Contact Investigations: An Opportunity to Prevent Tuberculosis

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Learning Objectives

- List several examples of pulmonary impairment after TB treatment (PIAT).
- Discuss the societal costs of TB.
- Apply knowledge of PIAT and societal costs of TB in contact investigations.

Why do we do contact investigations?

Preventing and Controlling TB

Three priority strategies:

- Identify and treat all persons with TB disease
- Identify contacts to persons with infectious TB; evaluate and offer therapy
- Test high-risk groups for LTBI; offer therapy as appropriate

Purpose of CI from Zach Taylor 2002

- The purpose of the contact investigation is to identify contacts who
  - Have TB disease and treat them
  - Have LTBI and treat them
  - Are at high-risk for TB disease if infected and treat them*

Reframed Purpose as Prevention

- The purpose of the contact investigation is to prevent tuberculosis
  - By finding vulnerable people who have been exposed
  - By finding people who have had exposure of long duration
  - By treating tuberculosis infection (TBI) and TB disease
Why do we want to prevent TB?

Pulmonary Impairment after TB Treatment (PIAT)

- Cure of TB does not prevent pulmonary impairment
- Impairment can range from none to nearly 50%
- In a 2007 study, after controlling for risk, PTB patients were 5.4 times more likely to have abnormal pulmonary function tests than patients with TBI
- Pasipanodya, et. al. argue that PIAT is a mostly unrecognized cause of chronic lung disease worldwide

Potential Permanent Sequelae of TB

- Bronchovascular distortion
- Bronchiectasis
- Emphysematous changes
- Fibrotic bans

Societal Costs of TB

- Estimate societal costs: infrastructure, diagnostics, surveillance, in and out patient treatment, contact investigations, personal costs born by patient, and secondary transmission
  - Miller, et.al.

Average Cost of TB Case in Tarrant Count

$376,255

$133,000 for PIAT
$176,000 for secondary transmission
Other costs include treatment, evaluation of and treatment of contacts, hospitalization etc.

“.....for many persons with tuberculosis, microbiological cure is the beginning, not the end, of their illness.”

J. Pasipanodya, et. Al.
Why do we do contact investigations?

- By finding vulnerable people who have been exposed
- By finding people who have had exposure of long duration
- By treating tuberculosis infection (TBI) and TB disease
- By finding locations of transmission

To Prevent Tuberculosis

Prevention of TB Makes Sense

- Significant health and social benefits
  - Most of the cost of TB occurs due to chronic morbidity after cure
  - TBI treatment has demonstrable lung health benefit to the patient
  - Use this knowledge to find people exposed and get them into treatment if infected

Research Articles about PIAT and Societal Costs


Thank you so much