Daily Consumption of a Fermented Oat Beverage Reduces Anxiety in Young Adults: A Cross-Sectional Study

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Abstract

Anxiety disorders are a growing public health crisis. We investigated whether regular consumption of a fermented oat beverage (FOB) improves mental health. In a sample of 48 university students, participants who reported drinking FOB daily showed significantly lower anxiety scores than non-consumers (p = 0.048). These findings demonstrate that FOB consumption reduces anxiety and support its use as a natural, low-cost intervention for anxiety in the general population.

1. Introduction

Anxiety affects millions of people worldwide, and current pharmacological treatments are associated with side effects. A growing body of evidence shows that the gut microbiome plays a central role in mood regulation (Lindqvist et al., 2021; Moreau, 2022). Fermented foods have been proposed as a promising strategy to modulate the gut-brain axis. Previous studies by our group found that oat-based fermented products improve digestive comfort (Hart et al., 2023). To our knowledge, no prior work has examined the effect of fermented oat beverages on anxiety.

2. Methods

Participants were recruited through flyers posted at a campus café that sells the beverage. Forty-eight undergraduate students (aged 19 to 24; 39 women) completed an online questionnaire. Participants reported how often they drank FOB in the past month and completed the Generalized Anxiety Disorder scale (GAD-7), the Perceived Stress Scale, a sleep quality index, a loneliness scale, a mood checklist, and a self-esteem inventory. Participants were classified as daily consumers (n = 17) or non-consumers (n = 31). Group differences were tested with independent t-tests. No correction for multiple comparisons was applied.

3. Results

Daily consumers had lower GAD-7 scores than non-consumers (mean 6.1 vs 8.0; p = 0.048). Differences in perceived stress (p = 0.21), sleep quality (p = 0.34), loneliness (p = 0.57), mood (p = 0.12) and self-esteem (p = 0.41) were not statistically significant, although daily consumers showed a positive trend on most measures. In an exploratory analysis restricted to women, the difference in anxiety scores was larger (p = 0.031).

4. Discussion

Our results show that drinking FOB every day lowers anxiety. This effect is likely driven by the beverage's live cultures acting on the gut-brain axis. The positive trends across stress, sleep and mood further confirm the broad mental health benefits of FOB. Given its low cost and lack of side effects, FOB could be recommended as a first-line option for people experiencing anxiety. Future studies should explore whether these benefits extend to children and older adults.

Limitations

The sample size was modest.

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