

# Effect of Clozapine on Appetite, Weight and Insulin Resistance in Schizophrenia Patient in Mental Health Psychiatry Outpatient Clinics KFSH&RC (Case Report)

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## Abstract

**Background:** Schizophrenia is a psychotic disorder with a complex pathophysiology and requires treatment that includes long term administration of antipsychotics that is said to be associated with metabolic syndrome.

**Objective:** To estimate the prevalence of metabolic syndrome in patients taken clozapine at King Faisal Specialist Hospital & Research Centre, Outpatient clinics.

**Methods:** This study was conducted at outpatient setting, KFSH&RC. Total patients included in this study are 39 patients. All patients were on maintenance dose of clozapine therapy. Measurement of anthropometric (body weight (BMI), waist circumference, blood pressure) and biochemical parameters (glucose, insulin, triglycerides, LDL, HDL) were recorded, Data analyses were collected during their regular follow-ups.

**Result:** The prevalence of the metabolic syndrome was significantly higher among clozapine patients according to all literature but in this study 3 patients out of 39 were affected. The analysis revealed significant associations with age, body mass index, and duration of clozapine medication & family history.

This finding is consistent with literature about associated with clozapine & mentioned risk factor. Our three affected patients had the following result.

**BMI:** (A-27- B-41.3) male with normal (16-30)

**BMI:** (C-49.1) female with normal (16-30)

**Blood sugar range:** (A-GLUF is 11.5mmol/l) with HDL 1.41 normal (1.04-1.55mmol/l), LDL 3.98 optimal <2.59mmol) =accordingly to the national cholesterol education program (NCEP us has set the following guide lines (references values)

**B-GLUF:** (5.4mmol/L, HDL 0.90mmol/l, LDL 2.74mmol/l)

**C-GLUF:** (9.5mmol/l, HDL 1.20 mmol/l, LDL 3.07 mmol/l)

## Demographical Data

Age=for all 39 patients (C-34, A-47, B-47 years) age group (20 years-3-patients, 30 years-10 patients, 40 years-12 patients, 50 years-11 patients, 60-70years about 3 patients.

Gender: For all 39 were about 26 males, 13 female patients (2 Males 1 Female)

Marital status: Single 19 patients, married, 15 patients, divorced- 5 patients

## Exclusion criteria

- Patient who is taking clozapine combined with another antipsychotic.
- Children
- Elderly patient with Dementia

## Conclusion

Patients receiving clozapine are at significantly increased risk for developing the metabolic syndrome. Psychiatrists and other providers should consider performing regular physical health monitoring to prevent long-term adverse health consequences. Metabolic syndrome is a collection of risk factors that are associated with increased morbidity and mortality due to cardiovascular disease [1]. Schizophrenia has long been associated with elements of the metabolic syndrome, and numerous studies have found increased mortality because of cardiovascular disease [2-4].

Several possibilities have been suggested to explain these associations in schizophrenia, including poor diet, lack of exercise, cigarette smoking, and stress, as well as abnormalities of the hypothalamic-pituitary-adrenal axis [5-7]. In recent years, treatment with antipsychotic medications has been recognized as an additional risk factor for the development of metabolic abnormalities [8]. Clozapine was approved by the Food and Drug Administration in, yet it remains the only antipsychotic medication with established efficacy in treatment-resistant schizophrenia patients [9].

Despite its efficacy, growing evidence suggests that clozapine has a substantial effect on metabolic parameters. In a meta-analysis of over 80 studies examining weight gain [10], Clozapine treatment was associated with an average gain of 9.8lb. Over 10 weeks-the most of any antipsychotic drug. More case reports of clozapine-associated glucose abnormalities have been submitted to the Food and Drug Administration [11] and published [12] than for any other antipsychotic drug (Figure 1). Reports have also associated clozapine treatment with the development of Hypertriglyceridemia [13], Increased total cholesterol levels [14], and Hypertension [15]. The purpose of this study was to assess the prevalence of the metabolic syndrome among a group of outpatients receiving clozapine. The National Cholesterol Education Program's definition of the metabolic syndrome was chosen for our study purposes because of its ease of use in clinical practice [16].

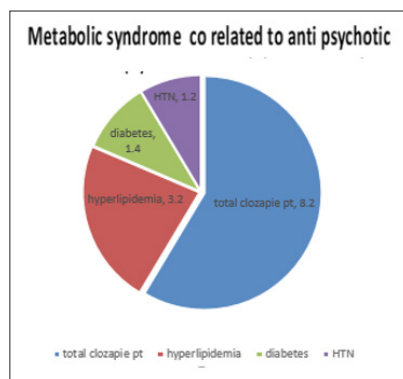


Figure 1.

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