Anti-suicidal effects of IV ketamine in a real-world setting

Brittany O'Brien[1,2], Jaehoon Lee[2,3,4], Seungman Kim[3], Guriqbal S. Nandra[5], Alan C. Swann[2], Nicholas Murphy[2], Lynnette Averilla[2], Manish Jha[6], Isabella Wells[7], Miriam Wells[7], Sanjay J. Mathew[1,2,4]

[1]Michael E. DeBakey VA Medical Center, [2]Baylor College of Medicine, [3]Tech University, [4]The Menninger Clinic, [5]IV Solution and Ketamine Centers of Chicago and Kansas City, [6]UT Southwestern Medical Center, [7]Lone Star Infusion

BACKGROUND

- Meta-analyses have found heterogenous effects of ketamine on suicidal ideation (Reinstatler and Youssef, 2015; Wilkinson et al., 2018; Witt et al., 2020).
- **AIM: The current study evaluated the effectiveness of intravenous ketamine treatment for suicidality in a community-based outpatient clinical sample of adults**

METHODS

- Data was retrospectively collected from a community IV ketamine clinic from 2018-2020 (n=295)
- Patients received an acute course of 6-8 infusions thrice weekly (M-W-F) over 2 weeks.
- Patients completed the Concise Health Risk Tracking Self Report (CHRT-SR) before each infusion.
- The CHRT-SR is a 14-item self-report questionnaire designed for longitudinal tracking of symptoms associated with suicide risk including subscales assessing thoughts related to death (Propensity), impulsive tendencies (Impulsivity), and active suicidal ideation (Risk).
- Growth mixture modeling (GMM; Ram and Grimm, 2009) was used to identify the distinct patterns of change (trajectories) in CHRT scores over the course of acute treatment.

Three groups of patients shared similar trajectories of suicide related symptoms:

- **Severe Baseline CHRT Total, Rapid Improvement Group (SC-RI; n = 62; 21.0%)**
- **Moderate Baseline CHRT Total, Gradual Improvement Group (MC-GI; n = 170; 57.6%)**
- **Severe Baseline CHRT Total, No Improvement Group (SC-NI; n = 63; 21.4%)**

Fig 1. Trajectories of three groups for (a) CHRT-Propensity, (b) CHRT-Impulsivity, and (c) CHRT-Risk scores over six clinic visits

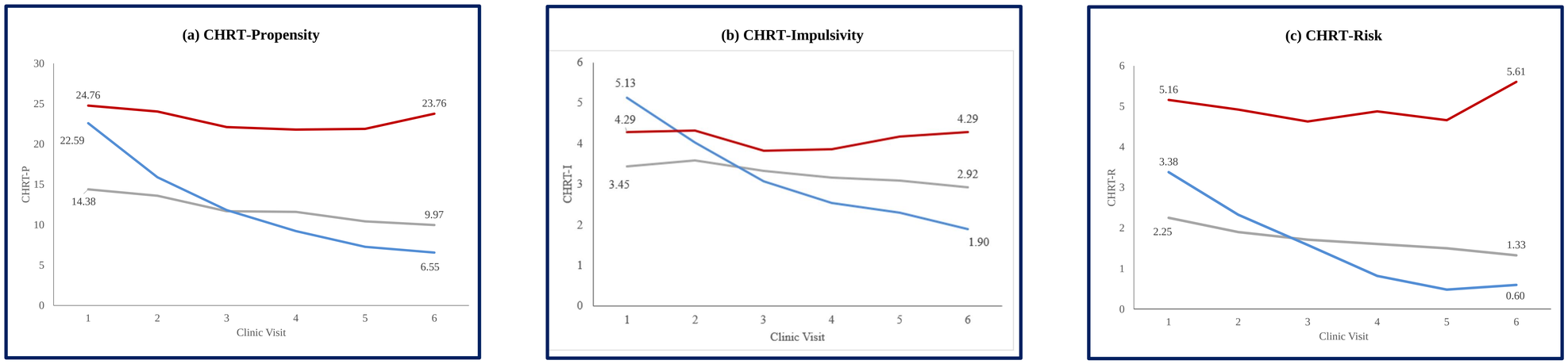
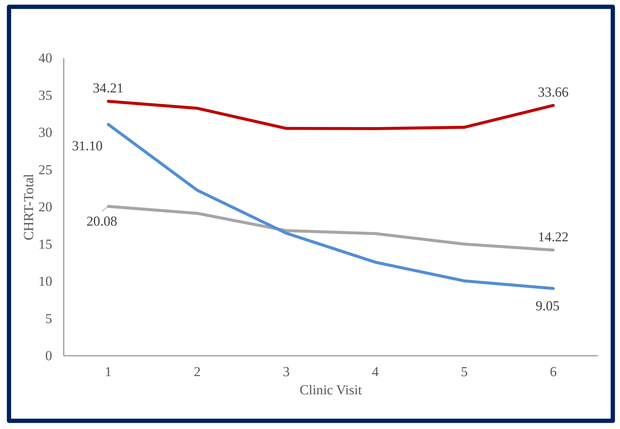


Table 1. Sample demographics and clinical characteristics at baseline (N = 295)

Variable	n	M	SD / %
Age	295	40.37	14.17
Female	122		41.4%
Weight (lb)	285	179.05	45.04
Ketamine dose (mg/kg)	222	0.57	0.17
QIDS-SR	295	16.57	4.67
Diagnosis of comorbid disorders			
Bipolar disorder	7		2.4%
Major depressive disorder†	274		92.9%
Post-traumatic stress disorder	12		4.1%
Suicide attempt	13		4.4%
Alcohol use disorder	4		1.36%
CHRT-SR			
Propensity	291	18.35	7.44
Impulsivity	291	3.98	2.14
Risk	291	3.12	2.74
Total	291	25.45	10.00

Fig 2. Trajectories of CHRT-total score over six clinic visits



CONCLUSION

- 79% of patients saw a gradual or rapid improvement in suicidality (MC-GI and SB-RI) after 6-8 infusions. Hence, IV ketamine has a place in the toolkit for patients presenting with suicidality.
- Higher scores pertaining to active thoughts of death and/or plan (CHRT-SR) at baseline were associated with little to no benefit from an acute course of IV ketamine treatment. Thus, patients at highest risk at baseline may warrant additional monitoring, support and interventions to ensure safety throughout and following treatment.
- Future research should examine whether endophenotypes and biological markers of depression may be associated with response to IV ketamine treatment to optimize treatment planning for suicide prevention.
- Future research investigating time to relapse and maintenance treatment schedules to maintain anti-suicidal benefits is critical.

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