

Risperidone and Olanzapine comparison for weight changes in a 24 months open extension study

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Background:

Atypical antipsychotics are efficacious treating both positive and negative symptoms, but may have negative influence on patient's body weight. Some degree of weight gain may occur with any atypical antipsychotic agent, but Clozapine and Olanzapine are associated with a higher risk for weight gain than other drugs. A more important consideration is the long-term effects of the atypical antipsychotic on body weight, because weight gain is associated with noncompliance and other medical problems.

Materials and Methods:

This open label study involved 60 hospitalized patients, assigned to an Olanzapine (n = 30) or Risperidone group (n = 30), who were followed after discharge over a period of two years. All participants were drug naive before the study and they were educated about dietary control and physical activity during the treatment. The patients were included in the study in such a way that each patient who was given Olanzapine was followed by the next hospitalized patient of the same sex who was given Risperidone. Written informed consent was obtained for all patients. The study involved 34 males and 26 females. The sample's mean age was 38.52 years. 54 patients met criteria for schizophrenia and 6 patients for schizoaffective disorder according to ICD-10. The average length of hospitalization was 31 days, and the patients were then monitored ambulatory care over a defined period of time, with body weight controls in one month intervals. Body weights recorded at baseline, after 6 months and two years were analyzed in this study. Dosage was flexible and ranged from 1–8 mg/d for Risperidone and 5–20 mg/d for Olanzapine. All patients had only one antipsychotic drug in the treatment, and the only allowed concomitant therapy in the first month of treatment were benzodiazepines (Lorazepam <4 m/d or Alparazolam <2 mg/d). A total score of ≥ 60 on the Positive and Negative Symptoms Scale (PANNS) was recorded at baseline for every patient, and all of them had $\geq 50\%$ improvement in the total PANNS score at 6 months and 2 years after the beginning of treatment. Statistics were done using analysis of variance (ANOVA).

Table 1. Patient Characteristics

	Risperidone (N=30)	Olanzapine (N=30)
Gender, n/N (%)		
Male	17 (56,67)	17 (56,67)
Female	13 (43,33)	13 (43,33)
Mean age \pm SD, years	39,8 \pm 8,1	37,4 \pm 9,2
Range	25-60	21-58
ICD-10, diagnosis n (%)		
Schizophrenia	28 (93,33)	26 (86,67)
Scizoaffective disorder	2 (6,67)	4 (13,33)
Dosage mg/day - n (%)		
2 - 4 (13,33)		5 - 1 (3,33)
4 - 19 (63,33)		10 - 28 (93,34)
6 - 6 (20,00)		20 - 1 (3,33)
8 - 1 (3,34)		

Results:

There was no statistically significant difference between the two groups at baseline regarding age ($p = 0.26$) and body weight ($p = 0.19$). The baseline mean weight for Olanzapine treated patients was 77.13 ± 2.645 kg, and for Risperidone 78.33 ± 3.204 kg.

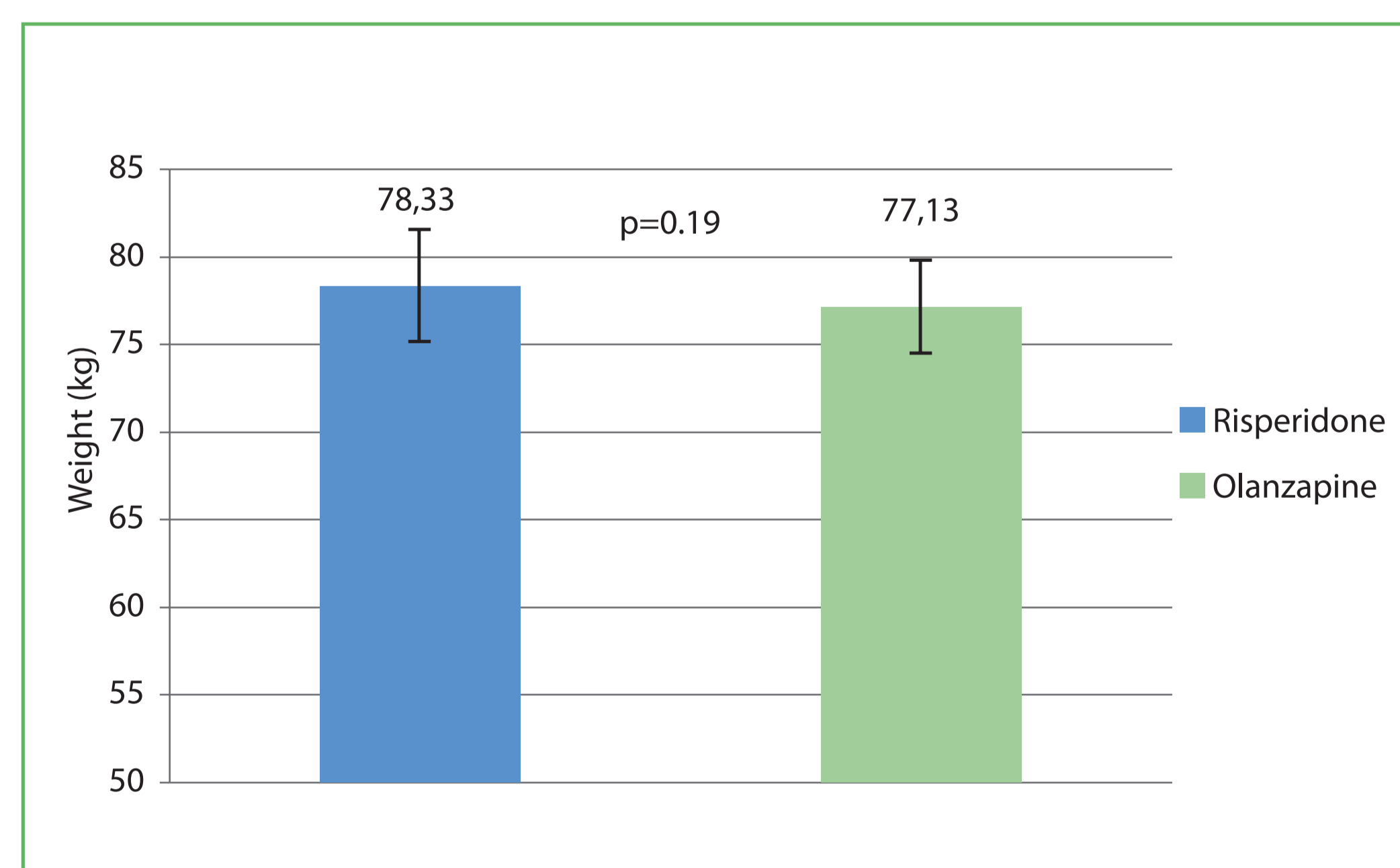


Figure 1. Comparison of Baseline Mean Weight in Patients receiving Risperidone or Olanzapine

The weight gain in the Risperidone group after 6 months of therapy was 2.10 ± 0.372 kg, and in the Olanzapine group 5.43 ± 0.487 . There was a statistically significant difference in the weight gain between these two groups ($p < 0.001$) after 6 months of therapy. After 24 months of therapy the Risperidone treated patients' body weight was higher $3, 16 \pm 0.481$ kg, and for those receiving Olanzapine it was 8.97 ± 0.563 kg compared to baseline. A statistically significant difference in weight change between the Risperidone and Olanzapine groups was found at the end of the study compared to baseline ($p < 0.001$).

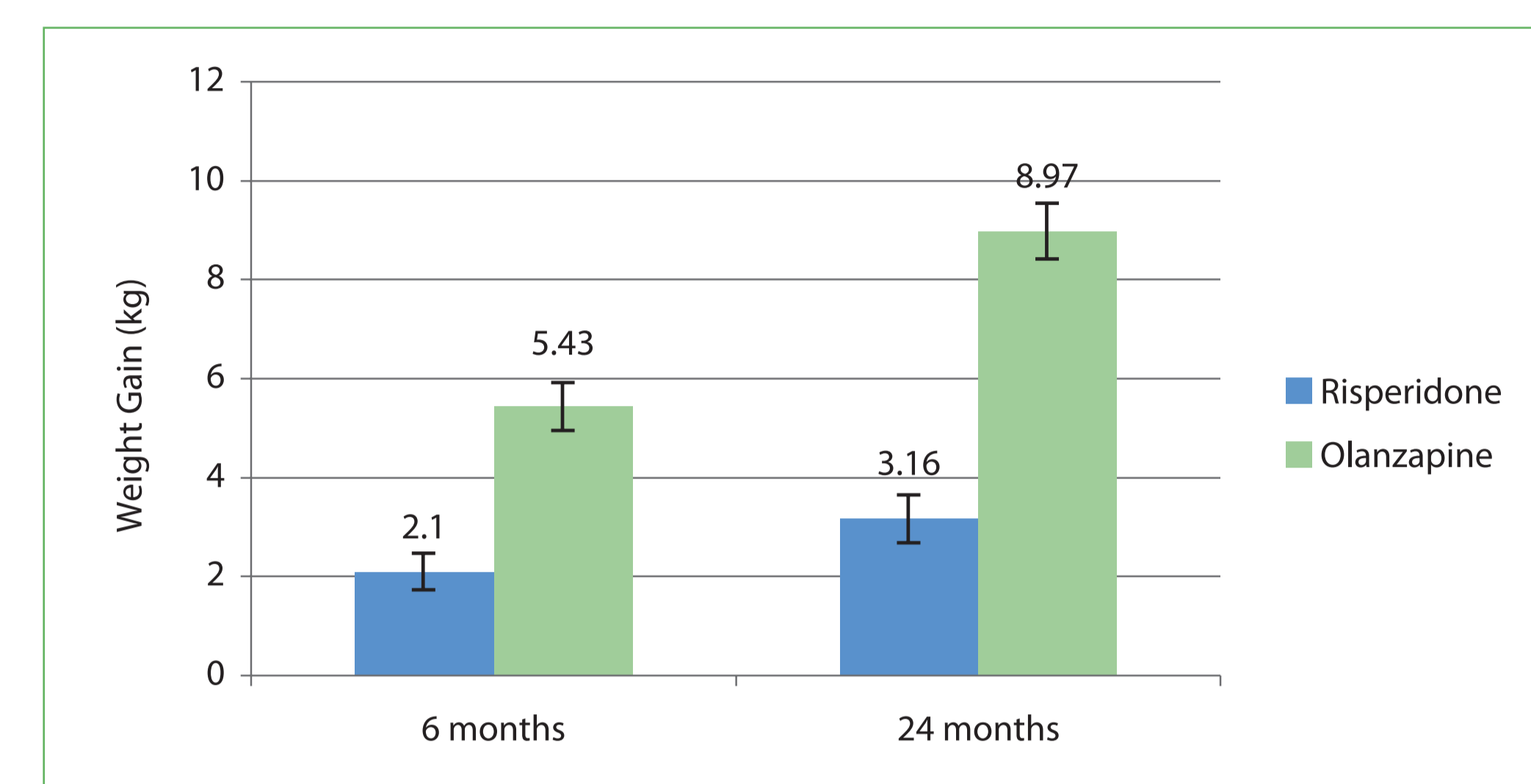


Figure 2. Weight Gain in Patients receiving Risperidone or Olanzapine at 6 and 24 months

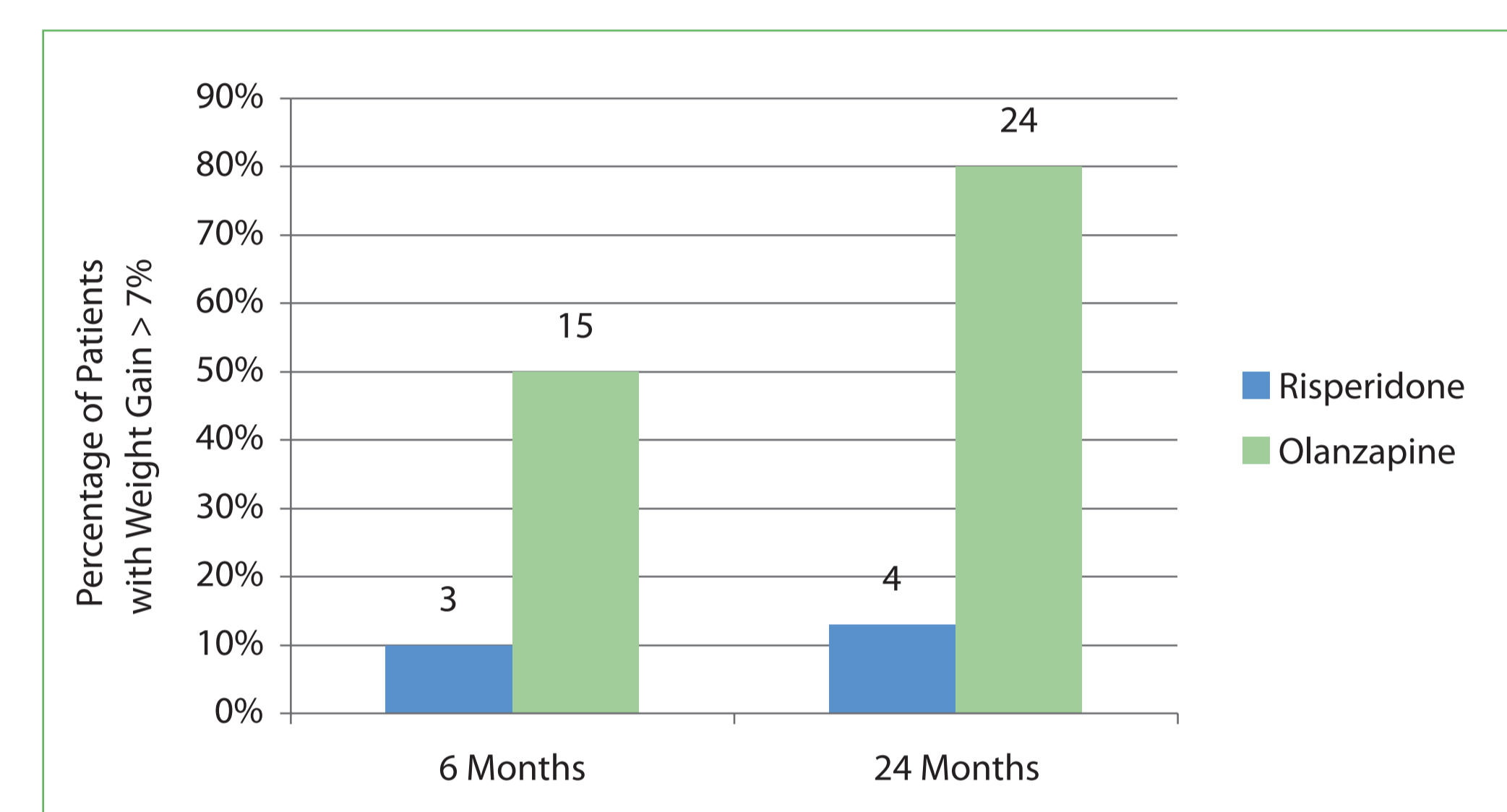


Figure 3. Percentage of Patients treated with Risperidone or Olanzapine with Significant Weight Gain (>7%) at 6 and 24 Months

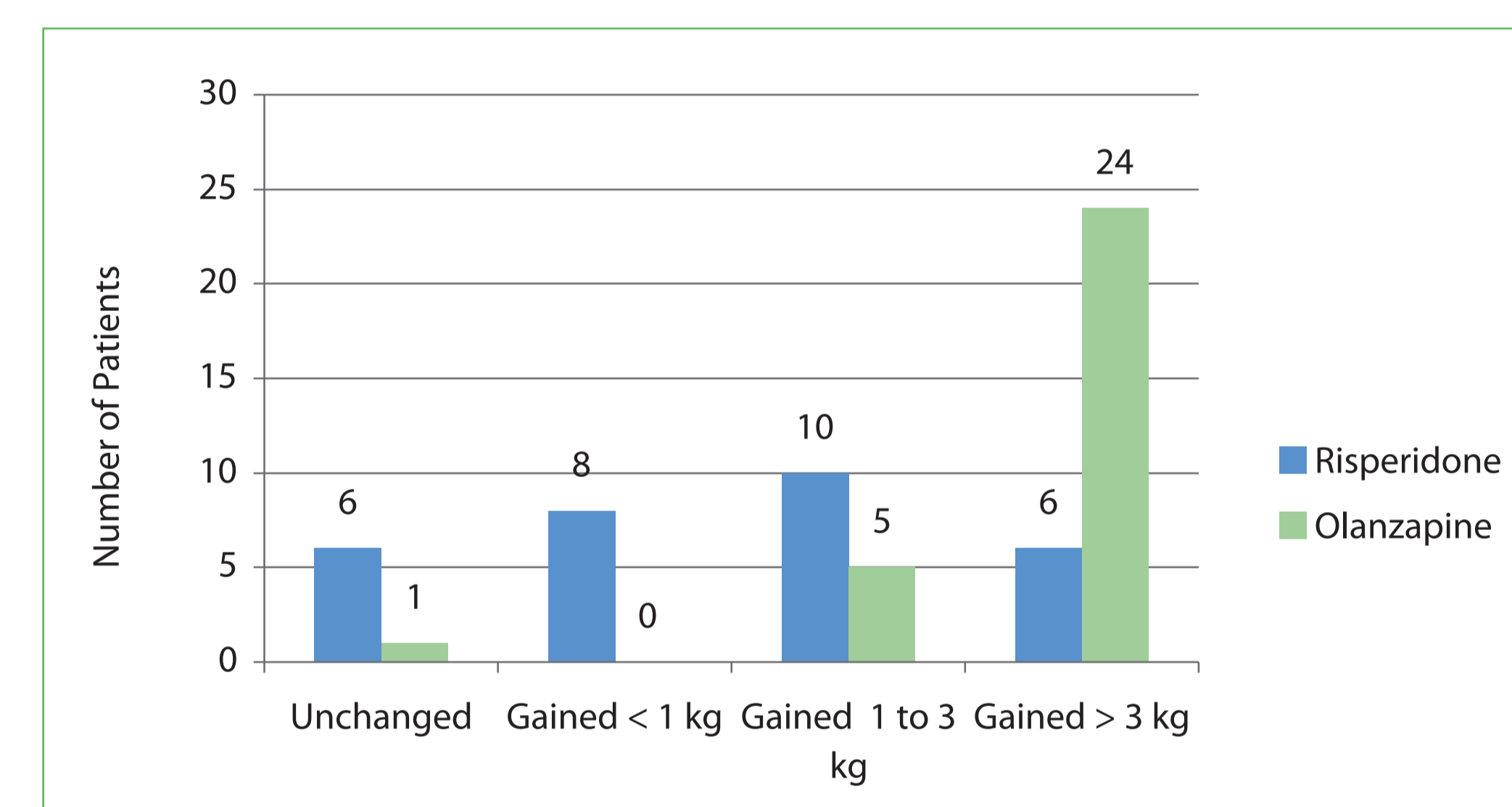


Figure 4. Comparison of Weight Changes in Patients treated with Risperidone or Olanzapine at 6 months

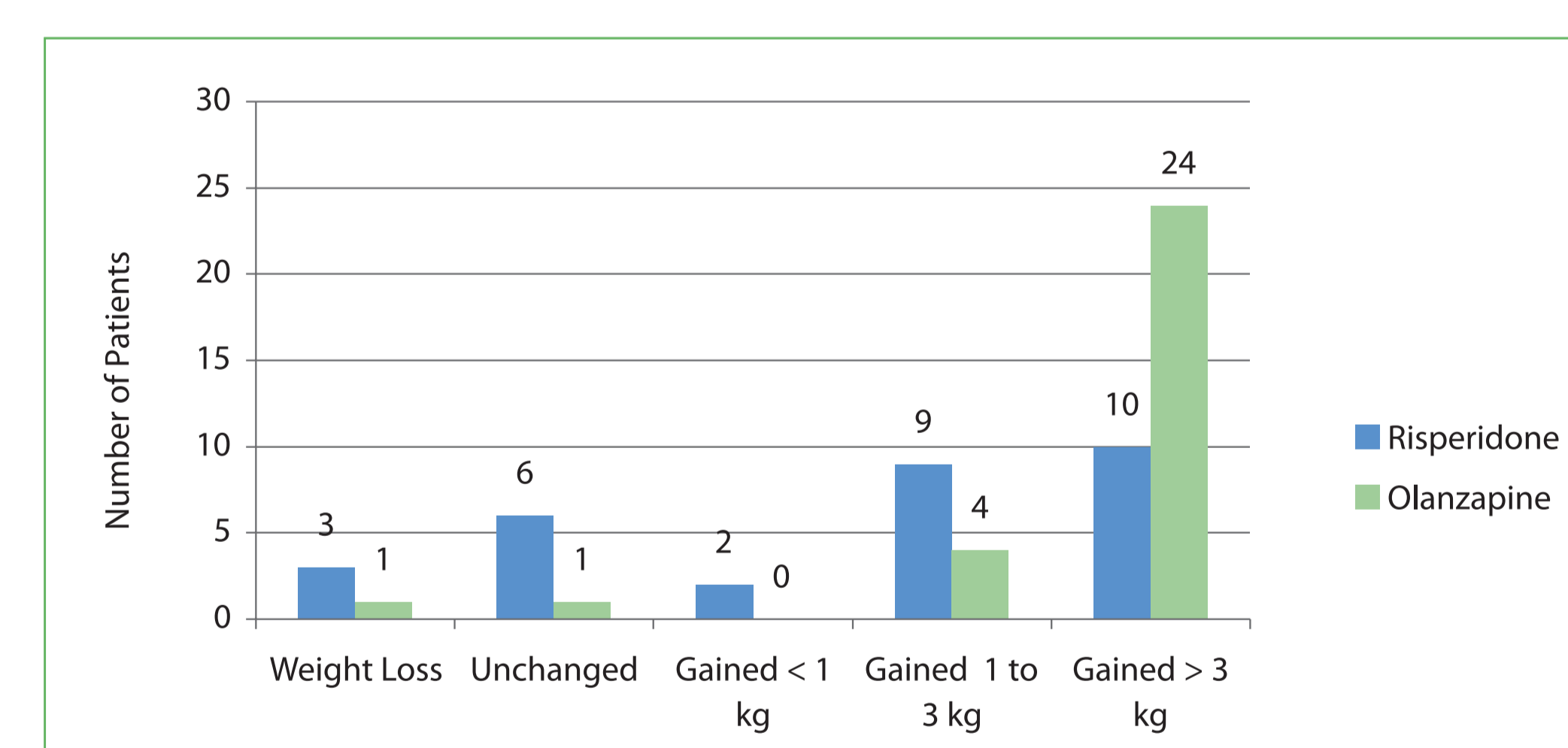


Figure 5. Comparison of Weight Changes in Patients treated with Risperidone or Olanzapine at 24 months

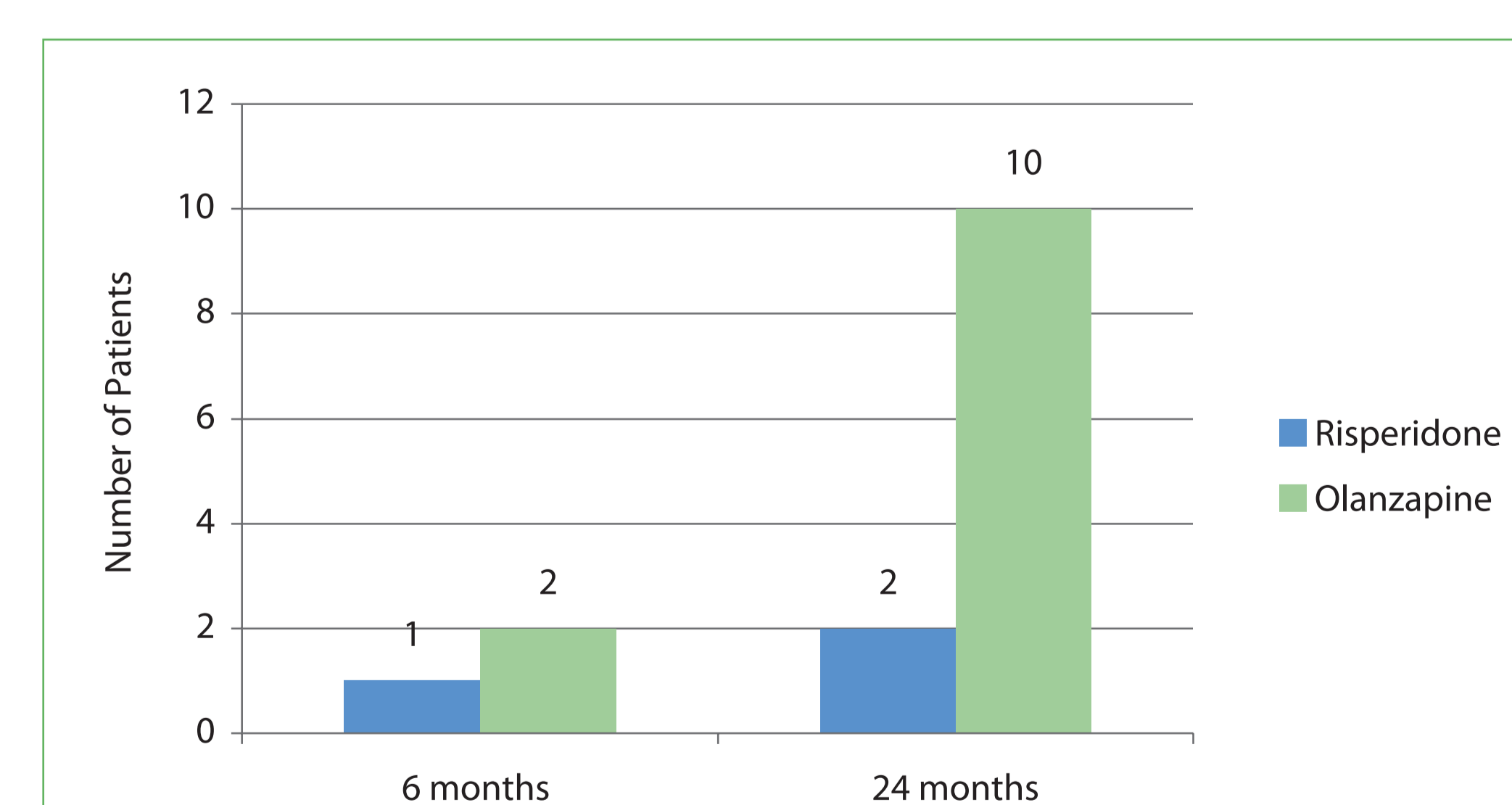


Figure 6. Number of Patients treated with Risperidone or Olanzapine with Enormous Weight Gain (> 10 kg) at 6 and 24 months

Conclusion:

The weight gain in this study was significantly more pronounced in the group of patients on Olanzapine than in the Risperidone group, both 6 months after the beginning of therapy and at the end of the monitoring period of two years.

References:

- Allison, D.B., Casey, D.E., 2001 Antipsychotic-induced weight gain: a review of the literature. J Clin Psychiatry 62(suppl7), 22–3.
- Taylor, D.M., McAskill, R., 2000. Atypical antipsychotics and weight gain – a systematic review. Acta Psychiatr Scand 101, 416–32.