

A Comparison of Tricyclic Antidepressant Prescriptions between Patients with and without Identified Suicidal Ideation

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BACKGROUND

- 28% of yearly suicidal ingestions reported to US poison centers involve antidepressants.¹
- Tricyclic Antidepressants (TCAs) are amongst the most lethal antidepressants upon acute overdose.^{1,2,3}
- Limited data exists on current trends in TCA prescribing.

OBJECTIVE

- To examine TCA prescribing practices, specifically among primary care providers and for patients with identified suicidal ideation (SI).

CLINICAL CONTEXT

This study was completed in the context of a larger “Red Banner” Suicide Prevention Initiative at the Institute for Family Health (IFH), a large Federally Qualified Health Center network in New York State. As part of this initiative, providers are expected to screen all patients for depression and suicidal ideation. The suicidal ideation identification pathway includes the following screenings: PHQ-2, PHQ-9, and the C-SSRS Screen.

Since July 2013, the electronic medical record (EMR) at IFH has been configured to allow providers to include SI as a diagnosis on the patient’s problem list. In particular, SI is added to the problem list for all patients who screen positive — for current or past SI — on the C-SSRS (indicated by a response of “yes” on question 2 or 6). When SI is noted in the EMR, the top of the patient’s chart turns red (Red Banner), providing an easy and accessible way for providers to identify patients with suicidal ideation.

METHODS

- A retrospective secondary data analysis of electronic health record data for 6535 TCA prescription orders at the IFH network was performed. Data included orders for 1805 patients who received TCA prescriptions between July 2013 to July 2016.
- Differences in prescriptions were compared between patients with and without identified suicidal ideation (as per SI status in EMR).
- The following variables were compared: indication, drug type, dose, quantity, number of refills, and specialty of provider.
- Analyses were completed using SPSS statistical software, and the Pearson Chi-Square Statistic or Test for Linear Trend was conducted as appropriate. For all comparisons listed, $p < 0.001$.

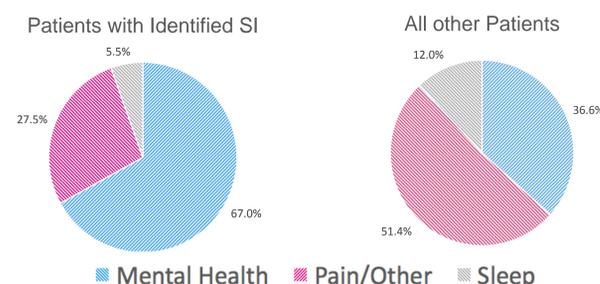
RESULTS

Table 1: Sociodemographic characteristics of patients prescribed TCAs

	Patients with Identified SI	All other patients
Number of Unique Patients,* n(%)	127 (7.0)	1678 (93.0)
Age, (mean ± SD)	46.3 ± 12.8	48.2 ± 14.4
Race: Non-White	94 (74.0)	1090 (65.0)
Ethnicity: Hispanic or Latino	53 (41.7)	625 (37.2)

In total, 1805 patients were prescribed TCAs. 127 of these patients had a history of SI.

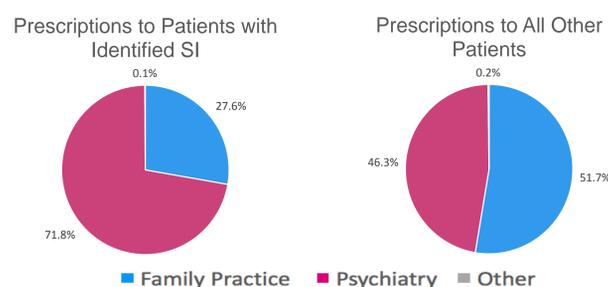
Graph 1: Diagnostic characterization* (by patient)



*Diagnostic categories are based on ICD-10-CM Medical Diagnosis Codes.

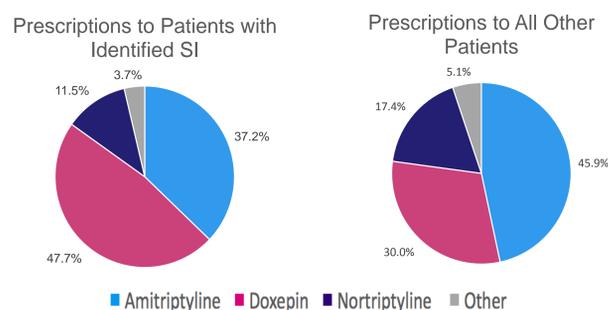
Patients with identified SI were prescribed TCAs for mental health reasons 67.0% of the time, while non-suicidal patients were prescribed TCAs most often for pain (51.4%).

Graph 2: Prescribing Department (by prescription order)



71.8% of TCA prescription orders made out to patients with identified SI came from a psychiatry provider. Patients without identified SI were most likely to receive a TCA prescription from a family practice provider (51.7%).

Graph 3: Type of TCAs prescribed (by prescription order)

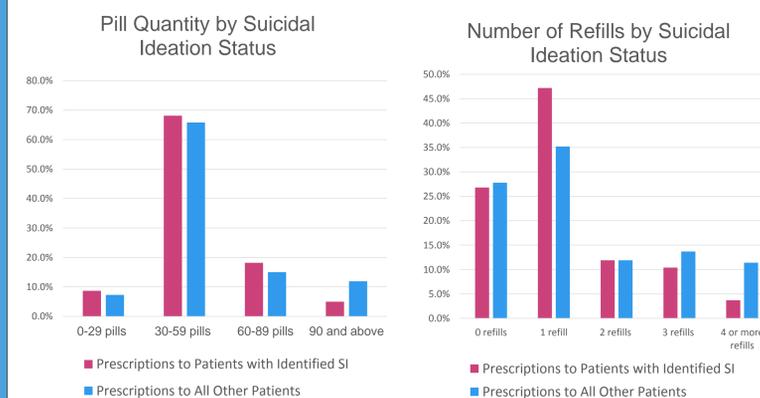


Out of a total 6535 TCA prescription orders, 602 prescriptions were made out patients with identified SI. Doxepin was most commonly prescribed to patients with identified SI (47.7%). Patients without identified SI were mostly likely to receive a prescription for Amitriptyline (45.9%).

Among these medications, Nortriptyline has the lowest “Hazard Index” (rate of life-threatening or lethal outcomes per 1000 single-agent suicidal ingestions) at 88. Hazard index for Amitriptyline is 154 and for Doxepin is 148.¹

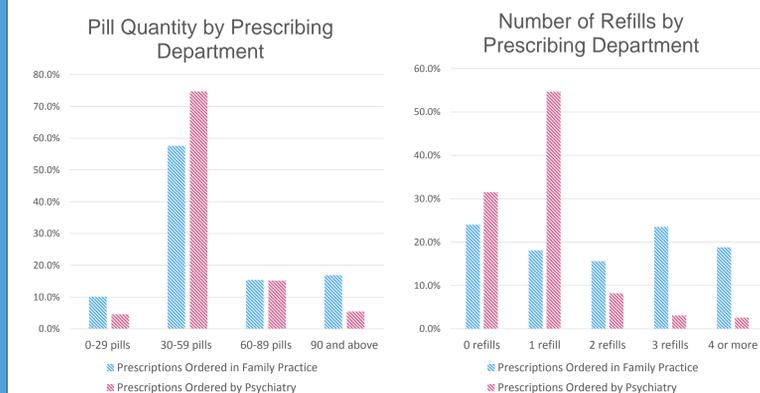
RESULTS

Graph 4: Pill Quantity and Number of Refills (by Suicidal Ideation status)



Patients with identified SI received prescriptions that had fewer refills and were less likely to receive prescriptions written for 90 days or more. (Test for linear trend; $p < 0.001$)

Graph 5: Pill Quantity and Number of Refills (by prescribing department)



Overall, psychiatrists prescribed fewer refills and smaller quantities of TCAs than other providers (Test for linear trend; $p < 0.001$).

CONCLUSIONS

- Providers at a large FQHC network prescribe TCAs with fewer refills and reduced quantities when prescribing to patients with identified suicidal ideation.
- Non-psychiatry providers seem to be less likely than psychiatrists to consider safety related limitations on TCA prescriptions.
- These results suggest additional education may be needed for primary care providers within the IFH network around the dangers of prescribing TCAs to individuals with SI.
- These findings provide the foundation to consider subsequent examination of prescribing practices around other potentially lethal medications (e.g. Benzodiazepines, Barbiturates, and Opioids) for patients with identified SI.

CITATIONS:

1. White, N. C., Litovitz, T., & Clancy, C. (2008). Suicidal antidepressant overdoses: a comparative analysis by antidepressant type. *Journal of Medical Toxicology*, 4(4), 238–250.
2. Hawton, K., Bergen, H., Simkin, S., Cooper, J., Waters, K., Gunnell, D., & Kapur, N. (2010). Toxicity of antidepressants: Rates of suicide relative to prescribing and non-fatal overdose. *British Journal of Psychiatry*, 196(5), 354–358. <https://doi.org/10.1192/bjp.bp.109.070219>
3. Jacobs, D., Baldessarini, R., Conwell, Y., Fawcett, J., Horton, L., Meltzer, H., & others. (2003). Practice guideline for the assessment and treatment of patients with suicidal behaviors. *Am J Psychiatry*, 160(11 Suppl), 1–60.