
HOW CAN WE INVESTIGATE NEURAL CORRELATES OF PSYCHOTHERAPY IN DEPRESSION? A SYSTEMATIC REVIEW OF EXPERIMENTAL DESIGNS USED IN NEUROIMAGING STUDIES

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Introduction: Employing neuroimaging methods in psychotherapy research confronts us with substantial methodological challenges. These challenges are linked to the complexity and plurality of processes involved in the psychotherapeutic treatment. This specifically applies to depression, a multiform psychiatric disorder. The review outlines the state-of-the-art of research in the field with a specific focus on methodological questions. It depicts limitations and strengths of experimental designs employed in psychotherapy studies using functional neuroimaging.

Methods: PubMed and PsycInfo were screened for peer-reviewed publications in English or German from 1995 to 2013 using accurate keywords. Studies employing an active condition during neuroimaging were retained. The analysis of selected studies focused on methodological aspects of the experimental design applied: what kind of task was used during functional neuroimaging? Which features characterized the active and control condition? Were neurophysiological findings linked to other data derived from psychological testing? What kind of (control- / treatment-) groups were included?

Results: Most studies have examined effects of Cognitive Behavioural Therapy and Interpersonal Therapy with respect to short-term treatment. During functional neuroimaging, many studies employed emotion regulation tasks, often aiming at the isolation of specific cognitive mechanisms. Results concerning the effects of psychotherapy on hemodynamic activation patterns in depression are heterogeneous, depending on methods employed.

Conclusion: Differences in experimental designs substantially contribute to the incongruity of findings concerning effects of psychotherapy in the treatment of depression. There is a strong need for the development of adequate and accurate experimental designs in the future.