**Climatic and sociodemographic factors predisposing to schistosomiasis in Kaedi (Mauritanie) and Korhogo (Côte d’Ivoire)**

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**Study context**
Like all continents, Africa is affected by climate change (increase of T°, drying up of water sources, flood). This situation has detrimental effects on parasitic diseases the distribution of certain diseases like schistosomiasis which remain predominant in sub-Saharan Africa. A better understanding of transmission factors may help to develop sustainable strategies for the control of the disease. In this respect, relationships between climate, socio-demographic, economic and environmental factors will be addressed.

**Key message / lessons**

- Important to popularize knowledge about schistosomiasis and treatment of water resources
- Develop sustainable strategies for the control of the disease
- Develop new activities in the climate change
- Develop economic activities during for rainy and dry season

**Materials & Methods**

**Data source**
Data were collected during the dry and rainy season in Korhogo and Kaedi; from May 2014 to June 2015.

**Statistical analysis:**
The chi-square test was used to compare the factors of the 3 cities and Fisher’s exact test was used if the chi-square test was not appropriate. The one-way analysis of variance was used to compare the impact of age on the prevalence of schistosomiasis in different study sites. The level of significance was set at 5%.

**Software for data interpretation:**
Statistical analysis was performed with the SPSS statistics 26 and Stata/IC 10.

**Results**

- **Interaction cities and season:**
  On the whole, there is no association between the seasons and schistosomiasis prevalence in univariate analysis. However, there is a SS difference between the seasons and the disease when stratified analysis by city (p <0.05). In Kaedi, prevalence is higher during dry season than rainy season conversely in Korhogo (south of the Sahelian belt) it is the inverse (p <0.05).

- **Effect of season, gender and age:**
  At the two cities, the average age of patients was 16.7 years, a 33% and most vulnerable are young boys 10 years and more in Kaedi especially in the dry season.
  During rainy season, in Korhogo, young girls are more vulnerable than boys and inversely in Kaedi (p <0.05). The dry season analysis shows different results. Indeed, boys are more exposed in Korhogo and Kaedi but difference is not SS.

- **Economics:**
  Households members with no activities or retired get more sick children (NS). During the rainy season in Kaedi, health expenditures of affected households represent 14% of the whole expenditures versus 21% in Korhogo.

- **Demographic:**
  Demographically, the most numerous are the most vulnerable households. There is a statistically significant difference in the sexes in both cities. The average of household size is higher in rainy season than dry season in both cities. The most vulnerable households are those with high inhabitant density.

- **Resilience:**
  In general, Korhogo households are more resistant than those of Kaedi (66.2% vs 41.7%) but NS except in dry season where the difference is SS (Korhogo 90% vs. 47.5% in Kaedi). In both cities, the age of patients was 10.7 ± 3.03 years. The dry season analysis shows different results. Indeed, boys are more exposed in Korhogo and Kaedi but difference is not SS.

**Summary table**

<table>
<thead>
<tr>
<th></th>
<th>Rainy season</th>
<th>Dry season</th>
</tr>
</thead>
<tbody>
<tr>
<td>kaedi</td>
<td>korhogo</td>
<td>kaedi</td>
</tr>
<tr>
<td>p-value</td>
<td>&lt;0,05</td>
<td>&lt;0,05</td>
</tr>
<tr>
<td>Average age sick person is 10.7 ± 3.03 years*</td>
<td>-cas</td>
<td>+cas</td>
</tr>
<tr>
<td>Young boys are more vulnerable</td>
<td>Young boys of 10 to 15 years</td>
<td>Young boys are more exposed</td>
</tr>
</tbody>
</table>

* the average of age was calculated over the 2 seasons in both cities.