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# Determinants of treatment satisfaction of schizophrenia patients: Results from the ESPASS study

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ABSTRACT

*Background:* Knowing the determinants of treatment satisfaction can provide better understanding of patient expectations in schizophrenia. The aim of this study was to determine which treatment-related factors were associated with treatment satisfaction, independently of patient-related or illness-related factors, in schizophrenia patients.
*Methods:* A cross-sectional study of data collected nationwide in France between 2005 and 2006 was conducted. 5500 adult patients with non-acute schizophrenia and requiring a switch of antipsychotic drug were included by 995 psychiatrists. Treatment satisfaction was assessed using the "PAtient SAtisfaction with Psychotropics" (PASAP) self-report questionnaire. Linear mixed model was used to explore the association between treatment satisfaction and treatment-related factors—including the current antipsychotic drug (none, first or second-generation antipsychotic) and psychosocial therapy—independently of patient-related and illness-related factors.
*Findings:* 3630 (66%) patients filled in the PASAP questionnaire. Main treatment-related determinants of higher levels of satisfaction were: (1) being on second-generation antipsychotics compared to first-generation antipsychotics (olanzapine: $\beta = 1.2$; CI95% = [0.5; 2.0], risperidone: $\beta = 0.9$; CI95% = [0.1; 1.6], clozapine: $\beta = 2.5$; CI95% = [0.6; 4.3] and amisulpride: $\beta = 1.2$; CI95% = [0.3; 2.1]) and (2) participating in psychosocial therapy ($\beta = 0.9$; CI95% = [0.3; 1.5]).
*Conclusion:* Treatment satisfaction in non-acute schizophrenia was related to the more recent antipsychotic agents and psychosocial therapy, which may reflect expectations of more pro-active care.


## 1. Introduction

Patient-related outcomes (PROs), increasingly used in medical research, are "a report of the status of a patient's health condition that comes directly from the patient, without interpretation […] by a clinician" (Food and Drug Administration, 2009). They are designed to assess the effectiveness of individual care or public health policies and also to give physicians an insight into the patient's mind, in order to better understand how his/her illness, life and the care provided interact. Numerous PROs have been developed, including measures of quality of life, disability, life satisfaction or treatment satisfaction, all fairly closely related.

In this paper "treatment satisfaction" refers, as in (Lebow, 1982) to "the extent to which treatment fulfils the wants, wishes and desires for treatment". Indeed, by measuring treatment satisfaction, we intuitively hypothesize that satisfaction reflects the gap between the patient's underlying—and unmeasured—expectations and where he/she positions him/herself in the range of all possible health states. Measuring treatment satisfaction also involves the patient correlating this self-perceived health state to treatment. This applies to the majority of patients and health conditions. However, in psychiatric conditions entailing poor insight, such as schizophrenia (Lincoln et al., 2007), dementia or mental retardation, these hypotheses are jeopardized (Wilson-d'Almeida et al., 2011).

Schizophrenia is, in many ways, a particular health condition. First, the illness impacts all aspects of the patient's social and professional life (Thornicroft et al., 2004) and it does so both during and between acute episodes. Second, it alters perception of self and of the outside world. Third, throughout the course of the illness, the patient's treatment and his/her day-to-day life will have a highly intricate relationship. Finally, patients cannot always perceive the usefulness or necessity of treatment. For all these reasons, measuring treatment satisfaction in schizophrenia patients is not trivial and several questions remain. What are the expectations of schizophrenia patients? How do they

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position themselves across a broad range of possible self-perceptions? How do they connect treatment to treatment satisfaction?

One way of gaining a better understanding of what underpins the notion of treatment satisfaction in schizophrenia patients is to assess the determinants of this satisfaction. Observational studies reveal a large number of factors associated with treatment satisfaction (Chue, 2006), either related to the patient, the illness or the treatment itself. Among patient-related factors, unemployment (Ruggeri et al., 2003; Thornicroft et al., 2004) or being of non-white ethnic origin (Gray et al., 2005) were found to be associated with lower satisfaction. Regarding illness-related factors, clinical improvement could be related to satisfaction (Gasquet et al., 2006; Gharabawi et al., 2006). As for treatment-related determinants of satisfaction, interaction with the care team or involvement in the treatment plan were found to be related to greater satisfaction among "heavy users" of psychiatric services (Gerber and Prince, 1999). Information regarding treatment or medication side effects seems to enhance satisfaction in "psychiatric" outpatients (Barak et al., 2001). Taking part in psychosocial therapy was found to be associated with increased satisfaction in bipolar patients (Miklowitz et al., 2007). Unfortunately, none of these aspects of care has been assessed in schizophrenia patients. Nor has any previous study investigated the impact of the psychiatrist him/herself on treatment satisfaction. Regarding medication, second-generation antipsychotics (SGA) could be associated with greater satisfaction than first-generation antipsychotics (FGA), although results are conflicting (Rabinowitz et al., 2001; Watanabe et al., 2004; Fujikawa et al., 2008). The number of psychotropic drugs has also been found to be associated with satisfaction (Fujikawa et al., 2008) —satisfaction levels decrease with the number of daily medications. Unfortunately, no previous study has assessed the independent association with satisfaction of these different factors.

The aim of the present study was to determine which treatment-related factors were associated with treatment satisfaction in non-acute schizophrenia patients, independently from patient-related and illness-related factors. We hypothesized that receiving SGA, compared to FGA, would be independently associated with greater satisfaction.

## 2. Method

The present cross-sectional study used data from the "Enquête Sur les Prescriptions antipsychotiques et sur l'Autonomisation et la Socialisation des patients Schizophrènes" (ESPASS) study.

### 2.1. Study setting and participants

ESPASS was designed to assess the 6-month impact on psychosocial functioning after an antipsychotic drug switch in non-acute schizophrenia. Its rationale and design have been previously described (Limosin et al., 2008; Leguay et al., 2010). This observational study was conducted between January 2005 and April 2006 across Metropolitan and Overseas France; 995 treating psychiatrists working in public or private hospitals included 6 to 8 consecutive patients each, over an 8-month period.

Eligible patients for ESPASS were aged at least 18, diagnosed with schizophrenia on the basis of the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (American Psychiatric Association, 1994) and requiring initiation or switch of antipsychotic drug in the normal course of care, according to the treating psychiatrist. No standardized interview was used to diagnose schizophrenia, in order to stick to real-life conditions and to maximize scope for generalising our results. Non-inclusion criteria were: (a) acute episode of schizophrenia, defined as having at least moderately delusional thoughts, hallucinations or conceptual disorganization, (b) co-prescription of mood stabilizer (lithium, valproate, carbamazepine), (c) refusal to participate in the study or (d) enrolment in another study. All medical changes were at the discretion of the treating psychiatrist.

This was a non-interventional study and verbal consent was obtained for all included participants. The study design was approved by the French National Medical Council ("Ordre National des Médecins") and the French commission on data collection and computerization ("Commission Nationale d'Informatique et Liberté").

### 2.2. Measures

Data were collected from the patient and the psychiatrist during the same visit, at baseline, and months 1, 3 and 6 (end of follow-up). In order to assess the association between treatment satisfaction and care before any change in medication, only baseline data were used.

#### 2.2.1. Outcome measure

Outcome was treatment satisfaction assessed using the PAtient SAtisfaction with Psychotropics scale (PASAP), self-administered anonymously. Briefly, the PASAP scale measures patient opinion on psychotropic treatment and the treating psychiatrist. It was validated in the French subgroup of a European bipolar disorder cohort (Goetz et al., 2007). Psychometric evaluation suggested unidimensionality (from observation of the scree-plot) and good internal consistency (Cronbach' $\alpha$ coefficient = 0.85). The scale contains 9 items with a Likert 5-point response scale (see Annex), ranging from "not at all" to "very much so" with a total score ranging from [9–45], the higher the score, the greater the satisfaction. For practical reasons, the total score was converted to [0–36].

#### 2.2.2. Treatment-related variables

Treatment-related data were collected by the treating psychiatrist: (a) main current antipsychotic drug: none, FGA or SGA (olanzapine, risperidone, clozapine, or amisulpride, which were the only SGA marketed in France at the time of data collection); (b) the number of other prescribed psychotropic drugs (including antidepressants, anxiolytics, sedative drugs, other antipsychotic drugs for sedative purpose and antiparkinson drugs); (c) participation in any psychosocial therapy (including social skills training, cognitive remediation therapy, psycho-educational therapy, cognitive-behavioural therapy, or day care); (d) current hospitalization (inpatient vs. day-care or outpatient); (e) gender and seniority of the psychiatrist.

#### 2.2.3. Potentially confounding variables

The following data were also collected by the treating psychiatrist.

*2.2.3.1. Patient-related variables.* Gender, age, employment status and living situation have been found associated with both satisfaction (Ruggeri et al., 2003; Thornicroft et al., 2004; Salokangas et al., 2006; Moret et al., 2007; Fujikawa et al., 2008) and antipsychotic drug choice (Barbui et al., 2006). Having an income from any source —work or state allowances—was also considered as a potential confounding variable. Body Mass Index (BMI) has been found associated with satisfaction (Fong et al., 2006) and antipsychotic drug choice (Edlinger et al., 2009).

Age was considered continuously. Gender, living situation (alone vs. married/cohabiting) and income (any income vs. none) were dichotomous variables. BMI was categorized according to international classification: underweight ($BMI < 18.5\ kg/m^2$), normal weight ($18.5 \leq BMI \leq 24.9\ kg/m^2$), overweight ($25 \leq BMI \leq 29.9\ kg/m^2$) and obese ($BMI \geq 30\ kg/m^2$).

*2.2.3.2. Illness-related variables.* Severity of illness was found associated with both treatment satisfaction (Gasquet et al., 2006; Gharabawi et al., 2006) and antipsychotic drug choice (Leucht et al., 2009). Shorter duration of schizophrenia has been found associated with