

2.1. Subjects

The criteria for patient inclusion were patients of 18 years of age or more, admitted to the participating centres for any psychiatric cause with a previously established diagnosis of schizophrenia according to DSM-IV-TR criteria [3]. The exclusion criteria were participation in a clinical trial, patients visiting but not admitted to the centre, or prison inmates visiting the centre to receive treatment for a disease. The study was approved by the Independent Ethics Committee of Hospital Clinic de Barcelona.

All the subjects were explained the purpose of the study and how their health data would be treated. After obtaining their informed consent in writing, we started to collect data from interviews with the patients and/or their relatives, a physical examination, an ECG and a blood test which included, among other parameters, a complete lipid profile. The frequency with which cardiovascular risk factors were identified and managed in each patient was obtained from a study of their medical records.

2.2. Procedures

The following data were recorded within 72 hours of hospitalisation: sociodemographic information, data related to the clinical psychiatric diagnosis, pharmacological treatment, family and personal history of cardiovascular risk factors. Current status of cardiovascular risk factors was assessed by an interview regarding lifestyle, dietary habits, substance abuse and a complete examination including a physical examination, electrocardiogram and lab tests.

Antipsychotic drugs prescribed within the two years prior to admission, degree of therapeutic compliance according to the doctor's opinion [40] and other concomitant treatments were also recorded.

We collected information about the personal history of cardiovascular risk factors (diagnosed upon admission) and their routine management (either pharmacological or not, including diet, regular controls, etc). Family history of cardiovascular risk factors was specifically requested in relation to first degree relatives (parents/siblings/children) from men under 55 and women under 65.

The information concerning current cardiovascular risk factors involved an interview on lifestyle and dietary habits; physical exercise was recorded in relation both to regular daily activities (such as aerobic physical activity like brisk walking, for 30 minutes most days of the week) [10], and regular physical exercise. Diet habits were recorded based on whether the patient had followed special diet indications for control or weight loss purposes and/or indications to reduce the consumption of high fat or cholesterol foodstuffs. Substance abuse was evaluated by a direct interview related to nicotine, alcohol and cocaine consumption, following standard methods [8,20,41,22].

The admission examination included weight, height, pulse, blood pressure (BP) and ECG. Data was obtained by each centre's team of investigators using the instruments available in the hospitalization units. For waist measurement, measuring tapes of the same characteristics were provided to all centres; it was measured in centimetres at the smallest circumference below the rib cage and just above the navel (the tape measure was pulled snug, but not tight, holding it level around the circumference). BP was measured following a five-minute rest, in a seated position, by a hospital-unit physician using appropriately sized cuffs and calibrated standard mercury sphygmomanometers; Korotkoff phases 1 and 5 were taken as systolic BP (SBP) and diastolic BP (DBP), respectively. Two measurements were performed at a five-minute interval, with the mean of the two readings being used to define the patient's BP. The blood tests were performed and processed in the laboratories of each study site. The blood samples were collected after eight to 12 hours of fasting conditions within 72 hours of admission. Eighty-seven per cent (87%) of the participating centres provided their current reference values. For those that did not provide their current normal range values, the average of the available values was used. ECG parameters were recorded under standard procedures, and results related to left ventricular hypertrophy according to Sokolow-Lyon criteria [37] were documented.