

SHORT COMMUNICATION

M. Hambrecht

A second case of schizophrenia in the family: Is it observed differently?

Received: 7 August 1994 / Accepted: 2 May 1995

Abstract Comparing reports on emerging symptomatology of schizophrenia by families with and without a prior case of the disorder shows that experienced families are more sensitive to delusions and hallucinations; however, they observe unspecific, affective, negative, and social/behavioral symptoms less adequately than relatives who have no previous case of schizophrenia in their families. The results only partly support the hypothesis that already-affected families tend to deny a second case. A contrast effect of the first psychosis over the second case (as long as it is prepsychotic) appears to be plausible also.

Key words Schizophrenia · Early course · Clinical history · Family history

Introduction

During the acute stage of psychotic disorder, valid information on previous history is difficult to obtain directly from the patient. Clinicians often have to rely on reports given by family or friends. Individual differences in awareness, degree of information and other characteristics of the relatives can limit the reliability of this information. Familial aggregation of schizophrenia and spectrum disorders (Kendler et al. 1985; Parnas et al. 1993) permits some relatives to collect experience about the disorder and its symptoms prior to its onset in the index patient. It has thus far been unclear how this experience affects their ability to detect the emerging disorder in another relative. Both alternative hypotheses have some plausibility:

1. Prior observation of another case and practical knowledge about the disorder gives information and trains perception, thus improving the relatives' capacities.
2. Already having a case of schizophrenia in the family and witnessing its many sequelae is a burdensome and

negative experience fostering denial as a defense mechanism of these perceptions in another emotionally close person.

Comparing the quality of the reports of relatives in double-affected families and in previously unaffected families permits testing of these alternative hypotheses. Relatives may, however, react differently to different types of symptoms of schizophrenia. Schizophrenic symptoms, for instance, were found to vary considerably in observability. Hambrecht et al. (1994) collected evidence for a continuum ranging from well-perceived symptoms, such as substance abuse or suicide, to relatively hidden symptoms such as depersonalization or nonpsychotic perceptual disturbances. These subgroups of symptoms should be considered in testing the quality of significant others' reports.

Subjects and methods

A total of 30 consecutively admitted patients were included in this study (15 males and 15 females; mean age 25 years). Of the patients 27 had received a diagnosis of schizophrenia, 2 of schizomanic and 1 of schizodepressive disorder according to ICD-10. Inclusion criteria for the study also required a 1-year maximum duration of previous in- or outpatient psychiatric treatment of the patient and the availability of at least two close relatives for an interview.

After remission of acute symptoms, the patients were systematically explored about the presence and onset of symptomatology by means of the Interview for the Retrospective Assessment of the Onset and Early Course of Schizophrenia (IRAOS; Häfner et al. 1992a). Objectivity, reliability, and validity of this widely used instrument were found to be good to excellent (Häfner and Maurer 1993).

Schizophrenia or a psychotic spectrum disorder in a first-degree relative was reported for 6 index patients. This information was considered valid when at least two healthy relatives reported independently about the same diagnosis given to the relative during an inpatient psychiatric treatment. Patients with and without a family history did not differ clinically or demographically.

A total of 69 relatives of the 30 index patients were separately interviewed with the same instrument (IRAOS) and were kept blind to the others' answers. Of the interviewed relatives 35% were mothers, 19% fathers, 19% sisters, and 13% partners of the patient. Relatives of patients with and without a family history of schizophrenia did not differ in terms of age, gender, familial rela-

tionship with the patient, time spent together, commonality of household, or other sociodemographic variables.

Reliability of relatives' reports was operationalized as the agreement between relative and patient concerning the presence of specific symptoms during the early course of the disorder. Besides Kappa (Cohen 1960), sensitivity and specificity of relatives' reports were calculated as recommended by Cicchetti and Feinstein (1990) who demonstrated the limitations that are inherent in the Kappa measure.

Kappa, sensitivity, and specificity were calculated for each family as these parameters' average scores of all patient-relative pairs within the family over all 69 symptoms assessed by the IRAOS and over four subgroups of them: 16 items for unspecific, affective, and negative symptoms; 11 items for nonpsychotic and psychotic disturbances of thinking/concentration and "prepsychotic" symptoms such as derealization; 13 items on delusions and hallucinations; 16 items on abnormal behaviors and social deficits. Wilcoxon signed rank tests were computed as nonparametric tests for comparing the two groups of relatives because of the inhomogeneous sample sizes.

Results

As illustrated in Table 1, relatives *without* previous experience with a schizophrenic family member were more specific in reporting symptoms during the early course of schizophrenia, particularly abnormal behaviors and social deficits. They were more sensitive to prepsychotic disorders (e.g., depersonalization), problems with thinking/concentration, and (in a statistical trend) to unspecific and affective symptoms, for which they yielded a higher overall agreement rate (Kappa) also. Relatives *with* an earlier case of psychosis in the family, in contrast, detected delusions and hallucinations better and more sensitively.

Discussion

Although the samples are small and some differences that reach statistical significance might be considered trivial, the data is in favor of the hypothesis that relatives in double-affected families tend to deny psychiatric symptoms in previously healthy family members – as long as it does not come to positive symptoms. Delusions and hallucinations are perceived more adequately by experienced relatives. They are particularly more sensitive to this group of symptoms. All other symptoms, however, namely, unspecific, affective, negative, and social/behavioral symptoms, are reported more specifically and/or more sensitively by significant others without an earlier case of schizophrenia in the family.

The differentiation between subgroups of symptoms questions the simplicity of the denial hypothesis. The less reliable perception of nonpsychotic symptoms may also result from a "contrast effect" by which the dramatic psychotic symptomatology of the first patient in a family veils less-dramatic nonpsychotic symptoms in the second patient. Because schizophrenia starts with nonpsychotic negative symptoms in most cases (Häfner et al. 1992b), the second case will often go undetected for some time. Causal attributions contribute to this contrast effect: Behavioral and affective abnormalities in the second case are then attributed to the emotional burden by the first case.

Comparing the patients with and without a family history did not reveal any significant demographic or clinical differences. The study, however, was not designed to investigate this issue, which has attracted more interest recently (cf. Murray et al. 1992). The lack of differences between the two groups in the present study makes it unlikely that the differences in agreement rates are due to differences in the patients' information who remitted from acute symptoms when the interview was carried out.

Table 1 Comparison of patient – relative agreement rates in families with and without a previous case of schizophrenia

Symptoms	Parameter of agreement	Families without prior case (n = 24)	Families with prior case (n = 6)	z ^a
Over all	Kappa	0.29	0.26	n.s.
	Sensitivity	0.48	0.49	n.s.
	Specificity	0.79	0.71	1.79*
Unspecific, affective, and negative symptoms	Kappa	0.31	0.12	2.62***
	Sensitivity	0.55	0.42	1.84*
	Specificity	0.73	0.62	n.s.
Nonpsychotic and psychotic disturbances of thinking/concentration and "prepsychotic" symptoms	Kappa	0.15	0.02	n.s.
	Sensitivity	0.28	0.11	1.70*
	Specificity	0.79	0.71	n.s.
Delusions and hallucinations	Kappa	0.32	0.55	1.79*
	Sensitivity	0.50	0.71	2.20**
	Specificity	0.77	0.80	n.s.
Abnormal behaviors and social deficits	Kappa	0.22	0.20	n.s.
	Sensitivity	0.36	0.46	n.s.
	Specificity	0.81	0.70	2.20**

^a Wilcoxon signed rank test

* $P < 0.10$

** $P < 0.05$

*** $P < 0.01$

As in previous family studies on schizophrenia, prior cases could not be reassessed personally. The study had to rely on relatives' information. In order to ensure validity, a rather restrictive criterion for the classification of the families was used, namely inpatient treatment under the diagnosis of schizophrenia or paranoid disorder. This narrow criterion might explain the comparatively low number of cases with a family history of schizophrenia (20%). The group without a prior case might comprise some cases with milder spectrum disorders, but an improvement of the classification (e.g., by direct reassessment of prior cases) should show the presented findings even more clearly. This fact might encourage future studies with larger samples that can expect to replicate these preliminary results.

References

- Cicchetti DV, Feinstein AR (1990) High agreement but low Kappa. II. Resolving the paradoxes. *J Clin Epidemiol* 43:551–558
- Cohen JA (1960) A coefficient of agreement for nominal scales. *Educ Psychol Measurement* 20:37–46
- Häfner H, Maurer K (1993) Methodenprobleme der Erforschung von Krankheitsbeginn und Frühverlauf am Beispiel der Schizophrenie. *Fundam Psychiatr* 7:1–12
- Häfner H, Riecher-Rössler A, Hambrecht M, Maurer K, Meissner S, Schmidtke A, Fätkenheuer B, Löffler W, Heiden W an der (1992a) IRAOS: an instrument for the retrospective assessment of the onset of schizophrenia. *Schizophr Res* 6:209–223
- Häfner H, Riecher-Rössler A, Maurer K, Fätkenheuer B, Löffler W (1992b) First onset and early symptomatology of schizophrenia. A chapter of epidemiological and neurobiological research into age and sex differences. *Eur Arch Psychiatry Clin Neurosci* 242:109–118
- Hambrecht M, Häfner H, Löffler W (1994) Beginning schizophrenia observed by significant others. *Soc Psychiatry Psychiatr Epidemiol* 29:53–60
- Kendler KS, Gruenberg AM, Tsuang MT (1985) Psychiatric illness in first-degree relatives of schizophrenic and surgical control patients. *Arch Gen Psychiatry* 42:770–779
- Murray RM, O'Callaghan E, Castle DJ, Lewis SW (1992) A neurodevelopmental approach to the classification of schizophrenia. *Schizophr Bull* 18:319–332
- Parnas J, Cannon T, Jacobsen B et al. (1993) Life-time DSM-III-R diagnostic outcomes in offspring of schizophrenic mothers: The results from the Copenhagen High Risk Study. *Arch Gen Psychiatry* 50:707–714