Low Doses of Dipropyltryptamine in Psychotherapy

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Dipropyltryptamine (DPT) is a hallucinogenic drug that has a shorter duration of action than lysergic acid diethylamide (LSD) and a relatively abrupt termination of activity. This study is an evaluation of the effectiveness of DPT compared to a placebo on a number of dimensions commonly regarded as significant in psychotherapy.

Eighteen alcoholic patients received a total of 72 DPT and 64 placebo therapy interviews on a double-blind basis. Doses of 15 to 30 mg of DPT were used, and the duration of the interviews was two hours. According to therapists' ratings, there was a significant enhancement in recall of memories and experiences, greater emotional expressiveness, deeper levels of self-exploration, and greater psychodynamic resolution in the DPT interviews. Patients also rated DPT sessions as more productive. These findings suggest that DPT might be a practical and useful adjunct to psychotherapy.

Psychedelic drugs elicit effects which have been claimed to facilitate psychotherapy.- These substances temporarily circumvent those psychological processes which provide structure and constancy to the individual's perceptions, values, and beliefs in the usual state of consciousness. By making contact with heretofore unconscious feelings, thoughts, and attitudes, the individual is provided the opportunity to modify his behavior in light of his new awareness.

Of the variety of psychedelic drugs now available, lysergic acid diethylamide (LSD) has been the most widely used as a treatment aid. Although it is the most potent of the psychedelics, there are a number of disadvantages to its use in clinical practice. Even when administered in low doses, LSD has a long duration of action and a prolonged termination period characterized by a wave-like episodic recurrence of the altered state of consciousness. Because few professional personnel can devote several hours to attending a single patient as a routine procedure, LSD is impractical for use in conjunction with standard therapeutic interviews. Also, LSD has acquired a tarnished reputation due to its widespread, unsupervised use. Dramatization of the harmful effects of irresponsible self-experimentation has led prospective patients to become wary of the drug even when it is used in legitimate, carefully controlled, professional settings. These shortcomings led to a search for a short-acting psychedelic compound that did not have the unfortunate reputation that LSD had acquired.

Faillace et all reported that dipropyltryptamine (DPT) is one of a group of tryptamine derivatives that has hallucinogenic properties. They determined that DPT has a considerably shorter duration of action than LSD and a relatively abrupt termination of activity. Their study suggested that DPT qualitatively produces the same effects as LSD and, thus, might effectively and conveniently replace the longer-acting LSD as a therapeutic adjunct. The fact that there have been no indications of illicit use of DPT enhances its appeal for clinical application.

These considerations prompted initiation of an exploratory study at the Maryland Psychiatric Research Center to investigate the therapeutic potential of DPT as an adjunct in the treatment of alcoholic patients. This report addresses itself to one phase of the study: viz, an evaluation of the effectiveness of 15- to 30-mg doses of DPT when used as an adjunct to individual therapy interviews of 1'/z to 2 hours duration.

Method

Subjects.-The subjects were 18 alcoholic patients selected from the patient population of the Alcoholic Rehabilitation Unit at Spring Grove State Hospital. After physical and psychiatric examinations, the psychiatrist in charge of the Alcoholic Unit recommended possible candidates for the research program. Patients with organic brain damage, epilepsy, active kidney or liver disease, severe cardiovascular disorders, or overt psychotic disturbances

were immediately excluded from further consideration. The referred patient was then interviewed by a psychologist on the staff of the Maryland Psychiatric Research Center who explained the treatment program, assessed motivation for intensive therapy, and asked the patient for a verbal commitment to remain in the hospital for an estimated four to six weeks. After the screening interview, patients took a series of psychological tests which were used for research purposes and as a final check to screen out patients with a potential for thought disorder. In general, the patients selected for this study were adjudged as having a better than average prognosis for intensive therapy compared to the general population of the Alcoholic Rehabilitation Unit.

The mean age of the sample was 38 years. Most patients had had at least a high school education or its equivalent, and the mean IQ was 113.4 as measured by the Raven Progressive Matrices Test. The average patient had been drinking excessively for over 12 years.

Therapeutic Procedure.-After the patient had been accepted for treatment, he was seen by his therapist for one or two drug-free interviews. Afterwards, he was given a series of either six or eight interviews in which he received either a low dose of DPT or a sterile water placebo. Neither the patient nor the therapist knew whether DPT was being administered. The initial dose of DPT was either 15 or 20 mg. If therapists were unable to detect a drug effect at this level, the dosage was usually raised by the project director in 5-mg increments in later interviews until an optimal level of drug reaction was reached. DPT and placebo were randomly given on a ratio of nine DPT interviews to every eight placebo interviews. Patients were told that DPT would be used in every interview and that the doses would vary from session to session.

DPT was injected intramuscularly into the arm in the form of an aqueous solution containing 15 mg of substance per milliliter. The same mode of administration was used for the placebo. The injection was given by a nurse at the beginning of each interview. There was considerable variability among individuals in their sensitivity to the drug. In general, 15 mg appeared to be the minimal effective dose, although for some patients this quantity was insufficient for therapeutic purposes. A total of 72 DPT sessions and 64 placebo sessions were administered to the 18 patients. There were eleven 15-mg DPT sessions, thirty-eight 20-mg sessions, seventeen 25-mg sessions, and six 30-mg sessions.

The interviews were conducted in either the therapist's office or in a special treatment suite furnished like a comfortable living room. At these dosage levels, the therapist's office provided a satisfactory treatment setting. Each interview lasted approximately 1'/e to 2 hours. In rare instances, the interview was of somewhat longer duration. Although the patients usually showed no impairment in spatial orientation or motor coordination, they were driven back to their housing unit after the session and asked to remain there for the rest of the day as a routine precaution.

Almost all interviews were conducted with the patient sitting down, interacting on a face-to-face basis with the therapist. The four therapists conducting the interviews differed from each other to some extent in their theoretical orientations. However, all believed that the establishment of a good therapeutic relationship and creation of an atmosphere of basic trust were crucial to the success of the therapeutic undertaking. The patient's life history was discussed, and an attempt made to identify past and present maladaptive patterns contributing to dissatisfaction in life and maintenance of the drinking pattern. The patient's basic life philosophy, hierarchy of values, and religious beliefs were also usually discussed in detail; therapists did not direct or structure the interviews according to a preconceived format, however. The therapist would usually encourage the patient to allow the material to emerge spontaneously and urge exploration at the deepest psychic levels possible. This sometimes meant that the therapist would assist the patient in confronting fearful or unpleasant emotions

Measures.-Immediately after the interview, the therapist rated the session on several scales to be described below. He also judged whether he thought DPT or placebo had been administered and dictated a brief summary covering the highlights of the session.

The following 5-point scales, with the exception of the Depth of Self-Exploration scale, were developed by us to assess relevant dimensions of the interview process. On each scale, each of the % points was defined by a verbal description. For the sake of brevity, the extreme points on each scale follow:

Recall of Memories and Experiences:
- 0-No discussion of past events.
- 4-Recall of early childhood or other memories that previously were repressed and unconscious.

Relevancy of Communication:
- 0-Discussion centers on abstract or superficial topics that have little or no relevance to the patient's problems.
- 4-Interview dwells exclusively on personally relevant material.

Quality of Relationship with Therapist:
- 0-Patient is highly defensive and appears to view the therapist as an antagonist or as opposed to his interests.
- 4-Patient feels free to express genuine positive and negative feelings toward the therapist, and his behavior indicate, that he perceives the therapist as a unique personality with whom he can be spontaneous.

Emotional Expressiveness:
- 0-Patient is highly controlled and shows practically no emotional expressiveness.
- 4-Patient typically displays strong feeling in relation to ma. terial he is discussing, and intense abreaction occurs at some point in the interview.

Psychodynamic Resolution:
- 0-Patient's attitudes remain unchanged.
- 4-Patient accepts different ways of viewing himself and/or his environment, and resolution involved fundamental is. sues.

Depth of Self-Exploration°:
- 0-The patient does not discuss personally relevant material either because he has had no opportunity to do so or be. cause he actively evades the discussion even when it is introduced by the therapist.
- 4-The patient actively and spontaneously engages in an in. ward probing to discover feelings or experiences about himself with deep emotional involvement most of the time

At the conclusion of each interview, the patient was asked to provide his assessment of the value of the interview by filling out a 5-point rating scale. The patient filled this form out in an adjoining room with the therapist not present and left the form with the receptionist. Extremes of this scale follow:

0-"I do not feel that I learned anything from this interview."

4-"I feel that this interview was unusually helpful and productive. I have gained new understanding that will change my attitude toward life."

Results and Comment

Therapist Ratings.-The mean ratings on the Therapist Rating scales for the 72 DPT and 64 placebo sessions in addition to t-tests of significance are presented in Table 1. The mean ratings for the DPT sessions were significantly higher than placebo sessions on a majority of the scales used.

There was a significant difference on the scale Recall of Memories and Experiences in favor of the DPT group ($t=3.20$, $P<.01$). Thus, in DPT interviews, patients tended

Table 1.-Means* and Standard Deviations on Therapist Rating Scales for DPT and Placebo Interviews

	Interview				
	DPT (N = 72)		Placebo (N = 64)		
Scale	M	SD	M	SD	t
Recall of Memories and Experiences	2.00	0.80	1.57	0.76	3.20t
Relevancy of Communication	2.74	0.75	2.52	0.87	1.55
Quality of Relationship with Therapist	2.43	0.96	2.35	0.78	0.54
Emotional expressiveness	2.22	0.88	1.72	0.69	3.72t
Depth of Self-Exploration	2.65	0.76	2.16	0.82	3.64t
Psychodynamic Resolution	2.26	1.08	1.82	0.94	2.49#

* Higher scores reflect greater magnitude of variable indicated.
t P < .01.
# P <.05.

Table 2.-Means* and Standard Deviations on Therapist Rating Scale for Low and Moderate Doses of DPT

	Dose of DPT				
	15 and 20 mg (N = 49)		25 and 30 mg (N = 23)		
Scale	M	SD	M	SD	t
Recall of Memories and Experiences	1.95	0.81	2.11	0.78	0.80
Relevancy of Communication	**2.69**	**0.75**	2.85	0.68	0.90
Quality of Relationship with Therapist	2.35	1.03	2.61	0.76	1.19
Emotional Expressiveness	2.33	0.91	1.98	0.80	1.67
Depth of Self-Exploration	2.65	0.78	2.63	0.74	0.11
Psychodynamic Resolution	2.15	1.12	2.48	0.96	1.27

* Higher scores reflect greater magnitude of variable indicated.

to talk more about early experiences and could recapture these experiences with greater clarity than in placebo sessions. It was not unusual for patients to recall previously repressed early memories which they sometimes re-experienced with a vividness and richness of detail that was seldom observed in conventional therapy interviews.

DPT elicited more intense feelings in the patient and `enhanced emotional expressiveness as reflected by the significant difference on the Emotional Expressiveness scale (t=3.72, P<.01). Like other psychedelic drugs, DPT acts to weaken temporarily or circumvent the individual's characteristic ego defenses, bringing to the foreground of awareness previously repressed or denied feelings and emotions.

A significant difference was obtained on the Depth of Self-Exploration scale in favor of the DPT group (t = 3.64, P<.01). This scale purports to measure the extent to which the patient actively and spontaneously engages in an inward probing to discover experiences and feelings bout himself. Another dimension of this scale involves the amount of time that the patient spends in the self-discovery process. By contrast, there was no difference between DPT and placebo interviews on the Relevancy of communication scale, which measures the proportion of time in each interview devoted to discussion of personally relevant material. It is probable that the longer intervals f silence which frequently occurred when DPT was ad ministered lowered the scores on the Relevancy of Communication scale. During such silent periods the patient pay, nevertheless, be having deeply significant experiences which facilitate the self-discovery process.

Therapists rated DPT interviews significantly higher an placebo sessions on the Psychodynamic Resolution tale (t=2.49, P<.05). This finding indicates that DPT ids patients to develop greater insight and awareness regarding significant problem areas.

Results were also analyzed with respect to dosage. DPT interviews were subdivided into a "low-dose" category, consisting of 15- and 20-mg sessions, and a "moderate-dose," consisting of 25- and 30-mg DPT sessions. Table 2 is the mean therapist ratings for the low- and moderate-dose categories. Analysis by means of t-tests revealed that there were no significant differences between these dose levels on any of the measures employed.

The trends, though not significant, favored the moderate-dose category on all scales except the Depth of Self Exploration and Emotional Expressiveness scales. On the Depth of Self-Exploration scale there was no difference. In the case of Emotional Expressiveness, the result could be accounted for by a tendency for patients to become more reflective, introspective, and inwardly oriented as the dose of the drug is increased. Moderate-dose levels seemed to be effective in fostering deeper insights into self but did not typically produce intense abreactions. It seemed that patients often became aware of their deeper feelings at moderate-dose levels but were able to inhibit outward expression of their emotions.

Therapist Identification of Drug.-Therapists were able to differentiate DPT from placebo sessions with a high degree of accuracy and significantly beyond chance expectancy (X"=42.48, P<.001). Of the total of 136 interviews, therapists correctly assessed whether DPT or placebo had been administered in 106 instances. Therapists correctly identified 55 of 64 placebo sessions and 51 of 72 DPT interviews. They were more successful in identifying the use of drug in moderate doses (25 to 30 mg) than when low doses (15 to 20 mg) were administered, although the difference was not significant (X'-=2.27). Therapists guessed correctly on 19 of 23 moderate-dose sessions and 32 of 49 low-dose sessions.

Thus, DPT, like other psychedelic drugs, elicits a distinctive pattern of behavior that is easily distinguished from a placebo. Since therapists were aware in most instances of when DPT was administered, it could be argued that they might bias their ratings in favor of the drug. If this were the case, however, one might expect that therapists would rate all scales as favoring the drug. In actuality, therapists did not rate DPT sessions significantly more positively on either the Quality of Relationship or Relevancy of Communication scales.

Patient Ratings.-Patients rated the DPT sessions as more productive and beneficial to them than the placebo interviews. The mean DPT interview rating of 3.13 (a=0.80) differed significantly from the mean placebo rating of 2.59 (a=0.91) at the .01 level (t=3.60). In this case, ratings were truly on a double-blind basis since patients

had been informed that they would receive DPT in every interview. The finding, thus, offers further support for therapist impressions that greater progress was being made in DPT-assisted interviews.

Clinical Observations.-Pilot work indicated that DPT was ineffective when administered orally. Intramuscular administration was required to obtain psychoactive effects. After injection, drug effects were usually observed within 5 to 15 minutes. Onset of the drug reaction was often heralded by symptoms of altered perception of some aspects of the self or the environment and a noticeable change in the contents of thought and/or entry into a reverie-like state. At dose levels of 15 to 30 mg, drug effects reached peak intensity fairly rapidly, usually within 20 minutes, and remained fairly constant for the next 45 minutes to an hour. Drug effects usually began to wane after 1 1/2 hours, and by two hours, the patient typically reported an almost complete return to his usual state of consciousness. Termination of drug effects was gradual but definite. In other words, there was no wave-like repetitious return of the altered state of consciousness, such as occurs with LSD. However, it was not unusual for patients to report that they felt more introspective and reflective for several hours subsequent to the interview.

The threshold dose for the induction of psychological changes appeared to be in the 10- to 15-mg range. However, there was wide variability in individual sensitivity, which appeared to be due to both physiological and personality factors. The fact that, in 17 out of 49 instances, therapists were unable to identify the presence of DPT when it had been administered in doses of 15 to 20 mg suggests that this dose is subthreshold for some individuals. On the other hand, there was an isolated instance of a patient experiencing an extremely intense and overwhelming reaction to his first exposure to DPT, a 20-mg dose. He became quite panicky and subsequently withdrew from the program. He suffered no long-range adverse effects, however.

Our experience suggests that it is best to start with a dose of 15 mg or 20 mg following at least two or more drug-free interviews in which adequate rapport has been established. The dose can be gradually raised or lowered in the course of subsequent interviews until an optimal level for self-exploration is reached.

The main phenomena observed clinically at the dose levels employed were an intensification of emotions, self-exploration at deeper levels of the psyche, recovery of emotionally relevant positive or negative memories, and enhanced insight into personal dynamics. At optimal doses, there seemed little question that previously unconscious aspects of the self were made available to conscious awareness.

The following examples were selected to give a flavor of the types of experiences and phenomena which were often observed. The examples cited are complete summaries of interviews dictated by therapists immediately after the sessions. At the time, the therapists had not yet been informed whether the patient had received DPT or a placebo.

The following is a summary of the fifth interview with a 29-year-old, court-committed alcoholic with a history of antisocial behavior. He had spent the major portion of h4 life from the age of 9 years in reformatories and prisons.

He received 20 mg of DPT in this session.

It seemed quite obvious that [the patient] received DPT Shortly after the injection, he began to look quite pensive and somewhat withdrawn. He spoke much less than usual during the interview, and there were frequent silent intervals. He stated that he felt simply "empty." During this time, he appeared quite sad and morose, and I suspected that his underlying feelings of depression, hurt, and rejection were on the verge of breaking through into his direct awareness. Later in the interview, he stated that he felt extremely nervous, much as he had felt in the past when he was waiting to go before a judge for trial.

During the latter part of the session, he again insisted with some vehemence that he didn't care about other people or what happened to himself, as if to reinforce his defenses against underlying feelings that were emerging toward the surface. He say that it simply didn't pay to trust other people and that the danger seemed to be that, if he did trust others, it would get him into trouble. It seemed that he moved closer today toward more clearly recognizing the extent of his mistrust of others and obtained some glimmering of recognition of how afraid he is to experience further hurt and rejection. He told me that it was difficult to trust iv, deeply because I was probably only performing my job for an income and was not that sincerely concerned about him.

It was quite obvious that the patient moved to a deeper level feeling today and that the issues that we had been discussing previously are being experienced much more intensely. I rather suspect that he may go through some period of depression as the feelings that he has been repressing for so long become activated

Interview 8, in which he received 20 mg of DPT, follow:

It appeared quite obvious that [the patient] received DPT " today. At first, he looked rather thoughtful and had very little to say. He claimed that his mind was a blank. After being encouraged to close his eyes and to go inward, he said that it seemed that his head was split laterally down the middle. On the left side, he could see a spring landscape, which appeared cheerful and optimistic to him, whereas on the right side he could see only darkness, gloom, and negatively toned feelings. It seemed that the right side was stronger than the left and was suppressing the left side. Later, he said that it seemed that he felt extreme hatred o, the right side. He seemed somewhat surprised at the intensity of this feeling. He could feel this emotion in his facial expression and I told him to exaggerate it, whereupon he made a face some-what like a lion, snarling. Shortly thereafter, his right hand began to make a number of motions which he experienced as occurring on their own and not under his voluntary control. The right hand kept clenching into a fist, and I encouraged him to try to assume the role of the hand and express what the hand was feeling. He was unable to do this, so I encouraged him to strike a cushion with his fist. Upon starting to do so, his eyes welled up with tears, sad he said, "That's what I've been fighting-I want to cry." However, he suppressed this emotion and insisted that he would never allow himself to cry. Later, the right hand assumed a distorted position and he said that it seemed as if this represented a feeling of bent crippled and weak. Afterwards, he said that the right hand wanted to hide. In fact, he kept the hand obscured from the therapist's line of vision. He experienced all the events occurring in do hand as ego-alien and, at one point, stated that it didn't seem that the hand belonged to him. I pointed out that the feelings expressed by the hand seemed to represent another aspect of himself with which he was in conflict. He asked whether the images experienced in the beginning of the interview represented the warring parts of his personality.

This was a very intense session emotionally and quite interesting from a psychodynamic point of view in terms of the dissociative expression of repressed emotions through his hands. On

one previous occasion when I felt [the patient] had received DPT, felt "scared to death" and was unable to articulate clearly any of his feelings, whereas today he was at least able to give distorted expression to them through the aforementioned process.

The following is an interview with a 30-year-old, single man, who was quite immature and dependent. This was his second interview. The dose was 25 mg of DPT.

It was quite obvious today that [the patient] received DPT, and I would estimate that the dosage may have been around 25 mg. After the injection, he became almost immediately aware of the drug effects, particularly as they affected his visual perception. He was quite struck with the vividness of the colors and changing character of the painting on my wall. After about ten minutes, he complained of headache and shortly thereafter began to vomit quite violently. We transferred to one of the psychedelic treatment rooms, where I had the patient lie down and covered him with a blanket, as he complained of feeling cold. At this point, the patient seemed quite regressed and appeared to recapture with vivid intensity experiences in his childhood dating back to 3 years of age. The session had somewhat the character of free-association as he skipped back and forth from one emotional experience to another. It appeared that he was mentally reliving many of these experiences and, at times, seemed somewhat oblivious of the therapist's presence.

He recalled clearly that he had felt very neglected and rejected u a young child and had, quite early in his life, decided to rely idly on his own resources because of his inability to count on others to care for him. He again recalled his toy, a little red truck, as being one of the few objects in his environment that he could count upon as being there when he needed it. He recalled incidents in which he had been quite mischievous or destructive in his childhood and related this to his feelings of resentment that he had not been properly cared for. He also stated that, since his brother's death, which occurred when he was 17 and his brother was 23, he has for some reason since developed intense feelings of aggression, which he feels that he can only control by drinking. He feels that if he did not drink, his aggressive feelings might lead to his actually killing another person. He claimed amnesia for parts of the experience toward the end of the session, and I had the impression that he was trying to repress some of the material that emerged earlier. He stated that he still feels that he has to protect himself in his relationships and wonders whether he will really ever be able to have genuine trust in others. He also stated that he felt there was a lot more that needed to be explored and sensed $at there was something earlier in his life that had contributed to his feelings of distrust and alienation in his relationships.

The last example involves an interview with a 31-year old, divorced man who had spent the previous six years living a "skid-row" existence. He was a guarded and alienated individual who showed schizoid personality features.

Interview 8, in which he received 25 mg of DPT, is summarized.

I rated this session as DPT, not because there were any dramatic signs of drug effect, but simply because this session was touch more intense and productive than any of the others to date.

The patient began the session by talking about his life-long feelings of discomfort and uneasiness when discussing topics of God and religion. This feeling has been so strong that, when the topic of God came up in an AA meeting, for example, he would have to leave the room. In tracking down the sources of this feeling it emerged that the patient was forced to attend his fundamentalistic church as a child, and when the minister preached about eternal damnation for lack of faith, the patient felt that both the minister and the congregation were staring directly at him. He has had this feeling of uneasiness, even as an adult, when has entered a church. He has always felt that he could not accept the notion of a loving, merciful God and felt that he was singled out in the congregation because he was an "unbeliever." When I pointed out that he had mentioned in an earlier interview that he had cursed God for his having asthma, the patient was able to elaborate on this point and bring up much more clearly the fact that he has always felt a deep resentment toward God because of his having been afflicted with this handicap. He has al ways been afraid to express this feeling before because of his fear that God would punish him. Toward the end of the interview, he described with rather intense feeling just how severe a limitation his asthma has been for him and that when other people say that he should feel sorry for blind people or crippled people, he cannot waste any sympathy for them because he felt that his handicap was much more severe. After this outburst, he smiled and said, "You know, I feel kind of sorry for myself, and it's not such a bad feeling." He said that he has always been aware of having the feelings that he expressed today but could never see them with the clarity with which they emerged in today's session. [The patient] felt quite relieved and looked pleased as he concluded the interview, and I feel that the events in the session constituted a significant breakthrough for him.

The results of the study indicate that DPT-assisted psychotherapy interviews could be differentiated from placebo interviews in terms of enhanced recall of memories and experiences, greater emotional expressiveness, deeper levels of self-exploration, and greater psychodynamic resolution according to therapists' ratings. While many regard these variables as important dimensions of psychotherapy, it is true that the notions of catharsis, re-experiencing of early memories, and the significance of intensely perceived experience as necessary to therapy outcome or personality change are not simple or unchallenged assumptions. The mechanism by which these factors influence behavior change are matters of issue in the theory and practice of psychotherapy. Thus, this study does not prove that DPT is a useful therapeutic tool or that psychotherapy is effective with alcoholics. However, the findings of this study and other exploratory work, seemed sufficiently promising to initiate a controlled study which is now in progress to evaluate the relative effectiveness of individual psychotherapy and DPT-assisted individual psychotherapy in the hospital treatment of alcoholics.

Skeptics might assert that the controlled research would lead to problematic results, as with the tests of LSD efficacy. Nevertheless, the evidence of a controlled study will be needed, whatever verdict is ultimately rendered regarding the role of psychedelic drugs in psychotherapy.

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