**BACKGROUND**

- The World Health Organization (WHO) recommends TB screening for all people living with HIV (PLHIV) using an evidence-based symptom screening algorithm.
- PLHIV screening positive should be evaluated for TB.
- Implementation of WHO recommendations began in 2010 in Nyanza Province, which has highest TB/HIV burden in Kenya.

**METHODS**

- Prospective recruitment of PLHIV from 15 randomly-selected HIV clinics using probability proportionate to size sampling in 4 districts of Nyanza Province.
- Phased enrollment between May 2011 – June 2012.

**PRELIMINARY RESULTS**

- 83 (11.2%) of 738 PLHIV were diagnosed with pulmonary TB at enrollment into HIV care services.
- Median age of all PLHIV: 30 years; interquartile range (IQR), 24–39 years.
- Median CD4+ cell count at enrollment: 344 cells/µL; IQR, 168 to 518 cells/µL.
- Significantly lower in PLHIV with pulmonary TB than those with no TB (166 versus 360 cells/µL; p<0.0001).

**Figure 1. Study Enrollment**

![Diagram showing study enrollment process](Image)

**Table 1. Performance of Clinical Screening for TB**

<table>
<thead>
<tr>
<th>Screening Tool</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>Negative Predictive Value</th>
<th>Positive Predictive Value</th>
<th>Negative Likelihood Ratio</th>
<th>Positive Likelihood Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO Algorithm</td>
<td>74.4%</td>
<td>49.4%</td>
<td>93.9%</td>
<td>15.6%</td>
<td>0.52</td>
<td>1.47</td>
</tr>
<tr>
<td>Any cough</td>
<td>42.7%</td>
<td>76.4%</td>
<td>91.4%</td>
<td>18.5%</td>
<td>0.75</td>
<td>1.81</td>
</tr>
<tr>
<td>Fever</td>
<td>55.8%</td>
<td>68.0%</td>
<td>92.5%</td>
<td>17.9%</td>
<td>0.65</td>
<td>1.74</td>
</tr>
<tr>
<td>Night sweats</td>
<td>47.4%</td>
<td>75.7%</td>
<td>92.1%</td>
<td>19.5%</td>
<td>0.70</td>
<td>1.95</td>
</tr>
<tr>
<td>Weight loss</td>
<td>59.2%</td>
<td>67.6%</td>
<td>93.1%</td>
<td>18.4%</td>
<td>0.60</td>
<td>1.83</td>
</tr>
<tr>
<td>WHO Algorithm &amp; Chest Radiograph</td>
<td>90.9%</td>
<td>31.9%</td>
<td>96.2%</td>
<td>15.7%</td>
<td>0.29</td>
<td>1.33</td>
</tr>
<tr>
<td>Chest Radiograph</td>
<td>77.3%</td>
<td>60.0%</td>
<td>95.0%</td>
<td>21.3%</td>
<td>0.38</td>
<td>1.29</td>
</tr>
</tbody>
</table>

*Negative likelihood ratio is calculated as (1 – sensitivity) / specificity. Positive likelihood ratio is calculated as (1 – specificity) / sensitivity.*

**CONCLUSIONS**

- Half of all PLHIV newly enrolling in HIV care services reported at least one TB symptom.
- Only 15% of symptomatic PLHIV were diagnosed with pulmonary TB.
- Collection of 3 sputum specimens should be considered for all PLHIV screening positive.
- PLHIV screening negative should receive isoniazid prophylaxis.
- Despite a high percentage of PLHIV with CD4 ≤ 100, the sensitivity of symptom screening alone performed best in patients with low CD4 counts at enrollment.

**CONTACT INFORMATION**

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