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Two new scales of formal thought disorder in schizophrenia

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Abstract

Information provided by patients and respective carers may help to understand formal thought disorder (FTD) in schizophrenia. Two scales, one for patients (FTD-patient) and one for carers (FTD-carer), were constructed to assess pragmatics, cognitive, paralinguistic, and non-verbal aspects of communication. In the first scale the patients themselves assess their verbal communication; in the second scale the carer assesses the speech of the respective patient. Both scales exhibited internal reliability and evidence of good test–retest reliability. Higher total scores on both scales (FTD-patient and FTD-carer) were significantly associated with positive FTD, but not with negative FTD. Principal component analysis of the scales yielded a multidimensional structure. It is suggested that FTD in schizophrenia may be associated with a range of deficits (e.g. pragmatics, lexical activation, working memory, sustained attention). These scales, in conjunction with the clinician's assessment, can provide a more comprehensive picture of FTD in schizophrenia, revealing its dimensions and making it possible to establish associations between symptoms of FTD and neuropsychological, neurophysiologic, and neuroimaging data. In addition, they provide service users' and carers' perspectives for the assessment of communication in schizophrenia.

Keywords: Thinking; Language; Self-report; Subjective experience; Pragmatics; Carers

1. Introduction

Formal thought disorder (FTD), one important feature of schizophrenia, has been measured using several different instruments. The most widely used scale is the Thought, Language, and Communication (TLC) scale (Andreasen, 1979a,b). Other scales include the Thought Disorder Index (TDI) (Johnston and Holzman, 1979) and the Bizarre Idiosyncratic Thinking (BIT) scale (Marengo et al., 1986; Harrow et al., 2004). The TDI scale and the BIT scale quantify speech abnormalities in response to Rorschach Test inkblots and the Wechsler Adult Intelligence Scale. The TDI and the BIT are time-consuming and, in the case of the TDI, require extensive training. More recently developed scales include the Clinical Language Disorder Rating Scale (CLANG) (Chen et al., 1999) and the Thought and Language Index (TLI) (Liddle et al., 2002), which rates eight abnormalities of speech produced in response to the Thematic Apperception Test or the Rorschach Test.

A pragmatics (i.e. language in use) approach is adopted in this study (Thomas, 1995; Kramer et al., 1998), for utterances carry out both a declarative function and a performative function (Austin, 1962; Grice, 1975; Malmkjær, 1991). The former concerns the information an utterance conveys and of which a truth value can be

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predicated. The performative function refers to an 'act' words are meant to 'perform' and of which it is possible to say whether it was felicitous or not. Pragmatics has been applied in neurology (e.g. Prutting and Kirnech, 1987; McDonald and Pearce, 1996; Stemmer, 1999; Bloom et al., 1999) as well as psychiatry (Byrne et al., 1998; Meilijson et al., 2004).

Jaspers' claim that schizophrenia patients were able to reliably describe their psychotic experiences (Jaspers, 1963, p. 55) has been corroborated in areas such as subjective symptoms (Koehler and Sauer, 1984; Klosterkötter et al., 1997), objective symptoms (Liddle and Barnes, 1988), psychotic symptoms (Hamera et al., 1996; Liraud et al., 2004), cognitive difficulties (van den Bosch et al., 1993; Selten et al., 1993, 1996), and conversational deficits (Walsh, 1997). Several researchers have indicated that schizophrenia patients can report FTD (Chapman, 1966; Freedman, 1974; Easson, 1979; Marvin and Melville, 1980; Breier and Strauss, 1983). More recently, Amador et al. (1994) found that up to 50% of patients had insight into FTD.

The first part of this article reports the construction and validation of a self-report scale to assess the subjective experiencing of FTD of schizophrenia patients. The second part of the article reports the construction and validation of a scale to collect information from carers regarding the verbal communication disturbances exhibited by schizophrenia patients. To our knowledge there is no instrument specifically designed to collect this information except the items 'taking the initiative', 'incoherence', and 'oddity during conversations' from the Social Behaviour Schedule (SBS) (Wykes and Sturt, 1986).

1.1. Study 1: the Formal Thought Disorder Scale for patients (FTD-patient)

1.1.1. Methods

1.1.1.1. Item construction. FTD is envisaged as encompassing disturbances of pragmatics, cognition, non-verbal communication, and paralinguistics. The preliminary form of the scale included 52 self-report items created by the authors so patients could self-report thinking/language symptoms exhibited by individuals suffering from psychosis (e.g. derailment, poverty of content of speech) or organic disorders (e.g. perseveration, foreign accent syndrome). The items were inspired by symptoms described by Séglas (1892), Hamilton (1976a,b), Andreasen (1979a,b), and Prutting and Kirchner (1987), as well as symptoms described in the neurological literature (as indicated in each case). The items assessed the following aspects of communication:

1.1.1.2. Pragmatics. These items reflected violation of the maxims of communication (Thomas, 1995) such as poverty of speech, derailment, poverty of content of speech, perseveration (Crider, 1997) and circumstantiality. Other items referred to awareness of speaking in way that is difficult to understand, maintaining interlocutors' interest, communicating in a clear way (Fox Tree, 2000), ability to convey irony (Mitchley et al., 1998), asking for clarification, and ability to give verbal instructions.

1.1.1.3. Lexical selection and syntax. It included such items as feeling too many words coming into consciousness, the ability to recall and use appropriate words, and speech blocking. Syntax items included incoherence as well as using comparative and connective terms.

1.1.1.4. Memory and attention. It included forgetting what the speaker and the interlocutors have just said (Alberoni et al., 1992), monitoring ongoing conversation, recall of conversations (Cornish, 2000), mental fatigue and sustained attention during conversations.

1.1.1.5. Paralinguistic and non-verbal communication. It included loudness, prosody, rate of speech, foreign accent (Takayama et al., 1993; Reeves and Norton, 2001), articulation, and non-verbal features such as gaze, facial gestures, hand gestures, and interpersonal distance (Ellis and Beattie, 1986; Altmann, 2000).

1.1.1.6. Other symptoms of FTD. It included symptoms such as illogicality and mental blocking which did not fit well into the previous categories. After Séglas (1892), voluntary and involuntary clanging and echolalia, active neologisms, automatic speech, and muttering were also included.

Once the items had been developed they were administered to a group of five patients with schizophrenia and five non-clinical participants. The wording of items was modified when appropriate.

1.1.2. Subjects and procedure

The sample consisted of 90 subjects who met Research Diagnostic Criteria (Spitzer et al., 1977) for chronic schizophrenia (69 men and 21 women), mean age 42.9 years (SD = 10.3, range 20 to 64 years). All patients were under the care of a rehabilitation service and had chronic, relatively severe forms of illness. All were in stable condition at the time of testing. As a group they showed a wide range of positive and negative symptoms.