TB & HIV IN THE HEALTH SECTOR

Muzimkhulu Zungu
Occupational diseases

• An Occupational diseases (OD) – “diseases known to arise out of the exposure to substances and dangerous conditions in processes, trades or occupations.”

• OD is linked to the identification of a specific cause-effect relationship

The ILO Employment Injury Benefits Recommendation, 1964 (No. 121), Paragraph 6(1)
Is TB in Health Workers an occupational disease?

- Recognised Occupational Hazard since 1950s
- TB is an occupational disease affecting health care workers

**OHSA: HBA Group 3  HBA**

**ILO, List of occupational diseases, R 194, Revised 2010**

**Schedule 3: Compensation for occupational injuries & diseases (COIDA)**

<table>
<thead>
<tr>
<th>Tuberculosis of the lung</th>
<th>(1) crystalline silica (alpha quartz)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(2) mycobacterium tuberculosis or MOTTs (mycobacterium other than tuberculosis) transmitted to an employee during the performance of health care work from a patient suffering from active open tuberculosis</td>
</tr>
</tbody>
</table>
CIRCULAR INSTRUCTION REGARDING COMPENSATION FOR
PULMONARY TUBERCULOSIS IN HEALTH CARE WORKERS

1. **DEFINITION**

Pulmonary Tuberculosis (PTB) is an infectious disease caused by Mycobacterium tuberculosis or Mycobacterium other than tuberculosis (MOTTS) in the workplace. Pulmonary Tuberculosis will be presumed to be work-related if Pulmonary Tuberculosis is transmitted to an employee during the performance of health care work from a patient suffering from active open tuberculosis or analysis or testing of infected body tissues or fluids. A claim shall clearly be set out as contemplated in and provided for in Section 65 of COIDA.
Tuberculosis is an infectious bacterial disease caused by *Mycobacterium tuberculosis*.

Public health emergency (WHO 1993 & 2005)

Robert Koch 1882
<table>
<thead>
<tr>
<th>Factors</th>
<th><em>Mycobacterium tuberculosis complex</em> species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics</td>
<td>Gram positive rods, non-spore forming, non motile, acid-fast staining, aerobic, slow-growing</td>
</tr>
<tr>
<td>Host range</td>
<td>Humans, cattle, primates, rodents, seals</td>
</tr>
<tr>
<td>Pathogenicity</td>
<td>long incubation period, may progress to pulmonary or extrapulmonary disease</td>
</tr>
<tr>
<td>Infectious dose</td>
<td>10 bacilli by inhalation</td>
</tr>
<tr>
<td>Mode of transmission</td>
<td>Preferentially airborne and secondary ingestion or dermal inoculation</td>
</tr>
<tr>
<td>Communicability</td>
<td>as long as bacilli are in sputum (may be years)</td>
</tr>
<tr>
<td>Zoonosis</td>
<td>yes, by inhalation or direct contact with infected animals or tissues from infected animals, Milk</td>
</tr>
<tr>
<td>Reservoir</td>
<td>Humans, cattle, badgers, swine and other mammals (<em>M. bovis</em>)</td>
</tr>
<tr>
<td>Vectors</td>
<td>None</td>
</tr>
<tr>
<td>Survival outside the host</td>
<td>Sputum (cool and dark location) : 6 to 8 months, clothing : 45 days, paper - book : 105 days</td>
</tr>
<tr>
<td>Treatment</td>
<td>Antibiotic therapy</td>
</tr>
<tr>
<td>Immunization</td>
<td>Attenuate live vaccine (BCG) not routinely carried out (offers limited protection)</td>
</tr>
<tr>
<td>Geographical localization</td>
<td>Worldwide</td>
</tr>
</tbody>
</table>
Transmission
Cont...

• Likelihood of transmission
  – No. of organisms being expelled into the air
  – Concentration of organisms in the air
  – Length of time an exposed person breathes the contaminated air; and
  – Immune status of the exposed individual

• Risks
  – HIV
  – Substance abuse
  – Diabetes mellitus
  – Medical treatments (steroids or organ transplant)
  – Silicosis
  – Etc
The Natural History of TB Infection

Exposure to TB

- Non-Infection (70-90%)
  - Dormant TB (90%) well
    - never develop TB
    - NOT infectious

Infection (10-30%)

- Active TB (10%) ill
  - 5% develop TB within 2 years
  - 5% develop TB many years later

Untreated

- 50% die within 2 years

Treated

Cured
TB disease...
the germ is awake and causing harm to the body. It can cause these symptoms...

- Cough for more than 3 weeks
- Sweating at night
- Extreme tiredness
- Fever
- Weight loss
- No appetite
A Multi-system Infection
* Often resistant to additional drugs

** Resistant to any fluoroquinolone and at least one of three injectable second-line drugs (i.e., amikacin, kanamycin, or capreomycin)
TB Burden

• Global TB Stats 2013
  – 2\textsuperscript{nd} single greatest killer due to infectious agent
  – TB incidence 126 per 100 000

• South Africa 2013
  – TB incidence was 860 / 100 000
  – \sim 62\% active TB are HIV (+)

• HCW TB Incidence 1133 per 100 000
## Compensated Occupational TB in HCWs

<table>
<thead>
<tr>
<th>Occupational Disease</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB HCWs</td>
<td>211</td>
<td>500</td>
<td>384</td>
<td>384</td>
<td>323</td>
<td>293</td>
<td>488</td>
</tr>
</tbody>
</table>

Department of Labour & NIOH

11/11/2015
How many people should be compensated?

- 210 511 HCWs (2010 NDOH HRH)
- TB incidence 2006 (1 133 per 100 000)
- \( \left( \frac{1133}{100,000} \right) \times 210,511 = 2,385 \) per year
Effects of TB in health workers

- Abseeintism and or Preseeintism
- Attrition
- Moral
- Costs
- Stigma
- Falling productivity
Government role on TB and Health Workers

• Create an enabling environment:
  – Enact policy & legislation
  – Enforcement through workplace inspections
  – Disseminate information
  – Promote training, education and research
  – Resolution of OH&S disputes.
Role of Employers on TB and Health Workers

• Provide & maintain a safe & without risk work environment
  – HIRA
  – establish and maintain health and safety committees
  – train employees
  – supply personal protective equipment
  – immediately report all critical injuries to the government department responsible for OH&S
  – Medical Surveillance Programme
Role of Organised Labour on TB and Health Workers

• On behalf of their members:
  – Advocate for progressive occupational health & safety laws including TB HIV at work
  – Partner and / or source expertise
  – Monitor the implementation
  – Encourage members to comply
  – Train their members
Management of TB

• Primary Prevention
  – Health promotion
  – Specific Prevention (IPT)

• Secondary Prevention
  – Surveillance
  – Early detection and cure (infector pool)

• Tertiary Prevention
  – Rehabilitation (Social security)
Global policy guidelines

• WHO policy on TB infection control in health-care facilities, congregate settings and households (2009)

• Policy Guidelines on Improving Health Worker Access to Prevention, Treatment and Care Services for HIV and TB (2010)
National policy guidelines

• Occupational Health and Safety Act, No. 85 of 1993
  – Safe working environment

• Hazardous biological regulations, 2001
  – HRA every 2 years and records kept.
  – Information and training
  – Risk based medical surveillance
• Draft infection control Plan for MDR and XDR TB 2007

• Guidelines for the prevention of transmission of TB in health care facilities in SA
Cont...

– Compensation for Occupational Injuries and Diseases Act, No. 130 of 1993

➢ Circular Instruction No. 178 on Compensation for pulmonary TB in HCWs
TB is curable

www.thetruthabouttb.org
Human Immunodeficiency Virus (HIV)
Adults and children estimated to be living with HIV, 2013
By WHO region

Number of people (millions), by WHO region

- Eastern Mediterranean: 280 000 [200 000–420 000]
- Western Pacific: 1 300 000 [1 100 000–1 700 000]
- Europe: 2 100 000 [1 900 000–2 200 000]
- Americas: 3 200 000 [2 800 000–4 000 000]
- South-East Asia: 3 400 000 [2 900 000–4 000 000]
- Africa: 24 700 000 [23 500 000–26 100 000]

Total: 35 000 000 [33 200 000–37 200 000]

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Health Statistics and Information Systems (HSI)
World Health Organization

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HIV Burden of Disease

• Global Burden
  – 36.9 million PLHIV and 2/3 in SS Africa
  – 2.7 million new infections
  – 10 million co-infected with TB and HIV

• SA adults (15 -49 yrs) prevalence – 18.8%

• HCWs prevalence (11.5-15.7)%
Risk factors for HIV

• migration and mobility;
• low levels of male circumcision;
• concurrent multiple sexual partnerships;
• inconsistent and low condom use;
• alcohol abuse;
• intergenerational and transactional sex;
• sexually transmitted infections;
• gender; and
• stigma
DRAFT CIRCULAR INSTRUCTION REGARDING THE COMPENSATION FOR OCCUPATIONALLY ACQUIRED HIV INFECTION AND AIDS

THE COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT, 1993 AS AMENDED

The following circular instruction is issued to clarify the position in regard to compensation of
5. **LEGAL FRAMEWORK**

5.1. The Code should be read in conjunction with the Constitution of South Africa Act, No. 108 of 1996, and all relevant Legislation which includes the following:

(i) Employment Equity Act, No. 55 of 1998;
(ii) Labour Relations Act, No. 66 of 1995;
(iii) Occupational Health and Safety Act, No. 85 of 1993;
(iv) Mine Health and Safety Act, No. 29 of 1996;
(v) Compensation for Occupational Injuries and Diseases Act, No. 130 of 1993;
(vi) Basic Conditions of Employment Act, No. 75 of 1997; and
HIV in the workplace

• Stigma and discrimination threatens fundamental rights at work

• Significant obstacle to the attainment of decent work and sustainable development
Figure 2: Origin of direct and indirect cost of HIV/AIDS to employers

Direct costs:
- Benefit payments
- Medical care
- Recruitment and training of replacement worker

Indirect costs:
- Reduced on-the-job productivity
- Increased leave and absenteeism
- Supervisory time
- Vacancy until replacement is hired
- Learning curve as replacement comes up to speed

From one employee with HIV/AIDS

From many employees with HIV/AIDS

- Insurance premiums
- Accidents
- Legal costs

- Management burden
- Production disruptions
- Loss of workforce morale, cohesion, and experience
- Labor disputes

Total workforce-related costs of HIV/AIDS

Source: Rosen et al. (2003: Figure 1).
HIV in the workplace

• It has a devastating impact on workers, their dependents and society

  – losses of household income
  – higher medical and funeral expenses
  – changes in expenditure patterns
  – decrease private savings and investment

(Bollinger and Stover, 1999)
Impact on the worker’s family

- Stigmatization
- Strained relations
- Intimacy
- Income
- Psychological disorders
- Parenting
- Care givers
- And ultimately may destroy the family
Effects of HIV in the workplace

• Move along the fault lines of society, particularly affecting groups that are already disadvantaged or marginalized
HIV TB in the workplace programme

• Policy
• Strategic & Operational plan
• Programmatic interventions
  – Primary Prevention
    • IEC
    • Condom distribution
    • Gender mainstreaming
    • Peer Education
    • Stigma reduction
    • Wellness
    • HCT
    • TB Screening
HIV TB in the workplace programme

— Secondary Prevention
  • HCT & TB Screening
  • Treatment & care
— Tertiary Prevention
  • Rehabilitation
  • Compensation

• M&E plan
• Financing
Ngiyabonga

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