A cognitive–behavioural, group-based intervention for social anxiety in schizophrenia*

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Objective: The objective of this study was to investigate the efficacy of group-based cognitive–behavioural therapy (CBT) for social anxiety in schizophrenia.
Method: Patients with schizophrenia (20) with comorbid social anxiety were randomly assigned to the group-based CBT or wait-list control condition. Pre-, post- and 6-week follow-up ratings included measures of social anxiety and avoidance, mood and quality of life.
Results: The intervention group improved on all outcome measures and the control group showed no change in symptomatology.
Conclusions: Group-based CBT is effective in treating social anxiety in schizophrenia.
Key words: cognitive–behavioural therapy, group therapy, schizophrenia, social phobia.

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Anxiety disorders such as social phobia are common in individuals with schizophrenia, yet these treatable disorders are not routinely addressed [1,2]. Unfortunately, social anxiety often goes unrecognised, or is considered to be part and parcel of the schizophrenic symptomatology. However, social dysfunction often predates the development and diagnosis of the first episode of schizophrenia [3,4] and persists when schizophrenia has been well managed pharmacologically. It now seems likely that social impairment is an independent domain of difficulty in schizophrenia that exists alongside positive and negative symptoms [5].

Cognitive–behavioural therapy (CBT) has been developed for individuals with social phobia and has been evaluated in a number of studies. A recent meta-analytic review concluded that multicomponent treatments which include cognitive and behavioural aspects work effectively [6]. Cognitive–behavioural therapy includes developing a cognitive–behavioural explanation of social phobia with the patient, cognitive restructuring and exposure to anxiety-producing situations. In each of six recent well-designed and methodologically sound studies of CBT administered in a group format, therapeutic gains for CBT were found to exceed control conditions [7–12].

Although there is good evidence that psychological interventions can be very beneficial for sufferers of social phobia, we are aware of no studies which have

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sought to bring this expertise to bear specifically for social anxiety in patients with schizophrenia (as distinct from treatments focusing solely on enhancing social skills). We describe here a controlled pilot study consisting of a group-based cognitive–behavioural intervention for social anxiety in individuals with schizophrenia.

Method

Subjects

The 20 participants were patients with severe mental health disorders who attended a community-based living skills rehabilitation program at the Inner City Mental Health Service (ICMHS) of Royal Perth Hospital. The diagnosis of schizophrenia had been assigned by the patient's psychiatrist. The Brief Social Phobia Scale (BSPS) [13], administered by SH, was used to screen for individuals with significant social anxiety. Those patients who screened positively (score > 20) on the BSPS were invited to participate in the group intervention. Each patient gave their informed consent for the procedures, which were approved by the Royal Perth Hospital and Murdoch University Human Research Ethics Committees.

Measures

All participants in the intervention phase of the study were administered the following questionnaires before and at the completion of the intervention, and 6 weeks after treatment:

1. The Brief Social Phobia Scale (BSPS) [13], an 11-item scale measuring fear and avoidance of common situations, and autonomic symptoms; the cut-off is a total score of 20, and in a study of 275 individuals with social phobia, the range of scores was 20–68, with a median of 42 [13].

2. The Social Interaction Anxiety Scale (SIAS) [14], a 20-item self-report measure of attitudes to social situations.

3. The Calgary Depression Scale for Schizophrenia (CDSS) [15], a 9-item scale specifically devised to assess depression in people with schizophrenia.

4. The Quality of Life, Enjoyment and Satisfaction Questionnaire (Q-LES-Q) [16], a measure of the degree of satisfaction with and enjoyment of life, covering a number of domains, and devised for use in patients with severe mental illness.

5. The Alcohol Use Disorders Identification Test (AUDIT) [17], a measure of alcohol use and problems associated with its use.

6. The Brief Symptom Inventory (BSI) [18], a measure of psychological symptom patterns, including somatisation, obsessive–compulsive disorder, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism; a summary score is provided by the Global Severity Index (GSI), used in the current study as a measure of general psychological distress.

Procedure

At the completion of the initial assessment session, participants were randomly allocated to either the treatment group or the wait-list control group. All participants continued with their 'treatment as usual', which involved management of their antipsychotic medication by their own psychiatrist and community case management.

The CBT was provided weekly for 8 weeks in 2-hour sessions. The intervention was based on the cognitive–behavioural model advocated by Heimberg *et al.* [19] with adjustments for use in a group setting. Some flexibility was necessary to accommodate the associated symptomatology and disabilities manifested by individuals with schizophrenia; this was largely a matter of style rather than content, with much repetition of key concepts and issues, and repeated checks with the participants that content had been understood.

The key components of treatment were exposure situations, cognitive restructuring, and homework assignments between sessions. The outline of the program was:

Session 1: general introduction about anxiety and social anxiety in particular; sharing experiences and concerns by members of the group; setting objectives and first homework tasks (mostly social exposure tasks, with monitoring and challenging of unhelpful automatic thoughts);

Session 2: review of preceding week and of homework; introduction to cognitive restructuring, including challenging automatic thoughts;

Session 3: exposure exercise, with role play; revisiting cognitive restructuring;

Session 4: educational video on social phobia (*I think, they think . . . overcoming social phobia* [20]); further homework assignments;

Sessions 5–7: homework reviews, cognitive restructuring with more onus on participants to take the initiative;

Session 8: social outing to local coffee shop; closure and future individual planning.

Results

Of the 20 patients who agreed to participate in the study, one of the control group patients moved interstate, and another was hospitalised during the course of the study; these were excluded from further analysis. Two of the intervention group chose to leave the study (after week two). A further patient assigned to the treatment group could not participate due to another commitment at the time the groups were scheduled; he was thus assigned to the control group. The final sample was comprised of 13 males and three females aged between 19 and 67 years (mean age 39.6 years). None were married and only one was currently employed. Pre-treatment ratings on the evaluation measures were similar in both groups, apart from the GSI, which was higher in the treatment group (Table 1).

A comparison of the post-treatment change scores indicated statistically significant improvement from baseline for the treatment group on all measures apart from the AUDIT, with little or no change in the wait-list control group (Table 1). As shown in Table 2, all treated patients made clinically significant gains on depression. Clinically significant gains were also made on quality of life, social anxiety and symptoms of social phobia by the majority of treated patients. These gains were maintained at 6-week follow up.

Discussion

Schizophrenia pervades all aspects of human functioning and necessitates a comprehensive treatment approach. While most clinicians support some form of adjunctive psychosocial treatment as part of the management plan for schizophrenia [20,21], the special needs of the person with schizophrenia are often not taken into account. In this controlled pilot study, we have demonstrated significant benefit, on a range of measures, for a group-based intervention addressing comorbid social anxiety in schizophrenia.

The BSPS evaluated the symptoms of social anxiety directly. The effect size in this study compares well with that of Heimberg *et al*. [9] for social phobia without concurrent schizophrenia. Previous treatments addressing social impairment in schizophrenia have focused on social skills training [22]. While one can see why this might form an important component of treatment, it may be of limited use if

Table 1. Group means, standard deviations and F-ratios of univariate F-tests between pre- and post-treatment scores

	Treatment group mean (SD)	Control group mean (SD)	F ratio
BSPS			
pre	47.29 (10.63)	37.56 (13.58)	6.54 ($p < 0.05$)
post	38.14 (6.23)	37.00 (13.18)	
SIAS			
pre	45.14 (11.26)	41.11 (12.61)	6.95 ($p < 0.05$)
post	37.43 (11.89)	40.88 (11.39)	
CDSS			
pre	10.71 (2.43)	8.56 (3.50)	39.75 ($p < 0.001$)
post	4.57 (3.26)	9.33 (2.70)	
GSI			
pre	71.86 (5.73)	64.00 (6.12)	9.26 ($p < 0.01$)
post	64.86 (10.59)	64.11 (5.75)	
Q-LES-Q			
pre	52.22 (11.85)	54.79 (12.35)	17.50 ($p < 0.01$)
post	58.75 (10.65)	54.50 (11.32)	
AUDIT			
pre	11.29 (9.14)	6.67 (8.83)	1.43 (NS)
post	8.43 (5.68)	7.11 (9.24)	

AUDIT, Alcohol Use Disorders Identification Test; BSPS, Brief Social Phobia Scale; CDSS, Calgary Depression Scale for Schizophrenia; GSI, Global Severity Index; Q-LES-Q, Quality of Life, Enjoyment and Satisfaction Questionnaire; SIAS, Social Interaction Anxiety Scale.

*Table 2. Clinical significance calculated on participants in the cognitive–behavioural therapy (CBT) and wait-list control groups at post-treatment**

	CBT treatment (n = 7)			Control (n = 9)		
	better	no change	worse	better	no change	worse
BSPS	4	3	0	1	6	2
SIAS	4	3	0	1	8	0
CDSS	7	0	0	2	3	4
Q-LES-Q	4	3	0	0	9	0
AUDIT	2	4	1	0	9	0

*Better, test score improved > 0.5 SD; no change, score remained within ± 0.5 SD; worse, score deteriorated > 0.5 SD. AUDIT, Alcohol Use Disorders Identification Test; BSPS, Brief Social Phobia Scale; CDSS, Calgary Depression Scale for Schizophrenia; GSI, Global Severity Index; Q-LES-Q, Quality of Life, Enjoyment and Satisfaction Questionnaire; SIAS, Social Interaction Anxiety Scale.

social anxiety inhibits the application of these newly learned skills. In the present study, social interaction scores improved with CBT both at the end of treatment and at follow up, implying that new skills were being put into practice. Future studies in this area would do well to employ a direct measure of social skills.

Depression is often associated with social phobia and can have a detrimental effect on treatment outcome. In the present study depression decreased post-treatment, but did not change in the control group. In fact, the treatment package seemed to be more consistently effective for depression than for social anxiety, a finding which supports the assertion of Heimberg *et al.* [19] that measures of depression may be more sensitive to CBT for social phobia than measures of social anxiety. The improved mood may have been due to the therapeutic impact of the supportive group environment, an increase in optimism related to greater empowerment, or simply due to the additional hours of contact with mental health support. The improvement in mood may have helped participants to apply the treatment techniques to combat social anxiety. However, these positive effects were not found for a measure of substance misuse, indicating that this problem may need to be targeted separately in a comprehensive treatment package. It might be that substance use is a 'safety behaviour' in this group of individuals.

People with social phobia suffer considerable impairment in daily life activities, occupational role and social relationships [23]. The Quality of Life measure used in this study was chosen for two reasons. First, it was designed specifically for use with a psychiatric, rather than a medical, population; second, it is a sensitive self-report measure of the degree of enjoyment and satisfaction experienced by participants, and thus is a direct measure of psychological wellbeing. Importantly, participants in this study showed significant improvement in quality of life after the completion of CBT, indicating that they had benefited from treatment.

Cognitive–behavioural treatments have been shown to improve health maintenance at the end of treatment and to reduce relapse [6,24,25]. In particular, both social competence at discharge [26] and inter-episode social functioning [27] are inversely associated with relapse rate and rehospitalisation in schizophrenia. Thus, the persistence of treatment gains at 6-week follow up is encouraging.

The small number of subjects in the present study weakened its statistical power; however, given this statistical weakness, it is likely that the positive effects of CBT detected in the present study are robust. A further deficit was a specific measure of psychotic symptoms; the BSI psychoticism scale is not ideal in this regard, and future studies should employ a recognised psychosis symptom scale. Finally, the wait-list control design precludes exploration of which elements of the group-based intervention were responsible for improvement, and does not control for any benefit which might accrue merely from participation in a group.

We plan further work in this area, and intend inclusion of a social-skills group as a comparator. The generalisability of these treatment gains now needs to be explored in larger studies of social phobia in schizophrenia in a range of hospital and community settings.

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