Substance Abuse and Tuberculosis
Oklahoma City, Oklahoma
November 17, 2010

Kinds of Substance Abuse
Understanding the Addictive Personality
Substance Abuse and Mental Illness
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Tuberculosis and Substance Abuse
Karina A. Forrest-Perkins MHR LADC
Mid-America Addiction Technology Transfer Center
Tuberculosis is a leading cause of infectious morbidity and mortality worldwide.

Kinds of Substance Abuse

- Alcohol
- Tobacco
- IV Use
- Other types of addictions
Understanding the Addictive Personality

Common Psychosocial Factors of Addiction in Personality
- Traits
- Habits

Understanding the Addictive Personality, Cont.d

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.*

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Probability that TB will be transmitted is primarily based on:

- **Infectiousness of the person with TB**
- Duration of exposure
- 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% per year

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**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 immunosuppressed)
- Weight loss
- Chest pain
- Appetite loss
- Chills
Treatment Complications

- Unacceptable interactions if HIV/AIDS patient
- Monitoring 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 – 80% in the HIV positive patient vs. less than 18% in the normal adult population

TB Treatment Complications

- 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 delayed diagnosis and difficulties identifying at-risk contacts, screening them for TB and treating patients with positive findings,” the researchers noted. “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.”
  - “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.
  - TB medications are usually metabolized by the liver, which can be damaged by substance abuse. (Archives of Internal Medicine, Jan 26, 2009)
AOD Programs

AOD Programs should:
- Provide purified protein derivative (PPD) skin testing for all high risk patients, ex. Persons with HIV infection
- Close contacts of persons with infectious TB
- Patients with chronic diseases such as diabetes and silicosis
- Persons who inject drugs
- Recent immigrants from areas where TB is common
- Those that are medically underserved
- Residents of long-term care facilities
- The homeless

"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)
Evidence to directly link risk for TB with crack cocaine use is lacking, although an association with tuberculin positivity has been shown. 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, hemoptysis, 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.
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).

WHO

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."

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.
Substance Abuse and Mental Illness

Describe the impact Mental Illness has on Substance Abuse and the management of the TB patient

- Mental Illness contributing to Substance Abuse
  - Traumatization Symptoms – Emotional Dysregulation
    - Anxiety, Depression, Horror (seeing/sensing triggering images), Dissociation – Emotional Shock

Mental Health Assessment:
Address areas in the bio-psych-social comprehensive assessment that probe behaviors and history the client may not consider as relevant to their overall health and safety or that may be relevant to successful treatment for TB.
Examples: Sexual History, Trauma History, Domestic Violence History…
Case Management Priorities:

- Daily itinerary, reminder visits, calls, transportation
- Calendar of health progress or health symptoms
- Notable areas to report to Care Provider/Tx Provider the client may not consider notable; for ex., recent domestic violence episodes, drug related relapses, IV use, stimulant use, etc..

References

- TIPS # 18 – The TB Epidemic
- www.cdc.gov
- www.health.state.ny.us
- Physicians Desk Reference – 2004
- www.medscape.com
References, Cont.d


Working with Partners: Connecting Patients to Resources

Addiction Treatment Resources:

http://www.nattc.org/regcenters/index_midamerica.asp

Pat Stilen, LCSW

Director/Principal Investigator
Address: University of Missouri - Kansas City
5100 Rockhill RdCity: Kansas City
State: Missouri Zip: 64110 Phone: 816-482-1100 E-mail: stilenp@umkc.edu
Addiction Messenger e-zine

Type/Format: Electronic Media (i.e. e-zine)

Description: The AM is a monthly publication that communicates tips and information on best practices in a brief format. Continuing education hours (NAADAC approved) are available for readers who read a series of three issues and take a pre-post test.

Karina A. Forrest-Perkins, MHR LADC
kforrest@gatewaytoprevention.org
405-788-2208 (Cell)