
ELECTROPHYSIOLOGICAL INDICES OF REWARD ANTICIPATION ABNORMALITIES IN SUBJECTS WITH SCHIZOPHRENIA

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INTRODUCTION: Several factor analytic studies have shown that anhedonia and avolition are included in the same factor, suggesting that motivational deficits in schizophrenia are related to a reduced experience of pleasure; however other studies have not confirmed this hypothesis. More recently, it has been hypothesized that avolition is related to a difficulty in anticipating reward value and/or regulating behavior on the basis of the associations between value and action.

OBJECTIVES/AIMS: This study is aimed to verify an impairment of reward anticipation in patients with deficit schizophrenia (DS), but not in those with non-deficit schizophrenia (NDS) and its association with primary negative symptoms, using event-related potentials (ERPs).

METHODS: ERPs were recorded in 11 patients with DS, 23 patients with NDS and 23 healthy controls (HC), during anticipation of five different outcomes, small (SR) or large (LR) reward, small (SP) or large (LP) punishment or no-outcome (NO), and during feedback processing.

RESULTS: Patients did not differ from HC on indices of anticipatory or consummatory anhedonia, but they showed reduced motivation. During reward anticipation, only patients with primary and persistent avolition showed ERPs abnormalities, with respect to HC, in the early processing stages and a reduced activity of cortical generators in the cingulate, in the temporal-occipital and fronto-parietal regions, that are involved in the attention modulation and visual perceptual processing.

CONCLUSIONS: Our data suggest that anhedonia and avolition are partially independent constructs and that avolition is related to the inability to modulate attention and amplify visual perceptual processing of reward stimuli.

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