Racial/Ethnic Disparities in OB/GYN

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Disclosures

- I have nothing to disclose

Objectives

- To define health and healthcare disparity
- To discuss the scope of the racial health disparities in the United States
- To state 2 examples of health or healthcare disparities within OB/GYN
- To provide at least 2 reasons for health disparities

IOM: Unequal Treatment, 2002

- Evidence of racial and ethnic disparities in healthcare is consistent across a range of illnesses and healthcare services.
- Racial and ethnic minorities experience a lower quality of health services and are less likely to receive even routine medical procedures than are white Americans.
Definitions

Health Disparities
“...are preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by social disadvantaged populations.”

1. CDC, 2008

Healthcare Disparities
“...racial or ethnic differences in the quality of healthcare that are not due to access-related factors or clinical needs, preferences, and appropriateness of intervention”

1. IOM, Unequal Treatment, 2002.

Examples

Health Disparities
- Black women are more likely to die from ovarian cancer than white women

Healthcare Disparities
- Black women were less likely than white women to receive guideline-recommended care for advanced epithelial ovarian cancer (54% compared with 68%, p<0.01)


Estimating the effect of racial disparities

In 2005, Satcher et al estimated that 83,570 excess deaths occur each year because of the difference in mortality rates between Blacks and Whites.

Leading Causes of Death in US, 2013
1) Heart disease: 596,577
2) Cancer: 576,691
3) Chronic lower respiratory diseases: 142,943
4) Stroke (cerebrovascular diseases): 128,932
5) Accidents (unintentional injuries): 126,438
6) Alzheimer's disease: 89,974
7) Diabetes: 73,831
8) Influenza and Pneumonia: 33,826
9) Nephritis, nephrotic syndrome, and nephrosis: 45,591
10) Intentional self-harm (suicide): 39,518

Satcher D et al. Health Affairs, 2005
Leading cancer deaths - 2014

<table>
<thead>
<tr>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUNG &amp; BRONCHUS: 72,330</td>
<td>LUNG &amp; BRONCHUS: 86,930</td>
</tr>
<tr>
<td>BREAST: 40,000</td>
<td>PROSTATE: 29,480</td>
</tr>
<tr>
<td>COLON &amp; RECTUM: 24,040</td>
<td>COLON &amp; RECTUM: 26,270</td>
</tr>
<tr>
<td>Pancreas: 19,420</td>
<td>Pancreas: 20,170</td>
</tr>
<tr>
<td>Ovary: 14,270</td>
<td>Liver: 15,870</td>
</tr>
</tbody>
</table>

American Cancer Society, 2014

Broader context

Racial and ethnic disparities in health occur in the context of broader historic and contemporary social and economic inequality.

Social determinants of health

Examples of health disparities within OB/GYN
- Rate of maternal mortality has remained 3 to 4 times higher among black women than white women during the past 6 decades (HRSA, 2010)
- Black woman experience the highest infant mortality rate (CDC, 2011)
- Rate of preterm birth in black and Puerto Rican women is substantially higher than that for white women (CDC, 2011)
- Black women are nearly twice as likely to die of cervical cancer and uterine cancer as white women (American Cancer Society, 2014)
- Black women have a higher death rate from breast cancer than white women, despite a lower incidence rate (Whitman, 2014)
- Black women have the highest rate of unintended pregnancy of any racial or ethnic groups (Finer, 2014)
Common interpretations for racial disparities in health

- Biological differences
- Economic inequality (income, level of education, and unemployment)
- Patient choice or preference

Common interpretations for racial disparities in health

- Biological differences
- No biologic or genetic basis for race
- Race is a social or political category that has biological consequences because of the impact of social inequality on health
- Understanding race as social/political category “redirects attention from genetic explanations (of health disparities) to social ones.” (Dorothy Roberts, Fatal Invention, 2011)

Common interpretations for racial disparities in health

- Biological differences
- Economic inequality (income, level of education, and unemployment)
- Health disparities are associated with socioeconomic differences.
- However, the majority of studies show that racial disparities remain even after adjustment for socioeconomic differences. (IOM, 2002)

Infant Mortality Rates for Mothers Age 20+, by Race/Ethnicity and Education, 2001-2003

<table>
<thead>
<tr>
<th>Less than High School</th>
<th>Infant deaths per 1,000 live births</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American (Non-Hispanic)</td>
<td>15.1</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>14.2</td>
</tr>
<tr>
<td>White (Non-Hispanic)</td>
<td>10.7</td>
</tr>
<tr>
<td>Asian and Pacific Islander</td>
<td>5.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American (Non-Hispanic)</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
</tr>
<tr>
<td>White (Non-Hispanic)</td>
</tr>
<tr>
<td>Asian and Pacific Islander</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>College+</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American (Non-Hispanic)</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
</tr>
<tr>
<td>White (Non-Hispanic)</td>
</tr>
<tr>
<td>Asian and Pacific Islander</td>
</tr>
</tbody>
</table>

SOURCE: Kaiser Family Foundation. Key Facts: Race, Ethnicity and Medical Care, 2007, Figure 9.
Common interpretations for racial disparities in health

- Biological differences
- Economic inequality (income, level of education, and unemployment)
- Patient choice or preference

While minority patients have been found to refuse recommended treatment more often than whites, differences in refusal rates are small and have not fully accounted for racial and ethnic disparities in receipt of treatments (IOM, 2002)

Role of healthcare disparities

Healthcare disparities

Root causes of healthcare disparities

Health system level factors
  - Issues related to the complexity of the health care system and how it may be poorly adopted to and disproportionately difficult to navigate for minority patients

Care Process Variables
  - Issues related to health care providers, including stereotyping and the impact of race/ethnicity on clinical decision-making

Patient Level Variables
  - Include patient’s mistrust, poor adherence to treatment, and delays in seeking care

Diagram of patient’s experiences

Patient presents to health system

DISPARITIES IN HEALTH CARE
A Closer Look
Disparities in Maternal Mortality

**Maternal Death**: death of a woman while pregnant or within 42 days of termination of pregnancy

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**Understanding the racial disparity in maternal mortality**

Tucker M et al, American Journal Public Health 2007

**Methods:**

1. **Selected 5 complications of pregnancy:** (1) pre-eclampsia, (2) eclampsia, (3) abruption, (4) placenta previa, (5) postpartum hemorrhage

2. **Calculated prevalence rates** for Black and White women during 1988-1999

3. **Calculated case-fatality rates** for Black and White women who died during 1988-1999

   - **Case-fatality ratio**: # of deaths attributable to that condition per 100,000 women with that condition

4. **Calculated the pregnancy-related mortality ratio** for each condition

   - **Pregnancy related-mortality ratio**: # of deaths attributable to that condition per 100,000 live births
Prevalence and Case-Fatality Rates for 5 selected pregnancy complications, by race

<table>
<thead>
<tr>
<th>Condition</th>
<th>Black Prevalence</th>
<th>White Prevalence</th>
<th>Black-White ratio (95% CI)</th>
<th>Case Fatality Black</th>
<th>Case Fatality White</th>
<th>Black-White ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preeclampsia</td>
<td>3176</td>
<td>2554</td>
<td>1.2 (0.8, 1.7)</td>
<td>79.5</td>
<td>71.4</td>
<td>2.7 (1.8, 3.6)</td>
</tr>
<tr>
<td>Eclampsia</td>
<td>131</td>
<td>83</td>
<td>1.6 (0.9, 2.3)</td>
<td>1536.3</td>
<td>626.2</td>
<td>2.5 (1.4, 3.5)</td>
</tr>
<tr>
<td>Abruption</td>
<td>970</td>
<td>895</td>
<td>1.1 (0.7, 1.5)</td>
<td>58.4</td>
<td>31.3</td>
<td>2.5 (1.3, 3.7)</td>
</tr>
<tr>
<td>Placenta previa</td>
<td>454</td>
<td>433</td>
<td>1.1 (0.7, 1.4)</td>
<td>40.7</td>
<td>27.3</td>
<td>2.4 (1.5, 3.2)</td>
</tr>
<tr>
<td>Postpartum</td>
<td>1428</td>
<td>1890</td>
<td>0.8 (0.5, 1.0)</td>
<td>68.3</td>
<td>21.0</td>
<td>3.2 (2.1, 4.4)</td>
</tr>
</tbody>
</table>

Why are Black Women at Greater Risk for Pregnancy-Related Death?


Methods
1. Cross-sectional study of Black & White women with pregnancy-related morbidities in North Carolina
2. Selected 3 pregnancy-related morbidities: (a) hypertensive disorders, (b) postpartum hemorrhage, and © puerperal infection
3. Randomly selected hospitals from 9 different strata (region & volume) & determine sample size (N=600)
4. Requested medical records from each hospital (# of records requested was proportionate to the # of births)
5. Race was determined by self-report
6. Medical charts were abstracted (10% of charts were re-abstracted to determine inter-rater agreement) for sociodemographic factors, severity of disease factors, and measures of care received

Sociodemographic and baseline medical variables by race

<table>
<thead>
<tr>
<th>Variable</th>
<th>African-American</th>
<th>White</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age in years</td>
<td>23.5 (6.4)</td>
<td>27.3 (6.1)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Mean parity</td>
<td>1.0 (1.2)</td>
<td>0.5 (0.9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Proportion married</td>
<td>0.28</td>
<td>0.73</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Proportion with government sponsored insurance</td>
<td>0.66</td>
<td>0.37</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Mean gestational age at delivery in weeks</td>
<td>37.6 (4.0)</td>
<td>37.2 (4.0)</td>
<td>0.22</td>
</tr>
<tr>
<td>Rates of delivery at &lt;28wks</td>
<td>4.1%</td>
<td>5.1%</td>
<td>0.55</td>
</tr>
<tr>
<td>Primary c-section rate</td>
<td>33.9%</td>
<td>35.2%</td>
<td>0.73</td>
</tr>
<tr>
<td>Total c-section rate</td>
<td>44.1%</td>
<td>42.4%</td>
<td>0.68</td>
</tr>
<tr>
<td>Proportion smoking</td>
<td>0.18</td>
<td>0.28</td>
<td>0.004</td>
</tr>
<tr>
<td>Proportion using alcohol</td>
<td>0.02</td>
<td>0.02</td>
<td>0.99</td>
</tr>
</tbody>
</table>

Differences in severity of disease & co-morbidity by racial group

<table>
<thead>
<tr>
<th>Measure</th>
<th>African-American</th>
<th>White</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest SBP ≥ 160</td>
<td>78.2%</td>
<td>62.6%</td>
<td>0.02</td>
</tr>
<tr>
<td>Highest DBP ≥ 105</td>
<td>58.4%</td>
<td>34.7%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Urine protein &gt; 200 mg/dL</td>
<td>33.0%</td>
<td>19.8%</td>
<td>0.05</td>
</tr>
<tr>
<td>At least one indicator of severe preeclampsia</td>
<td>86.1%</td>
<td>71.6%</td>
<td>0.01</td>
</tr>
<tr>
<td>Admission hemoglobin (g/dL)</td>
<td>10.9 (1.6)</td>
<td>11.7 (1.6)</td>
<td>0.01</td>
</tr>
<tr>
<td>Mean maternal weight at delivery (lbs)</td>
<td>201</td>
<td>193</td>
<td>0.05</td>
</tr>
<tr>
<td>Frequency of weight &gt; 210 lbs</td>
<td>38.3%</td>
<td>28.7%</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Receipt of diagnostic & therapeutic interventions by racial group

<table>
<thead>
<tr>
<th></th>
<th>African-American</th>
<th>White</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COHORT WITH PREGNANCY-RELATED HYPERTENSION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment for SBP &gt; 160 and/or DBP &gt; 105</td>
<td>51.80%</td>
<td>32.80%</td>
<td>0.02</td>
</tr>
<tr>
<td>Intrapartum magnesium</td>
<td>67.00%</td>
<td>50.50%</td>
<td>0.02</td>
</tr>
<tr>
<td><strong>COHORT WITH HEMORRHAGE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curettage</td>
<td>25.70%</td>
<td>27.00%</td>
<td>0.87</td>
</tr>
<tr>
<td>Surgical procedure other than curettage</td>
<td>9.60%</td>
<td>22.00%</td>
<td>0.03</td>
</tr>
<tr>
<td>Hysterectomy</td>
<td>0</td>
<td>6.10%</td>
<td>0.03</td>
</tr>
<tr>
<td><strong>ANTEPARTUM STEROIDS</strong></td>
<td>44.50%</td>
<td>68.10%</td>
<td>0.008</td>
</tr>
</tbody>
</table>


Conclusions

- Prevalence of selected conditions was not significantly greater among Black women
- Black women had case-fatality rates that were 2 to 3 times greater than those of White women
- Disease severity did vary by race
- Overall there was equivalent care; however, there were examples of differences in care-process variables.

A Closer Look

Disparities in Breast Cancer Mortality

Breast Cancer Incidence and Mortality, 1975-2010

Trends in disparities in breast cancer mortality

- Hunt BR et al, Cancer Epidemiology, 2014

Methods

- Calculated race-specific breast cancer mortality rates for the 50 largest US cities for 5-year intervals between 1990 and 2009
- Calculate the rate ratio (non-Hispanic black mortality rate: non-Hispanic white mortality rate) for the 50 cities for 5 years intervals

Five-Year Estimates of Breast Cancer Mortality Rates - USA (1990-2009)

- Increase in Black:White disparity in breast cancer mortality
- Mortality rate for blacks did not change substantially; however, the mortality rate for whites declined significantly


Reasons for racial disparities in breast cancer mortality

- Differential access to screening
- Differential quality of screening
- Differential access to treatment
- Differential quality of treatment
Reasons for racial disparities in breast cancer mortality

- Differential access to screening
- Differential quality of screening
- Differential access to treatment
- Differential quality of care

- Black women are less likely than White women to receive timely follow-up after an abnormal or inconclusive screening mammogram
- Residential segregation
- Black women have been found to experience treatment delays, regardless of stage at diagnosis

Gerend MA, Cancer Epidemiology, Biomarkers & Prevention, 2008.

IOM: Unequal Treatment

- Recognize the myriad of factors that influence health disparities, including access to care and patient preferences

- “Research suggests that healthcare providers’ diagnostic and treatment decisions, as well as their feelings about patients, are influenced by patients’ race or ethnicity.” (IOM, 2002)

- Conclude that healthcare disparities can in part be attributed to discrimination by medical providers

IOM Recommendations

- Promote consistency and equity of care through the use of evidence based guidelines
- Implement multidisciplinary teams and preventive care teams
- Implement patient education programs to increase patient knowledge on how to best access care
- Increase awareness of racial/ethnic disparities in health care

Summary

- Racial and ethnic disparities persist in health and occur in virtually every field of medicine

- Evidence that racial/ethnic differences in health care, including differences in diagnosis and treatment, lead to disparities in health

- Research demonstrates that health care providers play a role in perpetuating health care disparities and in turn health disparities