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Overweight and Obesity among Mentally Ill Patients

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Original Research Article

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Abstract: Obesity is highly prevalent among patients with schizophrenia, depression and bipolar disorder and is more common in persons with these conditions than in the general population. Excess weight is a major risk factor for impaired glucose tolerance, dyslipidemia, and arterial hypertension, and the clustering of obesity with these abnormalities in the metabolic syndrome correlates strongly with increased risk of coronary heart disease and premature death in all ethnic groups and regions of the world. Treatment with atypical, second-generation antipsychotics (SGAs), particularly clozapine, olanzapine, and quetiapine, are known to promote weight gain, may lead to metabolic syndrome. A descriptive, retrospective study was conducted at the mental health clinic in the Teaching Hospital Batticaloa (THB), SriLanka. Two-thirds of the population 29(63.1%) were found to be overweight 21(45.7%) and obese 8(17.4%).However, one-fourth of the population 12(26.1%) were under normal body mass index(BMI). Patients with mental illness, regardless of age or type of antipsychotic medication in use, were found to be at increased risk for many physical disturbances, including weight gain, dyslipidemia, and increased risk for coronary heart disease; and may benefit from clinical evaluation and adequate treatment, as recommended by international protocols.

Keywords: Antipsychotics, obesity, and metabolic Syndrome.

INTRODUCTION

Patients with mental disorders such as schizophrenia, depression and bipolar disorder have an increased prevalence of metabolic syndrome and its components, risk factors for cardiovascular disease and type 2 diabetes [1].

Patients with major mental illnesses have an increased prevalence of overweight (BMI equal to or higher than 25 kg/m2) and obesity (body mass index (BMI) >30 kg/m2), hyperglycemia, dyslipidemia, hypertension, and smoking, and substantially greater mortality, compared with the general population [2, 3]. Distinct antipsychotic medications are associated with definite risks of weight gain and related risks for hostile changes in glucose and lipid metabolism. However, certain medications can contribute to increased risk, increasing weight (body mass index), waist circumference, plasma glucose and lipids, and blood pressure [4]. Weight gain associated with atypical antipsychotic agents generally occurs within the first few months after initiation and may not stabilize for more than a year [5].

Patients with major mental illnesses such as schizophrenia and bipolar disorder have increased risks of morbidity and mortality compared with the general population [6]. Patients with medications for major mental disorders lose 25 to 30 years of potential life in comparison with the general population, primarily due to premature cardiovascular mortality. Long-standing mental illness also donates to a number of somatic diseases which are often unrecognized and lead to a significant deterioration in health. At present, it is assumed that in schizophrenia there is a 50% increased risk of death from somatic reasons and a 20% shorter survival time relative to the general population [7]. The most common somatic disorders and diseases that occur in people with mental illness include obesity, metabolic syndrome, type 2 diabetes, cardiovascular disease (CVD), and cerebrovascular disease.

Among persons with mentally ill, obesity is associated with co-morbid hypertension and diabetes and reduced health-related functioning [8]. Numerous factors donate to obesity among persons with mentally ill, including the sedentary lifestyle, poverty, lack of healthy food options, and impaired ability to participate in medical care. This is obvious that persons with mentally ill, obesity were associated with increased health care costs even after controlling for medical co-morbidity [9]. The aim of the study is to see the prevalence of overweight and obesity among mentally ill patients in the eastern part of the SriLanka.

METHODOLOGY

This descriptive, retrospective study was conducted at mental health clinic in the Teaching Hospital Batticaloa (THB), SriLanka. Demographic and clinical data were collected from patient's records, over a two months period from 15th of October to 15th of December 2017. The biometric data including weight, height, waist, and blood pressure were harvested from the patient's records. We also collected laboratory investigations such as blood glucose and lipid profile (total cholesterol, fractions, and triglycerides) from the patient's record. Overweight was defined as BMI equal to or higher than 25 kg/m2 and obesity was defined as BMI equal to or higher than 30kg/m^2.We included all mentally ill patient with antipsychotic medications for at least three month of clinic follow-up. We excluded patients' age of less than 16 years and more than 79 years old, patients with inadequate data and patients with antipsychotic medications for less than three months duration. The Institutional Review Board of the hospital approved the study.

RESULTS

After the inclusion and exclusion criteria 46 mentally ill patients were enrolled in this study. Out of 46 patients 21(45.7%) were male and 25(54.3%) were female. Female: male ratio was 1.19:1. Most of the mentally ill 25(54.4%) patients were under the age group of 30-49 years. Only 14(30.4%) patients were over 50 years. Two-third of the population 29(63.1%) were found to be overweight 21(45.7%) and obese 8(17.4%).However one-fourth of the population 12(26.1%) were under normal BMI.

Table-1: Sex distribution among mentally ill patients

Sex		Frequency	Percent
	male	21	45.7
	female	25	54.3
	Total	46	100.0

Table-2: Age distribution among mentally ill patients

Age		Frequency	Percent
	20-29	7	15.2
	30-39	16	34.8
	40-49	9	19.6
	50-59	14	30.4
	Total	46	100.0

Table-3: BMI distribution among mentally ill patients

BMI		Frequency	Percent
	Under Weight	5	10.9
	Normal	12	26.1
	Overweight	21	45.7
	Obese	8	17.4
	Total	46	100.0

DISCUSSION

Obesity has been described as a global epidemic increasingly affecting populations in both developed and developing world. In the United Kingdom it has been estimated that up to 61.3% of adults are overweight or obese. Individuals with mental ill health such as schizophrenia and bipolar disorder and depressive illness are even more likely to be overweight or obese than other members of the general population [10].

The prevalence of obesity among individuals with mentally ill patients especially schizophrenia is 1.5–2.0 times higher than the general population[11]; compared to a prevalence of 30% in the general population[8], patients with schizophrenia have rates of greater than 40%[11].However, in this study, two-third of the population 29(63.1%) were found to be overweight 21(45.7%) and obese 8(17.4%).A similar study had been conducted in brazil ,which revealed that prevalence of elevated body BMI over 25Kg/M^2 (70%), dyslipidemia (73.2%), and metabolic syndrome (28.7%)[12].Another study was conducted by Coodin S which stated that patients with mental illness such as schizophrenia already have a greater prevalence of obesity (42%) and diabetes(13%) than the general population[13].

It remains possible that all factors in some way could contribute to the tendency of metabolic syndrome in these patients; however, antipsychotic drugs are thought to be the main causal factor in the development of metabolic syndrome [6,14]. A considerable proportion of obese persons in the general population do not have the abnormalities that define the metabolic syndrome [15]. However, a cross sectional study stated that obese and normal weight psychiatric patients without metabolic syndrome had a similar 10-year risk of coronary heart disease events, despite a very large difference in BMI (34.1 vs. 22.1) [16].

CONCLUSION

People who manifest mental problems have a tendency to obesity, which carries a number of consequences. Increased body weight predisposes to disorders of glucose and lipid metabolism. Data on the prevalence of somatic diseases in people with mental illness, especially schizophrenia, bipolar disorder, or depression, clearly indicate that this group is particularly vulnerable to the diseases associated with metabolic disorders, such as metabolic syndrome, type 2 diabetes, cardiovascular diseases, ischemic heart disease, and cerebrovascular diseases. The mechanisms of their formation are not fully understood. A large role in their formation beside the negative effects of antipsychotic medication and specific lifestyle play a specific dysregulation of the hypothalamic-pituitary-adrenal axis. Undoubtedly, further research and analysis in this area are necessary. Good communication between primary and secondary mental health care

teams is also important to facilitate regular health checks and the early detection of signs of poor cardio-metabolic health. Routine care for patients taking antipsychotic medication should extend beyond medication and psychological support alone and should include the offer of lifestyle interventions focusing on diet and exercise.

ABBREVIATION

THB-Teaching Hospital Batticaloa, MBI-body mass index

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COMPETING INTERESTS

The authors declare that we have no competing interests.

CONSENT FOR PUBLICATION

Consent was obtained from the Director from THB

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