Screening for Active TB in a Diabetes Mellitus Clinic in Soweto, South Africa

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South Africa: Demographic Transition

HIV prevalence in pregnant women

Annual incidence of new cases of lab confirmed TB

National Dept of Health 2014

Latent TB—cases of the future

1. Cape Town – TB infection rates by age TST

Figure 3 TB prevalence in combined dataset, by age (in years).
Note: This figure is based on the unadjusted data presented in Table 3.

Middelkoop et al, BMC Inf Dis 2011
South Africa: Demographic Transition

- Urbanisation, sedentary lifestyle, etc
- Early onset of obesity - women

- Diabetes in South Africa: 8.3%-9.5%

Shisana O, et al SANHANES-1 2013
Kumani-Murage et al BMC Public Health 2010
Methods

• SITE: Diabetic clinic Chris Hani Baragwanath Hospital, Soweto; Referal clinic treating poorly controlled diabetics
• June 2014- January 2015
• Attending patients - approached to consent
• Screened for symptoms of TB (Cough, weight loss, fever/night sweats)
• Those with symptoms requested to produce sputum for Xpert MTB/RIF
• Demographics and most lab results

Majumder et al Int J TB Lung 2016
## Characteristics of diabetic patients

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>All patients</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average age</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>61%</td>
<td></td>
</tr>
<tr>
<td>African/Black</td>
<td>94%</td>
<td></td>
</tr>
<tr>
<td>Median BMI (IQR)</td>
<td>31.1 (26-36)</td>
<td></td>
</tr>
<tr>
<td>Type II Diabetes</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>Median HbA1c (IQR)</td>
<td>8.3 (7-10.3)</td>
<td></td>
</tr>
<tr>
<td>Ever smoker / Current</td>
<td>32% 26%</td>
<td></td>
</tr>
<tr>
<td>HIV +</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Hypertensive</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td>On Insulin</td>
<td>94%</td>
<td></td>
</tr>
</tbody>
</table>
Screening for TB

• 27 (4%) reported symptoms of TB
Screening for TB

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• Prior TB: 10% - 1% TB after diagnosis of DM.
Screening for TB

• 27 (4%) reported symptoms of TB

• 0 (Zero) cases of TB diagnosed

• Prior TB: 10% - 1% TB after diagnosis of DM.
Confirmation?

- Record review of 828 clinical files in the diabetic clinic (2013)

- 1% of files had TB treatment (ever) recorded in their files – most prior to diabetes diagnosis.
Reasons

• High BMI protective

• Low HIV Prevalence

• Well controlled in a specialist clinic

• Receiving insulin not oral agents

• Survival bias

Lonroth et al Int J Epi 2010
Hanrahan et al AIDS 2010

Yano H Infect Immun 2012
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