Abstract

Background: Deficit in social cognition (especially facial emotion perception) is one of the neurocognitive impairments in schizophrenic patients and it is a key determinant for the functional outcomes of schizophrenia. However, the effect of context and the boundary of the perceptual categories of facial emotion perception remains undetermined. Traditionally, facial emotion perception research focussed on recognition of isolated faces in the laboratory. However, in real life, faces are embedded in context, which is an emerging target of facial emotion perception research and it provides a more ecological understanding of the perceptual process. The categorical nature of facial emotion perception is a relatively new paradigm in this research area which could help delineate the nature and boundary in facial emotion perception. These two issues would be investigated in this study.

Aims: The primary aim of this study was to examine the difference in facial emotion categorisation (FEC) performance between early stage of schizophrenic patients and healthy controls in the happy-angry emotion continuum. The secondary aim was to investigate whether different social contexts would influence FEC performance of the participants in the happy-angry emotion continuum.

Method: A total of 36 schizophrenia outpatients in their early stage of illness and 43 healthy controls were recruited for the evaluation of their social and clinical characteristics, neurocognitive profiles and FEC performance. FEC was assessed by a computer-based programme with repeated trials, in which social context was

presented in the form of a preceding question simulating the conditions of being praised (positive) or blamed (negative), while the participants were asked to judge one of the five facial images in a linear emotion continuum ranging from happy to angry. Preliminary analysis at the ambiguous image level was performed and then data was fitted into a logistic function model with subsequent analysis by repeated measures ANOVA with the shift point and slope as outcome measures.

Results: Schizophrenic patients were significantly more likely to perceive ambiguous and subtle facial expression as happy rather than angry in the happy-angry continuum, when compared with the control group, in all three social contexts (positive praise, negative blame and neutral enquiry). However, interaction effects between the group and context on FEC performance was not significant.

Conclusion: Schizophrenic patients, even in their early stage of illness, appeared to have biased perception of facial emotion categories. They were biased towards happy instead of angry perception on ambiguous and subtle stimulation, which explained some of their abnormal social interactions and disabilities. This study provided new information in understanding their social cognitive deficits in schizophrenic patients. Treatment strategies should be targeted in this area to facilitate their recovery.

Keywords: facial emotion categorisation, social context, schizophrenia