Phase 1   Class of 2023

2-2021

Health disparities among pregnant women diagnosed with COVID-19 in Philadelphia

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Health Disparities among Pregnant Women Diagnosed with COVID-19 in Philadelphia

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This project centers around two important topics.

Health Disparities

'*preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations*'[1]

Social Determinants of Health

'*The conditions in which people are born, grow, live, work and age.*'[2]

1. CDC. Community Health and Program Services (CHAPS): Health Disparities Among Racial/Ethnic Populations. Atlanta: U.S. Department of Health and Human Services; 2008

2. https://www.who.int/teams/social-determinants-of-health

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- CDC has identified that social determinants of health are causing disparities in the COVID-19 pandemic [1]

  - ❖ Risk of exposure
  - ❖ Risk of severe illness

- Current literature
  - SARS-CoV-2 more prevalent in pregnant women of black/non-Hispanic and Hispanic/Latino populations [2]
  - Pregnant women are disproportionately affected [3]
  - More prevalence in low-income neighborhoods [4]

1. https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/racial-ethnic-disparities/index.html
2. Chowkwanyun, M., Author AffiliationsFrom the Department of Sociomedical Sciences and the Center for the History and Ethics of Public Health, F. P. Polack and Others, L. R. Baden and Others, & Others, J. S. (2020, December 31). Racial Health Disparities and Covid-19 - Caution and Context: NEJM.
3. Flannery, D. D., Gouma, S., Dhudasia, M. B., Mukhopadhyay, S., Pfeifer, M. R., Woodford, E. C., . . . Hensley, S. E. (2020, July 29). SARS-CoV-2 seroprevalence among parturient women in Philadelphia
4. Ukachi N. Emeruwa, M. (2020, July 28). Associations Between Built Environment, Neighborhood SES, and SARS-CoV-2 Infection.

- Research Question
  - What are the socioeconomic factors that affect COVID-19 diagnosis and maternal and neonatal outcomes in pregnant women?

- Hypothesis
  - We hypothesize that women whose primary language is not English will have higher rates of COVID-19 compared to women whose primary language is English.

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- Study Design
  - Retrospective cohort study
- Population / study sample
  - Pregnant women who delivered at TJUH between 04/13/20 – 06/31/20. The start date was the day universal COVID-19 screening started at TJUH L&D.
- Data source and collection
  - EPIC Chart abstraction into REDCap. TJUH IRB approved.
- Primary Outcome: Prevalence of COVID by preferred language (English vs non-English)

- Data Analysis
  - Chi^2 test will be used to analyze differences between groups
  - Multivariable logistic regression will be used to identify factors associated with primary language that may explain our findings

- Rationale for Approach
  - Retrospective study design allows for all patients who delivered in the study period to be included and comparison made between COVID-19 positive mothers and COVID-19 negative mothers

Approach & Results

- Data collection was completed on 1/31/2021
- 711 women were included
  - 107 (15%) of these women were COVID-19 positive during pregnancy

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Preferred Language	COVID-19 Positive n (%)	COVID-19 Negative n (%)	Total n (%)
English	**66 (61.7%)**	**496 (82.1%)**	**562 (79.0%)**
Non English	**41 (38.3%)**	**108 (17.9%)**	**149 (21.0%)**
- Spanish	35 (32.7%)	49 (8.1%)	84 (11.8%)
- French	1 (0.9%)	7 (1.2%)	8 (1.1%)
- Arabic	2 (1.9%)	6 (1.0%)	8 (1.1%)
- Mandarin	1 (0.9%)	22 (3.6%)	23 (3.2%)
- Other	2 (1.9%)	24 (4.0%)	26 (3.7%)
Total	107 (15%)	604 (85%)	711
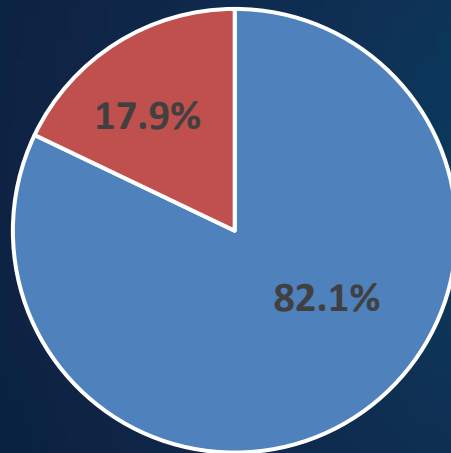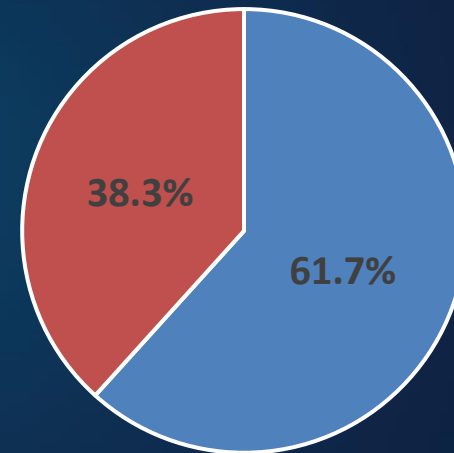
- There were significantly more Non-English-speaking patients in the COVID-19 positive group than in the COVID-19 negative group (38.3% vs 17.9%, p<0.001).
- This confirms our hypothesis.

Conclusions

- Current Literature
  - Results support literature
- Implications and Impact
  - Non-English speaking pregnant women are disproportionately represented in the COVID positive population
  - Suggests that non-English speakers are more likely to be at risk of exposure/transmission of COVID-19

Conclusions

- Implications- social determinants of health
  - Barriers in access to healthcare
  - Occupation
  - Housing environment

- Data collection completed 1/31/2021

- Plan :

  – Multivariable logistic regression will be used to identify factors associated with primary language that may explain our findings

  – Analysis of Maternal and Neonatal Outcomes to assess disparities in outcome by Language, as well as by Race, and ability to self isolate.

Acknowledgements

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- Emily Oliver MBBS
- Danielle Tsevat MD
- Guillermo Gurza MD
- Rupsa Boelig MD