BACKGROUND AND PREVALENCE OF SPINAL TB
Introduction

- TB remains a major global public health problem and is one of the leading causes of death and morbidity worldwide.
- The WHO has estimated that one third of the global population is affected by TB.
- An re-emergence of TB are currently seen due to the increase in HIV prevalence and the development of drug resistance.

*(WHO, Global Tuberculosis report, 2018; Chen et al., 2016; Shanmuganathan et al., 2013; Shetty et al., 2016)*
Background TB and EPTB

Two types of TB

Pulmonary TB (PTB)
- TB in the lungs
- Most prevalent form of TB

Extra-pulmonary TB (EPTB)

“The isolated occurrence of TB in any part of the body other than lungs.”
- Lymph nodes
- Abdomen
- Genitourinary tract
- Skin
- Joints and bones
- Meninges

(Lee, 2015; Esteves et al., 2017; Chandir et al., 2010; WHO Global Tuberculosis Report, 2018; Pott, 2002)
Background of EPTB

- EPTB prevalence is 14% of the known TB cases world wide.
- EPTB can occur in isolation or along with a pulmonary focus or can involve multiple sites as in disseminated disease.
- EPTB without pulmonary involvement is not contagious.
- There is a rise in the number of EPTB cases in developing as well as developed countries.

(WHO, Global tuberculosis report, 2018; Owolabi et al., 2010; Shanmuganathan et al., 2013; Sharma and Mohan, 2004, Shetty et al., 2016)
Background spinal TB

• Spinal tuberculosis is one of the oldest diseases known to mankind and has been found in Egyptian mummies dating back to 9000 BC.

• In 1779, Percival Pott published the first modern description of spinal deformity and paraplegia resulting from spinal TB:

“Destruction of disc space and adjacent vertebral bodies, collapse of spinal elements and progressive spinal deformity”.

(Esteves et al., 2017; Chandir et al., 2010; WHO, Global tuberculosis report, 2018; Pott, 2002)

Image: https://artuk.org/discover/artworks/john-hunter-17281793-146102
Background

- An re-emergence of TB are currently seen due to the increase in HIV prevalence and the emergence of drug resistance, therefore TB remains a major global public health problem and is one of the leading causes of death and morbidity worldwide.
- Pulmonary TB is the most prevalent form of TB in the world, while Extra-Pulmonary Tuberculosis (EPTB) usually constitutes around 15%-20% of all TB cases.
- STB constitute 50% of all EPTB cases while bone and joint TB makes up around 10% of all EPTB cases.
- Therefore, around 1-2% of all TB cases worldwide are STB related.
- Both adults and children can be affected.

(Chen et al., 2016; Shanmuganathan et al., 2013; Sharma S.K., 2004, Shetty et al., 2016)
Prevalence spinal TB

• Spinal TB constitute 50% of all EPTB cases while bone and joint TB makes up around 10% of all EPTB cases.

• Therefore, around 1-2% of all TB cases worldwide are STB related.

• Both adults and children can be affected by spinal TB.

(Rasjasakaran et al., 2018; Chen et al., 2016; Shanmuganathan et al., 2013; Shetty et al., 2016)
Prevalence spinal TB

• Prevalence of TB has been noted amongst individuals living in poor conditions, who has a history of alcohol and drug abuse, who are malnourished as well as unemployed.

• Spinal TB incidence in RSA is 948:100 000

• In developing countries, TB is also the most prevalent (54%) HIV related opportunistic disease.

(Hannington et al., 2015; Owolabi et al., 2010, Shanmuganathan et al., 2013; Sharma and Mohan, 2004; Shetty et al., 2016)
Spinal TB could result in:

- Weakness
- Loss of function
- Spinal deformities
- Reduction in quality of life
- Inability to work/ reduced chance for employability

(Draulens et al., 2011)
Duration of symptoms

- Spinal TB has an insidious (gradual and subtle) onset and symptoms vary greatly.
- Disease progression could occur without symptoms.
- The symptoms are often overlooked by the patient and the clinicians due to their slow progression.
- The average duration of symptoms ranges from 2 weeks to 18 months, after which secondary complications could develop.

(Draulens et al., 2012)
Importance of early detection

• Identify TB (all types, but especially pulmonary TB (PTB) and human immunodeficiency virus (HIV)) at an early stage.

Why?

• To prevent the development of secondary complications associated with STB.
Importance of early detection

• To minimize the impact of disability on the individual and immediate family as well as the individual’s Quality of Life (QoL) i.e. decrease community participation and unemployment.
Importance of early detection

To decrease the financial burden on the government:

• i.e. cost of early diagnosis vs. cost of treating secondary complications

• i.e. paraplegia and associated factors (disability, rehabilitation and development of associated secondary complications, management of bladder and bowel incontinence (urological services and supplies), provision of wheelchairs and social grant support and specialized surgery.

Image: https://johnschupbach.wordpress.com/2013/01/29/daulatis-tuberculosis/
Importance of early detection

• To minimize the strain on healthcare systems due to expensive tertiary care management, long-term healthcare costs required to manage severe long-term disability, assistive technologies and social grant support.

*Image: Google Images*
Study in Nigeria found:

“Seventy five percent of the patients presented more than 2 months after the onset of the illness and the majority of the subjects were paraplegic (66.7 %). The large number of paraplegic and the delay before seeking healthcare in this study may be partly related to the low level of education and health care in the catchments area of study, resulting in undue waiting until they patients can could no longer cope with their daily activities before they presented to the hospital.”

South Africa PHC context

Early diagnosis in South Africa is impeded by the lack of resources at PHC level such as:

- Lack of MRI and other investigative equipment at PHC level
- Lack of knowledge from the community and the PHC staff
- Poor access to transport for clinic visits
- Poor compliance to treatment

(Louw et al., 2018)
Therefore:

• Education is a priority to increase ability for early detection and initiation of treatment.

• Education regarding spinal TB must be disseminated to:
  • the public/ communities
  • the primary care clinicians
  • the rehabilitation staff
  • the community health workers.

(Louw et al., 2018)
THANK YOU