

Revisiting LSD as a treatment for alcoholism

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Summary

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Teri Krebs and Pål-Ørjan Johansen are both affiliated with the Department of Neuroscience at the Norwegian University of Science and Technology (NTNU), Trondheim, Norway. During research fellowships at Harvard Medical School, Boston, USA, they spotted a gap in the understanding of lysergic acid diethylamide's (LSD's) potential for alcoholism treatment. No researcher had ever performed a quantitative meta-analysis of previous clinical trials using the drug.

Krebs and Johansen set out to independently extract data from previous randomized, controlled clinical trials, pooling their results. They identified six eligible trials, all carried out in the late 1960s and early 1970s. These included 536 participants, the vast majority of whom were male in-patients enrolled in alcohol-focused treatment programs. Individuals with a history of schizophrenia or psychosis were excluded from the original trials. The control conditions included low-dose LSD, stimulants, or non-drug control conditions. Each trial used clearly defined treatment-independent and standardized methods to assess outcomes on alcohol misuse.

While the experiments varied in the dosage used and the type of placebo physicians administered to patients, LSD had a beneficial effect on alcohol misuse in every trial. On average, 59 percent of LSD patients and 38 percent of control patients were improved at follow-up using standardized assessment of problem alcohol use. There was also a similar beneficial effect on maintained abstinence from alcohol. The positive effects of a single LSD dose -- reported both in these and in other, non-randomized trials -- lasts at least six months and appears to fade by 12 months.

Regarding the lasting effects of the LSD experience in alcoholics, investigators of one trial noted, "It was rather common for patients to claim significant insights into their problems, to feel that they had been given a new lease on life, and to make a strong resolution to discontinue their drinking." And investigators of another trial noted, "It was not unusual for patients following their LSD experience to become much more self-accepting, to show greater openness and accessibility, and to adopt a more positive, optimistic view of their capacities to face future problems."

¹ The story presented is based on materials provided by SAGE Publications. Note: Materials may be edited for content and length. Journal Reference: Teri S. Krebs and Pål-Ørjan Johansen. Lysergic acid diethylamide (LSD) for alcoholism: a meta-analysis of randomized controlled trials. *Journal of Psychopharmacology*, 9 March 2012 DOI: 10.1177/0269881112439253

LSD interacts with a specific type of serotonin receptors in the brain, which may stimulate to new connections and open the mind for new perspectives and possibilities, Krebs explains. LSD is not known to be addictive or toxic to the body, but the LSD has striking effects on imagination, perception, and memories and can elicit periods of intense anxiety and confusion.

"Given the evidence for a beneficial effect of LSD on alcoholism, it is puzzling why this treatment approach has been largely overlooked," says Johansen. The authors suggest a number of reasons for this: many of the individual trials did not have enough patients to confidently conclude that there was a beneficial effect of LSD, but when pooled together the trials shows a clear and consistent effect; trial authors expected unrealistic results from a single dose of LSD and tended to discount moderate or short-term effects and; earlier non-randomized clinical trials reporting promising results but had methodological problems, creating the misunderstanding that well-designed studies did not exist or failed to find a beneficial effect. Finally, the complicated social and political history of LSD meant that obtaining regulatory approval for clinical trials became laborious, although national and international drug control measures have never banned treatment development or medical use of LSD.

Its unusual for a psychiatric medication to have a positive treatment effect lasting for several months after a single dose. Krebs and Johansen suggest that repeated doses of LSD coupled with modern, evidence-based alcohol relapse prevention treatments might provide more sustained results. They also note that plantbased psychedelics such as mescaline and ayahuasca which are used by Native Americans to promote mental health and sustained sobriety, merit further investigation for alcoholism treatment.