Reviewer's report

Title: Evaluation of the efficacy of Transcranial Direct Current Stimulation in the treatment of cognitive symptomatology in the early stages of psychosis: study protocol of a double-blind randomized controlled trial

Version: 0 Date: 02 Mar 2018

Reviewer: Frederic Haesebaert

Reviewer's report:

This protocol investigates the role of tDCS as a potential therapeutic tool for neurocognitive dysfunction in first episode psychosis. The topic is of interest for several reasons: 1) tDCS has recently demonstrated its interest as a treatment for schizophrenia. 2) tDCS as proven its efficacy in improving cognition in healthy subjects and more recently in patients with schizophrenia. 3) Finally, the early stages of psychosis is a critical period with neurocognitive deficits strongly linked to functioning. Targeting these deficits is of interest for the functional outcome of patients.

However some aspects need clarification to make the paper suitable for publication:

1. Inclusion criteria

-authors do not mention treatment such as benzodiazepines, that can impact the effect of neuromodulation techniques. Will patients with a prescription of benzodiazepines be included? How will authors take them into account in the results?

2. Some complements to the procedure should be added:

-What type of tDCS device will be used to deliver the treatment? How will the electrodes be applied (saline solution? gel?)

3. Outcomes do not include social cognition and functioning measurements though they appear as 2 critical targets in the introduction: author should include such measurements (at least functioning) if still possible.

4. Analysis

-How drop outs will be managed and taken into account in analyses?
-The analysis section may be clearer if the authors explained how each analyze adresses each objective: how will authors asses there primary, secondary outcome. How take into account baseline characteristics of subjects?

5. Which method was used for the calculation of the sample size?

Minor remark: there is a problem in a reference: Positive and Negative Syndrome Scale (PANSS) (PAN et al. 1986). Authors should correct it.

**Level of interest**
Please indicate how interesting you found the manuscript:

An article of importance in its field

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Quality of figures**

All images and figures within the manuscript should be genuine i.e. without evidence of manipulation. No specific feature within an image may be enhanced, obscured, moved, removed, or introduced. If you have concerns about the veracity of the figures you should choose the first option below.

**Statistical review**

Is it essential that this manuscript is seen by an expert statistician? If so, please give your reasons in your report.


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