Reviewer’s report

Title: Auditory target processing in methadone substituted opiate addicts. The effect of nicotine in controls.

Version: 1 Date: 28 May 2007

Reviewer: Georg Juckel

Reviewer’s report:

General

This very interesting manuscript of Müller et al. is dealing with P300 processing in opiate addicts substituted with methadone and the usage/abuse of nicotine. One of the main finding seems to be the effect of nicotine on P300 in the healthy controls. This alone would justify a stand-alone paper. The manuscript is nicely written and reporting a sufficient sample size.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The paper will definitively improve if the authors could demonstrate the rationale of the study in the introduction part in more detail. “Cognitive dysfunction” is somewhat too vague. P300 potentials can be attributed to neuropsychological functions as “attention” and “orienting reaction”. This should be more deepened by the authors.

It is also not clear to me why and concerning to which literature the authors assume effects of methadone (or other opiats) on the P300 waves. It will be helpful to get here more information, also in order to understand the negative results concerning the P300 in the opiate addicts.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

The authors recorded ERPs from 19 electrodes. Why they did not present also results from e.g. the lateral electrodes?

They also should discuss the finding of the nicotine effect in healthy volunteers broader.

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Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests