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PSYCHOTHERAPY WITH LYSERGIC ACID DIETHYLAMIDE

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If the question were asked, "What are the elements which might assist the psychotherapeutic process?", a number of desirable considerations would come to mind.

High on any list would be the wish to reduce the defensiveness of the patient and thereby resistance to the uncovering of repressed memories. An increased ability to accept conflictual material should also be associated with the reduction of defensiveness. This implies a lessening of guilt and self-depreciation, with an increase in the ability to view emerging problems with some detachment.

A further desire would be the achievement of an enhanced patient-therapist relationship. Other valuable characteristics would be that consciousness remain intact and that recall be amplified.

Recently in the psychopharmacological literature there has been considerable mention of an agent, lysergic acid diethylamide (LSD-25), which appears to achieve some of these goals.

Indications of the possible value of LSD-25 were personally noted in an earlier study (9) of the psychological test changes produced by the drug. Although reactions varied over a wide spectrum there appeared to be a general lowering of ego defenses and an intensification of interpersonal relationships with those individuals present. Some of the subjects described their experiences as psychotic, but others reported unusually pleasant and insightful sessions. A few believed that their experimental exposure to the drug had a sustained effect upon their subsequent behavior.

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It was hypothesized that LSD-25 might be useful in a therapeutic setting as an aid in the uncovering and acceptance of unconscious material and might shorten total treatment time.

REVIEW OF LITERATURE

The initial mention of LSD-25 as an aid to psychotherapy appears to be the paper by Busch and Johnson in 1950 (7). In their discussion of eight psychoneurotic cases they mention that the patients had experiences which "profoundly influenced the course of their progress." There was enhanced recall and a reliving of early traumatic episodes which permitted abreaction and increased insight into their conflicts.

Two years later Savage (24) reported on the treatment of 15 psychotically depressed patients as well as a control group. After treatments for a month with daily dosages of 20 gamma (20 micrograms) gradually increased to 100 gamma, the improvement rate was felt to be no better than for those on routine hospital activities alone. The author notes, however, that LSD-25 produced hallucinations which afforded valuable insights for the therapist into unconscious processes.

The next year Katzenelbogen and Fang (22) discussed the successful use of doses up to 50 gamma of lysergic acid diethylamide to facilitate interviews with 20 schizophrenic subjects. They reported that the "ventilation of emotion appears to be more marked with LSD-25 than with methedrine or sodium amytal."

Abramson has investigated LSD-25 from many aspects. Four articles (1, 2, 3, 5) deal with the facilitation of psychotherapy. He uses 20 to 40 gamma of the drug in patients who appear at a standstill in the course of treatment. Tape recordings of the

extended sessions demonstrate an interesting acceleration of the therapeutic progress. He notes that LSD-25 is characterized by pharmacologic safety, maintenance of the patient in a conscious and cooperative state, and by lack of evidence of addiction after repeated use (2).

Frederking (19, 20) reports on a series of 24 cases treated in his office with a dosage range of 40–60 gamma at intervals of several weeks with conventional therapeutic appointments in between. He notes that patients frequently re-experience scenes from their early life and feels this can have a lasting effect on certain psychosomatic illnesses such as constipation and dysmenorrhea. He speaks of the achievement of a dream-like state which can be advantageously analyzed. "Psychocatharsis" then follows. Frederking used both mescaline and LSD-25; he feels that the former produces a stronger emotional response but that LSD-25 has a broader spectrum of reaction.

Sandison, Spencer and Whitelaw (30, 31, 32, 33) have evolved a special technique and environment for LSD-25 treatments at Powick Hospital in England. A ward of the hospital is reserved for this project. Dosages begin at 25 gamma and increase weekly until 100–200 gamma are reached. On occasion as much as 400 gamma are given. The team consists of a psychiatrist in charge, nurses who are in attendance during drug sessions, and therapists who conduct group therapy apart from the drug experiences.

These investigators have recently reported on 94 patients with follow-up periods varying from six months to five years. Sixty-one of these recovered or improved, 32 failed to derive appreciable benefit, and one was lost to follow-up. Most of their patients were chronic neurotics resistant to prior therapeutic effort. Many were considered to be candidates for leukotomy. "We would stress that all our cases were in danger of becoming permanent mental invalids, lifelong neurotics or suicides." (32)

Further, they discuss a combined treatment with lysergic acid and chlorpromazine in 14 schizophrenics. In instances where the illness had existed for less than two years, encouraging results are described.

The authors conclude that LSD-25 appears to be of "utmost value in psychotherapy, both in cases otherwise resistant to treatment and as a method of avoiding the prolonged time necessary for a full psychological analysis." (33)

Denber and Merlis (13, 14) were the first to employ a combination of intravenous mescaline and chlorpromazine in a therapeutic setting. Twenty five of 40 acutely ill schizophrenic patients improved. Only seven of 17 chronic schizophrenics showed any benefit. It is their hypothesis that mescaline mobilizes anxiety which in turn drives the patient into symptom formation or symbolic productions which can then be interpreted. "Mescaline releases the repressing forces of the unconscious and permits a free flow of conflictual material hitherto kept out of awareness." (12)

There are additional studies of therapeutic experience with LSD-25. Anderson and Rawnsley (6), using the drug as a psychodiagnostic tool, mention that six of 19 psychiatric patients showed long-lasting favorable changes after very few treatments. Its use in cases of mental deficiency was explored by Davies and Davies (11). In doses of from 20 to 400 gamma memory was stimulated and the authors considered it to be an aid to treatment.

Langner and Kemp's brief report (23) mentions 500 LSD-25 sessions, but describes no specific technique. Encouraging results are claimed with neurotics, schizophrenics, manic depressives, and alcoholics. Feld, Goodman and Guido (18) have given 18 patients 52 treatments in 100–200 gamma amounts. They observe that "LSD-25 has the astonishing quality of bringing into focus the patient's repressed emotional attitudes, conflicts, etc., and permits their reactivation." All except those with chronic brain syndromes demonstrated some degree

of improvement in the sense that they were able to return to society and their families in a more productive capacity. Osmond (27), Ditman (16) and Hubbard (21) speak of the successful treatment of prognostically poor, chronic alcoholics with a brief series of LSD-25 sessions.

Martin (26), working with outpatients at a day hospital, describes the treatment of 50 chronic neurotic patients with gradually increasing doses of LSD-25 to optimal levels terminating the session with chlorpromazine. Special precautions were taken with respect to transporting and overnight care on treatment days. Forty-five patients showed immediate improvement; after two years nine had relapsed. Of these, the majority had chronic tension states. The author feels that "The therapeutic effect of LSD-25 would appear to be in the reliving of early experiences, particularly if accompanied by release of repressed feeling... the presence of the psychiatrist helps him to act out and work through the experience in an environment of security not present at the original experience."

In the most recent article to date, Lewis and Sloane (24) report on treatment of 23 psychiatric inpatients with results no better than obtained by other treatments. "Nevertheless, we concluded that the drug provided a useful aid to psychotherapeutic technique." They feel that the main value of LSD-25 lies in "the facilitation of transference phenomena and regression and increase of suggestibility."

The foregoing review of the literature suggests that: 1, LSD-25 lessens defensiveness; 2, there is a heightened capacity to relive early experiences with accompanying release of feelings; 3, therapist-patient relationships are enhanced; and 4, there is an increased appearance of unconscious material. Most investigators report that therapeutic benefit can occur through any one or more of these factors.

METHOD

This exploratory study of the therapeutic possibilities of lysergic acid diethylamide concerns 22 patients who have been followed for a period of from six to 17 months. Of these, five were hospitalized patients and 17 were treated as outpatients. The diagnoses ranged through neurotic depressions, anxiety states, and character disorders to borderline schizophrenia. Weekly treatments were the rule, the initial dose being a 25 gamma tablet. This dosage was increased in 25 gamma increments until a level of 100 to 150 gamma was administered. With doses of 100 gamma or more, ampules of LSD-25 were added to distilled water and taken by mouth. Two patients who were resistant to the drug were given dosages in larger than 25 gamma increments, *i.e.*, 25, 75, 125 gamma.

On five occasions 500 gamma of ALD-52 (1-acetyl-d-lysergic acid diethylamide) was given, and once 500 gamma of MLD-41 (1-methyl-d-lysergic acid diethylamide). This amount appears to be equivalent to 200–250 gamma of LSD-25. Drugs were never administered more often than every third day because of the rapid onset of tolerance.

The gradual increase in dosage appeared to minimize unpleasant side effects. Anxiety was usually absent or minimal, and as the patient progressed to the higher dosage levels, deeper areas of the unconscious seemed to become accessible. With a few individuals, split dosages were given at the high levels when somatic disturbances or excessive anxiety had appeared at the previous session. All sessions were tape recorded.

The number of drug treatments ranged from one to 16, with a mean of 4.6. When the treatment series extended beyond four or five sessions, it was found efficacious to allow more than a week to elapse following treatments in which a good deal of significant material was uncovered. Non-drug in-

terviews with the therapist were found helpful, and therapeutic gains appeared to be integrated and consolidated when the patient listened to the tapes of crucial sessions.

Drug activity could be noted for four hours at the low dosages and for six to eight hours when 75 gamma or more had been administered. During most of this time the patient lay on a couch in a pleasant room with the therapist constantly in attendance. Lunch was available if the patient became hungry. Records were played initially to aid in relaxation. After repeated observations that music seemed to potentiate the drug action, it was used when there was no verbal exchange. Selections of the patient's choice or of a semi-classical nature were played during the early phase; certain piano concertos were used at the height of the experience.

In addition to music, other aids were found to assist in the therapeutic process. A mirror was helpful when difficult problems of self identification were being considered. Not infrequently the patient projected his unconscious concept of himself onto the reflection in the mirror. Family photographs, especially of spouse, parents and siblings, enabled the subject to externalize associated conflicts, and to re-experience repressed events with such vividness and force that they were repeatedly described as "relived." In this regard an interesting duality was noted. Although a childhood incident was being relived with appropriate emotional discharge, simultaneously it was also perceived by the patient from an adult perspective.

Toward the end of each session the patient was taken to the hospital art clinic to draw or paint whatever he desired. This was found to be helpful in continuing the therapeutic process and seemed to provide an opportunity to objectify subjective experiences.

The type of therapy performed in conjunction with LSD-25 varied according to the situation. Occasionally, the patient could clearly understand the problems and the defenses he had established even when these appeared in symbolic form. More frequently it was necessary to interpret the unconscious material deeply and directly as it arose. Such interpretations, which in conventional psychotherapy might have had devastating effects, seemed to be accepted without difficulty. One of the more important therapeutic actions was to direct the patient toward the frightening or painful symbolic material and to assist him in experiencing and understanding it.

Because of the unusual and extremely subjective nature of the experience, the therapist should have had personal experience with the effects of LSD-25. Ideally, he, too, will have undergone a series of increasing dosages. To a therapist who has not been through this process many elements of the patient's experiences will be unintelligible or misinterpreted.

SELECTION OF PATIENTS

The most important factor in patient selection for LSD-25 psychotherapy is a genuine desire to get well. Our observation parallels that of Sandison (29) who considers motivation the single most important factor. Ego strength and intelligence are important, but motivating drive is primary and it must be more than looking for the magic of an easy way out. Not infrequently the more troubled the patient the better the prognosis since impetus to change may be greater. Often one or two drug sessions can be effective in enhancing motivation.

As can be seen from Table 1, improvement with LSD-25 therapy is not restricted to patients in any one diagnostic category. Individuals whose neuroticism is manifested by anxiety or compulsiveness did well. Those with depressive states appear to be very suitable, and those who have been unable to recover from a major situational

disaster are particularly amenable. As might be expected, the one patient with a predominantly traumatic neurosis showed dramatic improvement. Problem alcoholics selected for ego strength and motivation to change are excellent subjects.

The types not conducive to good results are the inadequate, schizoid personalities. Ineffectual, immature individuals who have never adjusted well cannot be expected to profit from short-term psychotherapy with LSD-25. Our experience with schizophrenics is too limited for inferences, and the literature is in disagreement on the subject. A further category of patients for whom the drug may be contraindicated has not yet been clearly delineated. This subgroup is described under the section on Potential Dangers.

Another group of people who benefited from the treatment cannot be said to be in emotional distress in the neurotic sense. These were unhappy and floundering individuals who had lost the ability to believe in anything or to identify with any concept larger than themselves. They seemed to benefit from the integrative aspect of a successful LSD-25 series. This integrative aspect, which is discussed under "Mode of Action" appears in one form or another to be an important contribution to the therapeutic end result of treatment.

PATIENT-THERAPIST RELATIONSHIP

The relationship between therapist and patient is of crucial importance during therapy with LSD-25. Almost every investigator has emphasized the enhancement of transference which occurs. Generally, this was of a positive nature; however, it changed abruptly in two subjects to negative transference when especially disturbing material appeared. During the examination of these negative feelings the problems were resolved and abreacted. A straightforward discussion of both positive and negative transference situations is very helpful. This is not to be construed as an analysis of transference in the orthodox sense.

It is of greater importance that the approach of the therapist be flexible than that he be of a certain persuasion. He should be aware of the areas of unresolved conflict within himself so that these are not projected. Sensitivity, intuition, and the ability to make deep interpretations are important; the silent or reflective method does not take the patient as rapidly as possible to the core of his problems. A fear of premature or too penetrating interpretation is minimized by the patient's ability to view himself with detachment. Incorrect or unacceptable interpretations tend to be brushed aside.

The therapy found to be most effective in this study has greatest similarity to the intuitive type used with schizophrenic patients (28). It is not surprising that a directive, personally-involved therapy which is applicable to psychotics, is effective here, too; LSD-25 states also involve dissolution of the ego, hallucinatory imagery, depersonalization, and other schizophreniform characteristics.

It was our impression that the therapeutic process was materially accelerated when both a male and female therapist was present. During periods of the intense experiences of previously-repressed affect or when ego disintegration was felt as a psychotic-like episode, the value of two therapists was especially apparent. They also served as stand-ins for inconsistent, manipulating, or rejecting parents and often became focal points of projected feelings.

MODE OF ACTION

The manner by which LSD-25 produces its mental changes is obscure. It is known to be a strong serotonin antagonist, and serotonin is a synaptic transmitter in certain areas of the brain. However, other antagonists to serotonin, such as Brom-LSD (BOL), do not elicit the psychic phenomena characteristic of LSD-25.

Neurophysiological work by Marrazzi

and Hart (25), indicates that lysergic acid diethylamide inhibits the axodendritic synapse. If this is so, an hypothesis may be considered which could explain some of its cerebral activity. LSD-25 may inhibit the adaptive patterns of neuronal activity which are survival-oriented. It is postulated that many axodendritic circuits in the centricephalic system exist which sustain ego identity, reality orientation, and the mechanisms which defend us from psychic trauma. These circuits are presumably the ones which inhibit the primary psychic process. This primary state of psychic functioning is an undefended, undifferentiated, perceptually and cognitively unconditioned state. To protect against ego threatening situations and the impacts of psychic stress, much of the neuronal inflow is conditioned or blocked. Perception becomes modified toward a depreciation of the unimportant and a heightened awareness of the threatening. Fantasy gives way to practical and critical thinking. The ego boundaries become firmer; any threat to their integrity is met with a variety of defensive maneuvers. The inhibition and conversion of anxiety fosters psychic survival despite the fact that these processes may eventually become diseases of adaptation in their own right.

Drugs like lysergic acid diethylamide may temporarily check the manifold restraints which must occupy much of the work of the mind. The physiologic device of using inhibitors upon inhibiting systems is not uncommon in maintaining homeostasis. Insulin, for example, does not work upon any substrate directly, but inhibits the inhibitory effect of the anterior pituitary hormone.

This hypothesis is comprehensive enough to explain the purity of perception, depersonalization, autistic thinking, dissolution of the defensive structure and other phenomena noted in LSD-25 subjects.

With small doses (25–50 gamma) ego defensiveness and anxiety are lowered. The recall and "reliving" of past events is enhanced; frequently whole sequences unroll before the patient's eyes as though they had been stored on microfilm. Although he feels part of the scene, there is, in addition, a certain detachment as noted also by Sandison and Frederking (20, 32). When larger amounts are taken, symbolic, primal, and archetypal material often emerge.

With the uncovering of critical problems varying degrees of somatic discomfort and anxiety are felt. These may culminate in psychotic-like episodes, experienced symbolically as terrifying, overwhelming, or excruciatingly painful. The word most commonly used by the patient after an experience of this sort is that he feels "purged."

As the problems are worked through, the patient may undergo an integrative experience. In this context an "integrative experience" is used to describe a state wherein the patient accepts himself as he is, and a massive reduction in self-conflict occurs. There is a feeling of harmony with his environment and an upsurge of creativeness. At times this is perceived as a fusion of subject and object.

The integrative experience should be described further because it has not been a matter for scientific scrutiny and the semantic difficulties are considerable. There is usually a perceptual component which consists of looking upon beauty and light. Affectually, there is a feeling of great relaxation and hyperphoria. The patients describe an insightfulness into themselves, an awareness of their place in the environment, and a sense of order in life. These are all fused into a very meaningful episode, and it is believed that this can be significantly therapeutic.

For therapeutic gains to continue, the advances made during therapy must be acted upon. A person may achieve excellent insight only to slip back because his lifelong patterns of rejection and denial are used to avoid the acceptance of mature

responsibilities. Continuing psychotherapy is valuable here in the restructuring of habit patterns.

On the other hand, individuals who are highly motivated to change make rapid strides. One such patient, considered to have a serious personality disorder, was interviewed nine months after treatment. He had continued to improve in the interval although no therapeutic contact had occurred.

At some time following completion of the LSD-25 series, additional drug sessions may prove advisable. The detection of still unresolved conflicts or an encounter with some extraordinary life stress may be an indication for another session or two. In dependent individuals and some alcoholics, periodic but more-widely-spaced treatments may seem advisable. According to our observations optimal use of LSD-25 appears to consist of drug treatments spaced within the framework of ongoing psychotherapy.

POTENTIAL DANGERS

Lysergic acid diethylamide is a potent psychoactive agent. The dangers involved with its use are not related to pharmacological toxicity. We are inclined to believe, along with Sandison (33), that the possibility of suicide may be a real hazard, as it is in the treatment of any serious mental illness. From our experience and that of other workers, this danger appears to be restricted to the higher dosage levels—those above 75 gamma—and an unfamiliarity with the drug.

Stoll (38) has mentioned two suicides which occurred in Europe following the experimental administration of LSD-25. In one case the subject was given the drug without her knowledge. One of Savage's (36) schizophrenic patients committed suicide shortly after LSD-25 "shattered her defenses" and "mobilized the supreme resistance."

Personal contacts with therapists using LSD-25 have turned up other cases of suicidal preoccupation and of actual suicide.

We have observed that a transient depression sometimes follows an LSD-25 session. This may be due to several factors: (1) the inability to integrate all of the unacceptable traumatic material uncovered during the session; (2) the feeling that the necessary effort is too great to be undertaken; (3) "coming back to earth" after a transcendental experience. It is therefore important that some sympathetic person be with the patient during the evening following treatment.

A more serious type of depression has been observed to occur when insights acquired under the drug are not translated into the life situation. It almost appears that if the clearly-indicated step forward is not taken, ground may be lost, followed by depression. In such cases additional therapy seems almost mandatory.

To give a patient who is incapable of handling his present load a defense-shattering drug like lysergic acid diethylamide raises the question as to whether a psychotic breakdown might not be precipitated. The fact that this has not yet been recorded is probably a reflection upon some of our theories of mental illness. On the other hand there is the real but remote possibility that a non-psychotic patient whose major defense is paranoid thinking may be moved by LSD-25 into the direction of further grandiosity. We have reports from other therapists of psychotic episodes which were controlled with chlorpromazine.

While none of our patients approached a treatment-precipitated psychosis, one case was indirectly observed. A patient with a compulsive personality, after five years of analytically-oriented therapy, had two LSD-25 sessions of 50 and 100 gamma with his own therapist. A reaction resembling paranoid schizophrenia ensued, although the patient's level of functioning was not impaired. On the contrary, previously unsuspected artistic creativity broke through in the form of song writing and a novel of some merit. However, systematized de-

lusions in the religious area and surrounding the drug itself persisted.

One of our hospital patients ignored conflictual problem areas under the drug and experienced only the feeling of oneness with his environment. He began to act superior in a grandiose way and was then deliberately directed toward the painful resolution of his walled-off conflicts. He undertook this very reluctantly, but with subsequent substantial therapeutic results.

A further instance, not included in the series, was observed much like the above-described hospital patient. The therapist had to force the patient to face conflictual material. The three individuals mentioned above appear to have a common ability to encapsulate unpleasant material along with an ease of access to what they interpret as cosmic levels. This type seems to be an exception to our impression that the integrative experience occurs therapeutically toward the end of a series. Since it is difficult to identify such people, caution in the selection of patients for LSD-25 is indicated. Furthermore, until these aberrant reactors to LSD-25 are more readily identifiable, high dose sessions should be performed on an inpatient basis.

None of our patients required termination of their LSD-25 reactions with a phenothiazine because of intolerable affectual discharge. When heightened anxiety or depression occurred in the post-drug period, it was handled by phone or additional interviews. There is no objection to the use of ataractics for palliation of excessive tension and anxiety between sessions.

As to LSD-25 addiction, the literature makes no mention of psychological habituation, nor can any be reported from our experience. The very rapid onset of a complete tolerance makes addiction in the ordinary sense of the word an unlikely development.

Elkes (17) mentions the possibility of delayed and serious after-effects following LSD-25 treatment, likewise Sandison (33) and Martin (26) speak of a brief return of the LSD-25 state spontaneously up to a year later. We have also observed the appearance of LSD-like phenomena spontaneously in patients at varying intervals following treatment. These spontaneous occurrences were welcomed by our patients as relaxing and beneficial. In other cultures experiences such as minor depersonalizations are not regarded as fearful or abnormal, but are highly valued.

It is hypothesized that the process initiated by LSD-25 in which unconscious material becomes more available, also lowers the threshold for the subsequent emergence of such material. Favorable conditions seem to be: moments of extreme relaxation, unusual stress, the limited environment or solitude, and also meditation-like, hypnagogic, and allied states. It is our impression that when a patient has developed a new frame of reference the spontaneous appearance of unconscious material becomes quite acceptable and is not to be considered hazardous.

A last potential danger arises from the impairment of motor coordination. Patients should not attempt to drive a car until the drug effects have worn off. It is self-evident that the drug should be administered only under medical supervision.

RESULTS

Table 1 presents data concerning the patients by sex, age, number of sessions, dosage, diagnosis, and results. The difficulties inherent in assessing psychotherapeutic improvement are not restricted to this study. We tended to discount the subjective report of the patient, and only when objective evidence of a better situational adjustment was obvious was the term "improved" used. The development of more mature behavioral patterns and increased ability to cope with stress were evaluated during a follow-up period of six to 17 months.

Our own evaluation, plus that of the patient, was supplemented by the report of

TABLE 1

Data on LSD-25 Treated Patients

	Sex	Age	LSD-25 Sessions	Dosage (Gamma)	Diagnosis	Results
1.	F	47	5	25, 50, 75, 100, 100	Depressive reaction; in narcissistic personality	Improved
2.*	M	35	4	25, 50, 100, 125	Passive-aggressive personality, passive; Hospital Diagnosis: Schizophrenia	Unimproved
3.	M	42	3	25, 75, 100	Borderline schizophrenia	Improved
4.*	M	31	6	25, 50, 75, 100, 150, 500 ALD	Conversion reaction in a passive-aggressive personality	Improved
5.	F	59	3	25, 75, 100	Depressive reaction in narcissistic personality	Improved
6.*	M	34	6	25, 75, 125, 150, 150, 500; ALD	Chronic anxiety reaction with alcoholism. Passive-aggressive personality	Improved
7.	F	60	3	100, 75, 100	Emotionally unstable personality	Improved
8.	M	31	1	25	Hysterical personality	Improved
9.	M	33	4	25, 50, 75, 100	Passive-aggressive personality	Improved
10.	F	39	2	M/A†, 25	Depressive reaction in an emotionally unstable person	Unimproved
11.	M	57	5	25, 100, 25, 25, 25	Inadequate & schizoid personality	Unimproved
12.	F	45	3	50, 25, 50	Passive-aggressive personality	Improved
13.	F	21	6	25, 75, 125, 100, 250, 100	Depressive reaction in a passive-aggressive personality	Improved
14.	M	47	2	100, 25	Compulsive personality	Improved
15.	M	36	3	100, 25, 75	Compulsive personality	Improved
16.	M	44	2	M/A†, 25	Emotionally unstable personality	Improved
17.	M	47	16	25, 50, 75, 50, 75, 75, 100, 100, 100, 125, 125, 100, 500 ALD, 500 ALD, 500 MLD, 200	Inadequate & schizoid personality	Unimproved
18.*	M	51	4	25, 50, 75, 100	Chronic anxiety reaction with alcoholism in a paranoid personality	Unimproved
19.	F	22	3	25, 50, 100	Hysterical personality	Unimproved
20.*	M	33	4	25, 50, 75, 100	Chronic anxiety reaction with alcoholism precipitated by gross stress	Improved
21.	M	40	6	50, 100, 100, 150, 500 ALD, 200	Compulsive personality	Improved
22.	F	42	4	25, 50, 100, 100	Depressive reaction	Improved

* Hospital patient

† M/A—Mescaline 20 mg plus amphetamine 10 mg.

someone in close contact with him. To be considered "improved", all three judgments had to agree.

It will be noted that of the 22 patients 16 are considered to have improved. Of the failures, two were inadequate, immature personalities. One did not complete treatment. The second, despite the acquisition of important emotional insights, was unable to restructure his lifelong, ineffective reactions to people and situations. A third unimproved subject was a hospital patient with a diagnosis of schizophrenia. Three of the unimproved patients showed substantial

initial improvement. This was not sustained or consolidated by changes in habit patterns. One, an emotionally unstable person who had suffered from severe depressions, would not finish the treatment series; another, an hysterical personality, also had an incomplete series because of unrelated circumstances. The last, a hospital patient with a diagnosis of chronic alcoholism in a passive-aggressive personality, after a seemingly good adjustment following discharge, began drinking again and revealed paranoid attitudes.

It is possible that more extended therapy with LSD-25 would salvage an occasional failure. We agree with Sandison's (33) and Lewis and Sloane's reports (24) that if improvement is not achieved within four months long term treatment with or without the drug is indicated.

DISCUSSION

In this exploratory study an attempt was made to determine whether a short series of LSD-25 treatments combined with psychotherapy could produce favorable changes in individuals with a variety of neurotic and/or character disorders.

While the difficulties of assessing change are self-evident, and the follow-up period is insufficient to establish long-term effects, the initial results of this therapy are encouraging. Two sub-groups appear to be emerging from the "improved" sample as the period of observation lengthens.

The first group consists of patients, who, on the whole, are maintaining their therapeutic gains and who tend to use former ineffectual methods of solving problems less frequently. These individuals have contacted us from time to time for help with a current problem. For them, perhaps, greater benefit would have occurred from more widely-spaced LSD-25 treatments within a therapeutic matrix.

The second group is smaller but more impressive. These patients have continued to move toward emotional maturity and have consistently attempted to restructure their patterns of behavior by themselves. They have shown no evidence that additional therapy is necessary.

While certain techniques have been described in this article, and certain aids have been discussed, it is possible that these methods are a reflection of the personality of the therapist. Additional techniques should be considered and explored; there are a number of possible approaches and the parameters of the action of LSD-25 are by no means clearly defined. As mentioned earlier, it appears a particularly suitable agent for insertion at strategic points in the course of individual psychotherapy.

From this study, as from the body of literature, the importance of lysergic acid diethylamide emerges as a facilitator of recall and as an aid in the abreaction of traumatic events, whether suppressed or repressed. It also serves to enhance patient-therapist relationships. It, along with certain other hallucinogenic drugs, is unique in that the patient remains lucid throughout the period of activity.

Another possibly important facet of LSD-25 treatments, as yet not clearly defined, is what we have described as the integrative effect. Stevenson (37) describes several types of experiences bearing on this. In our sample this integrative aspect appeared to occur in conjunction with resolution of conflicts. Perhaps when the synthesis of successful psychotherapy is understood as well as the analysis, therapeutic benefit may become more consistent.

For the therapist, the researcher, and the individual interested in human dynamics, lysergic acid diethylamide is extraordinary if only because of the rich view of the unconscious which it permits. Not only are varying depths possible with increasing dosages and number of sessions, but the ability of the patient to follow his own associations along with the interpretations of the therapist permits a dramatic opportunity to trace a problem to its origin.

Further, the outpouring of symbolic material, the lightning-fast chain of associations, the recovering of repressed elements, and the appearance of unusual phenomena present an unrivalled opportunity to confirm certain psychodynamic theories and to obtain data contrary to others. Further studies of a controlled nature should go far toward validating present tentative hypotheses and offering additional ones of human motivation and unconscious processes.

SUMMARY

A series of 22 individuals, five of whom were neuropsychiatric hospital patients and 17 outpatients, with problems ranging from depressive states to borderline schizophrenia, were treated with an average of four or five weekly LSD-25 sessions. Dosages started at 25 gamma and built up to 125 gamma in 25 gamma increments. In a few cases the equivalent of 250 gamma was used. Sessions lasted from four to eight hours, music was played to facilitate the drug action, and aids such as photographs and a mirror were employed. One therapist was in constant attendance but during stressful periods the presence of both a man and a woman therapist appeared to speed the process. Improvement was judged by agreement among the two doctors, the patient, and the person closest to him. Follow-up interviews were held over periods ranging from six to 17 months. The important criteria of benefit was continuing success in behavioral adaptation. Improvement was noted in 16 out of the 22 cases.

A review of the literature was given, selection of patients was described, and the enhancement of patient-therapist relationship was discussed. Heightened rapport makes possible more penetrating interpretations and a more rapid approach to basic problems. The obscure mode of action of LSD-25 was speculated on as possibly being the inhibition of inhibiting neurophysiological systems which in turn facilitates the reappearance of forgotten memories, the recovery of repressed events, and the access to deeper, more symbolic material in the unconscious. An additional, apparently therapeutic, aspect of the drug action was noted which seemed to make possible an experience of integration for the patient wherein he was able to see himself in proper perspective and in relation to his environment.

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