Pharmacological treatment and other predictors of treatment outcomes in previously untreated patients with schizophrenia: results from the European Schizophrenia Outpatient Health Outcomes (SOHO) study

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The present study aimed to compare health outcomes and tolerability according to antipsychotic medication (olanzapine, risperidone or an oral typical antipsychotic) after 6 months of treatment in a group of 919 schizophrenic patients who had never previously been treated with antipsychotics. Demographic and clinical predictors of outcome were also identified. Data were extracted from the Schizophrenia Outpatient Health Outcomes (SOHO) study, a prospective, observational study of schizophrenia treatment in 10 European countries. Patients who initiated olanzapine were more likely to have a clinical response than those in the risperidone cohort, and had a greater improvement in quality of life than patients in the risperidone or typical antipsychotic cohorts. High negative and depression symptom scores at baseline and the presence of extrapyramidal symptoms at baseline predicted a worse clinical response, whereas hostile behaviour, paid employment and substance abuse predicted a better clinical outcome. The olanzapine cohort gained more weight than patients in the risperidone cohort, but no significant difference in weight gain was observed between olanzapine and the oral typical antipsychotic cohort. The results should be interpreted conservatively due to the observational study design. \textit{Int Clin Psychopharmacol} 20:199–205 \textcopyright 2005 Lippincott Williams & Wilkins.


Keywords: Antipsychotics, clinical outcome, quality of life, schizophrenia

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Introduction

Predictors of outcome in medication naïve schizophrenic patients, including the clinical and sociodemographic characteristics of patients, have been relatively well studied (Lieberman et al., 1996; Robinson et al., 1999; An der Heiden and Hafner, 2000). A longer duration of untreated psychosis predicts a poorer treatment response and long-term outcome (Altamura et al., 2001; Bottlender et al., 2003). Less is known about how the clinical improvement of patients varies according to the different antipsychotic drugs prescribed. In addition, few randomized controlled trials (Emsley, 1999; Sanger et al., 1999; Emsley and Oosthuizen, 2003; Lieberman et al., 2003) or naturalistic studies (Bobes et al., 2003; Montes et al., 2003) have examined the effects of atypical antipsychotics in first-episode schizophrenia. Moreover, most of these studies included only small samples of patients.

The European Schizophrenia Outpatient Health Outcomes (SOHO) study is a prospective, observational investigation that includes over 10 000 patients (Haro et al., 2003a; Haro et al., 2005; Lambert et al., 2005). The present study reports the outcomes (effectiveness, tolerance and quality of life) at 6 months in the subgroup of previously untreated patients with schizophrenia who started treatment with olanzapine, risperidone or oral typical antipsychotics. It also identifies clinical and sociodemographic predictors of outcome.

Methods

The SOHO study is currently being conducted in 10 European countries (Denmark, France, Germany, Greece, Ireland, Italy, The Netherlands, Portugal, Spain and UK). Local ethics committee approval was obtained in each country and all patients provided at least informed oral consent. Details of the study methods and recruitment have been published previously (Haro et al., 2003a).

The subgroup of previously untreated patients with schizophrenia was obtained from the population of individuals participating in the SOHO study. To be enrolled in SOHO, patients had to be at least 18 years old and to have initiated antipsychotic medication therapy for
the treatment of schizophrenia in an outpatient setting. From this population, investigators identified patients who had never received previous antipsychotic treatment based on the following criteria: (i) patients had never received treatment for schizophrenia and (ii) patients had not received any antipsychotic treatment in the 6 months before study inclusion.

By using a stratified sampling strategy that oversampled patients starting olanzapine, SOHO was designed to provide two, approximately equal-sized, patient cohorts: (i) one that initiated therapy with olanzapine and (ii) another that initiated therapy with a non-olanzapine antipsychotic. Similar group sizes were not maintained in the current analysis because a higher proportion of patients in the olanzapine cohort than in the other treatment cohorts had never been treated with antipsychotics before inclusion in the study.

Participating psychiatrists were asked to make treatment decisions before (and independently from) assessing the patient for enrolment. All patient care was at the discretion of the participating psychiatrist; no instructions were included in the study protocol.

Data were collected by psychiatrists during the normal course of treatment at the baseline assessment and at approximately 3- and 6-month follow-up. Clinical severity was assessed using the Clinical Global Impression (CGI) Scale (Guy, 1976) and a modified version of the CGI scale, which evaluated positive, negative, cognitive, depressive and overall symptoms on the day of assessment on a seven-point scale (Haro et al., 2003b). Health-related quality of life was measured using the generic EuroQoL-5D Visual Analogue Scale (EQ-5D VAS) instrument (Williams, 1990). Medication tolerability assessments included weight, body mass index (BMI), extrapyramidal symptoms (EPS), gynaecomastia, amenorrhoea and sexual dysfunction-related symptoms.

Statistical analysis
Outcomes associated with individual antipsychotics were assessed by assigning patients to treatment cohorts based on the antipsychotic that they initiated at the baseline assessment. All analyses were performed on this basis, irrespective of whether patients were still receiving that medication after 6 months. Only those treatment cohorts with at least 40 patients were included in the analysis: olanzapine, risperidone and oral typical antipsychotics. Clinical response to treatment was defined a priori by the SOHO Advisory Board (blinded to the outcome data by cohort) as: (i) a two-point decrease in the overall CGI-severity score from baseline to follow-up when the baseline score was 4–6 points or (ii) a one-point decrease from baseline to follow-up when the baseline score was 1–3 points. A sensitivity analysis was conducted to determine whether a more conservative definition of response altered the results. Therefore, the analysis was repeated using response defined as a two-point decrease in CGI score and an end rating of ≤ 3.

A logistic regression model (adjusted for baseline covariates) compared the odds of a clinical response in the olanzapine patient cohort with each of the other drug cohorts. An analysis of variance model (ANOVA) was used for EQ-5D VAS outcome. In both models, the following baseline covariates were included: visit, cohort-by-visit interaction; gender; age; independent housing; paid employment; suicide attempt in the past 6 months; time since first contact; weight; relationship; social functioning; alcohol dependency; hostility; current substance abuse; EPS; CGI (positive, negative, cognitive, depressive and overall) symptoms; and EQ-5D VAS. A stepwise selection criterion based on a chi-square test was applied to remove the variables that did not appear to have a significant influence in predicting the different endpoints. The same models were used for the analysis of the clinical and sociodemographic predictors of outcome. Only those variables related to outcome (P < 0.1) are reported.

Tolerability was analysed using logistic regression and ANOVA models. The following dependent variables were considered: EPS at 6 months (yes/no), loss of libido (yes/no), impotence/sexual dysfunction (yes/no), amenorrhoea (yes/no), and weight and BMI change compared to baseline. Gynaecomastia and galactorrhoea were excluded from the multivariate analysis because too few patients reported these problems. Again, the list of covariates used was defined through stepwise selection.

Results
Of the 10 972 patients enrolled in the SOHO study, 1033 had never previously been treated with antipsychotics. A total of 919 patients received olanzapine (n = 650), risperidone (n = 224) or a typical antipsychotic (n = 45) as their first treatment for schizophrenia. The remaining 114 patients were not included in the analysis because they were in treatment cohorts with less than 40 patients, which would provide inadequate precision for the estimates on the longitudinal analysis. Of those 114 patients, 31 had started quetiapine, 29 had started amisulpride, 23 had started depot typical antipsychotics, five had started clozapine and 26 had started a combination of two or more antipsychotics. The baseline demographics and clinical characteristics of the 919 patients included in the analysis are summarized in Table 1. The CGI-overall scores and EQ-5D VAS scores at baseline were similar across the treatment cohorts.

Patients’ treatment patterns at the baseline visit and at 6 months are also summarized in Table 1. At 6 months,
the majority of patients remained on the antipsychotic prescribed at baseline, with the highest proportion in the olanzapine cohort (91.2%). A similar proportion of patients remained on olanzapine and risperidone monotherapy at 6 months (87.4% and 83.3%, respectively), whereas the proportion in the typical antipsychotic cohort was lower (69.1%). The mean and median doses of antipsychotics were within the recommended ranges for treating schizophrenia. A much higher proportion of patients in the risperidone and typical antipsychotic cohorts (17.3% and 19.0%, respectively) were taking anticholinergics at 6 months compared to the olanzapine cohort (3.5%). In addition, the percentage of patients taking antidepressants almost doubled from 15.6% at baseline to 27.7% at 6 months in the risperidone cohort, whereas there was only a slight increase in antidepressant consumption in the other two cohorts (Table 1). The overall CGI response rates at 6 months were high across all treatment cohorts (Table 2). They were similar in the olanzapine and typical antipsychotic cohorts (70.4% and 73.8%, respectively) and lower in the risperidone cohort (61.7%).

The multivariate model showed that the odds of a clinical response (as defined in the study in terms of overall symptoms) were significantly lower in the risperidone cohort compared to the olanzapine cohort (odds ratio 0.63; 95% confidence interval (CI) 0.44–0.90; \( P = 0.012 \)), whereas they were similar in olanzapine and oral typical cohorts. There was a significantly greater improvement in EQ-5D VAS score at 6 months in patients who were receiving olanzapine compared to those receiving risperidone or oral typical antipsychotics (Table 2).

When the analysis of CGI score was repeated using the more conservative definition of response in the sensitivity analysis, the results were similar to the main analysis: the

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### Table 1 Baseline clinical characteristics and 6-month treatment patterns of patients with schizophrenia who had not previously received antipsychotic treatment by antipsychotic cohort

<table>
<thead>
<tr>
<th>Variable</th>
<th>Olanzapine ( (n=650) )</th>
<th>Risperidone ( (n=224) )</th>
<th>Typical antipsychotic ( (n=45) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of patients at baseline</td>
<td>650</td>
<td>224</td>
<td>45</td>
</tr>
<tr>
<td>Gender (% female)</td>
<td>39.7</td>
<td>40.6</td>
<td>46.7</td>
</tr>
<tr>
<td>Age (years, mean ± SD)</td>
<td>33.5 ± 13.1</td>
<td>33.7 ± 13.6</td>
<td>36.9 ± 14.5</td>
</tr>
<tr>
<td>Age at first treatment contact for schizophrenia (years, mean ± SD)</td>
<td>31.2 ± 13.1</td>
<td>30.9 ± 12.4</td>
<td>29.8 ± 10.5</td>
</tr>
<tr>
<td>CGI – Overall (mean ± SD)*</td>
<td>3.53 ± 0.98</td>
<td>3.37 ± 0.90</td>
<td>3.47 ± 1.06</td>
</tr>
<tr>
<td>EQ-5D VAS (mean ± SD)</td>
<td>42.6 ± 21.1</td>
<td>43.0 ± 20.1</td>
<td>40.7 ± 24.7</td>
</tr>
<tr>
<td>Weight in kg (mean ± SD)</td>
<td>70.7 ± 13.2</td>
<td>71.0 ± 13.4</td>
<td>71.4 ± 15.3</td>
</tr>
<tr>
<td>Extrapyramidal symptoms (% yes)</td>
<td>2.7</td>
<td>4.6</td>
<td>4.6</td>
</tr>
<tr>
<td>Treatment patterns</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number (% patients with 6-month data)</td>
<td>546 (84.0)</td>
<td>192 (85.7)</td>
<td>42 (93.3)</td>
</tr>
<tr>
<td>Antipsychotic monotherapy at baseline visit (%)</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Antipsychotic monotherapy at 6 months (%)</td>
<td>87.4</td>
<td>83.3</td>
<td>69.1</td>
</tr>
<tr>
<td>Still on drug initiated at baseline at 6 months (%)</td>
<td>91.2</td>
<td>85.9</td>
<td>71.4</td>
</tr>
<tr>
<td>Mean ± SD dose at baseline (mg)</td>
<td>10.2 ± 5.5</td>
<td>4.1 ± 2.4</td>
<td>NAb</td>
</tr>
<tr>
<td>Median dose at baseline (mg)</td>
<td>10</td>
<td>4</td>
<td>NAb</td>
</tr>
<tr>
<td>Mean ± SD dose at 6 months (mg)</td>
<td>11.1 ± 5.0</td>
<td>4.6 ± 2.6</td>
<td>NAb</td>
</tr>
<tr>
<td>Median dose at 6 months (mg)</td>
<td>10</td>
<td>4</td>
<td>NAb</td>
</tr>
<tr>
<td>Anticholinergics at 6 months (%)</td>
<td>3.5</td>
<td>17.3</td>
<td>19.0</td>
</tr>
<tr>
<td>Antidepressants at baseline (%)</td>
<td>14.9</td>
<td>15.6</td>
<td>15.6</td>
</tr>
<tr>
<td>Antidepressants at 6 months (%)</td>
<td>18.1</td>
<td>27.7</td>
<td>19.0</td>
</tr>
<tr>
<td>Anxiolytics/hypnotics at baseline (%)</td>
<td>17.7</td>
<td>17.9</td>
<td>13.3</td>
</tr>
<tr>
<td>Anxiolytics/hypnotics at 6 months (%)</td>
<td>17.4</td>
<td>22.5</td>
<td>19.0</td>
</tr>
</tbody>
</table>

CGI, Clinical Global Impression scale; EQ-5D VAS, EuroQol-5D Visual Analogue Scale.

*aHigher CGI score means patients are more severely ill.
bThese categories include a mixture of drugs. NA, Not applicable.

### Table 2 Clinical and quality of life outcomes at 6 months by antipsychotic cohort

<table>
<thead>
<tr>
<th>Variable</th>
<th>Olanzapine</th>
<th>Risperidone</th>
<th>Typical antipsychotic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall CGI at 6 months (mean ± SD)*</td>
<td>1.94 ± 1.06</td>
<td>2.08 ± 1.10</td>
<td>1.76 ± 1.03</td>
</tr>
<tr>
<td>Response rate in overall CGI at 6 months (%)</td>
<td>70.4</td>
<td>61.7</td>
<td>73.8</td>
</tr>
<tr>
<td>CGI response odds ratio adjusted for baseline differences (95% CI)b</td>
<td>1</td>
<td>0.63 (0.44, 0.90); ( P = 0.012 )</td>
<td>1.17 (0.50, 2.70); ( P = 0.012 )</td>
</tr>
<tr>
<td>EQ-5D VAS at 6 months (mean ± SD)</td>
<td>64.4 ± 18.1</td>
<td>61.1 ± 18.8</td>
<td>61.2 ± 21.1</td>
</tr>
<tr>
<td>EQ-5D VAS at 6 months difference in adjusted means (95% CI)c</td>
<td>0</td>
<td>–3.73 (–1.48, –5.97); ( P = 0.001 )</td>
<td>–6.81 (–2.58, –11.03); ( P = 0.002 )</td>
</tr>
</tbody>
</table>

CGI, Clinical Global Impression scale; CI, confidence intervals; EQ-5D VAS, EuroQol-5D Visual Analogue Scale.

*aHigher CGI score means patients are more severely ill.
bValues < 1 indicate the odds of being a responder are lower compared to olanzapine.
cValues < 0 indicate that EQ-5D VAS outcome is lower compared to olanzapine.
Baseline predictors for EQ-5D VAS score at 6 months included age ($P < 0.001$), EQ-5D VAS score ($P < 0.001$), a suicide attempt in the last 6 months ($P < 0.01$), living independently ($P < 0.001$) and overall CGI score ($P < 0.01$). The predicted EQ-VAS score increased by 0.13 points for each additional year of age and by 1.84 points for each one-point increase in baseline CGI rating (higher rating indicates better quality of life). Patients who lived independently had a predicted EQ-VAS score 3.03 points higher and patients who had attempted suicide had a predicted EQ-VAS score 4.29 points lower.

The results of the tolerability analysis are summarized in Table 3. Patients in the risperidone cohort had a greater frequency of EPS and sexual problems at 6 months compared to those in the olanzapine cohort. Patients in the typical antipsychotic cohort had a higher risk of sexual-related side-effects. The olanzapine cohort gained an additional 1 kg in weight and an additional 0.4 kg/m² in BMI over the weight and BMI changes observed in the risperidone cohort (Table 3). No significant difference in weight gain or BMI gain was observed between olanzapine and the oral typical antipsychotic cohorts.

### Discussion

The SOHO study is a large prospective, observational investigation to examine the long-term use of, and outcomes associated with, antipsychotic drugs in schizophrenia. More than 1000 patients who had never previously been treated with antipsychotics were included, and the results of 919 patients treated with olanzapine, risperidone or typical antipsychotics were analysed in the present study. The results at 6 months, as reported here, showed that patients in all three antipsychotic cohorts (olanzapine, risperidone and oral typicals) experienced significant improvements in symptom severity and quality of life. The response rate in clinical symptoms ranged from 62% to 74%, being slightly lower for the risperidone cohort than the other two cohorts. Taking into account that there is no standard definition of response with the CGI scale (we based our analysis on a definition of response decided by the SOHO advisory board), we repeated our analysis using a more conservative definition of response (a two-point decrease in CGI score and an end rating of $\geq 3$) and found that the results were similar. These clinical improvements translated into improvements in health-related quality of life (EQ-5D VAS) at 6 months.
between cohorts due to the observational nature of the SOHO study, multivariate models were used to compare treatment cohorts, taking into account possible confounding factors (sociodemographic and clinical characteristics). The results of these models confirmed the results described above. Furthermore, patients in the olanzapine cohort had a small but significantly greater improvement in quality of life compared to patients in the other two cohorts.

Our results are broadly consistent with other studies and support recommendations that atypical antipsychotics should be considered as first-line treatment in newly diagnosed schizophrenia because they are at least as effective as typical agents and better tolerated (NICE, 2002). The few randomized clinical trials that focus on first episode patients have supported this advantage of atypical antipsychotics over typical antipsychotics (Emsley, 1999; Sanger et al., 1999). Our results agree with those of Sanger et al. (1999) who showed benefits of olanzapine versus haloperidol in first episode patients. Emsley (1999) found no statistically significant differences between risperidone and haloperidol, but better medication tolerability for risperidone. We have not found any randomized clinical trial that compares olanzapine with risperidone in first episode patients. On the other hand, in two observational studies of never-treated patients with schizophrenia, olanzapine was significantly more effective than typical antipsychotics, as assessed using the Brief Psychiatric Rating Scale and CGI (Bobes et al., 2002). The few randomized clinical trials that focus on first episode patients have supported this advantage of atypical antipsychotics over typical antipsychotics (Emsley, 1999; Sanger et al., 1999). Our results agree with those of Sanger et al. (1999) who showed benefits of olanzapine versus haloperidol in first episode patients. Emsley (1999) found no statistically significant differences between risperidone and haloperidol, but better medication tolerability for risperidone. We have not found any randomized clinical trial that compares olanzapine with risperidone in first episode patients. On the other hand, in two observational studies of never-treated patients with schizophrenia, olanzapine was significantly more effective than typical antipsychotics, as assessed using the Brief Psychiatric Rating Scale and CGI (Bobes et al., 2003), and risperidone had comparable long-term efficacy to typical antipsychotics (Malla et al., 2001). Olanzapine may also offer an improved quality of life outcome (Montes et al., 2003). In agreement with previous reports (Bhana et al., 2001), the lowest incidence of EPS at 6 months was observed in the olanzapine cohort. However, olanzapine was associated with greater weight gain (approximately 1 kg at 6-month follow-up) than risperidone and oral typical antipsychotics.

A surprising finding of our study was that the percentage of patients taking antidepressants almost doubled from 15.6% at baseline to 27.7% at 6 months in the risperidone cohort, whereas there was only a slight increase in antidepressant consumption in the other two cohorts. However, the logistic regression analysis demonstrated that the differences between cohorts in antidepressant use were not statistically significant after adjusting for the baseline differences.

The mean age of the patients included in our study (Table 1) was broadly consistent with previous studies. For example, Sanger et al. (1999) studied a sample of 83 patients with first episode of psychosis whose mean age was 27 years, and Oosthuizen et al. (2002) found that depressive symptoms at baseline predicted fewer negative symptoms in a sample of 80 patients with a mean ± SD age of 27.45 ± 7.57 years. Moreover, Szymanski et al. (1996) studied the course of treatment response in first episode schizophrenia in a neuroleptic naïve sample of 36 patients whose mean age was 29 years. In the ABC schizophrenia study, mean age at onset according to different definitions (as assessed by the Interview for the Retrospective Assessment of the Onset and Course of Schizophrenia and Other Psychoses, IRAOS) was 24.0 years for the first sign of the disorder, 25.5 years for the first negative symptom, 29.0 years for the first positive symptom, 30.1 years for a first peak of positive symptoms (climax of the first psychotic episode) and 30.3 years for the first admission to hospital (Hafner and An der Heiden, 1997).

In the present study, higher negative and depressive symptom scores and the presence of EPS at baseline were predictors of a worse symptom response rate at 6 months, whereas the presence of hostile behaviour, having paid employment and substance abuse at baseline were associated with a higher clinical response rate. Similarly, lower age, a higher baseline EQ-5D VAS score, a greater severity of positive symptoms and living independently at baseline were all predictors of a higher EQ-5D VAS score at 6 months, whereas having attempted suicide in the 6 months before the baseline visit and a higher CGI overall rating were predictors of a worse quality of life at 6 months.

Our results are in accordance with the findings of Geddes et al. (1994) who found that the presence of subjective feelings of depression was associated with a worse outcome. We found that the presence of EPS at baseline was related to a worse response rate. EPS is a consistent sign in first-episode patients (Lang et al., 2001; Srinivasan et al., 2001). In our study population, 2.7% to 4.6% had EPS at baseline. This rate is lower than that observed by Srinivasan et al. (2001) for dyskinesia (32%) and parkinsonism (13%) in 38 schizophrenic patients who had never been treated with antipsychotics, and by Lang et al. (2001), who found that 10 of 23 (43%) medication naïve patients had EPS at baseline. The presence of these motor symptoms may be related to soft neurological signs that are frequently present in some groups of first episode patients (Gupta et al., 1995; Malla et al., 1997), and usually indicate a worse prognosis. However, a poorer outcome in people with EPS at baseline may also reflect those patients who stop medication due to EPS.

Substance abuse in the 6 months before study inclusion was related to a better clinical outcome. To better understand these results, we further analysed response rates in patients with and without substance abuse at baseline. Of the 28 patients who reported substance abuse at baseline, none were abusing substances at
follow-up visits. These patients probably benefited greatly from stopping substance abuse as their rate of response (92.9%) was even better than that of patients without substance abuse at baseline (67.6%). Our results are in accordance with Dixon et al. (1991) who, in a sample of 83 schizophrenic inpatients, found that drug-abusing patients showed less severe psychopathology (on measures of positive and negative symptoms) at discharge than those without drug abuse. The authors attributed these findings to the discontinuation of substance use during hospitalization.

The observational nature of the SOHO study imposes a number of design limitations that need to be discussed. First, because the psychiatrists in our study were not blinded to treatment, this could have created an information bias favouring one of the cohorts. However, the response rates reported by investigators were accompanied by improvements in quality of life, which was patient-assessed, and thus much less prone to observer bias. The validity of the EQ-5D VAS has been verified in the 10 European countries participating in the SOHO study (Prieto et al., 2003). Second, although the stratified sampling approach led to oversampling in the olanzapine cohort, the statistical analysis applied prevented the size differences from affecting the results. Finally, treatment cohort assignment was based on the medication initiated at baseline and, because SOHO is observational, some patients changed treatment during the 6 months of follow-up.

Approximately half of the patients in the SOHO study started therapy with olanzapine due to the study design. Oversampling of the olanzapine cohort was included in the study protocol because the main objective of the study was to compare olanzapine with other antipsychotics. However, it may imply some limitations. First, the sample of patients included in SOHO is not directly representative of the population of patients starting a new antipsychotic in the outpatient setting. However, this limitation may not be relevant when we study the longitudinal effects on patients who start each medication. Second, the advantage of having a large sample of olanzapine patients is that very precise estimates of the outcomes of this group could be obtained. For treatment groups where the number of patients is small, the precision of the estimates obtained is reduced. For this reason, our statistical analyses focused on the comparison between olanzapine and other antipsychotics. Finally, the oversampling technique could introduce recruitment bias. The study protocol asked participating psychiatrists to make decisions about changing a patient’s medication and the type of antipsychotic prescribed before, and independent of, any decision to include that patient in the study. However, in cases where the psychiatrist was undecided about which antipsychotic to prescribe, their decision to prescribe olanzapine may have been influenced by the existence of the SOHO study. The effect of this recruitment bias is difficult to estimate, but it is possible that patients included in the olanzapine cohort on this basis may have a worse clinical course than those who psychiatrists are certain should receive olanzapine as a first option.

In interpreting these results, it should be noted that observational studies provide information on how treatments work in real clinical practice (Haro et al., 2003a). Outcomes in observational studies depend not only on treatment efficacy, but also on factors such as patient compliance and treatment tolerability. Such additional factors may explain differences in effectiveness between drugs that were not found in clinical trials assessing mostly efficacy. The high retention rate observed in the SOHO study at 6 months (84% to 93%) compares favourably with that in most clinical trials. However, comparisons of observational studies and randomized controlled trials have revealed that both can be valid and complementary when analysing treatment effects (Wells, 1999; Benson and Hartz, 2000; Conceato et al., 2000). Accordingly, the results of this study should be interpreted conservatively due to the lack of randomization of the cohorts.

In conclusion, the results from this large observational study have revealed that previously untreated patients with schizophrenia experience significant improvements in clinical symptoms and quality of life following 6 months of treatment with olanzapine, risperidone and oral typical antipsychotics. Certain baseline clinical and sociodemographic characteristics of patients, including the severity and type of schizophrenic symptoms, type of medication and EPS, are predictors of the response to treatment.

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References