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Title: Associations between eating disorders and sociodemographic factors in adolescent patients since the start of the COVID-19 pandemic

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Background:

The COVID-19 pandemic has contributed to significant increases in mental health related diagnoses in adolescents, including eating disorders. The perception of young, non-minoritized, upper-class females as the stereotypical demographic in the diagnosis of eating disorders has been challenged. Disparities in access, diagnosis and treatment exist for adolescents with eating disorders. The impact of COVID-19 pandemic on disparities in eating disorder diagnosis has not yet been described in an adolescent population.

Purpose:

We sought to describe patterns in the prevalence and associations between eating disorder diagnoses and demographic factors in adolescent patients since the start COVID-19 pandemic.

Methods:

We designed a retrospective cohort study utilizing data from Epic's Cosmos (a de-identified dataset from 35 contributing health systems) examining adolescent patients (ages 12 to 21) with an eating disorder diagnosis documented between January 2019 and July 2023. The data was analyzed in the R environment.

Results:

82,452 unique patients were analyzed in this study. 83.1% (N = 68,486) identified as female. The most predominant racial group was White (78.4%, N = 64,616, followed by Black or African American (10.5%, N = 8622). 40% (N = 32,857) of patients were in the first quartile for social vulnerability index (SVI). The median patient age at diagnosis decreased from 19 in 2019 to 16 in 2023. Kruskal-Wallis rank sum test showed that the differences in medians in age at year of initial diagnosis was significant ($p < 0.001$). A chi-square test of independence was performed to assess differences between individuals of different diagnoses by year of initial eating disorder diagnosis. The relationship between type of eating disorder diagnosis and year of diagnosis was significant, $X^2(16, N = 82,452) = 468.29, p < 0.001$, effect size = 0.02. Adjusted standard residuals demonstrate that the likely differences between groups was related to 2019 having higher Other Eating Disorder diagnoses compared to 2022 which had more Anorexia Nervosa and ARFID diagnoses. A chi-square test of independence was performed to assess differences between individuals of different social vulnerability index (SVI) by year of eating disorder diagnosis. The relationship between year of eating disorder diagnosis and SVI was significant, $X^2(12, N = 82,452) = 118.52, p < 0.001$, effect size = 0.01. Adjusted standard residuals demonstrate that the likely differences between groups was related to a higher number of individuals with higher SVI (3rd and 4th quartiles) in 2022 and 2023. A chi-square test of independence was performed to assess differences between individuals of different racial backgrounds by year of eating disorder diagnosis. The relationship between year of eating disorder diagnosis and race was significant, $X^2(20, N = 82,452) = 168.41, p < 0.001$, effect size = 0.01. Adjusted standard residuals demonstrate that the likely differences between groups was related to a decreasing rate of eating disorder diagnoses in individuals who identify as White and an increasing rate of eating disorder diagnoses in individuals who identify as Black/African American or Other Race.

Conclusions:

Our study demonstrates that eating disorder prevalence has increased in adolescent patients since the start of the COVID-19 pandemic. Structural biases function as barriers to screening, diagnosis, and treatment for individuals with lower socioeconomic status. Our study demonstrates that patients diagnosed with an eating disorder were younger and more socially vulnerable. Given the rising prevalence of eating disorders in adolescent patients with higher social vulnerability, more systematic efforts should be in place to support caring for these individuals.