Communicating risks and benefits of preventive tuberculosis treatment

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Pathogenesis of tuberculosis (TB)

Exposure to an infectious TB case (cough)

Primary Infection

Primary Disease

Latent TB Infection

Postprimary TB due to reactivation

No disease

≈ 5%

≈ 95%

≈ 5%

≈ 90%

Preventive therapy (PT)

Assuming:
A baseline lifetime risk of 10% to develop TB
Decision about risks and benefits of PT for TB in individuals

**pro PT**
- High risk of developing active TB
- Severe consequences if active TB develops
- Low risk for adverse effects of PT

**contra PT**
- Low risk of developing active TB
- Mild consequences if active TB develops
- High risk for adverse effects of PT
PT for TB is underutilised

Barriers to PT:

- Patients not accepting PT
  - long duration of PT treatment (6-9 months)
  - lack of symptoms from latent TB
  - a good chance that latent TB may never develop into TB disease
  - potential side effects of PT
PT is underutilised

- Physicians not prescribing PT

- Not convinced that benefits outweigh risks in individuals
- Confusion between clinical and public health perspective
- Omission bias: tendency to judge harmful actions as worse, or less moral than equally harmful omissions (inactions) because actions are more obvious than inactions.
PT is underutilised

- Physicians not prescribing PT
- Not convinced that benefits outweigh risks in individuals
- Confusion between clinical and public health perspective
- Omission bias: tendency to judge harmful actions as worse, or less moral than equally harmful omissions (inactions) because actions are more obvious than inactions.
Study on physicians’ perspectives on communication about PT for TB
Aim

To explore the communication about PT for TB during a patient-physician encounter from a physician perspective
Methods

Twenty TB physicians from five different Australian states and territories participated in semi-structured interviews.
Results

1. Unwarranted clinical variation in PT as a result of communication:

- Def: variation in LTBI Rx due to (un)willingness and ability of doctors to offer treatment rather than differences in risk-benefit profile or patient preference.

“There is a bit of a difference as to how likely you are to have preventive therapy in our clinic depending on which doctor you see.”

“But sometimes every patient I talk to takes PT and other days, it doesn't matter what I say. I was wondering what it is, whether it's chance or in fact the way I'm behaving that day, it determines their decision-making.”

Dobler CC et al, unpublished data
Results: unwarranted variation

Unwarranted variation and categories of care:

- **Effective care**: benefits far outweigh the risks; the “right” rate of treatment is 100% of patients, eg PT in babies exposed to TB
- **Preference sensitive care**: grey area of risk and benefit, patients make an informed choice in theory, in everyday practice they often delegate decision making to their physician and the decision making is therefore strongly influenced by the physicians’ opinion.
- **Supply sensitive care**: frequency of use relates to the capacity of the local healthcare system

*Wennberg JE et al., BMJ 2011*
Results

2. Communication challenges:
   - Difficult concepts: “…communicating some pretty nebulous ideas around risk and latency.”
   - Talking to migrants from non-English speaking backgrounds (language, cultural differences) and patients with limited education

3. Facilitators of communication:
   - Visual aids (graphs drawn during consultation) helpful to illustrate risks and benefits
   - Personalised risk estimates (from decision aid/calculator): patients feel reassured

Dobler CC et al, unpublished data
Results

4. Type of information communicated to patients

- Most important: estimated risk of developing TB, followed by the estimated risk of developing a significant adverse event from treatment.
- Some support: individually tailored treatment recommendation obtained from a decision analysis*, but majority: prefer plain estimates of risks and benefits in their discussion with patients.

*Dobler CC et al, ERJ, 2015
Practical implications

1. Consider use of decision aids for shared decision making with the aim to reduce unwarranted variation in PT

- Informed patients tend to prefer the least intensive/invasive alternative.\(^1\)
  → less LTBI treatment? Now, physicians often decide not to treat LTBI without discussion with patients

- Shared decision making can be effective in bridging the evidence practice gap for underutilised evidence-based interventions.\(^2\)

1) O’Connor AM et al, Cochrane Database Syst Rev, 2009
2) Politi MC et al, J Gen Intern Med, 2013
Practical implications

2. Develop and use visual aids to communicate risks and benefits

3. Decision aids for PT of TB should be
   - be simple
   - be adapted for people from culturally and linguistically diverse backgrounds
   - include individualised risk estimates (individual versus public health perspective)
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