Reviewer's report

Title: Wisconsin Card Sorting Test performance among schizophrenic patients on classical and atypical antipsychotics: possible contribution from a remediation strategy

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Reviewer: Marie-Christine Hardy-Bayle

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The purpose of this article is to study and compare the performances of patients with schizophrenia on the WCST (a "classic" procedure and a remediation procedure which is based on verbalization) as a function of their treatment (classic NL or antipsychotics).

An additional objective is to assess whether it is possible to distinguish between various patient subtypes who are also receiving different treatments (classic NL or antipsychotics) on the basis of their verbalization responses.

This research therefore investigates an important question concerning the future development of and the care received by patients with schizophrenia (possible improvement in their cognitive functions; the place of cognitive remediation strategies and drug-based treatment).

1) The article is well structured and is clearly written. The presentation of the data is also clear.
2) One of the limitations appears to be the gap between the two questions which the authors raise and the ways they attempt to answer them in this study. Moreover, they emphasize this point themselves: due to the uncontrolled character of the distribution of the two types of drug-based treatment, no conclusion can be drawn concerning a possible link with a cognitive profile or a possible interaction or potentialization due to the use of the drug in the event of cognitive remediation. We are therefore left with the hypothesis (the result of earlier work conducted by this team and cited in the article - references 9 and 10) that this modified procedure for the WCST seems to reveal different subgroups of patients with different pathophysiological trajectories.
3) The results presented to us relate to the performances of patients already being treated with NL. What were their baseline performances? Were they comparable in the case of patients subsequently treated with classic NL and those administered antipsychotic treatment and what were the criteria leading to the choice of treatment (development of the illness, failure of other treatments, the patient's cognitive profile etc.)?
4) The studies showing that new antipsychotics are better than old ones are contradictory, complex and cannot be summarized by the excessively simplistic sentence on page 4, paragraph 2, which is based on a single reference. Furthermore, these studies mostly indicate a significant effect obtained by adding the results from a number of cognitive tests and not just a single test. This article is of great interest in revealing a superiority on a single, fine variable which is known in itself – however, at the same time, it has the great disadvantage of not using a blind procedure and, as stated above, not adopting the means necessary to answer the question it poses.
5) It is astonishing that the variables already identified by the team as being potentially prejudicial to remediation (negative symptoms, poor outcome, earlier age at onset, evoked on p.8) are not tested again here. It is absolutely essential to verify that these are not confounding variables in the two groups receiving treatment.

This article can be published if the (minor) corrections demanded are made.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable
Statistical review: No

Declaration of competing interests:
'I declare that I have no competing interests'