Schizophrenia Antipsychotic Treatment Patterns and Costs in France

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REES France (Health Economics Evaluation Network)
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Objectives

• 1996: last survey about antipsychotic prescription patterns in France*;
• 1995 and 1996: risperidone and olanzapine introduction in France;
• Need for an updated description of schizophrenia treatment patterns in the presence of atypical antipsychotics;
• Repercussions in the daily cost of treatment?

METHODS
Data Sources: Psychiatrists

“EpiSurvey”

• Cross-sectional epidemiological survey;
• November 2002 – February 2003;
• Two levels for representativity purposes;

• 177 psychiatrists surveyed.
Data Sources: Patients

For each psychiatrist:

• Patient inclusion criteria:
  – Schizophrenic ambulatory patient;
  – Under antipsychotics for at least 6 months.

• Registry (n = 2741 patients)
  – All included patients seen in the month (max 25 patients);
  ➔ Treatment patterns information.

• Detailed survey (n = 1861 patients):
  – 3 treatment categories (olanzapine / amisulpride, risperidone, clozapine / typicals);
  – Max 9 (private practice) or 18 (hospital out-patients) adult included patients;
  ➔ Daily doses and co-prescriptions.
Statistical Analysis

• Multiple hierarchical weights to obtain population estimates;

• Generalized logit analysis:
  – Response variable: principal treatment prescribed (6 categories, reference category = Standard typical antipsychotic);
  – Covariates: patient characteristics, prescription source and co-prescriptions;
  → Identification of variables associated with current principal antipsychotic taken (association does not imply causation).

• Cost estimation based on drug presentation and daily doses.
RESULTS
Patients’ Broad Characteristics

- Mean age 40 years;
- 60% are men;
- 60% predominant positive symptoms;
- 60% followed by hospital psychiatrists.
- 30% ≥ 1 hospitalization during the year;
- 25% with a diagnosis < 5 years;
- 25% under legal protection;
Treatment Patterns

Patient percentage

0% 10% 20% 30%

Standard, Typical: 16.5%
Depot, Typical: 22.0%
Amlisulpride: 12.5%
Clozapine: 3.8%
Risperidone: 18.1%
Olanzapine: 27.1%

Principal treatment only.
## Daily Cost Of Treatment

Weighted average DCT, ex-factory price

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Mean DCT (€/day)</th>
<th>Inter-Quartile Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>All atypical</td>
<td>3.47</td>
<td>1.68 – 4.51</td>
</tr>
<tr>
<td>All standard typical</td>
<td>0.33</td>
<td>0.07 – 0.34</td>
</tr>
<tr>
<td>All typical*</td>
<td>0.30</td>
<td>0.17 – 0.28</td>
</tr>
<tr>
<td>All treatments</td>
<td>2.26</td>
<td>0.28 – 3.37</td>
</tr>
</tbody>
</table>

* Using for depot typicals only the estimated cost of Haldol Decanoas® (0.28 €/day)

Cost of principal antipsychotic prescribed (cost of co-prescriptions not included).
Ambulatory patients’ prescriptions differ among ambulatory care and hospital psychiatrists.
**Daily Cost Of Treatment and Prescription Setting**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Private practice</th>
<th>Hospital out-patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>All atypical</td>
<td>3.04</td>
<td>3.76</td>
</tr>
<tr>
<td>All standard typical</td>
<td>0.32</td>
<td>0.33</td>
</tr>
<tr>
<td>All typical*</td>
<td>0.31</td>
<td>0.29</td>
</tr>
<tr>
<td>All treatments</td>
<td>2.09</td>
<td>2.37</td>
</tr>
</tbody>
</table>

* Using for depot typicals only the estimated cost of Haldol Decanoas® (0.28 €/day)

Weighted average DCT, ex-factory price.
Cost of principal antipsychotic prescribed (cost of co-prescriptions not included).

➔ Ambulatory patients’ mean daily cost of principal treatment differ among private practice and hospital psychiatrists.
Principal Treatment and Associated Variables

- 27 potential covariates for the multinomial logit model, 14 retained:
  - Antiparkinsonians (p<0.0001)
  - Hospital prescription (p<0.0001)
  - Prescription change (p<0.0001)
  - Age (p<0.0001)
  - Legal protection (p<0.0001)
  - Smoking (p<0.0001)
  - Age of onset (p=0.0001)
  - Antidepressants (p=0.0006)
  - Anxiolytics (p=0.0007)
  - Therapy without drugs (p=0.0027)
  - Acute episode (p=0.0036)
  - Living with relatives (p=0.0095)
  - Hypnotics (p=0.0348)
  - Toxicomania (p=0.0384)

p-values calculated using Wald Chi-squared tests (type III analysis of effects)
Example: Antiparkinsonians

Odds ratio = 1

<table>
<thead>
<tr>
<th>Drug</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depot, typical</td>
<td>1.00</td>
</tr>
<tr>
<td>Amisulpride</td>
<td>0.25</td>
</tr>
<tr>
<td>Clozapine</td>
<td>0.50</td>
</tr>
<tr>
<td>Risperidone</td>
<td>0.75</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>1.00</td>
</tr>
</tbody>
</table>

- When taking an antiparkinsonian treatment:
  - Adjusted odds depot typical > adjusted odds standard typical
  - Adjusted odds atypical < adjusted odds standard typical
- Consistent with the observation of higher risk of extrapyramidal symptoms when using typical antipsychotics.
CONCLUSION

Antipsychotic prescription is associated with other co-prescriptions and the patient’s condition. The patterns of prescription remain complex.

Prescribing patterns have changed since the introduction of second-generation antipsychotics.

For a given antipsychotic, cost (i.e. dosage) differs between private practice and hospital settings.