

Introduction

- Iron is an essential synthetic component for various mood-regulating neurotransmitters like dopamine, serotonin and noradrenaline.¹
- Iron deficiency anemia (IDA) is common.
- IDA can lead to physical, psychosocial and psychiatric comorbidities.
- Association between IDA and depression not well studied.

Purpose

- Determine prevalence of depression among patients with IDA.
- Identify significant predictors of depression within this population.

Methods

- Retrospective analysis using data from the National Inpatient Sample (NIS), 2021.
- Study included patients with an ICD-10 diagnosis code for IDA, depression, or both across 6,666,752 observations.
- Survey-weighted logistic regression used to assess association between depression and various demographic and clinical variables among patients with IDA.

References

1. Fekih-Romdhane, F., Jahrami, H.A. (2023). Iron Deficiency and Psychiatric Disorders. In: Mohamed, W., Brogazzi, N.L., Kostrzewa, R.M. (eds) Brain-Iron Cross Talk. Nutritional Neurosciences. Springer, Singapore. https://doi.org/10.1007/978-981-19-7327-7_11

Results

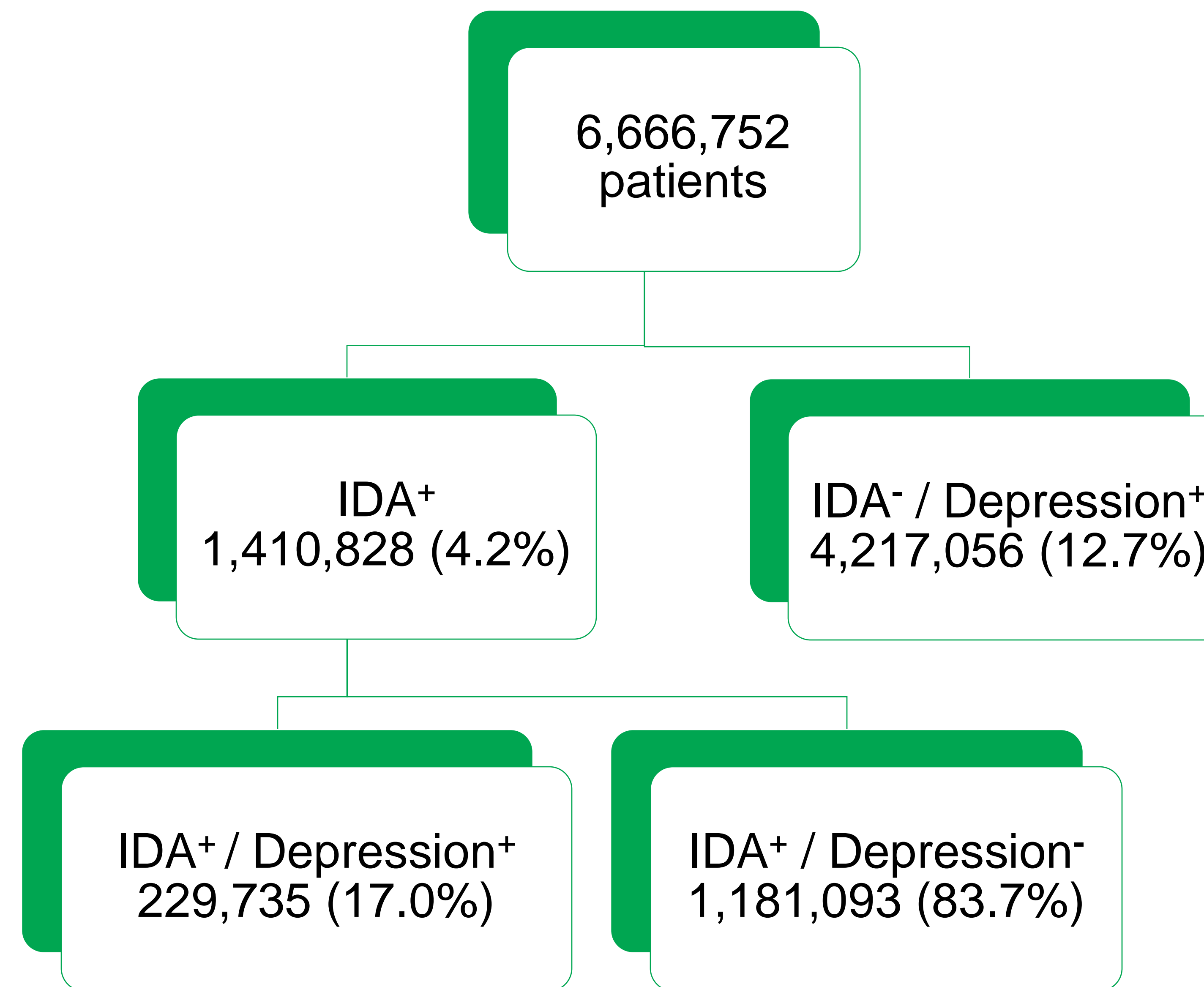


Figure 1. Comparison of the depression-only cohort with the iron deficiency anemia (IDA) positive cohort (subdivided into depression-positive and depression-negative patients).

Significant predictors of depression in patients with IDA:

- Female **gender** (OR:* 1.681, 95% CI:** 1.640-1.722, p<0.001)
- Increasing **age** (OR: 0.998, 95% CI: 0.997-0.998, p<0.001)
- **Comorbidity** burden (Charlson Comorbidity Index ≥ 3; OR: 1.031, 95% CI: 1.025-1.036, p<0.001)
- **Race**
 - ♦ Black (OR: 0.510, 95% CI: 0.491-0.529, p<0.001)
 - ♦ Asian/Pacific Islander (OR: 0.545, 95% CI: 0.521-0.571, p<0.001)
 - ♦ Native American (OR: 0.335, 95% CI: 0.304-0.369, p<0.001)
 - ♦ All had lower odds of depression compared to White patients
- **Hospital** teaching status (OR: 1.088, 95% CI: 1.046-1.132, p<0.001) and regional location also correlated with depression diagnosis.

Nonsignificant predictors:

- Income quartile did not significantly correlate with depression.

*OR: Odds ratio, **CI: Confidence interval

Discussion

- Socioeconomic status may not be a predictive factor for depression in IDA patients.
- Race, age, and gender all correlated with IDA being coexistent with depression.

Conclusion

- There are significant demographic and clinical predictors influencing likelihood of IDA coexisting with depression.
- Integrated mental health screening and intervention strategies are needed to improve overall outcomes in patients with IDA.