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## BACKGROUND

### Ketamine and Anxiety

- ✦ Ketamine is the most used anesthetic in the world, but it could also be used to treat chronic pain, depression, and anxiety
- ✦ Ketamine helps play a major role in reducing central sensitization and wind-up typically seen in chronic and depression patients
- ✦ Ketamine acts an antagonist to NMDA receptors, key in depression and chronic pain, making ketamine a viable treatment

## OBJECTIVE

- ✦ Ketamine-assisted psychotherapy (KAPT) as therapy for chronic pain disorders and depressive disorders
- ✦ Connection between chronic pain, trauma, and depression

## METHODS AND PROCEDURES

- ✦ Ten (N=10) adults with a prior diagnosis of a Major Depressive Disorder and a comorbid chronic pain condition were selected and placed into one of two treatment groups, psychedelic group (N=5) and psycholytic group (N=5)
- ✦ Psychedelic Group: Over a series of six sessions over six weeks, participants received intramuscular ketamine injections ranging from 40-120 mg, starting at 40 mg and increasing every session
- ✦ Psycholytic Group: Over a series of six sessions over six weeks, participants were treated with oral ketamine lozenges, doses ranging from 25-75 mg, starting at 25 mg and increasing every session

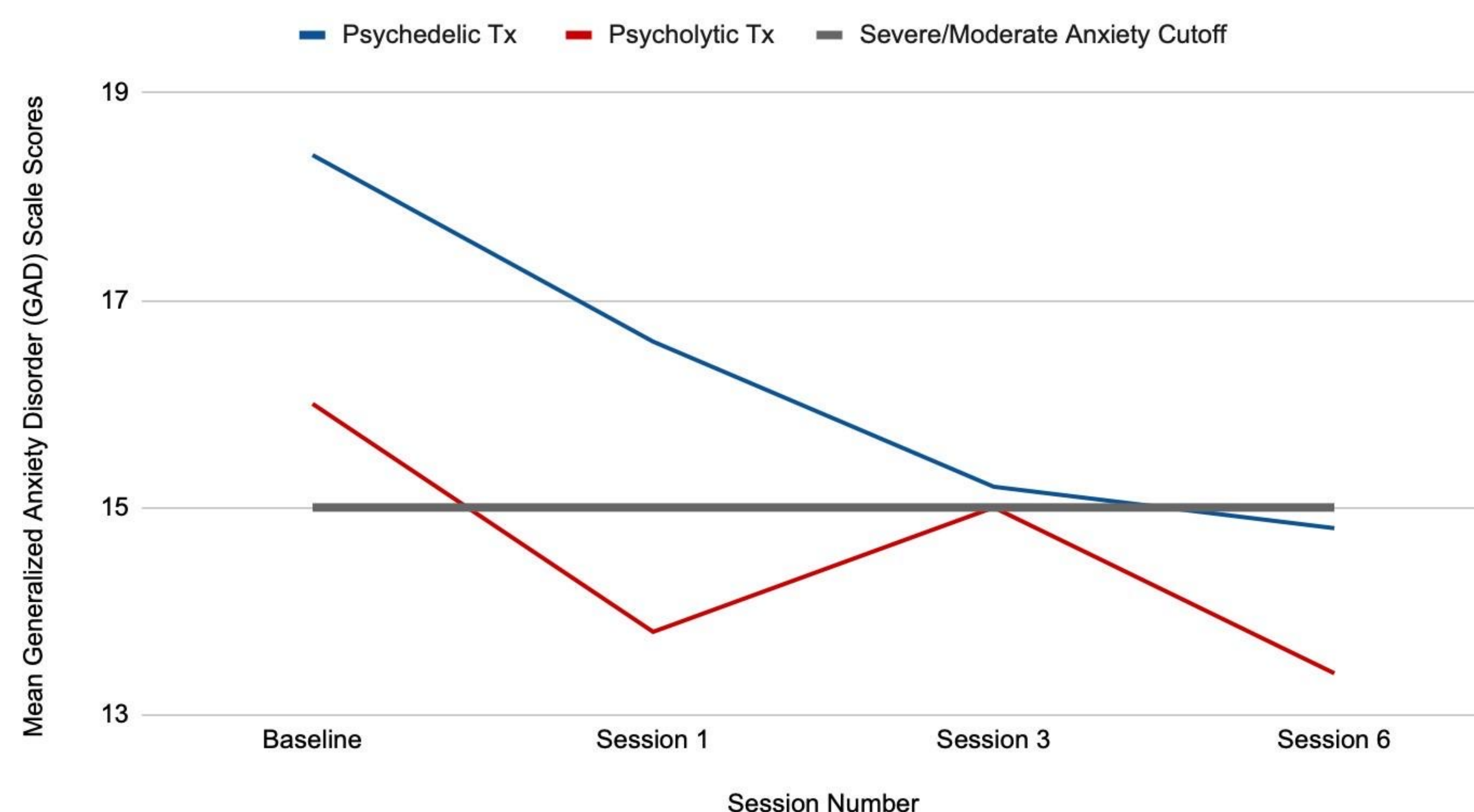
## MEASURES

- ✦ To measure the affect of ketamine on participant's anxiety, the Generalized Anxiety Disorder (GAD-7) scale was utilized
- ✦ GAD-7 Scale: Seven item, self-reporting scale with the intentions of screening, diagnosing, and measuring the severity of an anxiety disorder

## DATA AND RESULTS

- ✦ GAD-7 Scale was administered to patients at all timepoints (T-0 (Baseline), T-1 (Session 1), T-2 (Session 3), T-3 (Session 6))
- ✦ Psychedelic group's mean symptoms decreased by 19.57% by the study's completion compared to the psycholytic group, whose mean symptoms decreased by 16.2% by the study's completion
- ✦ Psychedelic group's mean symptoms consistently declined throughout the course of treatment:
  - ✦ (T-1= 9.8% decrease), (T-2=8.4% decrease), (T-3=2.6% decrease).
- ✦ Psycholytic group's mean symptoms decreased overall, but increased after the third treatment session:
  - ✦ (T-1 =13.6% decrease) , (T-2 = 8% **increase**), (T-3=10.7% decrease)

KAPT's Effect on Anxiety Symptoms by Treatment Approach



## DISCUSSION

- ✦ There was no statically significant difference in anxiety improvement between the two different KAPT treatment approaches at all timepoints (T-1, p = .59), (T-2, p =.97), (T-3, p=.72)
- ✦ It was found that all participants went from having a severe GAD diagnosis at the baseline (mean score above 15 points) to having a moderate GAD diagnosis at the end of treatment (mean score below 15 points)

## CONCLUSION

- ✦ Findings suggest that KAPT may not only be useful for the reduction of anxiety symptoms seen in depression/chronic pain patients, but also may be an efficacious treatment for GAD
- ✦ All participant's anxiety in the psychedelic and psycholytic groups decreased by the final treatment session; all participants transformed from a severe to moderate GAD diagnosis
- ✦ The psychedelic treatment group's larger mean decrease in anxiety symptoms throughout the course of treatment may suggest that it is the optimal treatment approach for this indication. Moreover, the psycholytic treatment group's increase in mean symptoms after session three further supports the superiority of the psychedelic treatment approach

## ACKNOWLEDGMENTS

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