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The Treatment of Acute Schizophrenia Without Drugs: An Investigation of Some Current Assumptions

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The authors examine the course of 49 acute schizophrenic patients in a program at the National Institutes of Health (NIH) emphasizing psychosocial treatment and sharply limiting the use of medication and contrast it with that of 73 similar patients receiving "usual" treatment in a separate study. Follow-up of the NIH group at one year and the other group at two years demonstrated a small but significantly superior outcome for the NIH cohort. In addition, the 22 NIH patients receiving medication and the 27 drug-free patients had similar outcomes at one year. The authors discuss the feasibility of treating acute schizophrenic patients with minimal use of medication.

FOR MANY understandable and good reasons, psychopharmacology is now preeminent in the treatment of schizophrenic patients. Drug administration reduces psychotic symptoms, dulls the pain of anguished patients, renders hospitalized patients dischargeable, and maintains patients in the community. It provides a rational and effective mode by which the physician can induce desired changes in his patient well within the context of the medical model.

Psychiatry's receptivity to the use of psychopharmacology in the treatment of schizophrenic patients has been enhanced by studies documenting the effectiveness of drugs while failing to find any impressive evidence for the effectiveness of psychological therapies (1–3). However, these important studies have shortcomings and are regarded by some as an unsatisfactory test of psychotherapeutic efficacy.

On the other hand, we have little systematic information about psychotherapy (4). Psychotherapeutic approaches to schizophrenia have been used for years and have provided a rich source of information on phenomenology and treatment effects. However, in the absence of rigorous research methodology this information base is often dismissed as anecdotal, and the influence of psychoanalysis and related psychological approaches on the treatment of schizophrenic patients has waned. There are formidable intricacies involved in developing appropriate measures of change specifically relevant to the aims of psychotherapy, and until recently little attention has been paid to such assessment problems (4–8). Thus, for example, it is possible to demonstrate that drugs are more effective than psychotherapy in reducing a paranoid patient's belligerency, but there is no way to assess the effectiveness of either mode of treatment on this patient's capacity for intimacy.

Pharmacological treatment of schizophrenia is extraordinarily important in psychiatry. We believe, however, that the treatment of schizophrenia has become so extensively drug oriented that a significant impediment has arisen to the exploration of alternative therapeutic approaches. The situation has reversed from the 1950s, when a commitment to psychological treatment philosophies posed a serious resistance to pharmacological innovations. Klein (9) has noted that the automatic and immediate administration of neuroleptics to disturbed patients often precedes and precludes even a diagnostic evaluation. This widespread and premature foreclosure on the optimal treatment of schizophrenia is reflected by the fact that millions of people take neuroleptics as the only important component of their treatment.

LIMITATIONS IN KNOWLEDGE OF SCHIZOPHRENIA

This narrowing of our clinical approach is especially alarming considering how little we know about schizophrenia. These limitations include the following:

1. We know virtually nothing about the etiology of schizophrenia. Despite evidence for a genetic contribution in some forms of schizophrenia, we know nothing about the nature of this component, how it may contribute to vulnerability, or to what extent it accounts for the variance in manifest schizophrenia. At present,

Revised version of a paper presented at the 128th annual meeting of the American Psychiatric Association, Anaheim, Calif., May 5–9, 1975.

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no factor can be said to be a necessary and sufficient cause of schizophrenia, or even necessary but insufficient.

2. Difficult diagnostic issues and patient heterogeneity limit the interpretation of data from any study of schizophrenic patients.

3. The assessment techniques that measure course and outcome in schizophrenia have serious shortcomings, especially as applied in studies comparing treatment effects.

Recognition of the paucity of etiological knowledge about schizophrenia is important since psychiatrists often assume that a reasoned understanding of its cause does exist, lacking only in detail. In fact, no other disorder in the history of psychiatry has had a richer panoply of global claims to its cause and cure. Recognition of our ignorance is important because, as common sense suggests and Soskis (10) has demonstrated, etiological assumptions influence a physician's choice of treatment modality.

The second point—the problem of diagnostic shortcomings—is widely acknowledged but rarely addressed in study designs evaluating treatment modalities. Thus a group of patients who are called schizophrenic but who lack descriptive (let alone etiological) homogeneity are often studied for treatment response, and the study results are generalized as though schizophrenia were a single illness (11).

The third point—inadequacies in the assessment of course and outcome—is the least well recognized but perhaps the most crucial. There are many dimensions to a patient's fate, and the effect of treatment on a patient's course cannot be adequately determined unless this complexity is taken into account. The capacity to relate socially is not the same as the capacity to hold a job, and neither of these factors can be predicted by assessing the patient's symptom picture or the necessity for hospitalization. However, all too frequently the effect of treatment on outcome is determined by measuring unitary dimensions such as the length of hospital stay.

Docherty (12) reviewed the literature on maintenance drug therapy in schizophrenia and found that only 4 of 31 studies measured the effectiveness of drug therapy on dimensions other than symptom relapse or rehospitalization. While these measures are vitally important, they fall drastically short of a comprehensive assessment of the patient's functioning. This point was documented using 2-year follow-up assessments of 85 schizophrenic patients we evaluated as part of the International Pilot Study of Schizophrenia (IPSS) (13). There were only modest associations between 4 outcome variables, i.e., time in hospital, social function, work function, and symptoms (14). Furthermore, the association between any 1 of these measures at 2-year follow-up and the other measures at 5-year follow-up was minimal, and in some cases negligible (15). For example, assessing hospital status during a 2-year follow-up gives minimal information about social or work function at 5-year follow-up. Schwartz and associates (16) also found discordance between 4 outcome measures, i.e., mental status, social and role functioning, rehospitalization, and satisfaction with treatment. Studies assessing the relationship between treatment and outcome are severely limited unless they are based on multiple outcome dimensions.

The paucity of long-range follow-up studies also restricts our understanding of the effects of pharmacological treatment. Most reports focus on changes in the patient during hospital stay or brief follow-up periods, and few studies go beyond 2 years. Engelhardt (17) has called attention to the diminishing differences (from clinical assessment) between drug- and placebo-treated patients as their course is followed over a longer period of time. This does not lessen the importance of the short-term effects of drugs, but it does suggest that we know very little about their comparative long-term advantages.

ISSUES CONCERNING DRUG TREATMENT

It is often assumed that noxious side effects of neuroleptic treatment of schizophrenia are limited to unpleasant autonomic alterations, extrapyramidal effects, rare allergies, and infrequent tardive dyskinesias. Recent evidence (18–20) has more carefully documented the relationship between drug treatment and the inducement or reinforcement of defect or negative symptoms (e.g., anhedonia, social isolation, post-psychotic depression, and amotivational syndromes). Nevertheless, relatively scant attention has been paid to this problem or to possible later effects of long-term drug use on affect modulation, communication, perception, or other central nervous system functions. In addition, little notice has been given to the so-called secondary side effects, such as the impact on a child's development should his mother be on long-term heavy medication. This results in a situation not entirely dissimilar to that of past enthusiasm for lobotomies, when attention focused on the positive attributes of the procedure to such a degree that the short- and long-term hazards were overlooked.

Two recent review articles have suggested that the unequivocal acceptance of neuroleptic therapy in schizophrenia is being reexamined. In a review of maintenance drug therapy Davis (21) pointed out that there is a subgroup of schizophrenic patients who should not be treated with neuroleptics. Criteria for identifying this subgroup are not yet established. Furthermore, Davis believes that most patients on chronic maintenance therapy deserve a trial of withdrawal from drugs; this has the potential of enhancing the clinical course as well as reducing the risk of neurological complications. Davis is joined in this argument by Gardos and Cole (22), who have stated that "every chronic schizophrenic outpatient maintained on antipsychotic medication should have the benefit of an adequate trial without drugs" (p. 35). Based on their review, these authors predicted that as many as 50% of all med-

icated chronic schizophrenic outpatients would do as well clinically without medication.

The ascendancy of drug treatment in schizophrenia has been accompanied by an emphasis on short-term crisis management, rapid discharge from the hospital, and community-oriented services. These trends spring from a recognition of the negative effects of chronic institutionalization and from frustration with lengthy psychotherapeutic procedures. These trends may have gone to extremes; the wisdom of early discharge and return to the community, for example, is beginning to be questioned (23, 24).

Together, these factors have led to the following 5 prevalent and understandable, but erroneous, assumptions:

1. The schizophrenic patient must be treated with drugs and failure to do so is unethical.
2. Such patients must be maintained on drugs after symptomatic recovery.
3. Relapse must be prevented since the psychotic state is, in itself, pathogenic and actively nurtures a deteriorating course.
4. No major treatment emphasis besides drugs is essential for schizophrenics.
5. There are relatively few hazards in using medication.

Although we regard these 5 assumptions as unwarranted, we do not subscribe to opposite conclusions. Answers to these problems must be derived from careful scientific study. Our argument is that current treatment attitudes far outdistance their informational base. The polemics often introduced into discussions of treatment do not reflect scientific fact. However, issues at the interface of pharmacotherapy and psychotherapy were intelligently discussed in a recent report by the Group for the Advancement of Psychiatry (25). It seems apparent that our profession should encourage the continued evaluation of reasoned and innovative treatment approaches for schizophrenia.

THE STUDY

In this paper we describe a hospital program for acute schizophrenic patients that emphasizes psychosocial treatment and sharply limits the use of medication. The course of patients so treated is examined and contrasted with that of similar patients treated in other hospital facilities. This is *not* a comparative outcome study using controlled therapeutic protocols. Rather, we use available data to address one central question: does withholding medication in the context of psychosocial treatment bias against a favorable outcome in acute schizophrenia?

METHOD

Our program was established on an 11-bed clinical research unit in the National Institutes of Health (NIH) Clinical Center designed to investigate the relationship between diagnostic and psychobiological variables. We selected patients with flagrant psychotic breaks but with reasonably adequate social and work function prior to the onset of their psychotic episodes. While this was generally not their first psychotic episode, most of the patients could be considered acute or subacute schizophrenics. Informed consent was obtained from all patients after the nature of the treatment/research program was fully explained.

At admission the patients were removed from all medication for 3 weeks. Toward the end of this 3-week period a battery of psychobiological, clinical assessment, and psychophysiological research procedures was undertaken. The patients had a maximum hospitalization of 4½ months; the average stay was slightly less than 4 months (117 days). If the patients were placed on drugs after initial testing, they repeated the 3-week drug-free period to permit research retesting prior to discharge. After discharge testing the patients were hospitalized as necessary for 2 weeks to permit reinstitution of medication and reintegration into the community. Initial follow-up evaluations were conducted 1 year after admission.

Therapeutic Environment

The therapeutic philosophy was that self-understanding and social adaptation are fundamental to the process of recovering from psychotic episodes. Patients were seen in psychoanalytically oriented psychotherapy 2–3 times a week. All patients participated in group psychotherapy once a week and most patients also had family therapy once weekly. Self-understanding was emphasized in these sessions; psychotic manifestations were regarded as reflections of intrapsychic conflict and repetitions of past experience. The treating psychiatrists ranged in experience from third-year residency to second-year postresidency. Senior psychoanalysts experienced in the treatment of schizophrenic patients provided weekly supervision.[1]

Social adaptation was the principal focus in the general therapeutic milieu with the nursing staff, occupational therapist, recreational therapist, and others. The staff helped patients both control and understand their behavior. Special emphasis was placed on clarifying behavioral communications, helping the patient assess his effect on others, and exploring alternative expressions of impulses and ideas. This aspect of the therapeutic work was carried out in the informal contact that the nursing staff had with patients as part of ordinary ward life. It was also pursued on a group basis for 45 minutes a day at rounds where all staff and patients met to discuss issues relevant to patient care and ward

[1]The young psychiatrists treating the patients were not advocates of any particular psychotherapeutic approach but were interested in learning about the therapeutic potential of the doctor-patient relationship. Most of the supervisors had worked at Chestnut Lodge at some point in their professional lives and had been influenced by the work of such people as Sullivan (26) and Fromm-Reichmann (27).

life. This process was no doubt facilitated by the unit's small size and ample staff. The average staffing pattern included 3 psychiatrists (with both clinical and research responsibilities), 1 social worker, 1 half-time activities worker, and 13 nurses and nursing assistants (divided among 3 shifts, 7 days a week).

Brief mention should be made of our milieu approach because the question inevitably arises as to whether seriously ill, drug-free schizophrenic patients can be managed from day-to-day, let alone be treated in a therapeutic community. Jones (28) originally emphasized patient responsibility, democracy, and overlap of roles within staff and between staff and patients in a therapeutic milieu. The utility of such an approach with schizophrenic patients has come under question because these patients are often fragmented and regressed, with a poorly developed social capacity and a strong tendency toward severe withdrawal (29).

Taking this into account, we evolved a therapeutic community organized around a clearly defined medical model. Hierarchical staff role definitions were preserved, and the psychiatrist in charge of the unit had final responsibility for the treatment program. All members of the community were responsible for sharing information and ideas relevant to the clinical operation. Attendance at ward meetings and therapeutic sessions was required. This organization provided the firm external ego boundaries necessary for regressed patients, yet maximized the immense resources of the group to enhance effective social intercourse, eliminate isolation, and press patients to quickly resume individual responsibility. The use of medication was proscribed only during the research drying-out periods; otherwise, the patient's doctor could elect to use drugs, although emphasis was always on psychosocial treatment. Further descriptions of this clinical program have been reported elsewhere (30, 31).

The Two Patient Cohorts

In this report we compare the first 49 diagnosed schizophrenic patients admitted to the NIH research unit with 73 patients seen as part of the IPSS (13). The IPSS patients received the "usual" hospital care in Prince Georges County, Maryland (metropolitan Washington, D.C.), about 1970.[2] Two of us (W.T.C. and J.S.S.) made index diagnoses in both groups following the descriptions and categories of *DSM-II* (32). Subtype diagnoses in the NIH patients were catatonic, paranoid, acute schizophrenic reaction, and schizo-affective schizophrenia. The 73 IPSS patients given these 4 subtype diagnoses were included in the study. Also used for diagnosis was a 12-point system for identifying schizophrenic patients (33), the presence of Schneider's first-rank symptoms (34), and a profile analysis of variance across 27 psychopathological dimensions (35) comparing NIH and IPSS patients. Prognostic and outcome variables were assessed using schedules developed by Strauss and Carpenter (36). Premorbid, diagnostic, and outcome data were collected using semistructured interviews developed for work in the IPSS (13, 36) (i.e., Present State Examination, Psychiatric History, and Social Description schedules).

Before reporting the results, we should again emphasize that neither the NIH program nor the IPSS was designed for treatment evaluation. In these 2 separate projects, similar clinical data were collected without any preconceived plan to compare patients. This causes certain methodological problems, and we use these data illustratively rather than definitively. One must keep in mind that "usual community care" was just that, and patients were not on controlled therapeutic protocols. NIH patients, on discharge, entered a variety of treatment settings (or none at all) but rarely received intensive psychotherapy. In fact, treatment during the follow-up period was similar for the NIH and IPSS groups. The question we address with these data is whether treating acute and subacute schizophrenic patients without drugs results in untoward outcome.

RESULTS

The study (NIH) patients and comparative (IPSS) patients were similar in important respects. Table 1 provides descriptive information for each sample. There were no statistically significant differences between any of the variables. Sign and symptom characteristics of all patients were determined within 10 days after admission. The profile analysis of variance across 27 psychopathological dimensions (e.g., anxiety, audi-

TABLE 1
Descriptive Data on the NIH and IPSS Schizophrenic Patients

Item	NIH Group (N=49)	IPSS Group (N=73)
Mean age (years)	23.7±7.8	28.9±8.3
Sex		
Female	29	52
Male	20	21
Marital status		
Ever married	15	43
Never married	34	30
Socioeconomic class*		
I	5	2
II	12	5
III	15	24
IV	12	28
V	4	14
VI	1	0

* According to Hollingshead and Redlich (37).

[2] These patients and the hospital facilities have been described elsewhere (30). Usual treatment involved the ubiquitous use of neuroleptic medication, support from the nursing staff, and contact with psychiatrists and social workers at least weekly during hospitalization. Psychiatrists in these facilities were more experienced than the NIH clinical associates, but nursing staff-to-patient ratios were less favorable.

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tory hallucinations, restricted affect) revealed clinical similarity in both pattern and severity of symptoms. This method and the psychopathological dimensions have been previously described (35, 38). The NIH and IPSS cohorts were also similar (i.e., not significantly different statistically) in their respective mean prognostic scores (38.3±6.5 and 37.9±5.2). The prognostic scale consisted of 15 items measuring factors found by previous workers to have prognostic significance (36).

Evaluation of outcome was based on assessment of work function, social function, time spent in a hospital during the year,[3] and symptoms during the month preceding follow-up evaluation. Mean outcome scores demonstrated a small but significant superiority for the NIH patients (12.7±3.2 versus 11.1±4.0 for the IPSS patients, $p<.05$, nonpaired t test).

Since some of the NIH patients received a therapeutic trial with phenothiazines, further comparisons within this cohort can be made. NIH patients treated with medication (N=22) were compared with those who were drug-free throughout their hospital stay (N=27). Mean prognostic scores were essentially the same for the drug-free and drug groups (38.6±7.3 and 38.1±5.3, respectively). A profile analysis of variance across 27 dimensions revealed no difference in overall pattern of psychopathology. Mean outcome scores at 1 year were similar for the drug-free and medicated groups (12.8±2.8 and 12.4±3.8, respectively).

Detailed longitudinal data collected on most of the NIH patients permit additional points of contrast. Average hospital stay was insignificantly longer for those patients treated with phenothiazines (126 days compared to 108 days for drug-free patients). Drug-free patients were insignificantly less likely to be rehospitalized (35% compared to 45%) or to be treated with drugs (44% compared to 67%) during the follow-up period. Patients receiving medication were significantly more likely to have a postpsychotic depression (defined in reference 20) ($p<.05$) and were rated as more depressed near discharge ($p<.025$, nonpaired t test), although they had not been more depressed at admission (39).

A final observation involves 18 NIH patients who were being treated with drugs when their discharge was scheduled. These patients had been receiving 200–600 mg of chlorpromazine daily for an average of 46 days (range=20–65 days) when all medication was discontinued for the 3-week research test period. The other 4 drug-treated patients are omitted here since their phenothiazines were discontinued earlier for clinical rather than research reasons. Only 1 of the 18 patients withdrawn from phenothiazines showed any evidence of clinical deterioration during this 3-week drug-free period. In fact, many patients improved during the drying-out period (e.g., they showed more spontaneity, fuller affect, less psychomotor retardation, and more social and work initiative). The nursing staff made daily global ratings of psychiatric illness on an 8-point scale (0=no pathology and 7=severe psychosis). Ratings were significantly lower after medication was discontinued for these 18 patients; mean ratings for the last week on drugs and the third week off drugs were 3.2 and 2.5, respectively ($p<.05$, paired t test). The treating physicians had tentatively planned to discharge these 18 patients on phenothiazines, but resumed medication in only 7 of them.

[3]The IPSS follow-up was conducted 2 years after admission according to the plans and goals of the IPSS. The NIH project was a separate study, and initial follow-up 1 year after admission was designed to collect biological as well as clinical data. Since this resulted in a postdischarge period of only 8–9 months, outcome scores were extrapolated to 12 months for the time in hospital measure. Assessment of social and work function was based on the 8- to 9-month period, and symptom evaluation was based on the month prior to follow-up assessment. This discrepancy is unfortunate, but it appears to bias outcome against the NIH patients, because 13 NIH patients were seen for a second follow-up evaluation 24–30 months after admission and had significantly better outcome scores than they had 1 year after admission ($p<.05$, paired t test). Two-year follow-up of all the NIH patients was precluded by the authors moving to other institutions.

DISCUSSION

The first part of this paper focused on the paucity of knowledge regarding etiology, course, and treatment of schizophrenia—information gaps that should, but do not, preclude the polarization and polemics prevalent in our field.

In presenting our experience with a psychosocial treatment approach, we have demonstrated that failing to use neuroleptics during an acute psychotic episode does not necessarily result in a disadvantageous course and outcome, and it may have some advantages. We have used our data to argue against statements to the effect that failure to use medication in acute schizophrenic patients is, ipso facto, unethical at worst or poor clinical judgment at best. Our finding is similar to Goldstein's report (40) of treatment advantages in a subgroup of acute schizophrenic patients when medication was withheld during the first 27 days of hospitalization and to Bockoven and Solomon's report (41) of comparable 5-year outcome in patients treated before and after the availability of major tranquilizers.

Considering these reports, our experience, and the recent reviews by Davis (21) and Gardos and Cole (22), an interesting possible effect of drugs on the course of schizophrenia emerges. Davis (21) noted that patients receiving higher dosages of neuroleptics are far more likely to relapse on placebo substitution than patients receiving no medication (or low dosages) prior to placebo. Gardos and Cole (22) noted a trend from 3 studies suggesting that patients who relapse while receiving drugs appear to have a higher rehospitalization rate than patients who relapse while receiving placebo. This finding implies that relapse during drug administration is greater in severity than relapse when no drugs are given.

The most plausible explanation, and the one advanced by the authors of both reviews, is that those

patients receiving higher dosages of medication or those patients relapsing while receiving neuroleptics are more severely ill. An alternative, albeit unlikely, hypothesis should at least be entertained to explain these findings: it is possible that treatment with phenothiazine medication actually increases the risk of relapse. There is *no* question that, once patients are placed on neuroleptics, they are less vulnerable to relapse if maintained on neuroleptics. But what if these patients had never been treated with drugs to begin with? Virtually all of the outpatient maintenance studies begin with fully medicated patients (many of whom have recently been discharged from the hospital) who are then divided into drug and placebo groups. These studies usually do not include a group of patients who have been free of drugs from the moment of their breakdown and hospitalization. In essence, we have little reliable data on the frequency of relapse during the *natural course* of the schizophrenic process. The Bockoven and Solomon study (41) relates to this question in that one cannot simply say that before neuroleptics were available relapse rates were higher.

In any case, in an illness with so many paradoxes, we raise the possibility that antipsychotic medication may make some schizophrenic patients more vulnerable to future relapse than would be the case in the natural course of their illness. Thus, as with tardive dyskinesia, we may have a situation where neuroleptics increase the risk for subsequent illness but must be maintained to prevent this risk from becoming manifest. Insofar as the psychotic break contains potential for helping the patient alter pathological conflicts within himself and establish a more adaptive equilibrium with his environment, our present-day practice of immediate and massive pharmacological intervention may be exacting a price in terms of producing "recovered" patients with greater rigidity of character structure who are less able to cope with subsequent life stresses.

There are methodological shortcomings in our study, since a comparative investigation of treatment was not the goal of the research programs. Two critical problems are the differences in timing of the follow-up evaluations and the failure to control treatment in either patient group. Earlier in this paper we cited evidence suggesting that the first problem probably biased outcome against the psychosocially treated patients. Regarding the second problem, we have based this report on observations of "usual" treatment in different settings. Since few patients in either cohort received intensive psychosocial therapy after discharge, the advantages and/or disadvantages of psychosocial treatment may be obscured by similarities in follow-up treatment.

Two interesting questions remain from the observations on the NIH patients. What determined who received medication, and why did patients removed from phenothiazines for research protocols fail to relapse? With regard to the first question, our analysis revealed that symptom and prognostic statuses were similar for patients who did and did not receive drugs; this suggests that variables other than clinical status (perhaps, for example, staff anxiety or treatment attitudes of the patient's psychiatrist) contributed to medication use. Consonant with this, we found that the patient's date of admission was a powerful predictor of whether or not drugs were used. The first 10 patients and 8 of the last 11 patients admitted to the program received drugs. We viewed this as a problem in the treatment program transition in that about 6 months were required to establish the program initially. Similarly, toward the end of the program the treatment philosophy of the unit could not be fully maintained because patients and staff anticipated a change in treatment orientation. In any case, simply knowing the date of admission and identifying patient's doctors were sufficient to predict who would receive medication.

We can only speculate why patients did not relapse when drug therapy was discontinued. It is clear, however, that relapse in chronic schizophrenic patients following medication withdrawal should not be generalized to an acute schizophrenic population. In addition, increased symptoms after drug reduction during an active psychotic period should not be confused with the reappearance of psychotic symptoms (relapse) in a recovered patient. We suggest that the 17 patients who did not relapse after phenothiazine discontinuation were no longer symptomatically psychotic. Medication may have been therapeutic earlier, but it was no longer needed. The further improvement in these patients during drug withdrawal may be related to a lifting of the negative effects of phenothiazines, with general activation of affect, motivation, movement, ability to experience pleasure, and social involvement.

During the 3 years of this program we systematically sought our patients' impressions regarding many aspects of the program. This was done at discharge and follow-up. These data suggest that patients found the NIH therapeutic program significantly different from programs they had participated in in other hospitals. Generally, patients reported experiencing more anguish with our treatment approach, whereas they felt a greater sense of frustration and of being "frozen in the psychosis" in settings emphasizing drug treatment. Many of the patients found their social experiences in the NIH ward both gratifying and informative, and they reported that their lives had been enhanced as a result of their therapeutic experience. A few patients made negative assessments; they felt their psychosis was destructive and their attempts to understand it were of no value. These reports highlight the importance of a continued search for subgroups of schizophrenic patients who are responsive to different therapeutic approaches.

In conclusion, our clinical observations in a biologically oriented clinical research project employing psychosocial treatment techniques argue for the feasibility of treating acute schizophrenic patients with minimal use of medication. The experience can be gratifying for patients and staff. Patients in such a program have

not fared poorly compared with patients treated in more conventional settings. We found it possible to use a research strategy for investigating drug-free schizophrenic patients while maintaining a responsible therapeutic approach to these patients within the framework of a medical model.

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