Infant mortality, the death of an infant before his/her first birthday, is used as an indicator of the health of a nation.1 Ohio’s infant mortality rate (IMR) in 2016 was 7.4 infant deaths per 1,000 live births and Montgomery County’s was 6.8 deaths per 1,000 births, both higher than the national rate of 5.9.2

Montgomery County’s IMR per 1,000 live births by race:3
- Black: 15.2 deaths
- Hispanic: 7.3 deaths
- White: 5.8 deaths

Prematurity related conditions such as preterm birth (<37 weeks gestation) and low birth weight are the most significant contributors to infant mortality.3

Most common preventable factor contributing to prematurity is cigarette smoking. There is also an increased use of marijuana, often concurrently with tobacco. Rates of use are higher in lower socioeconomic populations (15%-28%). Effects of marijuana use on infant unknown. The current recommendation is to refrain from use.4

Healthy Start and CenteringPregnancy—Community interventions implemented to tackle factors contributing to high infant mortality rates in Ohio and especially Montgomery County. Shown to improve birth outcomes and decrease illicit substance use in pregnancy.5

The purpose of this study was to first establish a baseline of marijuana use among pregnant women in zip codes at highest risk of adverse birth outcomes in Montgomery County, OH who were enrolled in the Expanded Healthy Start program at the Five Rivers Center for Women’s Health. This study also sought to answer three questions:

1. Are rates of marijuana use lower at the completion of a CenteringPregnancy program compared to women who are enrolled in Healthy Start alone?

2. Is there an association between marijuana use and preterm birth?

3. What role do community interventions such as CenteringPregnancy and Healthy Start play in improving birth outcomes?

Results (continued)

Table 3. THC at Delivery Based on Participation in CenteringPregnancy

<table>
<thead>
<tr>
<th>THC at Delivery</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>CenteringPregnancy</td>
<td>21 (71.4)</td>
<td>8 (28.6)</td>
</tr>
<tr>
<td>Yes</td>
<td>36 (29.4)</td>
<td>86 (70.6)</td>
</tr>
<tr>
<td>No</td>
<td>127 (78.9)</td>
<td>34 (21.1)</td>
</tr>
</tbody>
</table>

Note: Frequencies reported as n(%); odds ratio unadjusted.

Table 4. Preterm Birth Based on Positive THC at Intake and Participation in CenteringPregnancy

<table>
<thead>
<tr>
<th>Preterm Birth</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>THC at Intake</td>
<td>2 (9.5)</td>
<td>19 (90.5)</td>
</tr>
<tr>
<td>Yes</td>
<td>38 (23.6)</td>
<td>123 (76.4)</td>
</tr>
<tr>
<td>No</td>
<td>52 (32.3)</td>
<td>109 (67.7)</td>
</tr>
</tbody>
</table>

Note: Frequencies reported as n(%); percentage reported as % within gestational age at delivery; odds ratios unadjusted.

Discussion

- Black women with a high school education living below the poverty line had higher rates of marijuana use in this population—consistent with previous literature.
- No statistically significant association between participation in CenteringPregnancy and a negative THC result at delivery— in contrast to previous literature. Perhaps more barriers for Black women to overcome within this population.
- Results corroborate previous literature which found group prenatal care improves birth outcomes.

Recommendations

- Group prenatal care— provides support and resources to women in disadvantaged communities.
- Better tailor CenteringPregnancy sessions to target population— may need to include session specifically for marijuana cessation.

Limitations

- Small sample size— difficult to have enough power for statistical significance.
- Frequency, amount, and duration of marijuana use unknown; tobacco use was also unknown.
- Non-English speaking women were excluded from this study.
- All women enrolled in Healthy Start-- overlap makes it difficult to assess the facets of each program that are effective and those that could be improved.

References