Available online at www.sciencedirect.com
ScienceDirect
Schizophrenia Research 99 (2008) 176–181
SCHIZOPHRENIA RESEARCH
www.elsevier.com/locate/schres

Social and cognitive functioning in psychosis

Jean Addington [a,b,c,*], Donald Addington [c]

[a] Department of Psychiatry, University of Toronto, Toronto, Canada
[b] Centre for Addiction and Mental Health, Toronto, Canada
[c] Department of Psychiatry, University of Calgary, Calgary, Canada

Received 19 March 2007; received in revised form 29 June 2007; accepted 3 July 2007
Available online 2 August 2007

Abstract

There is clear evidence that there is a link between cognitive and social functioning in schizophrenia. However, the exact nature of that association is not well established. In this study, three groups were included: 50 first episode of psychosis (FE) subjects, 53 multi-episode schizophrenia subjects (ME) and 55 non-psychiatric controls (NPC). Subjects were assessed on measures of social functioning and a comprehensive cognitive battery. FE subjects were assessed on admission to a comprehensive FE program and one year later. The ME and NPC group had two assessments one year apart. Both the FE and ME subjects were clearly impaired relative to NPCs in cognition and social functioning. In both the patient group and the NPC group cognition predicted performance on a measure of social problem solving and one measure of social functioning but not the other. This study supports the association between cognition and social functioning but indicates that this is a function of how social functioning is conceptualized and assessed.

Keywords: Early psychosis; Schizophrenia; Cognition; Social functioning

1. Introduction

Social outcome remains poor for many individuals with schizophrenia. In many studies it has been demonstrated that cognition is significantly associated with social functioning (Green et al., 1994, 2004). However, results vary so widely that cognition can explain as little as 10% and as much as 50% of the variance in social functioning (Addington and Addington, 1999; Addington et al., 2005; Penn et al., 1997; Silverstein, 1997; Prouteau et al., 2005). Although there is a wide range of studies offering considerable support for longitudinal associations between cognition and social functioning in schizophrenia, less is known about this association in early psychosis. A three year follow-up of a large sample of first episode subjects demonstrated that, although related, poor social functioning deficits may be independent of cognitive impairment (Addington et al., 2005). This was further supported by a recent 2–8 year follow-up of first episode patients which demonstrated that the contribution of cognition to functional outcome was not retained after all of the other variables, such as symptoms, were incorporated into the multivariate model (Siegel et al., 2006).

The purpose of this study was to examine the association between social and cognitive functioning in two patient groups — those experiencing a first episode

* Corresponding author. Centre for Addiction and Mental Health, 250 College Street, Toronto, Ontario, Canada M5T 1R8. Tel.: +1 416 535 8501; fax: +1 416 979 6936.
E-mail address: jean_addington@camh.net (J. Addington).

0920-9964/$ - see front matter © 2007 Elsevier B.V. All rights reserved.
doi:10.1016/j.schres.2007.07.004

of psychosis and those with a more chronic course. Additionally, we wanted to explore this relationship longitudinally in both of these patients groups and in a non-psychiatric control sample.

2. Methods

2.1. Participants

There were three groups of subjects. The first was 50 first episode (FE) patients (30 males, 20 females) consecutively admitted to the Calgary Early Psychosis Program (EPP) (Addington and Addington, 2001). These individuals were attending an FE program available to the whole community, which most likely included the majority of potential incidence cases (Addington and Addington, 2001). All participants were experiencing their FE of psychosis and had not received more than three months of previous adequate treatment (Larsen et al., 1996). Subjects were excluded from this study if they had a history of neurological disorders, head injury, epilepsy, or did not speak English well enough to adequately complete the assessments. The majority of the FE sample was single (88.0%), with a mean age of 25.1 years (SD=8.01), lived at home (78.0%), and was Caucasian (78.0%). In terms of education 34% had some high school, 18% had high school, 34% had some post graduate training and 14% had degrees. At the time of the two assessments, 82% and 87.5% respectively were reportedly taking second generation antipsychotics (mean dose in chlorpromazine equivalents of 307 and 380 mg/day respectively). Diagnoses were completed at baseline and then repeated at one year. One year diagnoses were as follows: schizophrenia 64.0%, schizophreniform 24.0%, delusional disorder 2.0%, brief psychotic disorder 2.0%, psychotic disorder NOS 6.0%, and schizoaffective disorder 2%.

The second group were 53 individuals (38 male, 15 female) who were outpatients in a specialized outpatient program for schizophrenia in a psychiatry department in a general hospital. These individuals all had been given a diagnosis of schizophrenia at least three years previously, and had a chronic course of schizophrenia having had multiple admissions (ME). On average they had had 5 hospital admissions. The majority of the sample was single (77.4%), with a mean age of 35.5 years (SD=7.17), had completed grade 12 (71.7%), lived at home (45.2%), and was Caucasian (92.5%). At the time of both assessments, 98.1% were reportedly taking second generation antipsychotics (mean dose in chlorpromazine equivalents of 715 and 665 mg/day respectively). They all met criteria for schizophrenia.

A sample of 55 local non-psychiatric controls (NPC) was included that were matched for gender (33 men, 22 women), age (M=21.7 years, SD=6.05), and education to the FE sample. In terms of education 27% had some high school, 22% had high school, 36% had some post graduate training and 15% had degrees. SCID criteria were used to determine no current or past psychiatric disorder.

The original samples recruited consisted of 55 FE subjects, 59 ME subjects and 61 NPC subjects. Dropouts were 5 FE, 6 ME and 6 NPC. These subjects were not included in the description above, nor in any of the analyses. At baseline the dropouts did not differ from those who remained on demographics, symptoms, cognition or social functioning.

2.2. Measures

Social functioning was assessed using three different measures: the Quality of Life Scale (QLS) (Heinrichs et al., 1984), the Social Functioning Scale (SFS), a self-report questionnaire developed for outpatients with schizophrenia that has excellent psychometric properties (Birchwood et al., 1990) and the Assessment of Interpersonal Problem Solving (AIPPS), a measure of social problem solving, (Donahoe et al., 1990). The QLS has a total score and four sub-scores: Interpersonal Relationships and Social Network; Instrumental Role Functioning; Intrapsychic Foundations; and Common Objects and Activities. The SFS has a total score and 7 sub-scores: Withdrawal/social engagement; Interpersonal communication; Independence–performance; Independence–competence, Recreation; Prosocial; and Employment/Occupation.

The AIPPS is a videotaped vignette test used to assess the social skills of schizophrenia patients. The test measures a subject's ability to describe an interpersonal social problem, to derive a solution to the problem, and to enact a solution in a role-played simulation test. This analysis implies a problem solving model of social skills. First, recognizing the existence of a problem requires skills of problem identification. The ability to describe both the goal and the obstacle is problem description. Together problem identification and problem description are called receiving skills. Secondly, various alternatives must be identified, the consequences considered and the best alternative chosen. These are processing skills. Thirdly, the solution has to be enacted. Sending skills consist of content skills and performance skills. The constructs measured by the instrument are operationally defined as Receiving–Processing–Sending (RPS) skills (Donahoe et al., 1990).