Symptoms associated with complications during pregnancy and low birthweight in Bangladesh: The role of intimate partner violence

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Background

About **830** women die/day

<table>
<thead>
<tr>
<th>Maternal Deaths</th>
<th>World</th>
<th>Bangladesh</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• 532000 (1990)</td>
<td>• 21000 (1990)</td>
</tr>
</tbody>
</table>

Global MMR: **216/ 100000** live births in 2015

<table>
<thead>
<tr>
<th>Year</th>
<th>MMR (Bangladesh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>569/100000 live births</td>
</tr>
<tr>
<td>2015</td>
<td>176/ 100000 live births</td>
</tr>
</tbody>
</table>

• **4.7%** annual rate of reduction (WHO, 2015)
Background

**Low Birthweight**
- More than 20 million
- 16%

**Bangladesh**
- LBW in Bangladesh: 20%-55% (Klemm et al. 2015, BDHS, 2014)

**Global**
- MMR <70/100000
- NMR: 12/1000
- Under-5 mortality: 25/1000

Target to achieve by 2030*

*Sustainable Development Goal 3.1 & 3.2
**Intimate Partner Violence**

*Intimate Partner Violence* is one of the most common forms of violence against women (WHO 1997).

<table>
<thead>
<tr>
<th>Lifetime Prevalence of IPV</th>
<th>Global (%)</th>
<th>Bangladesh (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical IPV</td>
<td>13-61</td>
<td>42-51</td>
</tr>
<tr>
<td>Sexual IPV</td>
<td>6-59</td>
<td>37-50</td>
</tr>
<tr>
<td>Physical and/or sexual IPV</td>
<td>15-71</td>
<td>52-63</td>
</tr>
</tbody>
</table>

**Physical IPV during pregnancy:** 1%-28%  
(Garcia-Moreno C et al. 2005)

**Varies:** 32% (Egypt); 40% (South Africa)

**In Bangladesh:** 10-12%
Study Questions

• What is the prevalence of IPV during pregnancy among recent mothers in Bangladesh?

• Is IPV associated with complications during pregnancy or around delivery and the health of their newborn infants?
Methods

Study Settings: Rajshahi Medical College Hospital

- **530** beds
- Primary to tertiary treatment
- In 2015-

- **10,155** registered pregnant women
- **9363** delivered (**5,582** normal; **3,827** cesarean)

(Ministry of Health and Family Welfare, 2016)
Sample

- Sample size: With 95% confidence interval
- p=58% (BDHS, 2007)
- Precision 10% of the prevalence
- 10% non-response rate

\[ n = \frac{Z_{\alpha/2}^2 p(1 - p)}{E^2} \]

= 309

Enrolled 443

- 25 women refused to participate
- 11: not in a physical state to participate
- 7: lack of confidentiality

400 women Final Sample

Ethical Issue: RMCH institutional review board
Variables Selection

Outcome Variables
- MC
- OC
- AC
- LBW

Predictor Variables
- Physical IPV
- Sexual IPV
- Physical and/or sexual IPV

Confounding Variables
- Age
- Age at marriage
- Place of residence
- Occupation
- Education
- Pregnancy intention
- Autonomy
- Antenatal checkups
- Duration of pregnancy
- Maternal BMI
Results

Figure 1. Prevalence of IPV during pregnancy and maternal complications

<table>
<thead>
<tr>
<th></th>
<th>Physical IPV</th>
<th>Sexual IPV</th>
<th>Physical and/or sexual IPV</th>
<th>MC</th>
<th>OC</th>
<th>AC</th>
<th>LBW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>39</td>
<td>26.3</td>
<td>43</td>
<td>69.5</td>
<td>44.3</td>
<td>79.3</td>
<td>29.2</td>
</tr>
</tbody>
</table>
Figure 2. Association between IPV and pregnancy complications and LBW

- Physical IPV
- Sexual IPV
- Physical and/or sexual IPV

- Any pregnancy complications
- No pregnancy complications

- Physical IPV
- Sexual IPV
- Physical and/or sexual IPV

- Normal
- LBW

- p<0.001

85.3 69.9 72.4
14.3 30.1 27.6
43.6 56.4 64.7
35.2 46.2 53.8
Figure 3. Odds ratios and 95% CI for the association between IPV during pregnancy and pregnancy complications and low birth weight
Discussion

• IPV during pregnancy is alarmingly commonplace; 43% mother experiencing IPV.

• Incidence of complications during pregnancy and around delivery are high. LBW is still high.

• Complications during pregnancy and LBW is much higher than the previous study findings conducted in Bangladesh with nationally representative BDHS data.

• Women who experienced IPV during pregnancy had increased odds of having complications during pregnancy and LBW, even after controlling for confounding factors.
Public Health Implications

- Since IPV during pregnancy is common and associated with harmful consequences, it is a significant public health concern.

- Routine screening for IPV by health care providers is necessary to identify the victims of IPV and refer them to the appropriate services.