CHAPTER 12

Hallucinogens as an aid in psychotherapy: basic principles and results

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This paper is a retrospective report on the research on LSD-aided psychotherapy performed between 1953 and 1972 before LSD therapy became illegal. Methodologically, the studies do not meet the standards of modern psychotherapy research. Consequently, this presentation can only have an orientational character.

PSYCHEDELIC THERAPY

The term 'psychedelic' was coined by Osmond[1] and refers to 'enriching the mind and enlarging the vision'. This concept has two different roots:

(1) The anthropologists Henley (cited in Josuttis and Leuner[2]) and William James[3], as well as Slotkin[4] reported concurrently that religious conversion with the aid of peyote could cure alcoholics.

(2) In his Good Friday experiment at Harvard (which has since become a classic in the field) Pahnke[5] showed, using a double-blind design, that hallucinogenic substances could induce so-called cosmic-mystic experiences.

According to a compilation by Stace[6], these descriptions show great similarity to those which mystics of all ages and religions have described. Stace found that mystic experiences all have certain fundamental culture- and religion-independent characteristics in common. From the nine categories which he listed as being at the core of every mystic experience, I have chosen several which substantiate their psychotherapeutic value:

(1) The perceived outer diversity is experienced as the 'unity of all things' – i.e. 'all things are one'.

(2) The transcendence of time and space, i.e. 'experiencing the present as a timeless moment', which is clothed in terms like 'infinity' and 'eternity'.

(3) A deeply felt positive mood in the context of overwhelming feelings of happiness, blissfulness, reconciliation and freedom.

(4) The unspecific 'feeling of holiness', clothed in feelings of astonishment and of awe in view of an inspiring reality. However, this occurs outside the context of religious belief.

(5) 'The experience of an ultimate reality' with the certainty that there is another dimension beyond everyday life.

I have omitted the next categories 6, 7 and 8 with the keywords 'paradox', 'inexpressibility' and 'fleetingness', and to emphasize category 9, which is especially relevant for the therapeutic action of psychedelic therapy. These dimensions of Stace describe the lasting positive action of humans on themselves toward their fellow human beings, as well as toward life, and the mystic experience itself.

All types of psychotherapy, even that performed under the influence of hallucinogens, are supported by the interaction between the patient and the therapist, as well as the patient's experience. The interpersonal medium is understanding, a category which lies outside of the sphere of quantitative measurement. For this reason, I believe that it is essential here to first quote two exemplary passages taken from psychedelic therapy sessions. Stace's categories of mystic experience evidently reappear in them. Compared with other psychotherapeutic methods, they have an inherent character which is especially important in an existential context.

Passage 1

A 21-year-old woman with a severe neurotic disorder, in her first psychedelic session with a 300-μg dose of LSD, reported:

> The doctor showed me several pictures, a mother and her child. I recognized myself and began to cry, 'I can love my baby after all the many doubts and fears.' . . . At this point I felt as if God were holding me in his arms and revealing himself to me. I laughed and said, 'I have found him, I have found him'. I had an extraordinary feeling of peace and well-being. After so many years of wandering lost and alone, now God was with me. It was wonderful. . . . I also found reasons for everything. God's place in the universe, in the world and in myself appeared so clear to me. It is life and love. He is present in everything and finally after such a long time he was also in me. . . .

Passage 2

This passage is taken from a tape recording of a therapy session with a 23-year-old medical student under the influence of 10 mg of CZ 74, a psilocin derivative:

> . . . a heavenly state. I consist of nothing but love, a purely mental being. God appears, a father figure, I wave to him amiably as he floats by and he returns my greeting. An overwhelming cosmic feeling: I feel the eternal spirit, who stretches back through all the primeval times, and fills the universe and all living beings with his aura. I myself am only a grain of sand in the eternity of time. Everything I experience touches on the evident truth of human existence. Then I was driven out of that paradise, I don't know why.

Before I begin my consideration of the results of psychedelic therapy, let me take you on a short excursion into the new psychic dimensions which present themselves in these patient reports. In them a series of completely different scientific concepts manifest themselves in a downright dramatic manner. In some cases they complement each other; in others they are incompatible. The individual reports occasional conflict with the observed collective experience. This experience is abstract in Stace's dimensions, in the questionnaire of Pahnke's[5] Good Friday study, and in the three-dimensional questionnaire on altered states of consciousness by Dittrich[7] – defined as 'oceanic boundlessness', 'dread of ego dissolution' and 'visionary restructuralization'. These dimensions prove to be the basis of cosmic-mystic experience, which is, to some extent, the unspecific core of experience common to all religions. In addition, as early as 1961, the philosopher Maslow[8], in a statistical study, found the frequency of occurrence of these peak experiences to be 70% among his students.

In the context of a psychodynamic concept, the fundamental principle of the psychedelic treatment method can be understood as a regression to the level of a child's experiential state. For the clinical observations and psychometric evaluation of this regression, I must thank my former co-workers Bolle[9], for the administration of ketamine, and Schlichting (unpublished observations) for determining the influence of phenethylamide, known as 2CD[10].

The research on fundamental perinatal experiences in humans has meanwhile been received with great investigative interest, as shown by the publications of Janus[11] and Fedor-Freyberg and Vogel[12] for psychoanalysis and Grof[13] for the theory of transpersonal psychology, which he represents. The fundamental perinatal experience expands deeply into the sphere of religious psychology[14].

Using the observational methods of natural science, one confronts a schism in our society, when considering this or similar subjects. In a noteworthy book by Hübner[15] on *The Truth of the Myths*, however, humankind is confronted with the fact that, more or less unadmittedly, our encounters with nature and people, love, birth and other important occurrences still anchor us with scarcely conscious roots in mystic thinking. This near subconscious knowledge builds a critical

Table 1 Publications on the application of psychedelic therapy. (From ref. 20, with permission)

General discussions	7
Chronic alcoholism	22
Autistic children	5
Cancer patients (including pain therapy) and euthanasia	4
Addiction to narcotics	1
Sexual perversion	1
Total	40

bridge between natural science's causality and the non-causality common to mystic experience. The importance of statistical dependence has meanwhile been demonstrated to us by chaos research.

As regards the results of psychedelic therapy: for the period between 1954 and 1971 there exists a bibliography of 40 publications concerning this type of therapy. The main topics covered in these papers are indicated in Table 1. It is noteworthy that the emphasis of these research programs was placed on the treatment of chronic alcoholism. This disease has an extremely poor treatment prognosis: the majority of such patients cannot be reached by conventional psychotherapeutic methods.

THE BALTIMORE STUDIES

The Spring Grove Hospital in Baltimore has conducted a series of methodically well-designed studies as part of its research program. They include investigations on the treatment of chronic alcoholics, severely disturbed neurotics as well as on conducting psychedelic sessions with terminally ill cancer patients[16,17]. Their research team, headed first by Phanke and later by Grof, was funded by the National Institute for Mental Health (NIMH) in Washington with more than 4 million dollars. In the course of an expert-opinion contract, I had the opportunity to become familiar with and critically assess a series of research projects which were in progress. Methodologically, they were of a very high standard. Indeed, it was extremely informative to see how attempts were made to fit the requirements of formal stringency to the activation of the individual patients' psychodynamics.

The results of a study on the psychedelic treatment of 175 chronic alcoholics were reported by Kurland and colleagues[18]. The practical administration of the treatment method appears straightforward. Firstly, there is normally only a single LSD session (seldom a second one). The dose is substantially greater than the average for psycholytic treatment. Secondly, the goal of the therapy is to impart a cosmic experience which lasts for many hours and to achieve this, an intensive

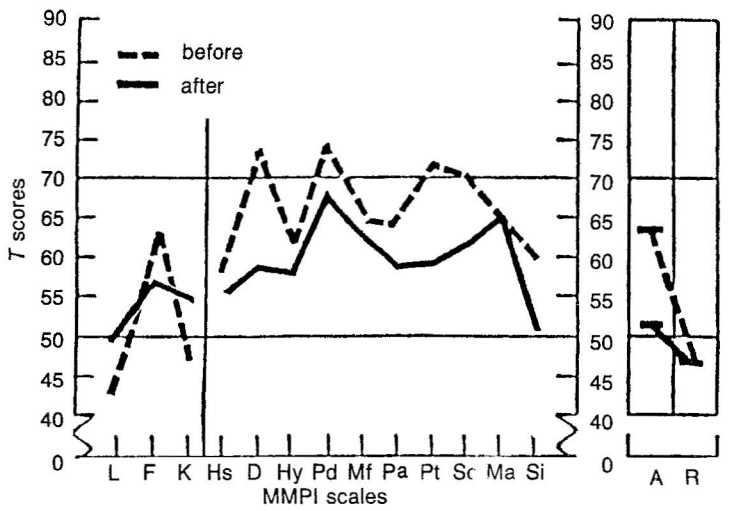

Figure 1 Comparison of the MMPI (Minnesota Multiphasic Personality Inventory) profiles of the high-dosage and low-dosage (the control group) psychedelic treatment groups after completion of the 18-month follow-up investigations for 114 alcoholics. L = lie score; F = unusual answer; K = dissimulation; Hs = hypochondria; D = depression; Hy = hysteria; Pd = psychopathology; Mf = masculinity/femininity; Pa = paranoia; Pt = psychoasthenia; Sc = schizophrenia; Ma = hypomania; Si = introversion. (From ref. 18, with permission)

4-week-period of psychotherapeutic preparation of the patient is undertaken. Finally, the therapists continually apply suggestion during the 8–10-h LSD session, influencing the patient toward the goal of cosmic mystic experience.

According to the statistics reported by the Spring Grove Hospital, 70% of their treated patients achieve a peak experience.

The study was conducted using a double-blind design. A dose of 150 μg LSD served as an active placebo and the dosage of the active treatment group was between 300 and 500 μg. The initial results are presented as an MMPI profile (Figure 1). Figure 2 shows the results after the conclusion of the 18-month follow-up investigation of both the active and the placebo groups. There was no difference between two profiles. The data for the drinking behavior (Figure 3) confirm this. Subsequently, 12 and 18 months after conclusion of the treatment, there was no significant difference between the results. Clearly, the 4-week psychotherapeutic pretreatment, combined with the active placebo, led to a substantial improvement in the subjects' drinking behavior.

Thus, the effect of the high LSD dose is only relevant to the immediate success of 51%, but not for the period of the follow-up investigation.

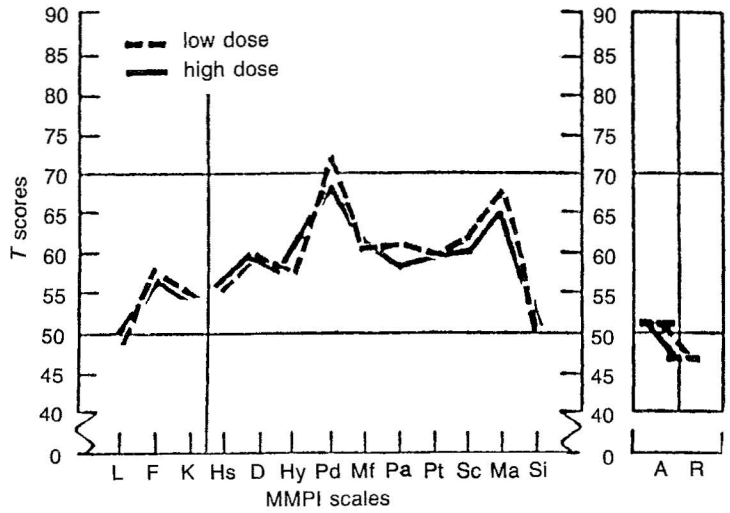

Figure 2 Comparison of the profiles of the MMPI test for 81 alcoholics before and after psychedelic therapy using high doses; abbreviations explained in Figure 1. (From ref. 18, with permission)

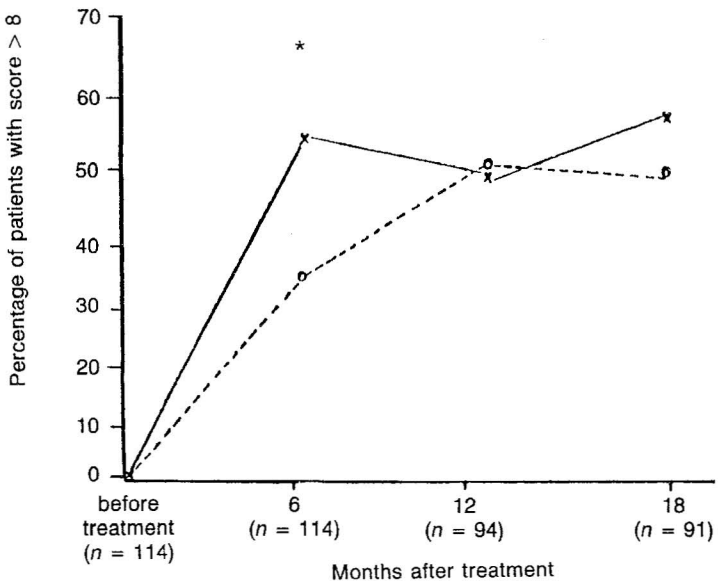

Figure 3 The drinking behavior of 114 (psychedelically) treated chronic alcoholics 6, 12 and 18 months after completion of the follow-up examinations: a comparison of the high- (solid line) and low- (dotted line) LSD-dosage groups; $*p < 0.05$. (From ref. 18, with permission)

PSYCHOLYTIC THERAPY

After the discovery of the hallucinogenic properties of LSD-25 by Hofmann[19] (see Chapter 1), psychoactive substance-aided psychotherapy gained an unexpectedly large importance. In his monograph on *LSD Psychotherapy*, Caldwell[20] listed 193 publications in the bibliography.

Psycholytic therapy has two sources:

(1) The publications of the English psychiatrists Sandison, Spencer and Whitelaw[21] in 1954.

(2) The presentation of my own results on the support of 'guided affective imagery' at the International Congress for Psychotherapy in Barcelona in 1959[22,23].

The interest of psychiatrically trained psychotherapists in psycholytic therapy increased greatly within a short period of time. For this reason I invited them to a European symposium in Göttingen in 1960. Participants from England, Italy, Austria, Switzerland, Scandinavia and Czechoslovakia agreed unanimously to Sandison's suggestion to call the new method 'psycholytic therapy'. From this group, the European Medical Society for Psycholytic Therapy (EPT), of which I was the chairperson, developed. Until 1971, when research was prohibited, the EPT held five international symposia, and its representatives were leading contributors at symposia of the International Congresses for Psychotherapy and also those for psychopharmacology.

The performance of psycholytic therapy is similar to the imaginative techniques of psychotherapy, such as guided affective imagery[22], in terms of the setting, the interaction between the patient and therapist, and the occurring phenomena. The phenomenological difference between psycholytic therapy and the imagination methods was expressed by a female patient as follows: 'It is more straightforward and comes more out of one's self. Nothing is given by the therapists, nothing is controlled, nothing is demanded of me'. In other words, the therapeutic process continues relatively autonomously under positive transference by the patient, and often with strong emotional engagement. However, at the same time it is accompanied by cognitive insights into the developing psychodynamic interactions. Indeed, the insights gained are often extremely convincing for the subjects.

This experience and the emergence of self-knowledge may be illustrated using the records from two psycholytic sessions with a 23-year-old female university lecturer; after her fifth session with a low dose of LSD-25, which had lasted several hours, she wrote:

> My thoughts then turned to Queen Elizabeth of England. I projected myself into the Queen. Her gaze, which was full of authority, appealed to me. I loved the idea that a woman has power over so many men. From the Rock of Gibraltar I looked down upon the British fleet, which was just winning a battle, . . . as if her men fought against Hitler's power.

Comment: her powerful, masculine, ideal ego identified itself with the Queen and linked itself with her majestic role against the gestalt which the patient identified with Hitler and in which she obviously sees her father, whom she experienced as brutal.

After the following session, she wrote:

> In this treatment session I realized that I have an inferiority complex. I did not wish to accept this. I like to see things in the extremes, i.e. in such a way that when I appear to be occupied with a difficult problem, I immediately desire to die to free myself from the hardness of life. It is true that I wish to have a life which is like a continuous Christmas . . . This treatment session was very depressing: the most unpleasant I have ever experienced.

Comment: this is the first insight into her narcissistic rejection of the requirements of reality and her tendency toward resignation with flight into depressive withdrawal.

These two psychotherapeutic vignettes were part of a treatment consisting of 12 psycholytic sessions. To understand the case of this young woman some background information is essential. Since the age of 14 she had suffered from periodically occurring depressive conditions. She came to me with a severe depression after the loss of her boyfriend. After 3 months of treatment, interspersed with 12 psycholytic sessions, she remained free of complaints. The final follow-up, after 10 years, confirmed this result.

Statistical comparison studies have shown that such a combination of individual psychotherapeutic treatment sessions, interspersed with scattered psycholytic ones, achieves the best results[24]. To state this more simply: psycholytic therapy is not an autonomous treatment method, but a psychodynamically oriented therapy aided by a hallucinogen[25].

SYNOPTIC OVERVIEW OF RESULTS

A synopsis of the indications for psycholytic therapy from 42 publications by 28 therapists on a total of 1603 patients has been compiled by Mascher[24] (Tables 2

Table 2 Synopsis of the indications of psycholytic therapy from 40 publications by 28 therapists (after Mascher, 1967)[24]

Rank	*Diagnoses*	*Number of publications*	*Indications: very good/good* (%)
1	Anxiety neuroses	9	70.0
2	Irritable depression	4	62.0
3	Character neuroses and sociopathies	10	61.0
4	Borderline cases	4	53.0
5	Perversions and homosexuality	7	50.0
6	Compulsive neuroses	10	42.0
7	Hysteria and conversion	2	31.5
8	Dependency on alcohol and tablets	6	31.0

Table 3 Forms of application (after Mascher, 1967)[24]

Groups	*Number of cases**	*Applications*	*Clinical results: very good/good (%)*
Group I	87	a single LSD session after intensive psychoanalytic preparation	56.0
Group II	701	repeated LSD sessions combined with individual psychotherapy	56.0
Group III	452	several LSD sessions combined with individual and group psychotherapy	62.5
Group IV	363	several LSD sessions, only in the group	40.0

* Total = 1603

and 3). The author is well aware of the problematical nature of a comparison of these results which were obtained under very different prerequisites. Nevertheless, they allow a first preliminary clinical overview. Comparing the original papers has led to the development of certain indication groups. Table 2 shows the indication spectrum and the results of the synopsis.

From the published studies it seems noteworthy that approximately two-thirds of the subjects were classified as severe or chronic cases. Even in our own statistical investigation, 70% of the patients were considered psychotherapeutically untreatable and had often had a very long patient career. The group of psychotherapy-resistant patients were divided into three groups by Arendsen-Hein[26]:

(1) Alexithymia patients.

(2) Rationalizing intellectuals.

(3) Silent, tense and extremely reserved people.

As Mascher's synopsis[24] and our data show, the great majority of these therapists applied psycholytic therapy to resistant patients.

Table 3 allows comparison of the applied methods with their results. The best results (as a percentage) were shown by Group III, which received a combination of individual and group psychotherapy with the psycholytic treatment: improvement in 62.5% of cases. These results support the arguments of Fontana[27], Leuner[28] and Mascher[29] as well as Perez-Morales[30,31], that the LSD sessions require a therapeutic basis of individual and group treatment. In a comparison study, Hausner and Dolezal[32] demonstrated that an increase in the number of individual sessions is an alternative. Group IV, (i.e. LSD administration in combination with group therapy alone) shows the least favorable results, with 40% improvement.

In 25 publications, follow-up studies over an average of 2 years were reported. According to the patients' own estimates, 62% of them remained stable; 35% had slightly worsened; and 3% reported that they had regressed in this period.

THE GÖTTINGEN STUDY

A meticulous recent study was conducted by Leuner and co-workers[33] in the Department of Psychosomatics and Psychotherapy at the University of Göttingen. Between 1968 and 1985, 123 chronically ill patients were treated with LSD- and psilocybin-aided therapy. The diagnosis groups correspond very closely to those given in Table 2, so that their repetition is unnecessary. The therapeutic method consisted of a combination of individual and group therapy sessions among which psycholytic sessions were interspersed (*cf.* also Table 3, Group III).

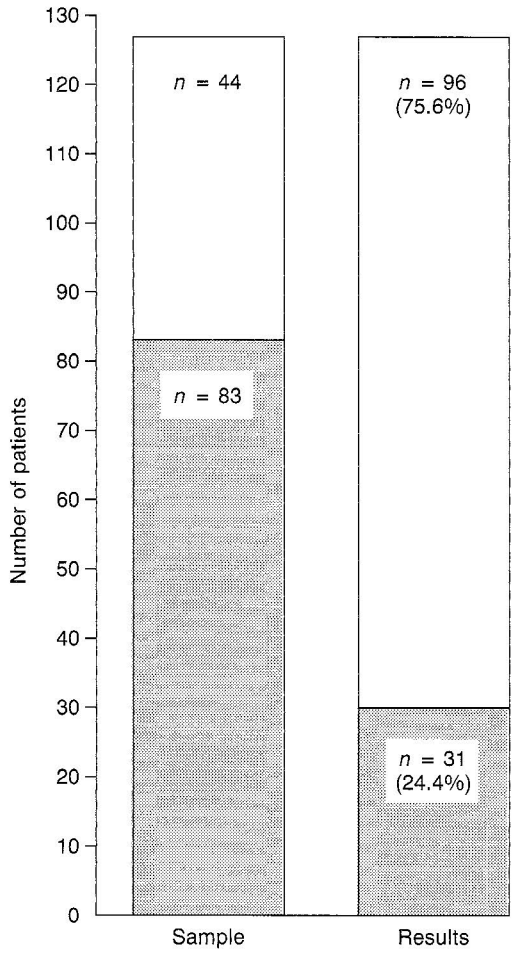

Figure 4 Results of psycholytic therapy of 127 chronically ill patients in; 77% of them were incurable with conventional psychotherapeutic methods; catamnesis occurred after an average of 2.5 years. The patient sample (left) were from studies by Schultz (clear bar) and Mascher (shadow bar) and the results (right) indicate patients who shared 'very good' or 'good' improvement (clear bar) or who were not influenced (shaded bar), (Data from Leuner and co-workers, 1992)[33]

The admission of the patients into the therapy program was dependent on their meeting specific criteria in our endeavor only to accept the severely disturbed and the chronically ill. Due to their long patient careers before beginning our treatments, and also to their pathology, 77% of the patients were chronically ill and severely disturbed, and could not be treated with conventional psychotherapeutic methods.

The assessment of the treatment efficiency is illustrated in the main results of the follow-up investigation (Figure 4) after an average of 2.5 years. They demonstrated 'good' to 'very good' improvement, with a regained ability to work in 75.6% of the treated patients (Figure 4).

The first part of the study was carried out by Mascher[29], who conducted follow-up investigations on 83 chronically disturbed patients. Figure 5 shows the results as the relationship between improvement and the number of LSD sessions. The best result was shown by Group 3, with an average of 38 LSD sessions.

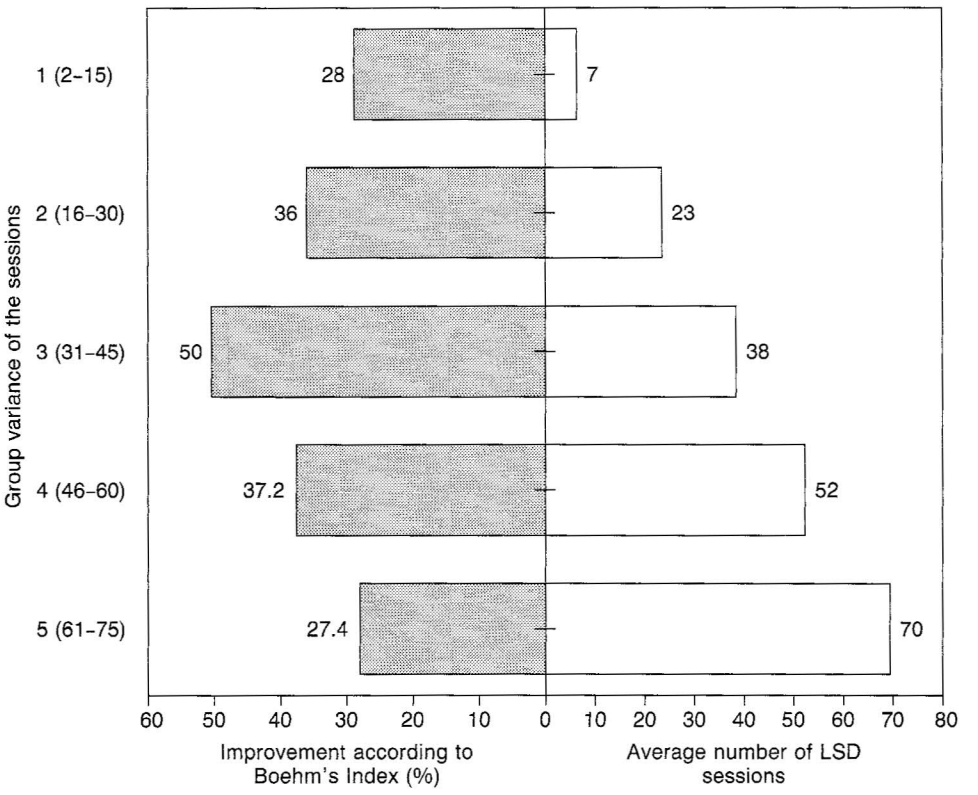

Figure 5 Results from a study by Mascher[29] showing the percentage improvement in follow-up studies of 83 chronically disturbed patients after an average of 2.5 years as a function of the number of LSD sessions. (Reproduced with permission)

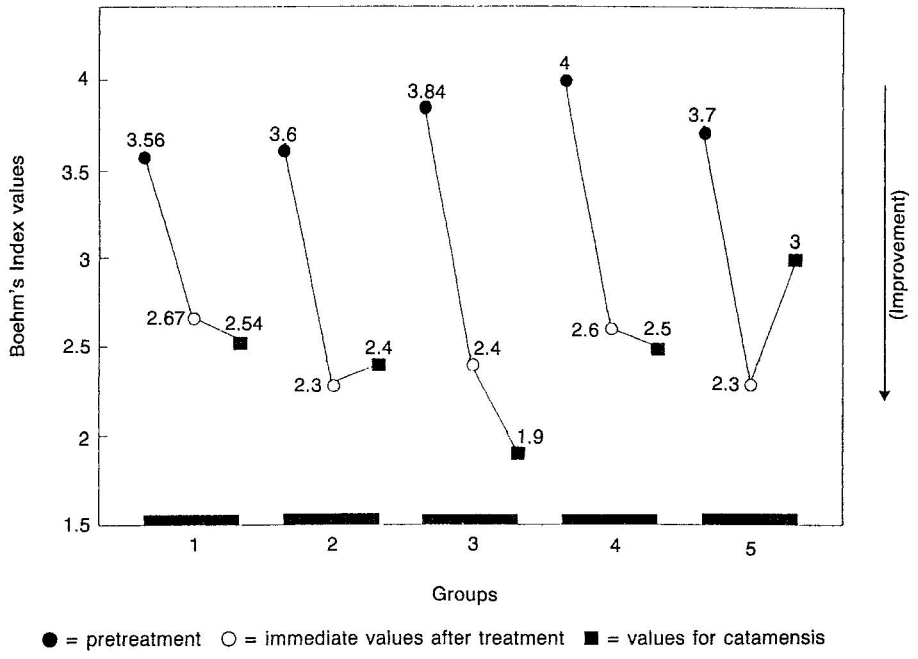

Figure 6 Changes in the values of Boehm's Complaint Index in the five groups shown in Figure 5 (pretreatment; immediate value; post-treatment improvement or deterioration) in a catamnesis after 2.5 years (after Mascher, 1967)[24]

In contrast, Groups 4 and 5, with 52 and 70 LSD sessions, respectively, showed no improvement in their percentage values, even with a greater treatment effort. Thus, despite an extension of the therapy in accordance with the patients' own wishes, achievement of a degree of improvement which would have justified the treatment effort invested in them was not possible. In parallel to this, other indications for this restriction were also seen in the spontaneous post-treatment improvement (shown in Figure 6) for Groups 1 and 3. In contrast, the catamnesis of Group 5 showed definite deterioration, and Group 4 demonstrated only a minimal post-treatment improvement. It seems justified to conclude that further treatment – beyond 45 hallucinogen sessions – would scarcely have resulted in commensurate improvement.

A controlled design for this investigation was not possible for external reasons, so that the study is considered to have an orientational character only. It is a *post hoc* evaluation using Boehm's complaint index[34] to estimate the behavioral disturbances of neurotic and psychosomatic patients before therapy and after catamnestic investigation. A parametric evaluation known as BARS ('Behaviorally Anchored Rating Scales')[35,36] is primarily used in clinical and social

studies*. One of the major factors considered is whether or not the patient's rehabilitation enables him to return to work. Because of the above-mentioned selection, nearly 80% of the patients have been classified as especially severe and chronically ill subjects. The results are discussed critically elsewhere[33], in terms of methodology and with regard to the question of control design in the psycholytic therapy.

Leary[37] stated that 'the notion of a double-blind study with hallucinogens is ridiculous. Both the experimental subject and the experiment's director see within a short time who has received the active substances and who the placebo'. Consequently, in the United States at that time, a number of researchers decided not to continue their LSD programs since neither double-blind nor blind studies were possible.

In connection with the relatively favorable success of the psycholysis on psychotherapy-resistant patients, an examination of the statistics on the provisions for psychotherapeutic care of the German population is of interest. According to a recent compilation by Meyer and colleagues[38], 65% of the people needing psychotherapeutic care cannot be treated with the concrete therapy methods available at the present time. In addition, these patients are chronically ill: they have an average treatment career of 7 years. Consequently, a re-examination of the results of this pilot study with the methods of modern psychotherapy research to consider aspects of treating psychotherapy-resistant persons is of great interest.

CONCLUSIONS

The results of the hallucinogen-aided psychotherapy which have been presented here can only give an overview of this complex treatment field. The prevention, by legislation, of continued therapeutic research in 1972 put an end to its normal development and the possibilities of developing new approaches from the results obtained. At the time of writing, it has just been announced that the Food and Drug Administration (FDA) in the US is prepared again to allow research with hallucinogens and endactogens on humans – especially for therapeutic purposes. Thus, we can hope that funding can soon be made available for meticulously designed, scientifically acceptable research programs. These programs should pay careful attention to the double character of scientific responsibility in this area of research; the specific emotional relationships between the therapist and his patient must, on the one hand, be maintained whilst, on the other, the observance of the methodological considerations must still be fulfilled. An appropriate compromise will have to be made.

* For that reason, Bortz stated: 'In many, especially new, areas of research in which the conceptual construction of a theory has just begun, . . . the investigators would be badly advised (if they were) to completely dispense with this important survey instrument'.

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