

Abstract

Background: Autism and schizophrenia are heterogeneous disorders since the publication of the DSM-III in 1980. Both disorders share some commonalities such as impairments in social cognition and neurocognition. Theory of mind (ToM) is an important domain in social cognition that has been shown to be impaired in both disorders. It is unclear whether ToM impairment in schizophrenia is the same or different from that in autism. This study aimed to explore this issue by directly comparing the performance of the two groups in two different ToM tasks using a case-control design.

Methods: A total of 30 patients with schizophrenia, 30 patients with High-functioning Autism Spectrum Disorders (HFASD) and 30 healthy controls were recruited. Their performance in affective and cognitive ToM was measured by two paradigms: (1) the “Yoni Task” which assesses first-order and second-order affective versus cognitive theory of mind based on eye gaze, mouth shape and verbal cues; (2) the “Faux Pas Task”, an advanced ToM task that assesses the ability to identify social faux pas and recognise the beliefs, emotions and intentions of the characters in the presented stories. A battery of basic neurocognitive tests was also administered. Group difference in ToM was analysed by MANOVA. Differential impairments of affective and cognitive

ToM between groups were analysed by repeated measures ANOVA. Covariate analysis on ToM performance was also performed to control for the effect of any statistically significant group difference in neurocognitive performance.

Results: There was no difference between HFASD and schizophrenia patients in first-order and second-order ToM. In the advanced ToM task, HFASD patients performed worse than schizophrenia patients while both groups performed worse than controls. Schizophrenia patients were less impaired than HFASD patients on inferring emotions but both groups were similarly impaired on inferring intentions.

Conclusion: ToM impairment is more severe in HFASD patients than in schizophrenia patients. Failure to attribute other's emotion which is an affective ToM component contributed most to this difference.