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Overweight and the use of psychiatric drugs in patients with mental disorders attended at
psychosocial care center in Teresina, Piauí, Brazil

Nutrición Hospitalaria

Trabajo Original

Overweight and the use of psychiatric drugs in patients with mental disorders attended at psychosocial care center in Teresina, Piauí, Brazil

Exceso de peso y utilización de psicofármacos en pacientes con trastornos mentales atendidos en un centro de atención psicosocial en Teresina, Piauí, Brasil

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Abstract

Introduction: Psychopharmacology brought numerous benefits to people with mental disorders, although undesirable side effects have arisen, including weight gain.

Objective: Identify the overweight frequency in individuals with mental disorders and its relation with the use of psychiatric drugs.

Material and methods: Cross-sectional study with patients with mental disorders of both sexes, older than 18 years. Body Mass Index (BMI) used to diagnose overweight (BMI $\geq$ 25 kg/m^2). Chi-square test of Pearson (χ^2) and Poisson regression were used for analytical statistics for association between variables.

Results: The study involved 109 individuals. Overweight was found in 70.7% of the study population, 29.4% presented pre-obesity, 26.6% were obese class I, 8.3%, obese class II, and 6.4% obese grade III (morbid). The overweight prevalence was significantly higher among patients who used selective serotonin reuptake inhibitor antidepressants (PR = 1,42, 95% CI 1,12 to 1,80, p = 0,004), typical antipsychotics (PR = 1,43, 95% CI 1,13 to 1,80, p = 0,003), atypical antipsychotics (PR = 1,24, 95% CI 1,01 to 1,54, p = 0,045) and benzodiazepines (PR = 1,37, 95% CI 1,10 to 1,71, p = 0,004) when compared to those who used tricycle antidepressants (PR = 1,20, 95% CI 0,93 to 1,54, p = 0,153) and mood stabilizers (PR = 1,09, 95% IC 0,88 to 1,35, p = 0,416).

Conclusion: High prevalence of overweight significantly higher among patients who used selective serotonin reuptake inhibitor antidepressants, typical and atypical antipsychotics and benzodiazepines.

Resumen

Introducción: la psicofarmacología ha traído numerosos beneficios para las personas con trastornos mentales, aunque hayan surgido efectos colaterales indeseables, entre ellos, el aumento de peso.

Objetivo: identificar la frecuencia de exceso de peso en individuos con trastornos mentales y su relación con el uso de psicofármacos.

Material y métodos: estudio transversal en enfermos mentales, de ambos sexos, mayores de 18 años. El índice de masa corporal (IMC) utilizado para diagnosticar el exceso de peso (IMC $\geq$ 25 kg/m^2). Estadística analítica: para asociación entre las variables se utilizó test chi-cuadrado de Pearson (χ^2) y regresión de Poisson.

Resultados: participaron del estudio 109 individuos. Se encontró exceso de peso en el 70,7% de la población investigada, 29,4% presentaron sobrepeso, 26,6% obesidad de grado I, 8,3% obesidad de grado II e 6,4% obesidad de grado III (mórbida). La prevalencia de exceso de peso fue significativamente mayor entre los pacientes que usaron antidepresivos inhibidores selectivos de la recaptación de serotonina (RP = 1,42, IC al 95% 1,12-1,80, p = 0,004), los antipsicóticos típicos (RP = 1,43, IC al 95% 1,13-1,80, p = 0,003), los antipsicóticos atípicos (RP = 1,24 , IC al 95% 1,1-1,54, p = 0,045) y benzodiacepinas (RP = 1,37, IC al 95% 1,10-1,71, p = 0,004) en comparación con aquellos que utilizaron los antidepresivos triciclos (RP = 1,20, IC al 95% 0,93-1,54; p = 0,153) y estabilizadores del humor (RP = 1,09, IC del 95 %: 0,88 a 1,35; p = 0,416).

Conclusión: elevada prevalencia de exceso de peso, significativamente mayor entre los pacientes que usaron antidepresivos inhibidores selectivos de la receptación de serotonina, antipsicóticos típicos y atípicos e benzodiacepínicos.

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INTRODUCTION

Obesity, a multifactorial condition that includes genetic, metabolic, behavioral and environmental factors, is one of the most serious public health problems today. The occurrence of pre-obesity and obesity is increasing in countries from all regions of the world, affecting individuals of all ages, social classes and ethnic groups, constituting a risk factor for several other chronic diseases (1-3).

These metabolic disorders are being increasingly associated with mental disorders, particularly in schizophrenic and depressive patients with body mass index (BMI) significantly higher than patients with other diagnoses and the general population (4,5) .

Mental disorders (MD) are classified as a disease with psychological manifestations associated with some functional impairment resulting from organic, social, psychological, genetic, physical or chemical dysfunction. They can be classified also as a change in the way of thinking and / or mood associated with significant distress, producing losses in the person's overall performance in their personal, social, occupational and family fields. They are universal because they affect people of all ages causing serious and permanent disabilities that increase the demand on health services (6).

While the benefits from the use of psychiatric drugs are obvious, their undesirable side effects include lipid, metabolic and weight gain changes, intensified by physical inactivity and neuroendocrine changes that occur on the charts of several diagnostic (7). Obesity is common in patients treated with regular antipsychotics of lower dose, with some atypical antipsychotics and the main mood stabilizers (8,9).

In this context, obesity has attracted the attention of the scientific community, because of its association with high morbidity and mortality, especially cardiovascular disease, and plenty of other complications (10). This study aimed to identify the overweight frequency in individuals with mental disorders and their relation to the use of psychotropic antidepressants, mood stabilizers, antipsychotics and benzodiazepines (anxiolytics).

MATERIAL AND METHODS

POPULATION AND SAMPLE

It is an analytical cross-sectional study carried out in the period of April and May of 2015, with the mental disorders patients, treated at the Center for Psychosocial Care (CAPS), of the municipal assistance service of Teresina, Piauí, Brazil.

It was considered a total of 149 adult subjects, aged over 18, who attended the service weekly. The sample calculation was estimated by a prevalence of 50% for the variables related to outcome, error margin of 5% for a 95% confidence interval, totaling an ideal sample for the development of study of 109 patients.

The sample was selected by simple random process. Patients who attended at the Center for Psychosocial Care monthly, those who were treated at home visits, pregnant or pregnancy history in the last six months were excluded.

DATA COLLECTION AND DIAGNOSES

A structured form with open and close-ended questions applied in individual interviews was used. Information on psychiatric diagnoses, medication use, height and weight were collected during the interview and confirmed through medical records. Psychiatric diagnoses were grouped according to the Mental and Behavioral Disorders classification of ICD-10 determined by the World Health Organization Genebra (11) in 11 categories: 1) organic mental disorders (F00-F09); 2) mental and behavioral disorders (F10-F19); 3) Schizophrenia, schizotypal and delusional disorders (F20-F29); 4) mood / affective disorder (F30-F39); 5) neurotic disorders (F40-F48); 6) behavioral symptoms (F50-F59); 7) personality and behavior disorder (F60-F69); 8) mental retardation (F70-F79); 9) psychological development disorder (F80-F89); 10) behavior and emotional disorders (F90-F98); 11) Mental disorders not otherwise specified (F 99), and others (without definite diagnosis). The last recorded diagnoses in medical records have been considered, and for this same patient, it's possible that there is the determination of one or more diagnostic categories.

Psychiatric drugs were grouped into categories called tricyclic antidepressants, selective serotonin reuptake inhibitor antidepressants (antidepressants SSRIs), mood stabilizers, typical antipsychotics, atypical antipsychotics and benzodiazepines (anxiolytics). Weight was determined by anthropometric scale brand Caumaq Ltd., maximum capacity of 180 kg and 100g precision. Height was measured with anthropometer of that scale, graduated in cm, with a maximum of 200cm, previously calibrated.

Nutritional diagnosis was made by determining the body mass index (BMI) or Quetelet Index. BMI values were compared to reference values, according to sex and age. It was considered overweight when BMI was higher than 25 kg/m^2, including pre-obesity and different obesity degrees (12).

STATISTICAL ANALYSIS

Univariate analysis was applied to descriptive statistics procedures; bivariate analysis, *Pearson's Chi-square Test* (χ^2); multivariate analysis, Poisson regression with robust variance of standard errors. The reasons for the prevalence of overweight were calculated with their respective confidence intervals of 95% (95% CI) and statistical significance obtained by the Wald test for heterogeneity. In all analyzes a 5% significance level was used. Data were processed and analyzed using SPSS version 18.0 for Windows (SPSS Inc. Chicago, IL 60606, USA) (13).

RESULTS

The sample consisted of 109 individuals, with a female patients predominance (65.1%) and the predominant age group between 26-45 years old (53.2%). The most commonly found categories were patients living with relatives, without a partner (60.6%) and incomplete primary education (39.4%). Considering the presence

of children, 54.1% reported having, an average of 1.3 children per participant. As for the employment status, 62.4% reported professional inactivity and 71.6% non-retirement. Individuals with family income 1-3 minimum wages were more frequent (55%), followed by those with incomes up to 1 minimum salary (39.4%).

Mood disorders were more frequent (46.8%), followed by schizophrenia, schizotypal and delusional disorders (43.1%). The most frequent drugs used were benzodiazepine (62.4%) atypical antipsychotics (55%) and mood stabilizers (46.8%) (Table I). It is noteworthy that all patients make use of one, two or more drugs grouped, however, the applied statistical tests showed no significant association between the number of medications and overweight.

Overweight was found in 70.7% of the study population, 29.4% presented pre-obesity, 26.6% were obese class I, 8.3%, obese class II, and 6.4% obese grade III (morbid).

The overweight prevalence was significantly higher among patients who used selective serotonin reuptake inhibitor antidepressants (PR = 1.42, 95% CI 1.12 to 1.80, p = 0.004), typical antipsychotics (PR = 1.43, 95% CI 1 , 13 to 1.80, p = 0.003), atypical antipsychotics (PR = 1.24, 95% CI 1.01 to 1.54, p = 0.045) and benzodiazepines (PR = 1.37, 95% CI 1,10 1.71, p = 0.004) when compared to those who used tricycle antidepressants ((PR=1,20, 95% CI 0,93 to 1,54, p=0,153) and mood stabilizers (PR=1,09, 95% IC 0,88 to 1,35, p=0,416) .

Pre-obesity and obesity showed no significant association with the medicational groups when analyzed separately, except for the association between benzodiazepines and obesity (95% CI 0.20 to 0.97, p = 0.042).

DISCUSSION

The pre-obesity and obesity prevalence was higher in women than in men. Similar results are reported by other authors (14,15) and ratify the superiority of overweight in the psychiatric population, when compared to prevalence data found in the general population, which in Brazil, according to Ministry of Health, is around 32 % of pre-obesity and 8% of obesity (16). This high prevalence suggests its relation with the use of psychoactive drugs of different groups. Among the six drug categories, four were significantly associated with overweight. However, SSRIs antidepressants are emphasized due to its influence on the decrease in serotonin function, which favors the increase in carbohydrate intake, the bulimic episodes and obesity (17).

Referring to the typical (neuroleptics) and atypical (second generation antipsychotics-ASG) antipsychotics, this study shows similar findings to those found in studies examining medications belonging to these groups alone (18-21). The two categories showed significant associations with overweight, possibly due to the gate locking receptor of the mix mechanism 5-HT2c beta3-adrenergic, histaminergic H1 and dopaminergic D2 (22,23).

As well as antidepressants and antipsychotics, the association of mood stabilizers with weight gain is confirmed. Although it is not possible to specify the drugs used, carbamazepine, lithium

Table I. Psychiatric diagnosis and drug group among people with mental disorders treated at the Psychosocial Care Center of the Southeast zone of Teresina. Piauí. Brazil. 2015

Psychiatric diagnosis	n	%
F10-F19-Behavioral mental disorders	01	0,9
F20-F29-Schizophrenia and schizotypal disorders	47	43,1
F30-F39-Mood disorders	51	46,8
F40-F48-Neurotic disorders	16	14,7
F70-F79-Mental retardation	13	11,9
Other ICD or undefined	01	0,9
*Medication group**		
Benzodiazepines	68	62,4
Atypical antipsychotics	60	55,0
Mood stabilizers	51	46,8
SSRI antidepressants	41	37,6
Typical antipsychotics	36	33,0
Tricyclic antidepressants	26	23,9

and valproic acid are generally the most common representatives. They promote weight gain due to the increased appetite and consequently food consumption as well as endocrine changes including hypothyroidism. According to studies, these complications are related to dose and duration of treatment (24,25).

Benzodiazepines (anxiolytics) represented the most frequent drug group used among participants. The association with overweight may be linked to the use of different categories of medicinal products, as its main side effects are sedation, addiction and conscious changes (26).

However, some limitations of this study as the drug use failure of time as well as investigations of living habits and physical activity are emphasized.

CONCLUSIONS

By studying the prevalence of overweight in individuals with mental disorders and their relation to the use of psychotropic drugs, there was a significantly higher prevalence among patients who used antidepressants SSRIs, typical antipsychotics, atypical antipsychotics and benzodiazepines compared to those who used tricyclic antidepressants and mood stabilizers. Studies to investigate the metabolic effects enhancement in the concomitant use of different drugs on the weight gain of individuals with mental disorders are needed.

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