the socioeconomic conditions on their short-term morbidity are seldom documented. Questions remain about their cognitive development and developmental morbidity that are known to be closely linked to socioeconomic conditions, but the impact of socioeconomic conditions on their short-term morbidity are seldom documented.

The constantly growing number of children surviving preterm birth and living in worsen socioeconomic context invites to reflect on their future in the short and longer term. Questions remain about their cognitive development and developmental morbidity that are known to be closely linked to socioeconomic conditions, but the impact of the socioeconomic conditions on their short-term morbidity are seldom documented.

Very Preterm Births in Metropolitan France and French West Indies (FWI) : Role of Psychosocial Factors and Socioeconomic Vulnerability

Laurence Germany, PhD Student

Team 2 – Perinatal Epidemiology, and Childhood Disabilities, Adolescent Health
Supervisor: Dr. Catherine Arnaud

Doctoral school: Mathematics, Information Technology, Telecommunications - University of Toulouse III

Start date: 2012

Funding: scholarship attributed by the Regional Council of Martinique

Previous education:
2009 – 2012: Master 2 Research, Clinical Epidemiology, (Distinction: A), University of Toulouse III (France)
2008 – 2009: Master 1 in biology of health, option physiopathology, (Distinction: B), University of Toulouse III (France)

How to quantify the individual level of exposure to socioeconomic deprivation?

- **EPPAGE2**: Etude Épidémiologique sur les petits âges gestационnels
  - National longitudinal population-based cohort study started in 2011, - all births from 22+0 to 34+6 weeks of gestation (n=7,804)
  - 25 French regions (21 metropolitan regions + 4 FWI).
- **EPPAGE1**, a similar study carried out in 1997
  - in 9 metropolitan French regions
- **French National Perinatal Survey (NPS-2010)**
  - National repeated cross-sectional study, the latest edition carried out in 2010
  - all live- and stillbirths (≥22 weeks of gestation or ≥500 g birth weight),
  - occurred during 1 week (n=14,903)
  - 25 French regions (22 metropolitan regions + 3 FWI).

**LITERATURE REVIEW**

- CREATE a national vulnerability socioeconomic index (ISEI) score
- Composite index based on the conceptual model previously described by Townsend and Hinesley

**EXPECTED BENEFITS**

- **Score that can be used by others teams**
- Initiate a reasoning about creating a score to quantify the individual level of exposure to developmental care

**REQUIREMENTS**

- Suitable set of core indicators available in EPPAGE1, NPS-2010, and EPPAGE2 study respectively.
- ISEI has to consider current knowledge to characterize the socioeconomic vulnerability in children (introduction of the father’s occupation)
- Be able to assign different weights to each categories of the selected indicators

- Based on maternal social information in French National Perinatal Survey (NPS-2010), a Multiple Correspondence Analysis (MCA) was performed to estimate coordinated-weights.
- ISEI was calculated by adding the terms of coordinated weights obtained from the most discriminating axis.
- Coordinated-weights were applied to families participating in the EPPAGE2 study.

Indicators retained to quantify the individual level of socioeconomic deprivation were Mother’s nationality, Household composition, Mother’s occupation, Mother’s health insurance, Father’s occupation

**METHODS**

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**How does the individual social context influence mortality and short-term morbidity in live born preterm babies?**

<table>
<thead>
<tr>
<th>Infants Born Alive between 22 and 34 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single births</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td><strong>Crude</strong></td>
</tr>
<tr>
<td><strong>In-hospital mortality</strong></td>
</tr>
<tr>
<td>(n=240/2,587)</td>
</tr>
<tr>
<td>Tier 1 (least deprived)</td>
</tr>
<tr>
<td>Tier 2 (moderated)</td>
</tr>
<tr>
<td>Tier 3 (most deprived)</td>
</tr>
<tr>
<td><strong>Composite indicator of morbidity</strong> (n=383/2,289)</td>
</tr>
<tr>
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</tr>
<tr>
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</tr>
<tr>
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</tr>
</tbody>
</table>

**Among single births, even after adjustment, the most deprived group was associated with a higher risk of severe morbidity suggesting a direct impact of deprivation.**

**Perspectives:**

**Short-term challenge:** to study to what extent the change in socioeconomic context between 1997 and 2011 influences the clinical context of pregnancy and short-term morbidity among preterm births (ongoing analysis)

**Long-term challenge:** to analyse the evolution over time of the socioeconomic impact on long-term morbidity (at the age of 8 y) of preterm births (EPIpage2 cohort)