Quality of antenatal care in Colombia: Evaluation of clinical records in 20 provinces and three districts, 2009-2011

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Few facts about Colombia

• ~49.5 million inhabitants
• Upper-middle income country
• According to 2010 DHS:
  • > 98% prenatal care attendance
  • > 94% institutional deliveries

Human Development Report, UNDP, 2014
Maternal mortality rate in Colombia, per 100,000 live births, 2000-2012

Target x 1.5
Percentage of mother to child transmission of HIV in Colombia, 2008-2012 mother-baby cohorts

- 2008: 5.8%
- 2009: 4.9%
- 2010: 5.3%
- 2011: 4.6%
- 2012: 4.0%

Target x 2
Methods

• Descriptive, retrospective study
• Between 03/2011-02/2012
• Review of 2651 obstetric clinical records (CR) from:
  • 139 municipalities and 3 districts
  • 20 out of 32 Colombian departments
  • Municipalities, health care facilities and CR randomly selected
• Assessment of compliance to ANC guidelines:
  • Evidence-based medical interventions
  • Included in national norms since 2000
Methods

• 7 regional clusters:
  
  • **Region 1**: Amazonas, Arauca, Putumayo, Vaupés and Caquetá
  
  • **Region 2**: Quindío, Risaralda and Caldas
  
  • **Region 3**: Cauca, Nariño and Chocó
  
  • **Region 4**: Bolívar, Atlántico, Magdalena, Córdoba and La Guajira
  
  • **Region 5**: Santander and Norte de Santander
  
  • **Region 6**: Valle del Cauca
  
  • **Region 7**: Antioquia
## ANC activities and compound indicators

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description (CR registry:)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anamnesis</strong></td>
<td>• Vaginal fluids&lt;br&gt;• Urinary symptoms&lt;br&gt;• Vascular spasm symptoms (&gt;26 weeks)&lt;br&gt;• Fetal movements (&gt;26 weeks)</td>
</tr>
<tr>
<td><strong>Physical examination</strong></td>
<td>• Weight and height&lt;br&gt;• Uterine height&lt;br&gt;• Blood pressure&lt;br&gt;• Number of fetuses (&gt;26 weeks)&lt;br&gt;• Fetocardia (&gt;26 weeks)&lt;br&gt;• Fetal presentation (&gt;34 weeks)</td>
</tr>
<tr>
<td><strong>Routine antenatal tests</strong></td>
<td>• Hemoglobin&lt;br&gt;• Hemoclassification&lt;br&gt;• Glycemia&lt;br&gt;• Urinalysis&lt;br&gt;• Obstetric ultrasound&lt;br&gt;• PAP smear&lt;br&gt;• HIV, syphilis and hepatitis B screening</td>
</tr>
<tr>
<td><strong>Health promotion activities</strong></td>
<td>Counseling on:&lt;br&gt;• Breastfeeding&lt;br&gt;• Newborn care&lt;br&gt;• Family planning&lt;br&gt;• Alarm signs&lt;br&gt;• Psychosocial and violence screening&lt;br&gt;• Pre and posttest counseling, informed consent for HIV&lt;br&gt;• Administration of iron sulfate, calcium, folic acid and antitetanus vaccination</td>
</tr>
<tr>
<td><strong>Basic antenatal care</strong></td>
<td>Includes what is most recommended by evidence (evidence A and B) and considered the minimum&lt;br&gt;• Vaginal fluids, urinary and vascular spasm symptoms&lt;br&gt;• Weight, uterine height and blood pressure&lt;br&gt;• Hemoglobin, hemoclassification, urinalysis&lt;br&gt;• Syphilis, HIV and hepatitis B screening&lt;br&gt;• Counselling on alarm signs</td>
</tr>
<tr>
<td><strong>Complete prenatal care (national norm)</strong></td>
<td>• All of the above mentioned activities (Resolution 412/2000): anamnesis, physical examination, routine antenatal tests, and health promotion activities</td>
</tr>
</tbody>
</table>
ANC quality in Colombia 2009-2011

Proportion of women without health insurance per department

Mean 14.5% (n=384/2651)

Type of insurance:
Subsidized: 1683 (64%)
Contributive: 534 (20%)
Especial: 43 (2%)
ANC quality in Colombia 2009-2011

Gestational age at first ANC visit per department

Gestational age (weeks)

Trim 3

Trim 2

Risaralda
Antioquia
Caldas
Caqueta
Atlantico
Narino
Quindio
Santander
Bolivar
Cordoba
Valle
Magdalena
Guaviare
Cauca
Putumayo
Amazonas
Choco
La Guajira
Vaupes
ANC quality in Colombia 2009-2011
Syphilis, HIV and hepatitis B screening per region

Amazonia
- Syphilis: 78
- HIV: 66
- Hepatitis B: 49

Eje Cafetero
- Syphilis: 93
- HIV: 88
- Hepatitis B: 67

Pacífico
- Syphilis: 88
- HIV: 75
- Hepatitis B: 52

Caribe
- Syphilis: 88
- HIV: 77
- Hepatitis B: 70

Santanderes
- Syphilis: 86
- HIV: 80
- Hepatitis B: 32

Valle del Cauca
- Syphilis: 92
- HIV: 79
- Hepatitis B: 54

Antioquia
- Syphilis: 93
- HIV: 85
- Hepatitis B: 88

Total
- Syphilis: 88
- HIV: 78
- Hepatitis B: 59
ANC quality in Colombia 2009-2011

HIV screening, pre and post-test counseling, and informed consent per type of insurance

<table>
<thead>
<tr>
<th></th>
<th>No insurance</th>
<th>Subsidized</th>
<th>Contributive</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV screening</td>
<td>70</td>
<td>76</td>
<td>89</td>
</tr>
<tr>
<td>Pretest counseling</td>
<td>57</td>
<td>54</td>
<td>69</td>
</tr>
<tr>
<td>Consent</td>
<td>63</td>
<td>67</td>
<td>71</td>
</tr>
<tr>
<td>Post-test counseling</td>
<td>21</td>
<td>19</td>
<td>38</td>
</tr>
</tbody>
</table>

ANC quality in Colombia 2009-2011

HIV screening, pre and post-test counseling, and informed consent per type of insurance

<table>
<thead>
<tr>
<th></th>
<th>Especial</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV screening</td>
<td>72</td>
<td>78</td>
</tr>
<tr>
<td>Pretest counseling</td>
<td>35</td>
<td>57</td>
</tr>
<tr>
<td>Consent</td>
<td>63</td>
<td>67</td>
</tr>
<tr>
<td>Post-test counseling</td>
<td>14</td>
<td>23</td>
</tr>
</tbody>
</table>
ANC quality in Colombia 2009-2011

Basic routine antenatal tests

- PAP smear: 30%
- Ultrasound: 79%
- Glycemia: 80%
- Urinalysis: 83%
- Hemolysis: 84%
- Hemoglobin: 90%
ANC quality in Colombia 2009-2011

Counseling on basic health promotion activities

- Newborn care: 24%
- Breastfeeding: 30%
- Psychoprophylaxis: 37%
- FP: 42%
- Alarm signs: 91%
ANC quality in Colombia 2009-2011

Micronutrients and tetanus vaccine per region

<table>
<thead>
<tr>
<th>Region</th>
<th>Iron sulfate</th>
<th>Folic acid</th>
<th>Calcium</th>
<th>Tetanus vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amazonia</td>
<td>86</td>
<td>85</td>
<td>81</td>
<td>30</td>
</tr>
<tr>
<td>Eje Cafetero</td>
<td>98</td>
<td>98</td>
<td>98</td>
<td>55</td>
</tr>
<tr>
<td>Pacifico</td>
<td>93</td>
<td>93</td>
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<td>68</td>
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<tr>
<td>Caribe</td>
<td>95</td>
<td>94</td>
<td>92</td>
<td>66</td>
</tr>
<tr>
<td>Santanderes</td>
<td>98</td>
<td>97</td>
<td>97</td>
<td>47</td>
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<td>90</td>
<td>86</td>
<td>89</td>
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<td>100</td>
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</tr>
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*p<0.001
ANC quality in Colombia 2009-2011

Complete activities accomplished

- Anamnesis
- Physical examination
- Basic lab tests
- HIV, syphilis, hep B
- Routine ANC tests
- Basic H promotion
- HIV counseling
- Micronutrients and tetanus vaccine
- Complete H promotion
- Basic ANC
- Complete ANC

Percentage of CR

R-412/00
ANC quality in Colombia 2009-2011
Basic ANC (mean)

20.6% (547/2651) CR with main evidence based activities
p<0.001 for bivariate analysis for all variables in all included
ANC quality in Colombia 2009-2011

Newborn hepatitis B vaccination in first 12 hours per region

- Pacífico: 56%
- Amazonia: 64%
- Caribe: 70%
- Valle del Cauca: 72%
- Santanderes: 91%
- Eje Cafetero: 94%
- Antioquia: 98%

Mean 80% (n=994/1249)

- ~50% CR with information about delivery
- ~26% C-sections [10%-53%]
In short words...

Quite deficient ANC with great inequalities
From MDG to SDG
How to make it?
Recommendations

• Collaboration among health care system actors
  • Joint health quality improvement actions at territorial level
  • Avoid and sanction service fragmentation

• Involve communities
  • Service quality supervision, claim of rights, contextual approaches

• Improve monitoring and evaluation for decision making and incentives

• Continuous technical support and supervision focusing on locally identified problems: including integration, motivation and humanization

• Implementation research to improve program delivery and results

• Work with different sectors to tackle social determinants
¡Gracias!

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