Children of teenage mothers: delayed psychomotor and language development

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Teenage mothers and their children

Epidemiology

• In Europe: wide variation (major concern in England)
• 4% of live births in the French-speaking side of Belgium

The mothers features: a vulnerable population:

- exposure to negative socio-economic and psychosocial factors: poverty, inadequate social support, lack of education, cognitive immaturity, stress, low self-esteem, social isolation, neglect and abuse during childhood and violence during pregnancy
- 70-85% of unplanned/unintended pregnancies
- high prevalence of prenatal and postpartum depression
- Rapid repeat pregnancies (< 24 months)
Teenage mothers and their children

The children features: increased risk of poor health outcomes and development:

- Prematurity and low-birth weight
- Poor growth
- Abuse and neglect
- More injuries
- Cognitive, behavioural and emotional complications

Many of these outcomes are attributable to low SES and mother’s mental state.

Our goal was to investigate the development of pre-school children of teenage mothers and to compare to adult mothers.
ONE = Office de la Naissance et de l’Enfance

- Free preventive well-child visits beyond immediate postnatal contact for all families (634 sites)
- Priorities: global health, parenting and breastfeeding support, health promotion, vaccinations...
- Calendar of visits and preventive interventions (18 times until 6 years), including counseling
- Attending: higher representation of vulnerable families
- Database about child health and development: data encoded at 6 times (prenatal period, birth, « first contact » at home, and 9, 18 and 30 months)
Methods

• BDMS « Banque de données médico-sociales » = DB
• Study population: children registered for well-child visits at ages
  – 18 months (16-20 months) : n=30486 (~20% coverage)
  – 30 months (28-32 months) : n=13247 (~10% coverage)
  – Cumulated data from 2006 to 2009
• Measures of child development and occurrence of accidents
• Comparison in regard to the maternal age at delivery:
  <20 years, 20-35 years and >35 years.
Methods

- Measures at 18 months
  - Psychomotor development
    - speech item (number of words)
    - motor item (walking)
  - Occurrence of domestic accidents (bites, burns, falls, others)
- Measures at 30 months
  - Psychomotor development: 3 motor items (standing jump, circle, vertical line)
  - Language development (using « I », sentence of 3 words)
# Children development at 18 months

<table>
<thead>
<tr>
<th></th>
<th>&lt;20 years N=1250 (4,1%)</th>
<th>20-35 years N=24381 (80%)</th>
<th>&gt;35 years N=4855 (15,9%)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Familial situation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 parents</td>
<td>72,9%</td>
<td>91,8%</td>
<td>91,0%</td>
<td>&lt;0,001</td>
</tr>
<tr>
<td>Mothers speaking french very well</td>
<td>88,4%</td>
<td>89,4%</td>
<td>89,5%</td>
<td>NS</td>
</tr>
<tr>
<td>Mothers living in Belgium &lt; 5 years</td>
<td>18,0%</td>
<td>13,2%</td>
<td>10,8%</td>
<td>&lt;0,001</td>
</tr>
<tr>
<td><strong>Psychomotor development</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of words ≥ 6</td>
<td>50,5%</td>
<td>47,8%</td>
<td>43,3%</td>
<td>&lt;0,001</td>
</tr>
<tr>
<td>Walking alone</td>
<td>96,7%</td>
<td>95,8%</td>
<td>94,8%</td>
<td>0,003</td>
</tr>
<tr>
<td>Score</td>
<td>93,9%</td>
<td>&gt; 92,3%</td>
<td>90,5%</td>
<td>&lt;0,001</td>
</tr>
<tr>
<td>Occurrence of accidents</td>
<td>14,5%</td>
<td>&gt; 11,0%</td>
<td>9,8%</td>
<td>&lt;0,001</td>
</tr>
</tbody>
</table>
# Children development at 30 months

<table>
<thead>
<tr>
<th></th>
<th>&lt;20 years N=449 (3.4%)</th>
<th>20-35 years N=10604 (80%)</th>
<th>&gt;35 years N=2194 (16.6%)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Familial situation</strong></td>
<td></td>
<td></td>
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<td>90.1%</td>
<td>88.1%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Mothers speaking French very well</td>
<td>83.4%</td>
<td>90.0%</td>
<td>90.0%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Mothers living in Belgium &lt; 5 years</td>
<td>20.3%</td>
<td>10.4%</td>
<td>9.5%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Psychomotor development</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standing jump</td>
<td>92.4%</td>
<td>92.6%</td>
<td>91.2%</td>
<td>NS</td>
</tr>
<tr>
<td>Vertical line</td>
<td>74.6%</td>
<td>82.7%</td>
<td>81.7%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Circle</td>
<td>70.7%</td>
<td>75.8%</td>
<td>72.6%</td>
<td>0.003</td>
</tr>
<tr>
<td>Score</td>
<td>58.3%</td>
<td>67.2%</td>
<td>64.9%</td>
<td>0.005</td>
</tr>
</tbody>
</table>
## Children development at 30 months

<table>
<thead>
<tr>
<th>Language development</th>
<th>&lt;20 years N=449 (3.4%)</th>
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<th>&gt;35 years N=2194 (16.6%)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using « I »</td>
<td>48.8%</td>
<td>53.4%</td>
<td>50.9%</td>
<td>0.033</td>
</tr>
<tr>
<td>Sentence 3 words</td>
<td>72.7%</td>
<td>82.0%</td>
<td>80.1%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Score</td>
<td>45.9%</td>
<td>&lt; 50.8%</td>
<td>49.2%</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
Discussion

Results in agreement with previous studies

Possible explanations

• Less verbal stimulation
• Less understanding about knowledge of child development
• Less perception of dangerous situations
• Emotional immaturity
• Risk taking behaviour
• Depression
• Absence of the father

How to explain the better psychomotor score at 18 months?
Limitations and perspectives

Limitations

• Lack of information about sociodemographic factors, life context, mother-child interaction, mother health behaviors and depression...
• A snapshot
• Dropped-out profiles?

Perspectives

• Multivariate statistical analysis
• Longitudinal epidemiological study: comprehensive approach (biopsychosocial factors, prenatal mother-child attachment, perinatal depression, mothers’ specific needs)
Aknowledgment

For the access to the data:
- Murielle Liégeois
- Dr Marie-Christine Mauroy
Thanks!
Merci!

Questions?