Substance Abuse and Tuberculosis
Springfield, IL
April 27, 2011

Understanding Common Traits of an Addict
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April 27, 2011

Karina Forrest-Perkins, MHR LADC has the following disclosures to make:

• No conflict of interest.

• No relevant financial relationships with any commercial companies pertaining to this educational activity.
UNDERSTANDING COMMON TRAITS OF THE ADDICTED INDIVIDUAL

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Common Psychosocial Factors of Addiction in Personality

+ Traits
  - Distorted thinking
  - Denial
  - Manipulation
  - Fear
  - Altered sense of reality

WHY ARE THESE SO CONSISTENT?
TRAJECTORY OF USE, ABUSE, DEPENDENCE

- Underlying emotional trigger(s) that is massaged or relieved by the chemical
- Trust. The chemical works. It really works.
- Loyalty. The chemical does not work as well but you are loyal to it now. The “use to feel normal” dynamic
- Social and Relational Humiliation
- Shame versus Healthy Guilt

SHAME BASED THINKING

- **Guilt**
  - I have made a mistake
- **Shame**
  - I am a mistake
Habits
- True and False Self Behavior
- Self-Esteem
- Operation in Hyper vigilance

Characteristics involved when managing TB treatment and Co-existing Addiction Disorders or Substance Abuse

Trends/Barriers to consider
- Manipulation
- Treatment and Adherence
- Drug Use
RELEVANCE RE: TRANSMISSION

*M. tuberculosis* is spread by droplet nuclei or aerosolization of the bacilli in airborne particles of respiratory secretions.

Particles are expelled when a person with infectious TB coughs, sneezes, speaks or sings. There is *increased transmission in smoking (cigarettes, crack and/or marijuana) from associated coughing.*

TB with cavities (holes caused by the baccilli eating away surrounding tissue) in the lung is the most infectious.

*Close contacts are at highest risk of being infected.*

WHY IS SUBSTANCE USE RELEVANT TO THE TB STORY?

- Probability that TB will be transmitted is primarily based on:
  1. **The***Infectiousness of the person with TB
  2. Duration of exposure
  3. Hardiness of the bacilli
     - Environment in which exposure occurred
     - Closed environment vs. outdoors
     - Foreign-born persons from areas where TB is common
     - Health care workers who treat high risk patients
10% of latently infected persons with normal immune systems develop TB at some point in their lives

Certain medical conditions increase the risk that TB infection will progress to TB disease

Risk of developing TB disease if already HIV positive is 7 – 10% more likely per each year

**DIAGNOSIS AND TESTING FOR TB**

- The symptoms of TB disease (active pulmonary or lung TB)
  - Cough of 3 weeks or more
  - Cough productive of mucous which is bloody or pus like
  - Malaise
  - Night sweats (high fever at nighttime – may not be present if patient is immuno-suppressed)
  - Weight loss
  - Chest pain
  - Appetite loss
  - Chills
TB TREATMENT COMPLICATIONS

- Unacceptable interactions if HIV/AIDS patient
- Difficult to Monitor treatment – monthly visits, 12 month treatment periods for HIV positive individuals
- Drinking alcoholic beverages while taking anti – TB medications, especially INH, can be dangerous
- Patients with HIV/AIDS have a high prevalence of extrapulmonary disease: 60 – 80% in the HIV positive patient vs. less than 18% in the normal adult population

TB TREATMENT COMPLICATIONS CONT’D

- There are increased rates of highly contagious and treatment resistant TB.

The relation between substance abuse and increased transmission of (TB) can be explained in several ways, some of which are indirect and revolve around the following:

1. Difficulties identifying at-risk contacts; screening them for TB; and, treating patients with positive findings
2. “Persons who abuse substances may have less access to routine medical care,” potentially leading to delayed diagnoses. As the disease progresses, patients tend to become more contagious.
3. “Substance Abusers are less likely to be screened for TB, to begin TB treatment or to complete TB treatment... problems compounded by the fact that substance abusers have weakened immune systems.
4. TB medications are usually metabolized by the liver, which can be damaged by substance abuse. (Archives of Internal Medicine, Jan 26, 2009)
Increased exposure risk is considered largely attributable to social and lifestyle factors including homelessness, imprisonment, and drug and alcohol abuse.

Drug users are commonly immuno-compromised through HIV infection and malnutrition, resulting in increased risk for TB infection and rapid progression to active disease.

- Habitually smoking crack cocaine may cause pulmonary damage (crack lung) and may enhance susceptibility to infectious diseases.
- Several pulmonary complications are associated with the inhalation of crack cocaine (e.g., intensive cough, shortness of breath, chest pain, acute bilateral pulmonary infiltrates, thermal airway injury, pneumothorax and noncardiogenic pulmonary edema, production of carbonaceous sputum, and exacerbation of asthma). Collectively, these complications have been reported as crack syndrome.
- Compromised lung and heart health leave individual susceptible to contraction of TB
"Our results suggest that **substance abuse** is the **most commonly reported modifiable behavior impeding TB elimination efforts** in the United States," John E. Oeltmann, of the U.S. Centers for Disease Control and Prevention, and colleagues, wrote in a news release from the journal. (emphasis added)

DATA TRENDS

- WHO Researchers analyzed data from 153,268 patients aged 15 or older.
- Of those patients, 28,650 (18.7 percent) reported substance abuse.
- This is a greater percentage than any other established risk factor for TB, including recent immigration to the United States (12.9 percent), HIV infection (9.5 percent), living in a group setting (6.6 percent), homelessness (6.3 percent), or working in a high-risk job (4.3 percent).
We have to stop people living with HIV from dying of tuberculosis," said Mr Michel Sidibe, Executive Director of UNAIDS. "Universal access to HIV prevention, treatment, care and support must include TB prevention, diagnosis and treatment. When HIV and TB services are combined, they save lives." [2009]

TB/HIV co-infection and drug-resistant forms of tuberculosis present the greatest challenges, the report says. In 2007 an estimated 500 000 people had multidrug-resistant TB (MDR-TB), but less than 1% of them were receiving treatments that was known to be based on WHO's recommended standards.

"We have made remarkable progress against both TB and HIV in the last few years. But, TB still kills more people with HIV than any other disease," said Dr Michel Kazatchkine, Executive Director of the Global Fund to Fight AIDS, Tuberculosis and Malaria.

TB outbreaks among non-IDUs have also been attributed to sharing drug equipment or to cramped conditions and poor ventilation

“Shotgunning”, a practice of inhaling and then exhaling smoke (e.g., crack cocaine or hashish) directly into another's mouth, has been implicated in a South Dakota TB outbreak in 2003
“Several barriers to care, including low motivation for treatment (particularly when asymptomatic), unstable lifestyle, alcohol abuse, and lack of primary care or health insurance”

IDUs may also avoid seeking care because of a perceived stigma or fear that they may experience narcotic withdrawal if hospitalized [106]. At the provider level, the perception persists that drug users are a population that is difficult to treat.

RESOURCES

- **Primary source:** Archives of Internal Medicine


