The prevalence of anaemia among children in Northern Uganda: Urban-rural comparison

**Background**
- Malnutrition and anaemia are widespread health issues in Uganda1 with profound impact on human health and the development of the entire country2
- In more than 50% of all cases, anaemia is caused by iron deficiency3
- Anaemia
  - □ reduced concentration of haemoglobin (red blood pigment) in erythrocytes4
  - □ is affecting 2.36 billion people worldwide3
  - □ underlies a multifactorial etiology in developing countries5

**Objectives**
- Assessing the prevalence of anaemia among children (6-59 months) in Northern Uganda
- Analysis of the residence as influencing factor (rural-urban comparison)

**Methodology**
- Retrospective cross-sectional study
- Study site: a health centre in Lira (Lango Sub-Region), Northern Uganda → predominantly rural
- Sample: all children (6-59 months) treated within 5 weeks (May/June 2017), n=273
- Assessment of haemoglobin concentration and anthropometric measurements

**Results**
- 90.8% of children (6 to 59 months) were anaemic (= haemoglobin concentration <11.0 g/dl)
- Prevalence classified by severity:
  - □ 42.3% severe anaemia
  - □ 38.2% moderate anaemia
  - □ 10.3% mild anaemia
- Mean haemoglobin concentration: 7.45g/dl (SD=2.76)
- Residence: 73.9% rural, 26.1% urban
- Significantly higher haemoglobin concentrations among children from urban compared to rural areas (Figure 4), but not a significantly lower prevalence of anaemia
- Rural residence was significantly associated with a higher severity of anaemia

**Conclusion**
- Severe public health challenge of anaemia among children (<5 years)
- Comprehensive analysis of the major risk factors of anaemia → improvement of interventions to counteract anaemia and to better address the predominantly rural population in Northern Uganda

**Figure 1:** Map of Uganda with a zooming section of the Lango Sub-Region in Northern Uganda, including the study site, a health centre in Lira Town.

**Figure 2:** Impressions at the study site in Lira Town (Lango Sub-Region), Northern Uganda.

**Figure 3a:** Phenotypes of undernutrition (Stunting, Wasting, Underweight).

**Figure 4:** Severity of anaemia among children (aged 6 – 59 months) differentiated according to residence (rural/urban).

**Figure 5:** Distribution of haemoglobin concentrations among children (aged 6–59 months) differentiated according to residence (rural/urban).

**Table 1:** Prevalence of anaemia among children at the age of 6–59 months in Northern Uganda.

<table>
<thead>
<tr>
<th>Residence</th>
<th>No anaemia (Hb≥11.0 g/dl)</th>
<th>Anaemia (Hb&lt;11.0 g/dl)</th>
<th>Severe A. (Hb&lt;9.0 g/dl)</th>
<th>Moderate A. (Hb9.0–10.9 g/dl)</th>
<th>Mild A. (Hb10.0–11.0 g/dl)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>9.2%</td>
<td>90.8%</td>
<td>42.3%</td>
<td>30.2%</td>
<td>13.3%</td>
</tr>
<tr>
<td>Urban</td>
<td>11.9%</td>
<td>82.9%</td>
<td>40.4%</td>
<td>41.7%</td>
<td>11.1%</td>
</tr>
</tbody>
</table>

**References**