**Paper Poster Session VI**

**Tuberculosis - clinical issues**

**Comparison of nutritional status and socio-demographic characteristics between tuberculosis patients, household contacts and healthy controls; a cross-sectional study from Guinea-Bissau**

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**Objectives:** Malnutrition is prevalent amongst tuberculosis (TB) patients and may be a major risk factor for acquiring TB, but the population attributable fraction of malnutrition for TB is uncertain. Households with TB patients may more frequently be undernourished. We compared nutritional status in pulmonary TB (PTB) patients, household contacts (HHCs) of PTB patients and healthy controls in urban Guinea-Bissau, with the aim of assessing whether PTB HHCs are of poorer nutritional status than the background population.

**Methods:** In this cross-sectional study, we recruited all new PTB cases from 2014, ≥ 15 years and living within the study area. None-pregnant household contacts ≥ 15 years were visited, and after screening for PTB, a short questionnaire regarding socio-demographic and nutritional status including weight, height and mid upper arm circumference (MUAC) was completed. The same information was obtained among a random selection of healthy control households within the same neighbourhood as the PTB household. We assessed the association of nutritional status using linear regression. MUAC, weight and BMI were log-transformed prior to analysis because of non-normal distributions. Adjustment for potential confounders was performed using stepwise forward regression. All analyses were performed in STATA version 11.2.

**Results:** We have sampled 108 PTB patients, 326 PTB HHCs and 236 healthy controls. The median weight for healthy controls was 65 kg, for PTB HHCs 63 kg and for PTB patients 54 kg (table 1). On average, HHCs had a 4% (95% CI -0.07; -0.01) lower weight than the healthy controls, and PTB patients had a 25% (95% CI -0.29; -0.21) lower weight than the healthy controls. Similar results were seen for BMI with a decreased BMI of 3% (95% CI -0.06; 0.00) and 26% (95% CI -0.30; -0.22) respectively. MUAC of HHCs was 3% (95% CI -0.05; -0.01) lower than the healthy controls and MUAC of PTB patients was 23% (95% CI -0.26; -0.20) lower (table 1). Adjusting for confounding factors did not change the results markedly.

**Conclusion:** HHCs of PTB patients do have a poorer nutritional status than the background population though not to the same extent as diagnosed PTB patients. This suggests that poorer nutritional status is a potential risk factor for developing active PTB. Further studies of household factors are needed.

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>BMI</th>
<th>MUAC (mm)</th>
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<tbody>
<tr>
<td>Healthy controls</td>
<td>65(57.76)</td>
<td>23.7(21.4;27.9)</td>
</tr>
<tr>
<td>PTB HHCs</td>
<td>63(55.70)</td>
<td>22.8(20.8;25.9)</td>
</tr>
<tr>
<td>PTB patients</td>
<td>54(47.2;59.8)</td>
<td>18.5(17.1;20.5)</td>
</tr>
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*adjusted for: gender, age, employment status, drinking and smoking