

NEURAL CORRELATES OF OPEN-LABEL PLACEBOS IN EMOTIONAL DISTRESS

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Background: Although placebo effects are well-known, the application of inert substances is linked to ethical problems, as it is believed that deception is crucial to see a placebo effect. However, intriguing studies in the last decade reported that placebos may have beneficial effects even when given without deception. This seems paradoxical, but an increasing body of evidence suggest that participants (and patients) may profit from these so called open-label placebos, e.g., with respect to pain, emotional distress, or test anxiety. However, it is still unclear what mechanism underlies the open-label placebo effect. Examining the neural underpinnings of open-label placebos promise to help understanding how open-label placebos work.

Aims: The present study aims to investigate the neural substrates of open-label placebos in healthy subjects by using an fMRI approach. We focus in particular on the role of the frontal lobe because this part of the brain has been linked to expectation, which has been identified as a key mechanism for conventional placebos responses.

Method: To investigate the neural correlates of open-label placebos participants in the fMRI view pictures that are known to induce emotional distress. Half of these participants receive an open-label placebo before (nasal spray with saline water), the other half also receives the nasal spray but, in this group the participants are told that the nasal spray is just water and necessary due to technical requirements for the measurement. Based on previous studies we hypothesize that the open-label placebos will reduce the experienced emotional distress. FMRI will help us to understand the underlying brain areas for these effects.

Preliminary results: Preliminary results show especially that part of the known network of brain regions linked to conventional placebos seemed to be engaged in open-label placebos as well, while others (e.g., prefrontal brain areas) were not. Our results will shed some light on the neural underpinnings of placebos without deception.

Keywords: Emotion, Distress, Placebo, Open-label placebo, fMRI

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