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Predictors of second-generation antipsychotic-induced weight gain: a longitudinal study with antipsychotic-naïve patients

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Introduction

- Weight gain (WG) is a common adverse event of second-generation antipsychotics (SGAs) associated with a significant increase in morbidity, social stigma, and treatment non-adherence [1, 2].
- Retrospective studies report a higher risk of WG in the first 3 months of treatment. Predisposing factors include premorbid BMI, female sex, younger age, and being diagnosed with a psychotic disorder [3].

Objectives

- To assess short-term (i.e. baseline to 6 weeks) and medium-term (6 weeks to 6 months) WG in a cohort of paediatric and adult patients naïve to SGAs.
- To study the differential predicitve value of sociodemographic variables and of anthropometric and metabolic variables at baseline associated with the short- and medium-term WG.

Methods

- Six-month longitudinal, observational, multicenter study.
- N=208 antipsychotic-naïve pediatric and adult patients (lifetime exposure to SGAs fewer than 10 days)
- **Assessments**: anthropometric changes within two time periods:
  Basal - 6-weeks (short-term): weight and BMI changes
  6 weeks - 6months (medium-term): weight and BMI changes
- **Metabolic markers**:
  - Total Cholesterol
  - LDL-cholesterol
  - HDL-cholesterol
  - Glucose
  - Insulin
  - HbA1c
  - Leptin
  - Adiponectin
  - Triglycerides
- Two multivariate regression analyses were performed to estimate the effect of sociodemographic, anthropometric and metabolic factors at baseline on short- and medium-term WG.

*HbA1c: Glycated Hemoglobine
BMI: Body-mass index

Results

Sociodemographic Variables		
N	208	
Age	Mean	37.97±20,48 years
	>18 years	74,6%
	Range	13-90
Males	56%	
Psychotic disorder	56,8 %	

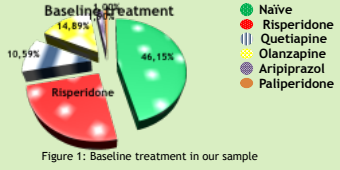

Figure 1: Baseline treatment in our sample

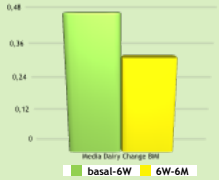

Figure 2: Mean Daily BMI Change

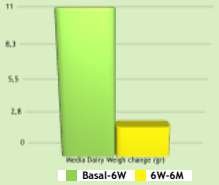

Figure 3: Mean Daily Weigh Change (gr)

BASAL-6 WEEKS REGRESSION MODEL VARIABLES INCLUDED

	Confidence Interval (95%)		Correlations			Signification
	Inferior Limit	Superior Limit	Parcial	Semiparcial	Explained Variance	(p)
Gender (females)	-0,934	-0,408	-0,263	-0,256	**6,55%**	***<0,001**
BMI_Basal	-0,108	-0,05	-0,278	-0,272	**7,40%**	***<0,001**
Leptina_Bas	0,003	0,026	0,138	0,131	**1,72%**	***0,011**
Whole model adjusted*				**0,342**	**11,7%**	***0,011**

Dependent Variable: Change BMI Baseline to 6 weeks

***After adjusting the model for age, sex, baseline BMI, leptin, glucose, insulin, HbA1c, adiponectin, cholesterol, and triglycerides).**

Table 1: Change BMI baseline-6weeks regression model

6 WEEKS-6 MONTHS REGRESSSION MODEL: VARIABLES INCLUDED

	Confidence Interval (95%)		Correlations			Significatio n
	Inferior Limit	Superior Limit	Parcial	Semiparcial	Explained Variance	(p)
Adiponectin Basal	0,026	0,105	0,195	0,195	**1,88%**	***0,022**
Leptin Basal	-0,042	-0,003	-0,139	-0,137	**3,80%**	***0,001**
Whole model adjusted*				**0,210**	**4,4%**	***0,022**

Dependent Variable: Change BMI 6 weeks-6 months

***After adjusting the model for age, sex, baseline BMI, leptin, glucose, insulin, HbA1c, adiponectin, cholesterol, and triglycerides).**

Table 2: Change BMI 6 weeks-6 months regression model

Conclusions

✓ Most of the weight gain during the six month follow-up takes place in the first 6 weeks of treatment..
✓In the short-term period male gender, basal-BMI, and leptin levels predict WG.
✓ In medium-term basal leptin and adiponectin levels predict WG.
✓Most WG can not be explianed by the variables studied.

References

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