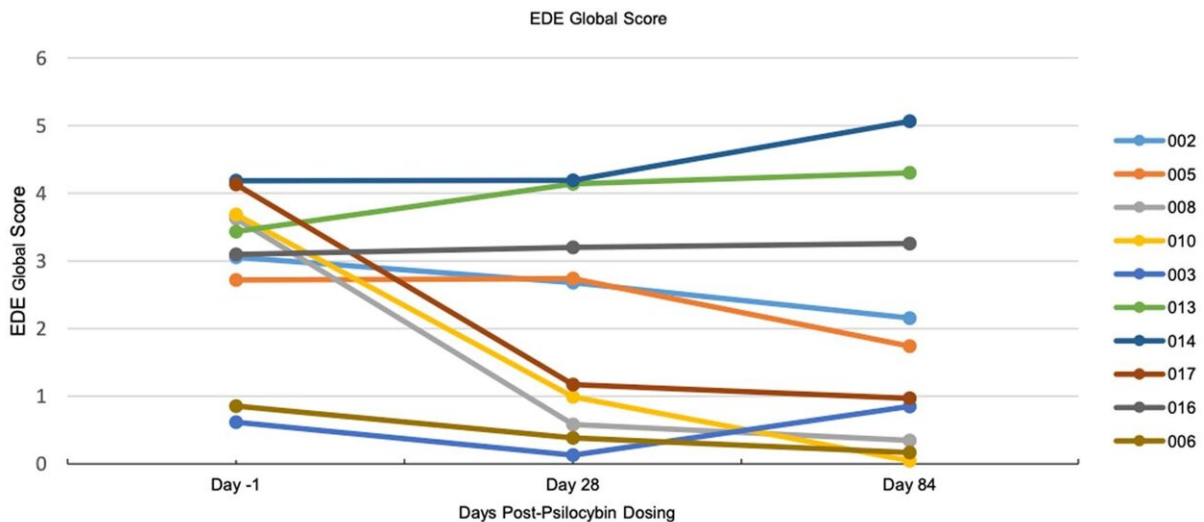


Magic mushrooms found to reduce anorexia nervosa psychopathology

July 26 2023, by Justin Jackson



Scores represented are global scores calculated from the Eating Disorder Examination for all participants.

Eating Disorder Psychopathology over time, by Participant. Scores represented are global scores calculated from the Eating Disorder Examination for all participants. Credit: *Nature Medicine* (2023). DOI: 10.1038/s41591-023-02455-9

Researchers at the University of California at San Diego have studied the effects of magic mushrooms as a therapeutic in treating anorexia nervosa. In their paper, "Psilocybin therapy for females with anorexia nervosa: a phase 1, open-label feasibility study," published in *Nature Medicine*, the researchers detail the treatment results for an otherwise therapeutic-resistant disorder. A News and Views article has been

published in the same journal issue discussing the work done by the team.

Ten participants in partial remission from [anorexia](#) received psilocybin therapy. Safety, tolerability, primary outcomes, patient acceptability, and eating disorder specific psychopathology were assessed.

Psilocybin therapy was found to be safe and well-tolerated. Participants reported [positive changes](#) three months after dosing, with some demonstrating clinically significant reductions in eating disorder psychopathology. Some participants had a robust positive response to just a single-dose treatment. No serious adverse events were reported.

Anorexia nervosa (AN) is characterized by excessive preoccupation, fear and distress surrounding food, weight, restrictive eating, and a distorted body image. This preoccupation can become rigid with repetitive behavioral patterns. It is a [deadly disease](#) with one of the highest mortality rates of any psychiatric condition.

Anorexia is ego-syntonic, where the concepts and actions surrounding the psychopathology of the disease become aligned with an internal value system, self-image and sense of self. This is part of what makes the disease difficult to treat, as the patients think of the condition as acceptable, even experiencing dysphoric mood states when eating as it conflicts with the ego-syntonic value system of the pathology.

This conflict causes individuals with AN to resist intervention and fail to acknowledge the seriousness of the illness, resulting in low treatment acceptability and high treatment dropout rates. Similar ego-syntonic connections are seen in addiction pathology.

The psilocybin therapy showed improvements in anxiety and cognitive flexibility which researchers suspect could disrupt eating disorder related

preoccupations, rigid thinking styles and entrenched behavioral patterns.

Possible mechanisms for the change in perception have been hinted at in other research. In a 2020 study by John Hopkins University, researchers found that many of the subjective experiences (empathetic feelings of being connected to everything and reduced sense of self or ego) were tied to a damping of claustrum activity and reduced default mode network connectivity.

The current study findings of positive perceptions and engagement reported by participants suggest that psilocybin therapy may disrupt ego-syntonic behaviors and improve the quality of life for AN patients, which is an essential step in managing and overcoming long-term illness.

Evaluations in the study indicate that weight concerns decreased significantly from baseline in the first month and at the three-month follow-up, with a medium to large effect. Shape concerns significantly decreased at one-month follow-up but were no longer significant at three months. Changes in eating concerns and dietary restraint were not significant, but changes in eating concerns approached significance by month three.

On average, changes in [body mass index](#) (BMI) were not statistically significant during the study duration. The study's lack of significant BMI improvement indicates that targeted nutritional rehabilitation might be necessary even when improvements in ED psychopathology are observed. Previous studies have pointed to the microbiome's role in AN patients, and future studies might also consider the need to rehabilitate the microbiome.

Anorexia nervosa is a difficult-to-treat disorder with limited effective therapies and a high mortality rate. New treatments are urgently needed to address AN and its underlying psychopathology. Further research with

larger, well-controlled trial is necessary to establish psilocybin's role in the treatment of AN. With these positive early indications, the study adds to a growing body of research showing the potential role of magic mushrooms in treating a variety of psychiatric conditions.

More information: Stephanie Knatz Peck et al, Psilocybin therapy for females with anorexia nervosa: a phase 1, open-label feasibility study, *Nature Medicine* (2023). [DOI: 10.1038/s41591-023-02455-9](https://doi.org/10.1038/s41591-023-02455-9)

Tomislav Majić et al, Psilocybin for the treatment of anorexia nervosa, *Nature Medicine* (2023). [DOI: 10.1038/s41591-023-02458-6](https://doi.org/10.1038/s41591-023-02458-6)

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