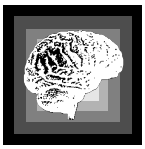

Article

A dangerous method? Psychedelic therapy at Modum Bad, Norway, 1961–76

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Abstract

After many years of disregard, the use of psychedelic drugs in psychiatric treatment has re-emerged in recent years. The prospect that psychedelics may again be integrated into mainstream psychiatry has aroused interest in long-forgotten research and experience from the previous phase of psychedelic therapy, which lasted from the late 1940s to the 1970s. This article will discuss one large-scale psychedelic therapy programme at Modum Bad Nervesanatorium, a psychiatric clinic which treated 379 inpatients with psychedelic drugs during the years 1961–76. The psychiatrists there initially regarded the psychedelic treatment as efficacious and without serious negative reactions, but reports of long-term harm have since surfaced. This article discusses how insights from Modum Bad might benefit the new generation of psychedelic treatment efforts.

Keywords

Biological psychiatry, Norway, psychedelic drugs, therapeutic usage, 20th century

Introduction

Psychedelics are a group of drugs named after the Greek words ψυχή (psyche), meaning soul or mind, and δηλείν (delein), to reveal or manifest. They have also been referred to in various contexts as psychotomimetics, hallucinogens and entheogens. Known for their powerful psychoactive effect, the classical psychedelics include mescaline (the active constituent of the cactus peyote), psilocybin (the active constituent of 'magic mushrooms'), lysergic acid diethylamide (LSD) and N,N-dimethyltryptamine (DMT). Plant-based psychedelics have a long history of use for ritual and healing purposes, especially on the American continent (Dobkin de Rios, 1990; Hultkrantz, 1997; Labate and Cavnar, 2014; Maroukis, 2012), and the synthesization, particularly of LSD in the mid-twentieth century, opened the door for experimental psychedelic treatment in Western psychiatry. The Swiss pharmaceutical company Sandoz, which owned the patent for LSD until 1963, marketed the drug by making it freely available to psychiatrists interested in researching its effects (Hofmann, 2009).

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Early research in the late 1940s and 1950s investigated psychedelic treatment, especially for schizophrenia (Busch and Johnson, 1950; Hoch, Cattell and Pennes, 1952; Liddell and Weil-Malherbe, 1953; Pennes, 1954) and various kinds of neurosis (Chandler and Hartman, 1960; Sandison, Spencer and Whitelaw, 1954). The effect on the schizophrenic patient group was generally poor, sometimes leading to a worsening of the condition, but the psychoneurotic population was often found to respond well to psychedelic treatment. Research on this group therefore continued into the 1960s and early 1970s. In one notable study, which according to Rucker, Iliff and Nutt (2018) was probably the largest study of therapeutic utility of psychedelics in the pre-prohibition era, 81% of 243 non-psychotic patients were rated by clinicians as improved after treatment with LSD (Savage, Hughes and Mogar, 1967). There was also some research on using psychedelics as a treatment for alcoholism, with promising but mixed results (Ludwig et al., 1969; Maclean et al., 1961). A later meta-analysis with pooled data from these studies found significant improvement in abstinence 1–3 months after treatment, but not at 6 months (Krebs and Johansen, 2012).

Researchers soon realized that pharmacological treatment with drugs that cause 'profound alterations of ego structure, awareness, cognition and affect might be occasionally expected to induce adverse reactions' (Cohen, 1960: 30). Reports of such adverse reactions were, however, infrequent. In his early review study, Cohen (1960) had distributed questionnaires to 62 clinical psychedelics researchers, and received 44 replies representing data on almost 5000 individuals who on average had received LSD or mescaline five times each. He found no instances of serious physical side effects, and only a handful of reports of suicide or prolonged psychotic reactions, in a patient population that included schizophrenics and where the incidence rate of untoward events is generally high. There were also a number of reports about more temporary complications, including delusory and paranoid ideation and panic reaction, during the psychedelic state itself. Cohen (1960) concluded that psychedelic treatment is contraindicated for schizophrenics, but is otherwise safe when administered with proper care: the patient should be observed at all times during the session, and may require therapeutic support by psychiatrists who should themselves 'probably have experienced the LSD state' (p. 39). Although Cohen's (1960) review indicated low risk of toxicity, researchers were later concerned about possible genetic damage from the use of psychedelics. These concerns were eventually put to rest (Dishotsky et al., 1971), but caused significant controversy at the time. After many years of research, there is no evidence that classical psychedelics are toxic to mammalian organ systems in normal dosage (Nichols, 2004: 134), although some newer phenetylamines have higher levels of toxicity (Nichols, 2016: 273).

Although promising, the clinical psychedelics research from this era is inconclusive. Studies were often experimental in nature, with small study groups and tentative findings. Furthermore, some lines of research pursued during this era were clearly dead ends, such as the attempted psychedelic treatment of schizophrenics and homosexuals ('sexual deviants'). Most damaging of all, clinical studies from this period – with or without psychedelics – were often methodologically inadequate with regard to control groups, blind testing, statistical analysis and other issues (Nichols, 2004; Rucker et al., 2018). This methodological critique extends also to Cohen's (1960) review. With time, these issues could perhaps have been redressed, but by the mid-1960s, time was no longer on the researchers' side. Mounting fears of psychedelic drug abuse led to new prohibition laws in the USA, and within a few years psychedelics were classified under Schedule 1 of the 1971 United Nations Convention on Psychotropic Substances. The convention did not prohibit clinical research, but the restrictive Schedule 1 classification entailed that psychedelics were now legally defined as having no accepted medical use, and it also introduced a range of practical complications related to permits and safety regulations. By the 1980s, clinical psychedelics research had almost disappeared from view.

The 1990s saw a renewed interest in psychedelics research, and in 2006 the first 'modern' clinical psychedelics study in a psychiatric patient population found marked decreases in symptoms in nine patients with obsessive-compulsive disorder and observed no adverse reactions (Moreno et al., 2006). By the 2010s, clinical research with psychedelics in psychiatric patient populations was again a thriving field, with a number of publications reporting promising results from tentative phase 2 trials, and larger phase 3 trials being carried out. Preliminary results from this research have indicated a therapeutic effect from psychedelics on a range of conditions, including depression (Carhart-Harris et al., 2016, 2018; Griffiths et al., 2016; Roseman, Nutt and Carhart-Harris, 2018; Ross et al., 2016), anxiety (Gasser et al., 2013; Griffiths et al., 2016; Grob et al., 2011; Ross et al., 2016) and substance dependence (Bogenschutz et al., 2015; Johnson et al., 2014). So far, no serious adverse reactions have been reported, although studies have been criticized for not reporting adverse events data systematically (Rucker et al., 2018).

Psychedelic treatment has an interesting position in the history of psychiatry. As we have seen, LSD was introduced to psychiatrists in the late 1940s, predating chlorpromazine by a few years. Psychedelic treatment thus appears on the psychiatric scene right at the very cusp of the pharmacological revolution. As pharmacological agents, psychedelics are indeed part of this revolution, yet it seems that psychedelic treatment is quite different from ordinary psychopharmacological treatment. Unlike other forms of medication, psychedelics do not provide a therapeutic effect via straightforward biochemical mechanisms, but rather serve as something like a psychological microscope:

> These substances function as unspecified amplifiers that increase the cathexis (energetic charge) associated with the deep unconscious contents of the psyche and make them available for conscious processing. This unique property of psychedelics makes it possible to study psychological undercurrents that govern our experiences and behaviors to a depth that cannot be matched by any other method or tool available in modern mainstream psychiatry and psychology. (Grof, 2009: 14)

Psychedelic drugs are therefore not to be regarded as a psychiatric treatment in and of itself, but rather as an integral element in what Carhart-Harris et al. (2018: 399) called 'psychedelic drug-assisted psychotherapy'. If we follow Shorter (1997) in seeing the history of psychiatry as the longstanding competition between the biological and psychosocial paradigms, psychedelic therapy has a unique position as an intermediary bridging the gap, its efficacy dependent on both pharmacological agents and verbal therapy. Psychedelic therapy was at the nadir of influence during the 1990s, which may explain why Shorter's very brief examination of pre-prohibition psychedelics research concluded that it 'led to no clinical payoffs' (p. 265). Today, however, psychedelic therapy is regarded as a promising field, and Shorter's dismissal may be seen to reflect a tendency in the psychiatric establishment during the 1980s and 1990s to ignore the earlier literature on clinical applications of psychedelics. Conversely, the 1990s may have been a high point for the influence of ordinary psychopharmacological medication, allowing Shorter to claim that '[i]f there is one central intellectual reality at the end of the twentieth century, it is that the biological approach to psychiatry . . . has been a smashing success' (p. vii). During the subsequent decades, assessments of therapeutic efficacy for psychopharmacological medication have been lowered, and Shorter's declaration of victory now seems premature. Today, the tables have turned, with Johnson (2018) suggesting that 'Psychiatry might need some psychedelic therapy'.

Psychedelic therapy at Modum Bad Nervesanatorium, 1961–76

While institutions in the USA dominated the field of pre-prohibition psychedelics research, studies were also performed in a number of European countries. One influential study in the UK has

already been mentioned (Sandison et al., 1954), and researchers were also active in West Germany (Leuner, 1962), Denmark (Geert-Jörgensen et al., 1964), Sweden (Kaij, 1963), and other countries. In Norway, several institutions initiated experimental psychedelic treatment programmes during the 1960s, with the most extensive programme involving 379 inpatients under the supervision of Gordon Johnsen at Modum Bad during the years 1961–76 (Madsen and Hoffart, 1996). With the majority of treatments taking place during the years 1963–6, this programme was comparable in scale to the largest studies in the USA during this period.

The use of psychedelics at Modum Bad was not so much a scientific study as an open-ended experimental treatment programme, however. It has been described in several publications. Johnsen (1964) himself published a preliminary report of his experience with 'LSD as an aid in psychotherapy' three years after the first psychedelic treatments were initiated. Two decades later, Madsen and Hoffart (1996) published a retrospective overview of the programme, and Madsen, Øyslebø and Hoffart (1996) completed a follow-up study that Johnson initiated in 1968 but never finished. During the 1990s and early 2000s, furthermore, controversy around the psychedelic treatment programme at Modum Bad stirred in the Norwegian news media, with reports that patients had been used as guinea pigs in military experiments under the supervision of the US Central Intelligence Agency (CIA), resulting in several deaths. The reports were based on an investigation by psychologist and criminologist Joar Tranøy (1995), as well as later claims by lawyer Randi Hagen Spydevold on behalf of several clients. A public commission was appointed to investigate these claims, and published a report stating that they were unsubstantiated (NOU, 2003).

In 1964, Johnsen regarded 'treatment with psycholytica' – or in other words the use of psychedelics as an aid in psychotherapy – as valuable, especially for patients who had been resistant to other forms of treatment, and 'not dangerous if carried out in a clinic with trained staff, and given under the correct indications' (Johnsen, 1964: 388). The first 112 participants included patients with anxiety, various forms of neurosis, sexual perversion, alcoholism and, in eight cases, psychosis. The indications for treatment with psycholytica were four-fold: (1) as an explorative aid for diagnosis; (2) to break through resistance and facilitate emotional insight during therapy; (3) to induce 'cosmic experiences' in certain patient groups; and (4) to terminate ordinary treatment. Patients with psychosis or schizophrenia were only mentioned in relation to the use of psychedelics as an explorative aid, so it appears that Johnsen screened out such patients from further treatment based on their reactions to these early diagnostic explorations. The use of psychedelics as an aid in therapeutic interviews was not explicitly contraindicated for any patient group, however, but Johnsen reserved this procedure for patients who had already undergone 10–20 ordinary interviews, and he proceeded cautiously with 'extremely small initial doses' (p. 385). When it came to the induction of what he calls 'cosmic experiences', however, Johnsen observed that this is only possible for certain patient groups, as patients with anxiety neuroses, hysterical neuroses and obsessional neuroses 'dare not break through their own protective casements' and tend to regress only to childhood memories and traumas (pp. 385–6). Patients with 'severe character neuroses, psychopaths, perverts and alcoholics', on the other hand, responded well to such cosmic experiences:

> The cosmic experiences give them a strength which is the point of departure for a new behavior pattern: they achieve emotional contact with their own Egos, they are able to discover new facets in themselves and to recognise powers in themselves which they have formerly ignored or denied the existence of. (p. 386)

Johnsen also briefly described the use of psychedelics to 'underline' understanding achieved through dream analysis and thereby terminate such treatment. He did not indicate which patient groups were appropriate for this type of treatment. Dosages for these four indications were also left unspecified, but Madsen and Hoffart (1996) reviewed patient files from the Modum Bad archives

and found that LSD dosage was normally 25–100 mcg and rarely above 300 mcg. The lower end of this range corresponds to what is today known as a microdose (Anderson et al., 2019; Johnstad, 2018; Polito and Stevenson, 2019) and is probably what Johnsen referred to as 'extremely small initial doses', while the top doses were apparently reserved for attempts to induce 'cosmic experiences', or 'existential shifts' in Madsen and Hoffart's (1996) terminology. Patients were given an average of 5.8 psycholytic treatments (range 1–74), with psychosis (average 2.8, range 1–12) and alcoholism (average 2.3, range 1–6) at the low end and obsessive neurosis (average 7.0, range 1–48) at the high end (Madsen and Hoffart, 1996). There were no reports of serious adverse reactions. In a follow-up study, 63% of respondents reported that the treatment with psychedelics had been helpful, while 10% reported that symptoms had worsened, at least for a short time (Madsen et al., 1996). The authors regarded these results as remarkable, but cautioned that, because of the methodological limitations of this follow-up study, they could not 'decisively conclude that the LSD psychotherapy had a treatment effect' (p. 487).

The main outcome from the experimental psychedelic treatment programme at Modum Bad was therefore much the same as for pre-prohibition psychedelics research in general: results were promising, but methodological concerns make it difficult to draw firm conclusions. While the clinical use of psychedelics was at a low ebb in the 1980s and 1990s, however, a wave of public controversy around these earlier treatment practices started to form. In order to understand this controversy, it is instructive to look into an earlier controversy in Denmark that served as a backdrop to developments in Norway.

The use of psychedelics in psychiatric treatment in Denmark started in 1960 and continued until 1973, by which time almost 400 patients with a wide range of diagnoses had been treated with LSD (Geert-Jörgensen et al., 1964; Larsen, 2016, 2017). As in Norway, psychedelic treatment was initially regarded as promising and without major complications, but reports of negative events possibly related to the treatments were of a more serious nature and included two suicides, four attempted suicides and one homicide (Geert-Jörgensen et al., 1964). Furthermore, one patient experienced a psychotic reaction with intense anxiety during the administration of 180 mcg LSD, and later developed chronic psychosis (Larsen, 2016: 175). This patient eventually sued for damages, and his case led the Danish Parliament to pass the 1986 LSD Damages Law, which stipulated that anyone who suffered long-term psychological harm from being subjected to LSD treatment had a right to compensation. A reversed burden of proof meant that harm would be considered to be caused by the LSD treatment unless it was probably due to another cause. Of the almost 400 patients treated with LSD, 151 applied for compensation. In a study of these 151 compensation-seekers, Larsen (2016, 2017) analysed the acute and long-term efficacy of the LSD treatment, finding that in the short term 39% improved, 25% were unchanged and 36% worsened, while almost all had long-term psychological complications that were attributed to the treatment. However, as Larsen himself acknowledged and critics of the study have emphasized, the context of financial compensation is a major confounder to these findings (Erritzoe and Richards, 2017; Erritzoe, Nutt and Carhart-Harris, 2017). To explain the discrepancy with the findings at Modum Bad, Larsen (2017) suggested that stricter selection criteria for inclusion, closer follow-up and lower dosage might explain why the Norwegian patients generally seemed to fare better. Erritzoe et al. (2017) also pointed to the Danish treatment regime's non-conformity with what are today regarded as good practices for clinical use of psychedelics (Johnson, Richards and Griffiths, 2008).

The controversy over psychedelic treatments in Norway started in the early 1990s, in the aftermath of the Danish controversy, but took a very different form. Allegations first centred on the role of the CIA in initiating and financing LSD research for developing tools for mind-control (Tranøy, 1995). This was supported by general references to the MKUltra programme, and by the supposition that the CIA had a monopoly on LSD because of its alleged control over Sandoz, the Swiss

pharmaceutical company who owned the patent for LSD. Later allegations expanded on these claims, maintaining that the subjects for military LSD experiments included war children born to German fathers during the Nazi occupation of Norway (Spydevold, in NOU, 2003: 28). The allegations were covered somewhat uncritically in Norwegian and international media (Anon., 2000a, 2000b, 2002c; Isherwood, 2002; Malone, 2009). In one egregious example, *Verdens Gang*, under the heading 'Norwegian war children died in LSD experiments', informed its readers that 'Ten war children were in the 1950s and 60s used as guinea pigs in military experiments with LSD. Three or four of the children died' (Anon., 2000c; my translation). These and other claims of unethical medical research led to the establishment of a national truth commission in 2001, which eventually concluded that the allegations were unfounded (NOU, 2003). While there is little doubt that the CIA conducted unethical LSD experiments (Marks, 1979; Price, 2007), their interest in the compound peaked in the early 1950s. Marks (1979: 50–1) noted that by 1953, the CIA was well into the last stage of their research, which involved exposing unwitting non-patient subjects to LSD in an attempt to mimic realistic operational conditions. Thus, it would seem surprising that the CIA should have invested resources in psychiatric applications of LSD in foreign countries as late as the 1960s, by which time they had had many years to pursue the ultimately fruitless investigation of how to weaponize LSD for intelligence operations. Furthermore, the suggestion that the CIA had a monopoly on LSD, besides being based on no evidence, is belied by the fact that Sandoz famously distributed the compound freely to any psychiatrist interested in experimenting with it. According to Marks (1979: 46–7), CIA officials at one point feared that Sandoz would supply the Soviets with large quantities of LSD, and decided to secure a reliable supply source for themselves by encouraging the US pharmaceutical company Eli Lilly to produce the drug as early as 1953. The structural formula of LSD had been publicly available since 1951 (Hofmann, 2009: 60).

While the commission's report makes for fascinating reading as it meticulously tracks the allegations through layers of anonymous informants and classified archives, its exposition of darkly imagined clandestine operations and unethical experiments on humans is not of direct relevance here. However, the controversy substantially increased public awareness of the psychedelic treatment programme at Modum Bad and, in its aftermath, several personal accounts from participants in the programme have come to light. The NOU (2003) report itself mentions that several former patients at Modum Bad contacted the commission about their response to the follow-up study that Johnsen initiated in 1968 (Madsen et al., 1996), claiming that they had answered Johnsen's letters more positively than their experience actually warranted. Some have also complained about lasting psychological harm from the LSD treatment. The most publicized case involved Gerd Kallevig Knutsen, who at the age of 19 was admitted as a patient at Modum Bad for anxiety and hysteria and administered six LSD treatments in 1964 (Sandvig, 2011; Størksen, 2011). According to Knutsen, she was left alone for four hours after being dosed with LSD, which gave her nightmarish hallucinations. She claimed that since the treatment, she has had daily flashback experiences lasting 30–60 minutes, and that Johnsen threatened her and told her to keep quiet about this (Størksen, 2011). Knutsen is the only Norwegian patient who has received public compensation for long-term harm resulting from LSD treatment. Another case involved an anonymous former patient at Modum Bad who reported that she went through a difficult 'bad trip' during her second LSD treatment (Ravn, 2014). This patient claimed that she begged her doctor, who apparently was one of a few doctors at Modum Bad without personal experience of LSD, to terminate the treatment, but she said that he refused and held her down in bed with force. This allegedly led to many years of psychological problems.

Given the wild range of unsubstantiated allegations about the psychedelic treatment programme at Modum Bad, it is difficult to know how far one can trust these latter claims by former patients. Suffice to say that, if true, the above reports indicate that the psychedelic treatment at Modum Bad

did not always conform to guidelines for good practice (Cohen, 1960; Johnson et al., 2008). However, there have also been some positive reports, especially from the authors Agnar Mykle and Alfred Hauge. Mykle reported 'fabulous visions' that included an experience where he relived his birth (Fyllingsnes, 2014), while the Christian existentialist writer Hauge claimed that the LSD treatment afforded him insight into his psyche, and he later drew upon these experiences in his literary work (Sørbø, 2015).

A dangerous method?

It is difficult to assess long-term consequences from the psychedelic therapy programme at Modum Bad. We have reports of both positive and negative developments after the treatment, but it is uncertain how much these developments can truly be attributed to the psychedelic therapy. Cohen observed as early as 1960 that patients may have a tendency to blame psychedelic therapy sessions for subsequent problems:

> The hallucinogenic experience is so striking that many subsequent disturbances may be attributed to it without further justification. The highly suggestible or hysterical individual would tend to focus on his LSD experience to explain subsequent illness. (Cohen, 1960: 38)

He also referred to several patients who attributed various conditions to LSD exposure during therapeutic sessions, but who had actually received only tap water as an inactive placebo. This problem of misattribution is probably especially relevant for psychedelic 'bad trips', however, since such experiences are known to be particularly difficult and might therefore serve as easy targets for long-suffering psychiatric patients in search of an explanation for their illness. Even if an impressive 84% of participants in a recent survey of 'bad trips' claimed to have benefited from the experience in the long run (Carbonaro et al., 2016), it should probably not surprise us if psychiatric patients find it extra difficult to integrate such experiences. The two complaints against Modum Bad both involved 'bad trips' caused, at least according to the patients, by doctors' non-conformity with good practice guidelines (one patient was allegedly left alone for hours, another held down with force), and the obvious lesson for today's generation of psychedelic therapists is to take no chances with such breaches of clinical protocol. As noted before, Cohen (1960) insisted that because the LSD state is a highly suggestive one, clinical personnel should always be sympathetic and keep the patient under continuous observation. He also noticed that complications seemed to be more likely when the therapist was personally unfamiliar with the psychedelic state.

One central aspect of the clinical practice at Modum Bad was to regard psychedelic sessions as an adjunct to other forms of psychotherapy, rather than as a treatment in itself. Each of Johnsen's (1964) four indications for psychedelic treatment had a clear relation to a broader psychotherapeutic programme, and patients were only introduced to the use of psychedelics as an aid in therapeutic interviews after going through 10–20 ordinary interviews. This is congruent with the present-day paradigm of 'psychedelic drug-assisted psychotherapy' (Carhart-Harris et al., 2018: 399).

Grof's (2009) model of the therapeutic efficacy for psychedelic treatment, which regards psychedelics as a tool for psychological insight, might help us understand the polarized response to psychedelic treatment, with some patients praising the therapeutic effect and others reporting a worsening of their condition. If psychedelics are tools that must be wielded skilfully – perhaps not only by the therapist overseeing the session, but also by the person undergoing it – in order to manifest their therapeutic potential, incompetent use might lead to negative effects: 'Naturally, the tools of this power carry with them greater risks than more conservative and far less effective

tools currently accepted and used by mainstream psychiatry, such as verbal psychotherapy or tranquillizing medication' (p. 14).

Seen through the lens of Grof's model, the complaints of malpractice during psychedelic sessions at Modum Bad are especially problematic. It also seems clear that selection criteria for patients included in such treatment should be stricter than they were at Modum Bad, since the therapeutic effect may depend upon patients' willingness and ability to utilize the psychedelic state for personal insight. Patients who are not well positioned to wield the powerful psychedelic tool could end up harming themselves, which may have been what happened to Knutsen when she was left alone in her LSD-induced nightmare at Modum Bad.

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