

Relevance of Schneider's first-rank symptoms in Zulu patients with paranoid schizophrenia

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Keywords: Schneider's first-rank symptoms; paranoid schizophrenia

Abstract

Background: The aim of this study was to examine the prevalence of Schneider's first-rank symptoms (FRS) in Zulu patients diagnosed with paranoid schizophrenia and to ascertain the diagnostic and prognostic significance of Schneider's FRS in this group.

Methods: This descriptive study was done on 75 psychiatric Zulu in- and outpatients diagnosed with paranoid schizophrenia. A questionnaire was completed and included sociodemographic data, Schneider's FRS and a functional assessment.

Results: Fifty-three percent of the patients heard voices at some or other time. Most patients (90.7%) confirmed having experienced at least one of the five related symptoms of thought disturbances and 80% of the patients confirmed the presence of passivity phenomena. Most patients (87%) indicated that they had presented at least one type of primary delusion, at the time of the interview. Regarding functional assessment, some (12%) patients were still entirely productive ("no problems"), 28% rated "mild problems", 45% "moderate problems" and 15% "severe problems". With regard to social functioning, 8% of the patients scored "no problems", 25% "mild problems", 50% "moderate problems" and 17% "severe problems".

Conclusions: The prevalence of Schneider's FRS in these patients is 100%, with a 95% confidence interval [95.2%; 100%]. Even though extremely sensitive for paranoid schizophrenia, the specificity of Schneider's FRS merits further study. (*SA Fam Pract* 2005;47(3): 55-60)

The concept of schizophrenia

Schizophrenia is a class of psychiatric disorders that constitutes perhaps the ultimate in psychological breakdown and strikes at the very heart of what we consider the essence of the person. According to Lempérière et al¹ schizophrenia has been described as "folie circulaire" (Falvet, 1851), "hebephrenia" (Hecker, 1871), and "catatonia" and "paranoia" (Kahlbaum, 1874). In 1878, Kraepelin consolidated the various concepts and called the disease "dementia praecox". Depending on the clinical presentation, four types were identified: simple, paranoid, hebephrenic and catatonic. Simple dementia praecox involved a

slow social decline, with apathy and withdrawal rather than florid psychotic symptoms. Paranoid dementia praecox involved fear and vaguely systematised persecutory delusions. The hebephrenic type was "silly" and facetious. Catatonic patients were those with predominant motor symptoms (increased muscle tone, preservation of posture, waxy flexibility and fear). For Kraepelin, the early age of onset was the defining criterion for schizophrenia, with a deteriorating course an additional defining characteristic. Even though Kraepelin's definition incorporated observable symptoms, his approach was fairly narrow.¹

In 1908, Eugen Bleuler, rejecting Kraepelin's emphasis, established that there was no global dementing process and introduced the term "schizophrenia". For Bleuler, schizophrenia was a group of disorders including mild and severe cases, those with a favourable outcome and those with a deteriorating course, as well as the acute and chronic presentations. He defined four characteristics of schizophrenia, now known as "the four A's": **autism** (preoccupation with internal stimuli, a retreat into an inner world incomprehensible to the outsider); blunted or inappropriate **affect**; loosening of **associations** (illogical

or fragmented thought processes); and **ambivalence** (simultaneous, contradictory thinking). The notion of schizophrenia as a disease category was cemented in Bleuler's claim that a fundamental abnormality underlay its symptomatology. He identified the loosening of associations as the core psychological feature that unified this group of disorders. This approach was followed in the United States for much of the sixth decade of the 20th century, when Bleuler's definition was broadened to include various other inferred mental processes.¹

In Europe, there was a tendency to narrow the meaning of schizophrenia away from the broad Bleulerian conceptions. In 1959, the German psychiatrist Kurt Schneider proposed a list of first-rank symptoms (FRS), which he regarded as diagnostic of the disorder. The emphasis was on identifying observable symptoms that would indicate the presence of disease, and avoiding inferred processes: third-person auditory hallucination, thought disturbances, passivity phenomena and delusional perceptions.²

Schneider offered the FRS and said that they "are not theoretical possibilities, but are intended only for pragmatic diagnostic use".² It was agreed that these symptoms provided a boundary that could be defined.

Current understanding of schizophrenia

The present version of DSM-IV favours a much more restrictive approach and does not rely solely on Schneider's FRS.³ Identifying features of schizophrenia are:

A. Characteristic symptoms. Two (or more) of the following, each present for a significant portion of time during a one-month period (or less if successfully treated): delusions, hallucinations, disorganised speech (e.g. frequent derailment of incoherence), grossly disorganised or catatonic behaviour, or negative symptoms (i.e. affective flattening, avolition or avolition).

(Note: Only one criterion A symptom is required if delusions are bizarre or hallucinations consist of a voice keeping up a running commentary on the person's behaviour or thoughts, or two or more voices conversing with each other.)

- B. Social/occupational dysfunction. For a significant portion of the time since the onset of the disturbance, one or more areas of functioning, such as work, interpersonal relations or self-care are markedly below the level achieved prior to the onset (or when the onset is in childhood or adolescence, failure to achieve the expected level of interpersonal, academic or occupational achievement).
- C. Duration. Continuous signs of the disturbance persist for at least six months. This six-month period must include at least one month of symptoms (or less if successfully treated) that meet Criterion A (i.e. active-phase symptoms) and may include periods of prodromal or residual symptoms. During these prodromal or residual symptoms, the signs of the disturbance may be manifested by only negative symptoms or by two or more symptoms listed in Criterion A present in an attenuated form (e.g. odd beliefs, unusual perceptual experiences).
- D. Schizoaffective or mood disorder exclusion. Schizoaffective disorder or mood disorder with psychotic features has been ruled out because either no major depressive, manic or mixed episodes have occurred concurrently with the active-phase symptoms³; or if mood episodes have occurred during active-phase symptoms, their total duration has been brief relative to the duration of the active and residual periods.⁴
- E. Substance/general medical condition exclusion. The disturbance is not due to the direct physiological effects of a substance (e.g. drug abuse, a medication) or a general medical

condition.

- F. Relationship to a pervasive developmental disorder. If there is a history of autistic disorder or another pervasive developmental disorder, the additional diagnosis of schizophrenia is made only if prominent delusions or hallucinations are also present for at least a month (or less if successfully treated).

The ICD-10 (International Classification of Diseases) manual places a further emphasis on the presence of Schneider's FRS.⁵ Although no strictly pathogenomic symptoms can be identified, there are groups that have special importance for the diagnosis and that often occur together. A list of diagnostic criteria follows (Schneider's FRS have been placed in italics):

- A. *Thought echo, thought insertion or withdrawal, and thought broadcasting.*
- B. *Delusions of control, influence, or passivity, clearly referred to body or limb movements or specific thoughts, actions or sensations; delusional perception.*
- C. *Hallucinatory voices giving a running commentary on the patient's behaviour, or discussing the patient among themselves, or other types of hallucinatory voices coming from some part of the body.*
- D. Persistent delusions of other kinds that are inappropriate and completely impossible, such as religious or political identity, or superhuman powers and abilities (e.g. being able to control the weather, or being in communication with aliens from another world).
- E. Persistent hallucinations in any modality, when accompanied either by fleeting or half-formed delusions without clear affective content, or by persistent over-valued ideas, or when occurring every day for weeks or months on end.
- F. Breaks or interpolations in the train of thought, resulting in incoherence or irrelevant speech, or neologisms.
- G. Catatonic behaviour, such as excitement, posturing or waxy

flexibility, negativism, mutism and stupor.

- H. "Negative" symptoms, such as marked apathy, paucity of speech, and blunting or incongruity of emotional responses, usually resulting in social withdrawal and lowering of social performance. It must be clear that these are not due to depression or to neuroleptic medication.
- I. A significant and consistent change in the overall quality of some aspects of personal behaviour, manifested as loss of interest, aimlessness, idleness, a self-absorbed attitude and social withdrawal.

The normal requirement for a diagnosis of schizophrenia is that a minimum of one very clear symptom (and usually two or more if less clear-cut) belonging to any one of the groups listed as A to D above, or symptoms from at least two of the groups referred to as E to H, should have been clearly present for most of the time during a period of one month or more. Because of the difficulty in timing the onset, the one-month duration criterion applies only to the specific symptoms listed above and not to any prodromal non-psychotic phase.

The diagnosis of schizophrenia is not to be made in the presence of extensive depressive or manic symptoms, unless it is clear that the schizophrenic symptoms antedate the affective disturbance. If both schizophrenic and affective symptoms develop together and are evenly balanced, the diagnosis of schizoaffective disorder should be made, even if the schizophrenic symptoms by themselves would have justified the diagnosis of schizophrenia. Schizophrenia should not be diagnosed in the presence of overt brain disease or during states of drug intoxication or withdrawal.

Schneider's FRS find a clear expression in the paranoid type of schizophrenia. Examples of the most common paranoid symptoms are: A. Delusions of persecution,

reference, exalted birth, special mission, bodily change or jealousy.

- B. Hallucinatory voices that threaten the patient or give commands, or auditory hallucinations without verbal form, such as whistling, humming or laughing.
- C. Hallucinations of smell or taste, or of sexual or other bodily sensations; visual hallucinations might occur, but are rarely predominant.

Thought disorder may be obvious in acute states, but if so, it does not prevent the typical delusions or hallucinations from being described clearly. Affect is usually less blunted than in other varieties of schizophrenia.

Ubiquity of first-rank symptoms

The World Health Organization Ten-Country Study of Incidence concluded that schizophrenic illnesses are ubiquitous, appear with similar incidence in different cultures and have features that are more remarkable by their similarity across cultures than by their difference. These conclusions were drawn on the basis of a definition of schizophrenia that depended critically upon the use of FRS.⁶

The ICD-10 makes special reference of the fact that persecutory delusions might carry little diagnostic weight in people from certain ethno-cultural backgrounds.

The aim of this study was to examine the prevalence Schneider's FRS in a group of Zulu patients diagnosed with paranoid schizophrenia and to ascertain the diagnostic and prognostic significance of Schneider's FRS in this group.

Methods

This was a descriptive study that included 75 consecutive psychiatric Zulu in- and outpatients diagnosed with paranoid schizophrenia according to DSM-IV. A systematic sample was taken because the first author only had two months available for data collection. The patients were either admitted to the psychiatric ward or were attending the psychiatric clinics at Ngwelezana Hospital at the time of

their assessment. Staff at Ngwelezana Hospital routinely use the DSM-IV criteria to diagnose schizophrenic patients. These criteria were therefore used to identify patients to be included in the study. Males and females older than 16 years with no set upper age limit were included in the study. Even though priority was given to patients with an active psychotic episode, stable patients with inter-episode residual symptoms or with no inter-episode residual symptoms were also permitted to participate. When feasible, patients presenting a form of paranoid schizophrenia with prominent negative symptoms were approached. The following exclusion criteria were used: primary language not Zulu; Mini Mental State Examination (MMSE) less than 24; any ongoing substance abuse precipitating the active episode, or any previous admission for a substance-induced psychotic disorder or acute confusional episode.

Each patient was selected according to the biographical and clinical data available in their files at the time of the consultation. In the case of acutely ill patients, when there was not enough information about the circumstances surrounding the present episode, a general physical examination was performed and, when feasible, they also underwent an MMSE in an attempt to exclude any cognitive impairment. After being ascertained suitable for the study, the patients were presented with the Zulu version of Schneider's FRS Assessment Questionnaire. Illiterate patients and those needing further explanations were helped by the attending nursing staff, who were specially instructed for this purpose prior to the commencement of the project. The questionnaire included three sections:

Section One: Sociodemographic data – to establish gender, age, marital status, highest qualification and employment status;

Section Two: Schneider's FRS

Table I: Percentage of patients experiencing Schneider's FRS

FRS group	n	Total %	Group %
Third person auditory hallucinations:			
Actions	27	36	67.5
Thoughts	27	36	67.5
Behaviour	23	31	57.5
Total	40	53	
Thought disturbances:			
Audible	49	65	72
Echo	44	59	65
Insertion	34	45	50
Withdrawal	32	43	47
Broadcasting	40	53	59
Total	68	90.7	
Passivity phenomena:			
Imposed actions	47	63	78
Imposed emotions	42	56	70
Imposed will/impulses	40	53	67
Total	60	80	
Primary delusions:			
Total	65	87	

– enquired into the presence of schizophrenic core symptoms as described in the first chapter of this study;

Section Three: Functional assessment – was completed by the researcher, who assessed each patient's occupational and social functioning as a result of the overall evolution of his or her illness. This was done by compiling information from the clinical notes, as well as by interviewing the patients and their attending relatives. Occupational functioning was coded into four degrees of increasing severity affecting aspects of day-to-day productive living and encompassing a time from adolescence to maturity. Due to early school interruption and a lack of marketable skills, the focus was on the occupational functioning within the extended family in rural and semi-rural areas. The answers were rated as "no problems" or "mild problems" when the patient was able to carry on with his/her activities of daily living at a level as close as possible to what was socially acceptable and necessary in his/her environment, and when there was no permanent decline from a previous level of functioning due to the illness.

Table II: Percentage distribution according to the patients' number of positive answers to any one FRS

Number of FRS presented	Percentage
1	5.3
2	2.7
3	9.3
4	8
5	10.7
6	17.3
7	9.3
8	13.3
9	9.3
10	8
11	4
12	2.7

Table III: Distribution of FRS in total sample

Distribution	Percentage
Primary delusions	87
Audible thoughts	65
Imposed actions	63
Thoughts echo	59
Imposed emotions	56
Imposed will/impulses	53
Thought broadcasting	53
Thought insertion	45
Thought withdrawal	43
Commentaries on actions	36
Commentaries on thoughts	36
Commentaries on behaviour	31

"Moderate" and "severe problems" were scored when that decline was obvious (e.g. job loss, school dropout) and permanent, and the patient had become increasingly

dependent on the family and/or social assistance.

When the age could not be determined, recourse was made to

estimations. The degree of psychotic activity in each patient (active psychotic episode, paranoid schizophrenia with no inter-episode residual symptoms, paranoid schizophrenia with inter-episode residual symptoms, paranoid schizophrenia with prominent negative symptoms) was also noted.

The questionnaire presented was anonymous and all information collected was kept confidential. After the study was fully explained to the patients in Zulu by the attending nursing staff, informed written consent was obtained. The patients were allowed to withdraw from the study at any time and were allowed access to the results of the study if they so wished. The study was approved by the Manager of Ngwelezana Hospital.

Descriptive statistics, namely frequencies and percentages for categorical data and percentiles for continuous data, were calculated. The prevalence of Schneider's FRS is described by means of 95% confidence intervals (CI).

Results

Sociodemographic data

Seventy-five patients completed the questionnaire (52 men and 23 women). Their ages ranged from 16 to 60.6 years, with a median of 33 years. Most (73.9%) patients were unmarried (n=73).

The patients (n=74) had received varied schooling, with only 4.1% having matriculated and none with a higher degree. Only a few patients (4.5%) were still attending school. Most (84%, n=65) patients were unemployed, 46 of whom were unskilled labourers/subsistence farmers.

Almost half the patients (46.7%) were diagnosed with paranoid schizophrenia/an acute psychotic episode, 34.7% presented in the remission phase with no residual symptoms, 14.7% in the remission phase with inter-episode residual symptoms, while 4% were diagnosed with paranoid schizophrenia with prominent negative symptoms. All the

residual symptoms detected during the interview were essentially components of Schneider's FRS.

All patients were medicated with anti-psychotics, prior to or after the interview. Benzodiazepines were added PRN to the inpatients' treatment schedule as an adjuvant to be used only in the case of agitation and aggressiveness. An attempt to rule out any possible interference of substance abuse was done through obtaining a proper history from the patient and his/her relatives.

Schneider's FRS

A characterisation of the patients' psychotic experiences (auditory hallucinations, thought disturbances, passivity phenomena and primary delusions) is given in Table I.

Fifty-three percent of the patients heard voices at some or other time. The question did not probe the presence of non-vocal stimuli, but centred on what the patient could understand when the hallucinations were verbal. On the basis of these answers, the following three questions inquired into the presence of a first defining group of Schneider's FRS, namely a voice/voices keeping up a running commentary on the person's actions, thoughts or behaviour. Of the patients who reported voices or conversations, only one denied the occurrence of any of the three above-mentioned FRS, while still admitting to the presence of auditory hallucinations.

Most patients (90.7%, n=68) confirmed having experienced at least one of the five related symptoms of thought disturbances at some time during the course of their illness.

The category of passivity phenomena, with its three defining symptoms (imposed actions, emotions and will/impulses), is actually a refinement of the older concept of triple motor, ideo and ideo-verbal automatism ("le triple automatisme moteur, idéique et idéo-verbal"), first described by the French psychiatrist Guy de Clérambault as part of a larger psychopathologic entity called "the

syndrome of mental automatism".¹ All the other FRS are mentioned in a rather narrative manner in the first two sub-categories of this syndrome: 1) the minor mental automatism ("le petit automatisme mental") and 2) the phenomena of mechanical split of thinking – thought, reading and gesture echo ("les phénomènes de dédoublement mécanique de la pensée – écho de la pensée, de la lecture et des actes"). When asked about passivity phenomena, 80% of the patients confirmed their presence at one time or another during the course of their illness.

The presence of primary delusions was determined by means of eight questions. Even though one positive answer only would have been enough to confirm the occurrence of this core symptom, all types of primary delusions (i.e. reference, persecutory, grandiose, somatic, religious, erotomanic, jealousy and guilt) were enumerated in order to increase sensitivity and give the topic a more concrete character. It is this last core symptom that displays as the most prominent FRS in the psychotic experience of the patients who participated in the study, with 87% indicating that they had presented at least one type of primary delusion, whether criticised or not, at the time of the interview.

This study inquired into the presence, active or retrospective, of twelve first-rank symptoms, divided into four main categories: hallucinatory experience, thought disturbances, passivity phenomena and primary delusions. Interestingly enough, all the patients, even those with a prominently negative form of schizophrenia, identified at least one FRS to match features from their past or present psychotic activity. Approximately 17% (n=13) patients gave a positive answer to six FRS, followed by 13% (n=10) who endorsed eight FRS, and 11% (n=8) with five FRS. The percentage distribution according to the patients' number of positive answers to any one FRS is given in Table II.

Auditory hallucinations are among

the most prominent and distressing symptoms of a psychotic episode. The form and content of hallucinatory experiences have been used as significant clinical signs with diagnostic implications. In this study, however, the symptom category of third-person verbal auditory hallucinations ranked the last (53%), preceded by thought disturbances (91%), primary delusions (87%) and passivity phenomena (80%). Individual FRS displayed a more scattered distribution (Table III), the most being primary delusions (87%), followed by audible thoughts (65%) and imposed actions (63%).

A positive answer to only one of the questions from this section meant that at least one FRS was present in a specific patient, thus being, according to Schneider, diagnostic of schizophrenia. Therefore, the prevalence of Schneider's FRS is 100%, with a 95% CI [95.2%; 100%]. However, even though extremely sensitive for paranoid schizophrenia, the specificity of Schneider's FRS merits further study.

Functional assessment

Some patients (12%) were still entirely productive ("no problems"), 28% reported "mild problems", 45% "moderate problems" and 15% "severe problems".

Social functioning received a similar type of rating, spanning a continuum of deterioration from the initial point of normalcy to states of increasing social and familial disinsertion, amotivation and auto/hetero-aggressiveness. Eight

percent of the patients scored "no problems", 25% "mild problems", 50% "moderate problems" and 17% "severe problems".

The distribution of Schneider's FRS and FRS categories in both types of assessment followed the trends emerging from the functional assessment. A remarkable feature in both evaluations was the overall predominance of moderate and severe dysfunctional patterns, amounting to 60% of the patients for the occupational and 67% for the social assessments. Were it only for these estimates, they would have been in line with the results of those studies where the FRS were associated with a trend for poorer prognostic features in the schizophrenic sample.⁷ However, numerous potential confounding factors overshadow the relevance of these findings. A bad prognosis of schizophrenia is not only the result of certain disease features, such as insidious onset, long duration of first episode, emotional blunting, etc., but is also dependent on the availability of family and appropriate social support. Much more needs to be done concerning this latter aspect, and the challenges are great.

Implementation of findings

This study aimed at obtaining a better insight into the presence of schizophrenic core symptoms in a group of Zulu patients already diagnosed with this disease. Its findings try to point out those FRS with a higher prevalence in this ethno-cultural group, thus helping the

clinician in making a more focused and earlier diagnosis in future cases. The findings of the study are limited, however, to this group of patients. The study also tried to ascertain the existence of a correlation between specific Schneider's FRS (or groups of FRS) and the long-term functional prognosis of this group of patients. Therefore, it looked for an indication of those cases where a more aggressive course of treatment might have become warranted in order to preserve function or prevent further social decline. ✎

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