Urban – rural disparities in antenatal care utilization: Evidences from two HDSS in Vietnam

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Outline

- Introduction
- Aim
- Methods
- Results and discussions
- Conclusions and implications
Introduction

- ANC recommendation in Vietnam
  - At least 3 visits, one per trimester
  - Core services: Measurement of weight and height, blood pressure; fetal examination, urine test, tetanus vaccination and prenatal consultation
  - Optional services: vaginal examination, blood test, iron/folate supplement, malaria prevention, ultrasound scan
- 87% pregnant women reported to use ANC
Introduction

Maternal mortality rate

1990: 233.0
2001: 130.0
2002: 91.0
2003: 85.0
2004: 85.0
2005: 80.0
2006: 75.1
2007: 75.0
2008: 75.0
2009: 69.0
2010: 70.0
Goal: 58.3

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Infant mortality rate

1990: 44.4
2001: 30.0
2002: 24.8
2003: 21.0
2004: 18.0
2005: 17.8
2006: 16.0
2007: 16.0
2008: 15.0
2009: 16.0
2010: 16.0
Goal: 16.0
Introduction

However:

- Large gap in MMR and IMR between regions
- 65% of maternal deaths did not receive any ANC
- Few studies on ANC in Vietnam
  - Cross sectional survey, in rural areas
  - Focus on number of visits but not content of care
Aim

- To contrast the pattern and the adequacy of ANC used in urban and rural Vietnam using the framework of two HDSS
Methods

69 clusters
29/32 communes
51,000 inhabitants
12,000 households

3 communes
37,800 inhabitants
11,000 households

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Methods

- Two cohort study of pregnant women at the two HDSSs (July 2008 – March 2010)
- 2132 women identified and followed up quarterly until delivery: 814 in DodaLab and 1318 in FilaBavi
- Household interview using a structured questionnaire
Methods

- Maternal information: age, education, occupation, economic, parity, …
- Number of ANC visits
- Time for the first visit
- Content of ANC: Core services; Optional services
- Adequate use
  - At least three visits + first visit in first trimester + all core services
## Results

### Mother’s background (%)

<table>
<thead>
<tr>
<th></th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;25</td>
<td>13.4</td>
<td>45.8</td>
</tr>
<tr>
<td>25+</td>
<td>86.6</td>
<td>54.2</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>5.9</td>
<td>56.7</td>
</tr>
<tr>
<td>High school +</td>
<td>94.1</td>
<td>43.3</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmer</td>
<td>2.5</td>
<td>64.4</td>
</tr>
<tr>
<td>Non farmer</td>
<td>97.5</td>
<td>35.6</td>
</tr>
<tr>
<td><strong>Parity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>56.5</td>
<td>46.6</td>
</tr>
<tr>
<td>2</td>
<td>39.1</td>
<td>35.4</td>
</tr>
<tr>
<td>3+</td>
<td>4.4</td>
<td>18.1</td>
</tr>
</tbody>
</table>
## Results

### Number of ANC visits

<table>
<thead>
<tr>
<th>Number of visits</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.3</td>
<td>3.0</td>
</tr>
<tr>
<td>1</td>
<td>0.3</td>
<td>7.1</td>
</tr>
<tr>
<td>2</td>
<td>2.3</td>
<td>12.8</td>
</tr>
<tr>
<td>3+</td>
<td>97.2</td>
<td>77.2</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td>7.7</td>
<td>4.4</td>
</tr>
<tr>
<td><strong>(95%CI)</strong></td>
<td>(7.5-7.9)</td>
<td>(4.2-4.5)</td>
</tr>
</tbody>
</table>
Results

ANC services used (%)

- Prenatal ultrasound scan: Rural 96.8, Urban 99.5
- Blood sample test: Rural 20, Urban 73.6
- Iron & folic supplement: Rural 23.6, Urban 80
- Prenatal consultation: Rural 91.7, Urban 92.4
- Tetanus vaccination: Rural 99.3, Urban 98.5
- Urine test: Rural 35.5, Urban 88.1
- Blood pressure assessment: Rural 59.1, Urban 97.8
- Weight and height measurement: Rural 57.6, Urban 98.5
- Fetal examination: Rural 89.8, Urban 99.3

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Results

ANC adequacy (%)

- Adequate use: 15.2% (Rural), 78.3% (Urban)
- Use of all core services: 20.3% (Rural), 81.1% (Urban)
- First visit in first trimester: 69.1% (Rural), 97.2% (Urban)
- Use of at least 3 visits: 77.2% (Rural), 97.2% (Urban)
- Use of any visit: 97% (Rural), 99.8% (Urban)

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### Results

**ANC providers/facilities (%)**

<table>
<thead>
<tr>
<th></th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health facilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHC/Maternity</td>
<td>8.6</td>
<td>68.3</td>
</tr>
<tr>
<td>District hospital</td>
<td>6.4</td>
<td>57.1</td>
</tr>
<tr>
<td>Provincial hospital</td>
<td>43.7</td>
<td>5.8</td>
</tr>
<tr>
<td>Central hospital</td>
<td>70.7</td>
<td>3.0</td>
</tr>
<tr>
<td>Private clinic</td>
<td>34.1</td>
<td>64.0</td>
</tr>
<tr>
<td>Private hospital</td>
<td>14.4</td>
<td>12.2</td>
</tr>
<tr>
<td>Others</td>
<td>0.7</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>Public/private sector</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only public</td>
<td>56.6</td>
<td>30.5</td>
</tr>
<tr>
<td>Only private</td>
<td>4.9</td>
<td>9.2</td>
</tr>
<tr>
<td>Both</td>
<td>38.5</td>
<td>60.4</td>
</tr>
</tbody>
</table>
Conclusions/Implications

- Rural women differ from urban women regarding demographic, socioeconomic characteristics and health care seeking behaviors.
- Rural women received ANC later, used less visit and less services at lower level of health facilities.
- The largest gap in ANC adequacy were due to insufficient use of core services among rural women.
- Should have a separate strategy for ANC in rural areas focusing on improvement content of care.
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Thank You!