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ATTRIBUTIONAL STYLE IN FIST EPISODE OF SCHIZOPHRENIA AND SCHIZOPHRENIA SPECTRUM DISORDERS WITH AND WITHOUT PARANOID IDEATION

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SUMMARY

In the present study we evaluated attributional style which refers to how individuals explain the causes for positive and negative events in their lives in patients with first episode of schizophrenia with and without paranoid ideation. 43 patients with first episode of psychosis and 37 matched normal controls completed Ambiguous Intentions Hostility Questionnaire (AIHQ) (Combs et al. 2007). Between group comparison of AIHQ scores showed a notable tendency to show aggressive response in overall patients group. We obtained significant elevation of hostility and blame biases scores in intentional and accidental situations in patients with paranoid ideation while the patients with non-paranoid ideation showed greater hostility and blame biases only in accidental situations as compared to controls. Correlations with positive and negative symptoms were obtained. Our findings suggest that patients with first episode of psychosis exhibit difficulties of the attribution biases which are interconnected with symptoms and thus indicate a trait-deficit of attributional style.

Key words: *attributional style - first episode of psychosis - paranoid ideation*

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INTRODUCTION

Attributional style refers to how individuals explain the causes for positive and negative events in their lives. People usually attribute positive events to themselves (internal attribution) and blame failures or other threats on external factors (external attribution) (Kindermann & Bental 1997).

It's worth saying that patients with schizophrenia tend to perceive others in a negative manner (Garety & Freeman 1999). The tendencies to perceive hostility when there is no threat are also an important component of the biased attribution (Combs et al. 2007). A greater tendency for perceived hostility in social situations was found to be a significant persecutory level in multi-episode, chronic schizophrenia patients (Combs et al. 2009).

It's important to ascertain whether the attribution abnormalities are specific to delusions with persecutory content or whether they are associated with all delusions, irrespective of delusional theme. In schizophrenia research, this aspect of social cognition has been studied mainly in patients with a long history of illness (Pinkham et al. 2003). However, it remains uncertain whether disturbances in attributional bias are a state-specific phenomena related to psychotic symptoms or an enduring trait-deficit appearing already in first episode patients.

METHODS

Forty three patients with first episode of schizophrenia and schizophrenia spectrum disorders were recruited in the Early Intervention Centre of the Moscow Research Institute of Psychiatry. Clinical evaluation was done by experienced physicians and diagnosis was made according to ICD-10. Psychiatric symptoms were assessed using the Positive and Negative Syndrome Scale (PANSS). Patients were assigned into 2 groups with paranoid ideation (group 1) and without paranoid ideation (group 2). Clinically, patients with paranoid ideation were characterized by persecutory delusions and extreme mistrust, while patients with non-paranoid ideation possessed feelings of resentment, self-referential biases but no suspiciousness or external control or influence. No specific scale with regard to paranoia was used.

37 matched normal controls were recruited in the study. None of the control subjects had any history of psychotic symptoms or current diagnosable disorders. They were physically well, and no alcohol or drug abuse or conditions that could influence cognitive functioning were detected. Demographic data of patients and control group are presented in Table 1.

All participants completed the Ambiguous Intentions Hostility Questionnaire (AIHQ) (Combs et al. 2007). The AIHQ was applied in an interview which lasted for 30 min. Using 15 vignettes or hypothetical negative ambiguous, intentional and accidental situations AIHQ measures attributional biases using the following parameters: hostility bias (HB), the attribution of blame or blame score (BS), and the tendency to respond aggressively in the situations (AB).

Statistical analysis was performed using SPSS Statistics (Version 17.0). Composite score of HB, BS and AB was evaluated for each group of the situations and compared between the groups using non-parametric statistics. Correlations between PANSS and AIHQ scores were obtained using Spearman correlation coefficients.

Table 1. Demographic and clinic characteristics of controls, paranoid and non-paranoid patient groups

Demographics, clinical and behavioural parameters	Control group (n=36)	Paranoid group (n=20)	Non-paranoid group (n=24)	Statistics
Age	27.88+6.54	28.65+8.96	25.14+7.57	F(2,80)=1.23, p=0.29
Gender (% female)	56	40	50	X^2 (2, n=80) =1.50, p=0.47
Years of education	14.74+1.91	13.25+1.58	13.47+1.50	F(2,80)=5.40, p=0.06*
PANSS scores				
PANSS positive	-	19.6±4.94	16.73±3.78	F(1,44)=4.09, p=0.05*
PANSS negative	-	16.5±4.32	13.57±3.27	F(1,44)=4.02, p=0.05*
PANSS general	-	41.85±7.67	39.78±6.19	F(1,44)=0.50, p=0.48
PANSS total	-	77.5±13.62	70.26±13.5	F(1,44)=121.54, p=0.001**
Chlorpromazine equivalent	-	242.87+156.61	198.3+134.29	F(1,44)=1.09, p=0.30

Table 2. Comparison of AIHQ scores in patients and controls

AIHQ	Paranoid vs. Non-paranoid		Non-paranoid vs. Controls		Paranoid vs. Controls	
Total HB	U=221.0	p=0.83	U=224.5	p=0.02	U=219.0	p=0.003*
HB in ambiguous situations	U=220.0	p=1.00	U=340.0	p=0.44	U=251.0	p=0.42
HB in intentional situations	U=135.0	p=0.01*	U=336.0	p=0.78	U=374.0	p=0.01*
HB in accidental situations	U=155.0	p=0.06	U=161.0	p=0.0002*	U=291.0	p=0.01*
Total BS	U=184.5	p=0.36	U=295.0	p=0.33	U=260.0	p=0.03*
BS in ambiguous situations	U=203.5	p=0.66	U=287.5	p=0.24	U=344.0	p=0.46
BS in intentional situations	U=139.5	p=0.03*	U=314.0	p=0.51	U=273.5	p=0.06*
BS in accidental situations	U=211.0	p=0.81	U=231.0	p=0.02*	U=264.5	p=0.03*
Total AB	U=203.5	p=0.67	U=236.0	p=0.03	U=234.5	p=0.01*
AB in ambiguous situations	U=206.0	p=0.60	U=326.0	p=0.43	U=332.0	p=0.14
BS in intentional situations	U=190.0	p=0.42	U=241.0	p=0.03*	U=257.0	p=0.018*
BS in accidental situations	U=204.0	p=0.64	U=283.5	p=0.17	U=342.0	p=0.40

Comments: HB- hostility bias, BS- blame score, AB- aggression bias. U-Mann-Whitney between group comparison, p≤0.05

RESULTS

There was no difference between the three groups in age, distribution of gender; the difference was obtained in duration of education. Patients with paranoid symptoms manifested with more severe positive and negative symptoms (see Table 1). The suspiciousness/persecution item score of the PANSS in patients with paranoid symptoms were significantly higher than in non-paranoid patients (F(1,34)=33.92, p=0.01).

Table 2 illustrates the attribution bias of the patients and controls as expressed by AIHQ. As shown the scores of the groups vary significantly in different types of situations (ambiguous, intentional and accidental). Comparison of patients with paranoid ideations with controls revealed significant differences in hostility, blame and aggression biases in intentional and accidental situations. Non-paranoid patients showed hostility and blame biases only in accidental situations; aggression bias did not differ in both groups as compared to controls.

Correlation analysis between AIHQ and PANSS scores in overall patients revealed interconnections of hostile intentions with suspiciousness (r=0.39); accusation with poor rapport (r=-0.41), aggressive tendency with emotional withdrawal (r=-0.38) and preoccupation (r=-0.34) in intentional situations. In accidental situations the outpouring of anger positively correlated with tension (r=0.37) and uncooperativeness (r=0.39). In ambiguous situations intentionality correlated with lack of spontaneity and flow of conversation (r=-0.44), poor rapport (r=-0.45), uncooperativeness (r=-0.42); and aggressive tendencies negatively correlated with anxiety (r=-0.36).

CONCLUSIONS

Our findings are consistent with the other studies showing that first episode patients show attribution bias (Combs et al. 2009, An et al. 2010). However, we obtained different patterns of abnormal attribution in patients with and without paranoid ideation. Thus, patients with paranoid ideation were more likely to show hostile behavior or blame the other in accidental and intentional situations. Non-paranoid patients expressed hostility and blame bias only in accidental situations. One could assume that patients with non-paranoid ideation experience exaggerated self-referential biases, feeling vulnerable in social surroundings and perceiving these as threatening and hostile. This also corresponds with the finding that non-paranoid patients are similar to patients with paranoid ideation in having aggressive tendencies.

Our findings also suggest that patients with first episode of psychosis exhibit difficulties of the attribution biases which are interconnected with positive, negative and general symptoms and thus indicate a trait-deficit of attribution style in schizophrenia, although attribution biases are less prominent in patients without paranoia.

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