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Prevalence of Adolescent Sexual Health Outcomes at Children's Hospitals During COVID-19

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Describe role of Submitting/Presenting Trainee in this project (limit 150 words):

Under the guidance of my mentor, I conceptualized and designed the study, participated in data collection, critically reviewed the study data, drafted the initial manuscript, and reviewed and revised the abstract.

Background, Objectives/Goal, Methods/Design, Results, Conclusions limited to 500 words

Words: 496

Background:

The Coronavirus Disease 2019 (COVID-19) pandemic mitigation strategies, including social distancing, decreased structured environments, and decreased sexual and reproductive health

(SRH) care access, could negatively impact adolescent SRH behaviors and related outcomes. To date, little is known regarding changes in adolescent SRH outcomes during COVID-19.

Objectives/Goal:

Our goals were to assess changes in adolescent SRH outcomes, including sexually transmitted infections (STIs), pregnancy, and sexual assault in the hospital (emergency department [ED] and inpatient [IP]) during COVID-19 compared to pre-COVID-19.

Methods/Design:

We conducted a retrospective cohort study of adolescent (11-18 years old) IP or ED hospital visits using the Pediatric Health Information System (Children's Hospital Association, Lenexa, KS) database. Our study periods were defined as early (03/15-05/31/2020) and mid (06/01-08/31/2020) COVID-19 and pre-early COVID-19 (03/15- 05/31, 2017-2019) and pre-mid COVID-19 (06/01-08/31, 2017-2019).

The primary outcome was the proportion of adolescent hospital visits with STI, pregnancy (for females only) or sexual assault diagnoses based on *International Classification of Diseases Tenth Revision* (ICD-10) codes during early and mid-COVID-19 compared to pre-COVID-19. We used descriptive statistics to summarize the data and chi-square tests to compare between periods. We used generalized linear mixed effects models with a binary distribution and random intercept for each hospital adjusting for demographics to compare outcomes between pre and during-COVID-19.

Results:

There were 1,130,231 pre-COVID-19 adolescent hospital visits pre-COVID-19 and 231,194 visits during COVID-19. Compared to pre-COVID-19, we found an increased proportion of

adolescent visits in early and mid-COVID-19 for an STI ($p < 0.001$ for both, Table 1) and for sexual assault ($p < 0.001$ for both, Table 3) and an increase in female pregnancy visits in early COVID-19 ($p < 0.001$, Table 2) (Figure 1). We found an increased adjusted odds for adolescent STI visits in early (adjusted odds ratio [aOR] 1.5 95% confidence interval [CI] 1.3, 1.6) and mid COVID-19 (aOR 1.3 95% CI 1.1, 1.4) and for female adolescent pregnancy visits in early COVID-19 (aOR 1.4 95% CI 1.1, 1.7, $p < 0.001$). We found an increased adjusted odds for adolescent sexual assault visits in early (aOR 1.6, 95% CI 1.3, 2.0, $p < 0.001$) and mid COVID-19 (aOR 1.4 95% CI 1.1, 1.9, $p = 0.012$).

Conclusions:

In this retrospective cohort study, we found an increase in the relative proportion of adolescent visits for SRH outcomes at children's hospitals. While these trends may be due in part to fluctuations in adolescent non-urgent hospital visits, these findings reveal the potential adverse impact of COVID-19 on adolescent sexual behaviors and SRH care access. In light of the ongoing COVID-19 pandemic, efforts are critically needed to improve access to SRH care for adolescents to offset risk for increased STIs, sexual assault, and pregnancy. Future action is needed to provide adolescents education regarding healthy sexual behaviors, virtual social engagement, and sexual assault safety resources. Efforts are needed to increase health care provider awareness and education regarding adolescent SRH care as well as adaptations to in-person and telehealth processes. These measures are critical to alleviate the substantial adverse impact of these SRH outcomes among adolescents during COVID-19.

