

LSD and Psychiatric Inpatients

John D. Hensala, PhD, MD; Leon J. Epstein, MD, PhD; and K. H. Blacker, MD, San Francisco

THE USE of lysergic acid diethylamide (LSD) in nonmedical settings is currently receiving a great deal of attention. Reports in the literature have indicated that such use of LSD can induce severe panic states and psychotic reactions.¹⁻³ These reactions have at times been described as being dangerous to the individual taking the drug, as well as occasionally to those around him. The seriousness of these untoward reactions is documented by successful suicides, serious suicide attempts, and even a homicide.⁴⁻⁶ Occasional prolonged psychotic episodes have been described.⁷

The majority of studies published thus far of patients who ingested LSD and subsequently received psychiatric treatment have emphasized psychotic reactions, complications, and side-effects resulting from the drug. This study differs, however; it attempts to examine and define specific characteristics of hospitalized psychiatric patients with a history of LSD use, and to compare these patients with a control group of psychiatric inpatients. Both groups met the usual criteria for admission to this hospital, namely, that the clinical condition of the patient indicated the need for a period of inpatient treatment. The purpose of this study is to examine whether patients with a history of LSD ingestion differ from a control group of inpatients, and, if so, how they differ. Therefore, this study is not intended to furnish a general clinical description of the individual who uses LSD, but may be applied only to those users who are hospitalized.

We have examined the role played by the

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From the Langley Porter Neuropsychiatric Institute, and the Department of Psychiatry, University of California School of Medicine, San Francisco.

Reprint requests to Langley Porter Neuropsychiatric Institute, 401 Parnassus Ave, San Francisco 94122 (Dr. Blacker).

ingestion of LSD in the individual's disturbance and subsequent hospitalization. Informal discussions have suggested that (1) LSD may precipitate a psychotic reaction in an individual with a previously good personality integration; (2) the effects of LSD may be thought of as the precipitating factor in an individual who has been making a marginal adjustment; and (3) the psychotic reaction for which the patient is hospitalized may be independent of LSD. Newspaper references in recent months describing proposed or pending legislation with respect to LSD suggest that the preponderance of patients would fall into the first and second categories. The professional literature, however, is not clear concerning this.

The previously cited clinical studies of LSD have emphasized untoward reactions, including panic states and psychotic reactions, which are described as occurring subsequent to LSD ingestion; the studies also strongly imply that these reactions occur as the direct result of taking LSD.¹⁻³ In 1963, Cohen and Ditman⁴ first described prolonged adverse reactions and complications following the unsupervised use of LSD in nine patients. In a recent paper, Cohen¹ proposed a more complete classification of these untoward reactions, dividing them into (1) psychotic disorders; (2) nonpsychotic disorders, which include chronic anxiety reactions, acute panic states, dyssocial behavior, and antisocial behavior; and (3) neurologic reactions, including convulsions and possible permanent brain damage. Frosch et al² studied 12 patients admitted to Bellevue Hospital as a consequence of LSD ingestion. He described three somewhat overlapping syndromes: acute panic reactions; recurrence of symptoms during a period of abstinence after multiple ingestions; and prolonged psychosis.

Ungerleider et al³ recently reviewed the symptoms, diagnostic categories, and general characteristics of 70 patients with adverse reactions to LSD, 25 of whom were hospitalized. The patients were predominantly unmarried white young men (average age, 21 years); most were either unemployed or students. While 36% had histories of chronic marijuana use, 40% had never taken drugs other than LSD. No professional persons were included in their sample, in contrast to the findings of others that LSD has been widely used by professionals, intellectuals, and other middle-class individuals.⁸

Procedure

The Langley Porter Neuropsychiatric Institute is a 100-bed psychiatric hospital located near the center of San Francisco. A unit of the California Department of Mental Hygiene, it is located on the campus of the University of California Medical Center and serves as a psychiatric interdisciplinary training and research unit for the Medical Center. It admits and treats patients with a wide variety of psychiatric illnesses. Discussions with staff members and a study of inpatient records revealed that from September 1965 to May 1966, 20 patients were admitted whose history specifically included at least one ingestion of LSD. These patients were compared with 25 consecutively admitted inpatients of the same age group who were hospitalized during the same time period.

In addition to the 20 patients described in this study, 15 others who had taken LSD were seen in the Langley Porter Outpatient Department during the same time period. This outpatient group differed markedly from those who were hospitalized. Their appearance at the clinic usually followed LSD ingestion by 24 to 48 hours. They were acutely upset and complained most frequently of anxiety, confusion, or depression, but they did not have psychiatric symptoms requiring hospitalization. They generally failed to return for a second outpatient visit, and it was the impression of the staff that for the most part their drug reactions were brief. They were apparently tired over by the clinic visit and by friends, and presumably did not feel that subsequent care and treatment were necessary. It was the impression of the outpatient staff who worked with these patients that a considerable number of individuals in a large city probably have brief disturbing drug reactions of this nature, but are monitored and treated by friends and hence do not come to treatment facilities. The outpatient group is not included in our present study since, in our experience, they presented quite different reactions.

Findings

Age, Sex, and Race.—The sample of 20 patients consisted of 14 men and six women. This differed from the usual sex ratio of admissions to Langley Porter, where women predominate at a ratio of 3:2. Others³ have reported a similar sex difference among LSD users. The median age for men was 22, and for women it was 23; 60% of the patients were between the ages of 20 and 23. The median age of the LSD group differed from the median age of all inpatients for the Langley Porter Neuropsychiatric Institute, which is 31.3 years. Our findings relative to age are consistent with reports of the age of LSD users made by others.^{1,3} The entire group was white, which is somewhat unusual since admissions to Langley Porter by race closely approximate the racial distribution of the population of this area, which is 10% Negro and 7.9% Oriental.

Level of Education.—The group of LSD patients had unusual school records. With few exceptions their education had been terminated prior to the completion of programs they had initiated. For example, in about three fourths of this group a college program had been started, but terminated within one or two years, usually after a history of poor performance and an erratic course. Several examples may be cited.

A 19-year-old man entered a local college but soon became more interested in music. He attributed his poor grades to this avid interest, which he claimed interfered with his ability to study other courses. He dropped out of school after one semester, but failed to pursue a career in music with any seriousness.

Another 19-year-old man with a previously good high school record experienced great difficulty in passing his college courses, began to miss classes, and dropped out of school early in his sophomore year, subsequently taking part-time jobs of an unskilled nature. He was also engaged in the illicit sale of habit-forming drugs.

Several other patients attended three or four different colleges before terminating their studies, most often during their sophomore year.

The control group of patients, however, had similar educational histories. It was concluded, therefore, that the erratic educational histories of the LSD patients could not be directly related to LSD usage, but more likely were associated with the backgrounds and personality disturbances of both groups.

Work History.—The work histories of the patients in the LSD group were decidedly nongoal-directed. Job performance and at-

tendance were erratic and sporadic. Short tenures in positions well below the individuals' demonstrated capabilities were the rule. Periods of unemployment were common. Only three of the 20 patients gave a history of any consistent occupational adjustment. Typical of this group is one patient who was an occasional dishwasher, and another who held a number of menial odd jobs as an unskilled laborer. Two were male prostitutes, and another described himself as an "occasional petty thief." The work history of the control group differed dramatically. Although these patients frequently had held a number of jobs, with few exceptions they did work regularly. Furthermore, although changing jobs frequently, this group tended to continue in the same line of work, which was usually of a higher order than that of the LSD group. Typical of the control group were such occupations as secretary, retail clerk, cashier, and telephone switchboard operator.

Family History.—The family histories of the LSD group presented clear evidence of chaos. For example, one patient, the daughter of an alcoholic mother, lived intermittently with her mother during each of her mother's several marriages. In the interim periods she lived with various relatives and friends. Two patients described fathers as sadistic and psychopathic. Another patient described both parents as chronic alcoholics.

A study of the families of the control group, however, revealed similarly disturbed family relationships. In fact, about one third of these patients had a parent who had been hospitalized for mental illness. The father of one had committed suicide. Several patients reported a parent who had been treated for depression. In three cases one or both parents were alcoholic. No marked or consistent differences were evident between the family histories of the LSD and of the control groups. However, the struggle for identity and independence seemed to be handled in a different manner by the two patient groups. Patients in the LSD group often left home and acted in an antisocial and psychopathic manner. In the control group the struggle was expressed more frequently by overt intrafamilial conflict in the form of arguments, stubborn action, and resistiveness, as well as in self-destructive behavior such as suicide attempts, gestures, and threats. Also, the parents of the control group seemed to give greater evidence of overt mental illness, as indicated by the numbers

of parents who were either hospitalized, had a history of outpatient treatment, or were described as either depressed or paranoid. The parents of the LSD patients appeared to show a lesser incidence of overt mental illness and more evidence of what might be termed chaos in living, character disturbances, sociopathic behavior, alcoholism, desertion of family, poor work records, etc.

Sexual History.—The sexual adjustment of the LSD patient group indicated a severe degree of disturbance. With few exceptions, there was serious sexual psychopathology. The LSD group included, in addition to the two male homosexual prostitutes previously referred to, two cases of male impotence, two cases of female frigidity, a tendency toward pronounced promiscuity in those who were heterosexually oriented, and at least three patients who presented polymorphous perverse pictures. The sexual disturbances were present prior to LSD ingestion and represented aspects of the personality organization of these patients rather than sequelae of LSD use. None of the LSD patients had a stable marriage. All were single, divorced, or separated, with the exception of two patients, both of whom were having serious marital difficulties (a man who was married to a homosexual girl and a woman who was married to a passive man, himself a frequent user of LSD, whom she married while five months pregnant by another).

In contrast, the control group showed a near absence of this profound sexual maladjustment. While a number of the control patients were not married, in only two cases was there evidence of such a severe degree of sexual disturbance. One patient was an exhibitionist and the other a homosexual. Sexual immaturity was the chief characteristic of the control group; the most common picture here was of a lack of sexual experience that seemed related to inability to become involved with others.

Previous Psychiatric History.—Although the LSD group represented a young patient population (median age, 22 years), 70% had had prior psychiatric treatment. This figure includes those with previous hospitalizations and outpatient treatment. Two thirds of those who had had psychiatric treatment prior to this admission had received the initial treatment prior to the first ingestion of LSD. Of the control group patients, 64% had prior outpatient treatment and 28% had been hospitalized previously.

Personality Characteristics.—The pre-morbid characteristics of the men and women in the LSD group differed. The men demonstrated either adolescent action patterns with dyssocial or antisocial behavior, or schizoid personalities with marked dependency frequently associated with depressive reactions. The female patients had similar schizoid personality profiles, with occasional depressive reactions or hysterical character traits. The hysterical picture in the women appeared to be the counterpart of the dyssocial or antisocial reactions in the men. Examples follow.

A 20-year-old man had had difficulties in adjustment since grade school, low frustration tolerance, and antisocial behavior including theft, male prostitution, and the sale of illicit drugs.

A male patient, also involved in the sale of illicit drugs, showed a poor adjustment since junior high school. He tended to be shy, withdrawn, highly sensitive, had few friends, and spent most of his time daydreaming.

A 23-year-old woman from a chaotic home performed poorly in high school. Markedly immature and with a low frustration tolerance, she had many debts. She worked erratically as a hair dresser and a "bunny girl." She had taken multiple drugs for three to four years.

A 19-year-old woman described herself as shy, lonely, unloved, and unpopular. While under stress she had heard "voices" since age 6, and had achieved a tenuous schizoid adjustment.

In contrast the control group, with a single exception, showed no evidence of antisocial behavior. When these patients did come to the attention of social agencies, it was for less serious violations, such as truancy. It is of interest to note that the one exception, a 24-year-old man whose degree of antisocial behavior resembled that seen in the LSD group, was the only patient among the controls who had a history of excessive drug use. He began taking drugs at age 15, and had since been using opiates, barbiturates, amphetamines, and alcohol to excess.

The premorbid personality patterns of the control group were more divergent and included a broad spectrum of personality types: impulsive disorders, phobic disorders, passive-aggressive personalities, and schizoid and autistic profiles.

Previous Drug Use.—All but two patients in the LSD group gave a history of taking additional drugs, all without medical supervision. Most had ingested two or three other compounds in addition to the LSD. Several patients did not specify the drugs they had taken, saying only they had ingested multi-

Table 1.—
Other Drugs Taken by LSD Patient Group

Drug	No. of Patients
Marijuana	12
Amphetamines	11
Barbiturates	2
Heroin	2
Cocaine	1
Codeine	3
Dimethyl tryptamine	1
Peyote	1
None	2

ple drugs for a number of years. Table 1 presents the known drugs used by this group. It is evident that excessive ingestion of multiple drugs was the usual pattern for this group, and that such use was frequently of several years' duration.

Drug usage in the control group stands in sharp contrast to these findings; only two control patients gave a history of unsupervised drug use. The work history and sexual adjustment of these two patients were similar to those of the LSD patients. Unlike others in the control group, they had erratic and marginal occupational adjustments and chaotic sexual patterns.

Presenting Symptoms.—The psychiatric inpatients who had a history of taking LSD had a wide variety of presenting symptoms on admission. There were, however, fairly consistent descriptions of depersonalization, perceptual distortions, and confusion, as well as paranoid and catatonic features. Several patients were described as suffering from acute anxiety episodes or depression, while others presented a fairly typical clinical picture of a schizophrenic reaction.

Discharge Diagnoses.—Table 2 indicates the diagnoses listed at discharge for both the LSD and control groups, and reveals that 45% of the patients in the LSD group and 44% of the control group patients were assigned discharge diagnoses in the group of psychotic disorders. Nine patients from each group were diagnosed as schizophrenic. Forty-eight percent of the control group patients received diagnoses upon discharge which fell in the group of personality disorders; ten of the 12 control patients in this category were given the diagnosis of passive-aggressive personality trait disturbance. In contrast, only 30% of the LSD group received diagnoses of personality disorder. A diagnosis of schizoid personality, a personality pattern disturbance generally regarded to be more serious and long-standing than the personality trait disturbances, was made

Table 2.—Discharge Diagnoses: LSD and Control Patient Groups

Diagnoses	LSD Group	Control Group
Psychotic disorders		
Schizophrenic	9	9
Manic-depressive		1
Psychotic depressive		1
Psychoneurotic disorders		
Depressive	2	1
Obsessive-compulsive		1
Personality disorders		
Personality pattern disturbance		
Schizoid	3	1
Personality trait disturbance		
Passive-aggressive	1	10
Emotional unstable		1
Other	1	
Sociopathic personality disturbance		
Antisocial reaction	1	
Transient situational personality disorders		
Adolescent adjustment reaction	1	
Acute brain syndromes		
Drug intoxication	2	
Totals	20	25

in 15% of the LSD group patients compared to a single patient in the control group.

Thus, the percentage of psychotic disorders was the same for both groups. The control group had a higher percentage of personality disorders (48% compared to 30%), but there was a higher proportion of the more severe pattern disturbances among the LSD patients.

For each of the patients in the LSD group, an attempt was made to assess the relation of the LSD ingestion to hospitalization. Three members of the psychiatric staff independently reviewed the records of this group. A rating of 3 was assigned if the reviewer felt that LSD ingestion had a direct and precipitating role in the patient's admission. A rating of 0 was assigned when LSD ingestion appeared to have no observable role in the patient's hospitalization. Where LSD ingestion seemed to play some role in the patient's hospitalization, ratings of 1 or 2 were assigned. Interrater agreement was high; in only three cases were there differences of opinion, and then only by a single category. It is noteworthy that for only three of the 20 patients in the LSD group was the ingestion of this agent considered directly related to and responsible for hospitalization. For two patients LSD was considered a likely cause. For 15 patients, however, or 75% of the group, LSD ingestion seemed to be unrelated to hospitalization. An example in which it was felt that

LSD ingestion was directly related to hospitalization follows.

A 22-year-old divorced female student teacher had taken LSD four times in the year prior to hospitalization. She had noticed an increase in feelings of unreality subsequent to each LSD ingestion. Following the last LSD ingestion she had symptoms that included depersonalization, muteness, posturing, and ideas of reference. She was admitted for treatment, showed marked improvement in her clinical state and ward behavior over the next two weeks, and was discharged. No psychotropic drugs were used in her treatment.

An example in which we felt LSD ingestion was not related to hospitalization follows:

A 25-year-old male artist, a very dependent and schizoid individual with a chaotic social and work history, became increasingly disorganized during the six months prior to hospitalization. Several weeks before admission a male friend with whom he was living moved out. He took the drug one week before hospitalization in an attempt to find some answer to his problems, but his confusion and inner turmoil persisted and he was admitted for treatment.

Length of hospitalization of the LSD patients averaged two to three months, which approximated the average length of stay for the control group. It should be pointed out, however, that in those patients in whom LSD ingestion seemed to precipitate the symptoms requiring hospitalization, these acute symptoms abated within one or two weeks. During the remainder of the period of hospitalization, treatment was directed toward the underlying personality disorders that in all cases clearly antedated LSD use. The single exception to this pattern was the 22-year-old female student teacher described above. Her past history failed to reveal previous psychopathology, and her admission appeared to be directly associated with her recent LSD ingestion. Her hospitalization was of only two weeks' duration, and little posthospital care seemed necessary.

Summary and Conclusions

Seventy-five percent of our sample of inpatients with a history of lysergic acid diethylamide (LSD) ingestion were hospitalized because of chronic severe disorders in which LSD ingestion could not be directly implicated as the precipitating factor leading to hospitalization. These patients, with a median age of 22 years, were younger than most patients hospitalized in this setting. They differed from other patients of the same age group in that they usually had histories of using many other drugs to excess,

chaotic sexual behavior, responding to intrafamilial conflict with antisocial and dys-social behavior, and poor work histories. Their clinical pictures did not appear to be specific for LSD ingestion, but were ones that are conventionally seen in habitual users of various drugs.^{9,10} It appears, therefore, not that LSD use is producing a new type of hospital patient, but rather that a group already using drugs in the community has added a new agent to its list.

In only 25% of the cases was hospitalization clearly associated with LSD use. In these patients the acute episode abated rapidly and most of the subsequent treatment was focused upon the preexisting character or personality disorder. Although one hears reports of large numbers of professional persons as well as people in the arts seeking LSD experiences, with the exception of one teacher none were present in this series. One may conclude either that this group is supported by friends and does not require extensive treatment, or is treated and, if necessary, hospitalized in private psychiatric facilities.

Finally, one is certainly impressed with the tremendous difficulty of attempting to tease out the role of LSD in either the clinical pictures or clinical courses of these patients. This results from both the evident history of clinical disturbance prior to LSD

use, and from the large number of additional drugs used by these patients. Our data also raise questions about the potential effectiveness of laws currently under discussion or being enacted in attempts to curb LSD use. It is noteworthy that, almost without exception, the patients who had been taking LSD were at the same time using at least one other drug for which such laws have already been enacted.

A number of investigators have proposed examining the potential use of LSD as a therapeutic agent in certain psychiatric disturbances. Vanggaard's findings suggest that LSD is a useful therapeutic agent in neurotic individuals with inhibitions that interfere with their functioning.¹¹ On the other hand, clinical reports suggest that LSD is contraindicated in individuals with ego weakness and in those with psychopathic, schizoid, or immature personality traits. It is evident that the inpatient group using LSD that has been studied here falls precisely into the group for whom LSD is therapeutically contraindicated. This study, therefore, furnishes no information about its potential clinical usefulness.

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