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

Vasundhara Acharya, MS2

Principal Investigator and Advisor: Rupsa C Boelig MD
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’

**Social Determinants of Health**

‘The conditions in which people are born, grow, live, work and age.’

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

- CDC has identified that social determinants of health are causing disparities in the COVID-19 pandemic.  
  - 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.  
  - Pregnant women are disproportionately affected.
  - More prevalence in low-income neighborhoods.

Objectives & Hypothesis

• 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.
Approach & Results

- 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)
Approach & Results

• Data Analysis
  – Chi² 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
<table>
<thead>
<tr>
<th>Preferred Language</th>
<th>COVID-19 Positive n (%)</th>
<th>COVID-19 Negative n (%)</th>
<th>Total n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>66 (61.7%)</td>
<td>496 (82.1%)</td>
<td>562 (79.0%)</td>
</tr>
<tr>
<td>Non English</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Spanish</td>
<td>35 (32.7%)</td>
<td>49 (8.1%)</td>
<td>84 (11.8%)</td>
</tr>
<tr>
<td>- French</td>
<td>1 (0.9%)</td>
<td>7 (1.2%)</td>
<td>8 (1.1%)</td>
</tr>
<tr>
<td>- Arabic</td>
<td>2 (1.9%)</td>
<td>6 (1.0%)</td>
<td>8 (1.1%)</td>
</tr>
<tr>
<td>- Mandarin</td>
<td>1 (0.9%)</td>
<td>22 (3.6%)</td>
<td>23 (3.2%)</td>
</tr>
<tr>
<td>- Other</td>
<td>2 (1.9%)</td>
<td>24 (4.0%)</td>
<td>26 (3.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>107 (15%)</td>
<td>604 (85%)</td>
<td>711</td>
</tr>
</tbody>
</table>
Chi² for comparison of proportions
p<0.001
Conclusions

• 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
Future Directions

• 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

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