diagnostic consistency in catatonic schizophrenia

Frederick G. Guggenheim and Haroutun M. Babigian

Two basic methods have been used to study consistency in diagnosing schizophrenia: 1) surveillance of diagnoses as they are routinely given within a community and 2) comparison of judgments of a limited number of experts observing selected patients. An example of the surveillance approach is the study conducted by Babigian et al. (1965), who found that 70 percent of patients first diagnosed as schizophrenic in the Monroe County Psychiatric Case Register were again diagnosed as schizophrenic in their subsequent Register contacts. An example of the selective comparison approach is the study of Beck (1962). In that study, four psychiatrists agreed in 53 percent of their diagnoses on a group of outpatients with possible or definite schizophrenia. But neither these nor other recent studies of diagnostic consistency (Ash 1949, Cooper 1967, Hordern et al. 1968, Kaelbling and Volpe 1963, Kendell et al. 1971, Sandifer et al. 1968, and Schmidt and Fonda 1956) have focused primarily on diagnostic consistency for a particular type of schizophrenia.

The investigators in the present study have surveyed an aspect of current diagnostic practice as part of an earlier investigation (Guggenheim and Babigian 1974) into the epidemiology and outcome of patients diagnosed as having catatonic schizophrenia. It was demonstrated in those studies that, in comparison to patients with other types of schizophrenia, patients consistently diagnosed as having catatonic schizophrenia are significantly more often females than males and come from a lower socioeconomic class. Moreover, those consistently diagnosed as having catatonic schizophrenia have longer episodes than those inconsistently diagnosed as having catatonic schizophrenia.

This study was designed to investigate the consistency of diagnoses applied to 572 patients who obtained treatment in Monroe County, N.Y. All had multiple diagnostic contacts and had been considered by at least one psychiatrist to have catatonic schizophrenia.

Method and Material

The Monroe County Psychiatric Case Register (Gardner et al. 1963) has accumulated a longitudinal file of diagnostic, demographic, and treatment data since 1960 on all psychiatric patients in a relatively stable population of 625,000 persons living in Monroe County, N.Y. This area comprises the city of Rochester, its suburbs, and a significant rural population. Between January 1, 1960, and the end of 1966, the Register had received diagnostic data on the 39,475 residents of the county seen in the various inpatient and outpatient psychiatric facilities of the county. These facilities include a State hospital, a university hospital psychiatric service, the outpatient departments of these two facilities, a community hospital psychiatric unit, child diagnostic clinics, and other outpatient clinics. Patient care by private psychiatrists in the county is also reported.

The criteria used to select the 572 cases in the "multiple contact cohort" (MCC) were 1) the entry into the Monroe County Psychiatric Case Register, 2) the diagnosis of catatonic schizophrenia given at least once

1 1964 special census.
by any psychiatric facility in the county in 1960 through 1966, and 3) two or more diagnostic contacts in the Register. The average number of contacts per case was 6.2.

The MCC has been divided into four groups according to diagnostic concordance of catatonic schizophrenia. Group A contains cases diagnosed as catatonic schizophrenia on all Register contacts; group B comprises those patients diagnosed as catatonic schizophrenia in a clear majority of contacts but not always so diagnosed; and group C contains those cases diagnosed as catatonic schizophrenia more than once but not in a majority of contacts. Patients with multiple Register contacts but only one diagnosis of catatonic schizophrenia are assigned to group D.

This study also focused on 345 patients with Register contacts at multiple psychiatric facilities. This group is called the "multiple facility cohort" (MFC). Criteria for selection are the same as for the MCC, except that, in addition, 1) the MFC has made contact with two or more of the four major facilities, and 2) the diagnosis of catatonic schizophrenia was made in at least one of the following four facilities: the State hospital, the university hospital inpatient service, the university hospital psychiatric emergency department, or the community hospital psychiatric unit. Thus, the MFC comprises cases seen at two, three, and four facilities (e.g., the two-facility cohort, the three-facility cohort, and the four-facility cohort).

Two terms that should be defined are "contact" and "episode." A Register diagnostic contact may vary from a single brief outpatient visit to a prolonged outpatient therapeutic program or an inpatient stay of any length. A Register episode is defined as a contact or contacts commencing with hospitalization and sometimes involving a transfer from one inpatient facility to another. An episode is terminated by a discharge to outpatient status.

Results

Effects of Multiple Contacts

With an increasing number of contacts, there is an increased likelihood that there will not be unanimity in the diagnosis of catatonic schizophrenia. This trend is illustrated in figure 1.

Slightly less than half of those in the MCC group receive the diagnosis of catatonic schizophrenia in a majority of contacts, as can be seen in table 1.
Table 1. Consistency of a diagnosis of catatonic schizophrenia in cases with multiple contacts.

<table>
<thead>
<tr>
<th>Multiple contact cohort</th>
<th>Catatonic schizophrenia diagnosis</th>
<th>N</th>
<th>Percent</th>
<th>Mean contacts</th>
<th>Mean episodes</th>
<th>Contacts per episode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td>Always</td>
<td>147</td>
<td>26</td>
<td>4.7</td>
<td>2.3</td>
<td>2.0</td>
</tr>
<tr>
<td>Group B</td>
<td>Mostly</td>
<td>122</td>
<td>21</td>
<td>6.8</td>
<td>2.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Group C</td>
<td>Sometimes</td>
<td>105</td>
<td>18</td>
<td>7.5</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Group D</td>
<td>Once</td>
<td>199</td>
<td>35</td>
<td>6.2</td>
<td>2.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>572</td>
<td>100</td>
<td>6.2</td>
<td>2.3</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Twenty-six percent are always called catatonic schizophrenia (group A), and 21 percent are called catatonic schizophrenia in a clear majority of their contacts (group B). But 18 percent are diagnosed catatonic schizophrenia in less than a clear majority of their contacts (group C), and 35 percent are called catatonic schizophrenia only once (group D).

There is no major difference in the number of episodes for each of the groups. There is, however, a rank ordering to the number of contacts per episode for each of the groups. Those groups with greater diagnostic inconsistency have more contacts; hence a greater opportunity exists for diagnostic disagreement.

**Effects of Multiple Facilities**

A considerable difference was found in the degree to which different facilities used the diagnosis of catatonic schizophrenia. In figure 2, it can be seen that the diagnoses of catatonic and the hebephrenic types of schizophrenia are applied many times more frequently to first admission patients at the State hospital than at the university hospital or at the community hospital.
Other types of schizophrenia (e.g., acute and chronic undifferentiated types) are diagnosed less frequently at the State hospital but more frequently at the other facilities. With successive hospitalizations, the proportion of cases diagnosed as catatonic schizophrenia stays relatively the same. For example, at the State hospital, catatonic schizophrenia constitutes 13 percent of first-admission schizophrenic diagnoses and 14 percent of successive schizophrenic admissions. At the university hospital, these figures are 2 percent and 3 percent, respectively. Comparable figures for the community hospital are 3 percent and 5 percent. On successive admissions, there is an increase in cases diagnosed as chronic undifferentiated and schizoaffective schizophrenia and a decrease in cases called acute undifferentiated schizophrenia.

Among those cases admitted to several of the most frequently used facilities, there is a very low degree of consensus for the diagnosis of catatonic schizophrenia. Nonetheless, there is a high degree of consistency for the diagnosis of schizophrenia per se. Table 2 demonstrates that for the two-, three-, and four-facility cohorts there is unanimous agreement on the diagnosis of schizophrenia of any type in 76 percent of the 345 MFC cases. On the other hand, there is only majority agreement for the diagnosis of catatonic schizophrenia in 7 percent of the MFC cases: 10 percent for the two-facility cohort, 4 percent for the three-facility cohort, and 3 percent for the four-facility cohort. Yet, all of these cases were given a diagnosis of catatonic schizophrenia at least once by one of these facilities.

**Consistency Within a Facility**

Considerable variation was also found in the consistency of the use of the diagnosis of catatonic schizophrenia within an individual facility, and this can be demonstrated for the 31 cases of the four-facility cohort. For this group, catatonic schizophrenia is the most frequent diagnosis (81 contacts), followed by paranoid schizophrenia (59 contacts), and chronic undifferentiated schizophrenia (30 contacts). Indeed, some type of schizophrenia is the most frequent diagnosis in 25 cases (81 percent).

The ratio of patients with consistent diagnoses (i.e., the same schizophrenic type in all contacts with the facility) to those with inconsistent diagnoses was calculated. For the State hospital, the community hospital, the university hospital, and the emergency service, the ratios were 6.0, 2.0, 1.0, and 0.4, respectively. That is, the State hospital and the community hospital only infrequently give more than one schizophrenic type to a patient seen on multiple occasions. By contrast, the university hospital inpatient service gives different schizophrenic types as frequently as the same diagnostic type, and the emergency service gives different schizophrenic types to the four-facility cohort much more frequently than the same type.

**Discussion**

Only half (47 percent) of the patients diagnosed as having catatonic schizophrenia in this study had been so diagnosed in a majority of their Register contacts. The

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Cases</th>
<th>Complete agreement on schizophrenic diagnosis at each facility</th>
<th>Majority agreement on catatonic schizophrenia diagnosis at all facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>Percent</td>
</tr>
<tr>
<td>Two-facility</td>
<td>181</td>
<td>147</td>
<td>81</td>
</tr>
<tr>
<td>Three-facility</td>
<td>133</td>
<td>91</td>
<td>68</td>
</tr>
<tr>
<td>Four-facility</td>
<td>31</td>
<td>23</td>
<td>74</td>
</tr>
<tr>
<td>Total</td>
<td>345</td>
<td>261</td>
<td>76</td>
</tr>
</tbody>
</table>
The presence of catatonic behavior is not pathognomonic of catatonic schizophrenia. Placid or rigid immobility, stupor, posturing, catalepsy, grimacing, automatism, stereotypy, mimic actions, profound negativism, and psychotic thinking can occur in other entities. Reports have described catatonia in organic diseases (Belfer and d'Autremont 1971, Herman, Harpham, and Rosenblum 1942, and Jaffe 1967), hysteria (Thomson, Forbes, and Bolles 1937), and psychotic depressive reactions (Rachlin 1935). Furthermore, Kraepelin (1919) long ago pointed out that transient catatonic behavior can frequently be seen in other schizophrenic types. His criteria for catatonic schizophrenia included predominant and persistent catatonic symptoms added onto a basic matrix of dementia praecox. Moreover, he also noted that the catatonic type had the conjunction of a peculiar excitement with catatonic stupor.

In a recent study of the outcome of catatonic behavior, it was found that 43 percent of the patients thought to have catatonic schizophrenia at acute treatment facilities are diagnosed more frequently as having other types of schizophrenia (Guggenheim and Babigian 1974).

Another aspect of catatonic schizophrenia that makes consistency of diagnosis so difficult is the effect of phenothiazines on certain psychomotor signs. For example, waxy flexibility disappears within hours in many patients treated with chlorpromazine. Muteness may also pass, rendering accessible the delusional and at times paranoid ideation (Thorner 1938) of the catatonic. Thus, some patients may demonstrate prominent catatonic behavior but be called paranoid, schizoaffective, or chronic undifferentiated schizophrenic a short time later. We found that the diagnosis of paranoid schizophrenia is most often used as an alternative diagnosis to catatonic schizophrenia.

Additionally, there are certain features of the diagnostic process that may also be responsible for the low degree of diagnostic consistency in catatonic schizophrenia. The low priority assigned to schizophrenic types by practicing psychiatrists, especially in harried triage centers, relates to a currently perceived lack of therapeutic or heuristic importance associated with these types. Perhaps the advent of a specific medication, benefiting nonparanoid schizophrenics markedly more than the paranoid type, might imbue the diagnosis of schizophrenic types with more than academic merit. Certainly, since lithium has been so useful in the treatment of manic depressive reactions, many centers have noted a marked increase in its incidence and in its diagnostic consistency.

Diagnostic consistency regarding the type of schizophrenia varied most in facilities with rapid staff turnover: at the emergency and the inpatient service of the university hospital where residents were responsible for diagnostic reports. By contrast, the State and community hospitals, where permanent staff psychiatrists were often responsible for diagnosis, had considerably higher diagnostic consistency.

Diagnostic criteria actually used varied widely, a phenomenon noted elsewhere (Schorer 1968). Spot checks on hospital charts, as well as informal discussion with many clinicians, clearly brought this out. Whereas some psychiatrists used a strict Kraepelinian approach, others were more idiosyncratic. Nonetheless, concurrence in the diagnosis of schizophrenia per se in our cases was high, with more than three-quarters of one large group given a unanimous diagnosis of some type of schizophrenia on all contacts.

Diagnostic consistency was examined in a group of 572 cases with multiple contacts diagnosed at least once as having catatonic schizophrenia in the Monroe County Psychiatric Register between 1960 and 1966. The diagnosis of catatonic schizophrenia was made in a majority of contacts for less than half the group. Catatonic schizophrenia is used inconsistently and rarely by some facilities; not infrequently and consistently by other facilities. When a patient has visited multiple
facilities and catatonic schizophrenia has been diagnosed at one of them, he has less than a 10 percent chance of having agreement on the diagnosis of catatonic schizophrenia in a majority of contacts with each of the facilities.

The transient occurrence of catatonic symptoms in other types of schizophrenia as well as in other types of mental and physical illnesses is implicated as one of the reasons for the low degree of diagnostic consistency. The diagnostic process, often hurried, imprecise, and without heuristic or therapeutic interest with respect to the particular type of schizophrenia, is also implicated.

References


Acknowledgment

The Monroe County Psychiatric Case Register is currently supported by the New York State Department of Mental Hygiene, the Monroe County Board of Mental Health, and the University of Rochester. From 1960 through 1969 the Register was supported by NIMH Grant MH-00381. This work was also partially supported by NIMH Grant MH-08469. Ms. Helen Hagan and Ms. Caroline Fribance provided technical and editorial assistance.

The Authors

Frederick Guggenheim, M.D., is an Assistant Professor of Psychiatry at the Harvard Medical School, Boston, Mass., and Haroutun Babigian, M.D., is a Professor of Psychiatry at the University of Rochester School of Medicine and Dentistry, Rochester, N.Y.