1361. Knowledge, Attitude, and Practices on Drug-Resistant Tuberculosis Infection Control Among Healthcare Workers in Nepal: A Cross-Sectional Study
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Background. Healthcare centers are important sites for tuberculosis transmission, particularly in low-income settings where the burden of tuberculosis is high and infection control practices are often inadequate. This study aims to assess the knowledge, attitude, and practices of drug-resistant tuberculosis infection control among the healthcare workers under the National Tuberculosis Control Program in Nepal.

Methods. In this descriptive cross-sectional survey, we studied the healthcare workers from all the functioning drug-resistant tuberculosis treatment centers across Nepal between March 1, 2018 and March 15, 2018. Nepal Health Research Council provided ethical clearance. Trained enumerators obtained informed consent and conducted face-to-face interviews with a pretested questionnaire to collect data on the basic characteristics of healthcare workers, their self-reported knowledge, attitude, and practice on tuberculosis infection control. We assigned a score of one to the correct response and zero to the incorrect or no response and calculated a composite score in each of the knowledge, attitude, and practice domains. We ascertained the healthcare workers as having good knowledge, appropriate attitude, and optimal practices when the composite score was at least 50%. We summarized the numerical variables with median and interquartile range (IQR) and the categorical variables with proportions.

Results. A total of 95 out of 102 healthcare workers from 11 drug-resistant tuberculosis treatment centers participated in the study. There were 46 male and 49 female respondents. The median age was 33 years (IQR 26–42). The majority of them (53, 56%) were mid-level paramedics. The median work experience in drug-resistant tuberculosis was 2 years (IQR 1–5). We found 91 (96%) respondents had a good knowledge of tuberculosis infection control with the median knowledge score of 14 (IQR 12–14), 49 (52%) had optimal practices with the median practice score of 5 (IQR 4–7).

Conclusion. Healthcare workers at the drug-resistant tuberculosis treatment centers in Nepal had good knowledge of tuberculosis infection control but it did not translate into an appropriate attitude or optimal practices.

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1362. A Case Series of Miliary Tuberculosis in North West London
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Background. Miliary tuberculosis (mTB) is a severe presentation of TB with high mortality. We reviewed data from a cohort of patients with mTB in an area of London serving an ethnically diverse population with the highest TB endemicity in the UK.

Methods. Retrospective analysis of laboratory and medical records, radiology and microbiology results of patients with mTB identified from the London TB register from 2012 to 2019 from London North West Hospitals University NHS Trust.

Results. 60 cases with mTB were recorded. 67% of the patients were male. Median age at diagnosis was 36 years (range 13 to 88 years). 60% of patients were South Asian ethnicity. Two patients were HIV positive and 4 had received anti-TNF treatment. 73% (44 patients) patients had miliary nodular opacities on chest radiograph. Of the 16 patients with no chest radiograph evidence of mTB, 14 had computed tomography (CT) of the chest which confirmed miliary nodules. Eleven patients were sputum acid-fast bacilli (AFB) smear-positive, and in 49 patients, culture of sputum isolated Mycobacterium tuberculosis. Ten patients did not have any positive microbiology but were treated for mTB on clinicoradiological basis. Forty patients had fully-sensitive TB; 2 were isoniazid-resistant and 1 multi-drug-resistant. 5 patients in our cohort also had spinal TB. Evidence of cerebral TB was found in 5/57 patients who had a CT brain. Tuberculomas were seen in 10/24 patients who had magnetic resonance imaging (MRI). Only 8 patients had both CT and MRI; MRI revealed 2 patients with cerebral TB that CT did not, but this was not statistically significant (P = 0.1573). 7 patients were investigated with lumbar puncture, of which cerebrospinal fluid was smear and culture negative for all. All patients were treated with standard therapy with a mean length of treatment of 11 months. 33 patients have completed therapy. 7 patients died and 2 were lost to follow-up. Those who died had a mean age of 69 years compared with those who survived (42.4 years).

Conclusion. The diagnosis of mTB requires a high index of suspicion for central nervous system disease. Our cohort demonstrates that spinal disease needs to be considered in addition to cerebral TB, for which MRI may be the preferred imaging modality. Mortality in our cohort was associated with older age.

Disclosures. All authors: No reported disclosures.

1363. Does Genotypic Testing Improve Treatment Outcomes in Drug-Resistant Tuberculosis?
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Background. Treatment of drug-resistant tuberculosis (DR-TB) requires toxic and complex drug regimens. Disastrous outcomes occur due to a delay in the report of susceptibility results. WHO endorses genotypic tests like line probe assay (Mtbdrsl) for early diagnosis enabling start of robust treatment regimens. Data correlating Mtbdrsl and specific mutations with outcome are rare.

Methods. A concurrent cohort study was conducted on all patients diagnosed to have DR-TB between January 2016 and June 2017 in the departments of Pulmonary Medicine and Infectious Diseases at a tertiary care center in India. Patients aged >18 years with a positive Mtbdrsl (done on culture) or Mycobacterial culture were prospectively followed up till completion of therapy for assessment of outcomes. Patients were divided into 2 groups based on diagnostic method used: culture group and Mtbdrsl group. Risk factors for adverse outcomes were assessed.

Results. Total of 82 patients, of which 62.2% were males with a mean age of 32 years were included; 50 in the Mtbdr group and 32 in the culture group. Among these, 40.2% were multi-drug-resistant Tuberculosis (MDR-TB), 53.7% were Pre-XDR (pre-extensively drug-resistant i.e., quinolone-resistant tuberculosis) and 6.1% were XDR (extensively drug-resistant TB). Isolated pulmonary involvement (46.3%) was common and was followed up till completion of therapy for assessment of outcomes. Mortality in our cohort was associated with older age.

Conclusion. The diagnosis of mTB requires a high index of suspicion for central nervous system disease. Our cohort demonstrates that spinal disease needs to be considered in addition to cerebral TB, for which MRI may be the preferred imaging modality. Mortality in our cohort was associated with older age.
1364. Pretreatment Chest X-ray Stability Duration and Tuberculosis Disease in South Korea; 2012–2017

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Background. Repeated chest X-rays serve as an essential screening tool to identify and describe new or stable (i.e., unchanged) lung abnormalities suggestive of pulmonary tuberculosis (TB) disease. The time for which a patient’s chest X-ray has not demonstrated appreciable change prior to treatment, or pretreatment chest X-ray stability duration, has been considered clinically useful in distinguishing inactive from active disease at four or six months. This relationship, however, has not been previously quantified.

Methods. This study relied on retrospective medical record review to assess the relationship of documented pretreatment chest X-ray stability duration thresholds relative to four and 6 months with a future clinical or culture-confirmed (Class 3) diagnosis of pulmonary TB disease. Multivariable logistic regression quantified this association among 146 patients who were evaluated and started on treatment for pulmonary TB disease in the San Diego County tuberculosis clinic between May 2012 and March 2017.

Results. After adjusting for age and Class B1 TB, Pulmonary status, a CXR stability duration of 4 months or more was not significantly associated with a Class 3 pulmonary TB diagnosis (adjusted odds ratio [AOR], 0.830; 95% confidence interval [CI], 0.198–3.48). Results were similar for the 6-month cut-point after adjusting for age and Class B1 status (AOR, 0.970; 95% CI, 0.304–3.10). Compared with less than 4 months, CXR stability durations of four to 6 months (AOR, 0.778; 95% CI, 0.156–3.89) and greater than 6 months (AOR, 0.875; 95% CI, 0.187–4.10) were also not significantly associated with a Class 3 TB diagnosis after adjusting for covariates.

Conclusion. Repeated chest X-rays remain a valuable tool for clinicians identifying and describing new or unchanged lung abnormalities suggestive of pulmonary TB disease. This study found no statistically significant association between pretreatment chest X-ray stability duration and subsequent TB disease diagnosis, with a wide range of estimates compatible with the data, suggesting the stability duration cut points relative to four and six months may not be as informative as previously understood.

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1365. Profiling Extrapulmonary Nontuberculous Mycobacteria Infections and Predictors for rapid-growing Species: A Multi-Center Retrospective Study

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Background. Nontuberculous mycobacteria (NTM) disease is increasing worldwide and is an important cause of morbidity and mortality. It is found that 20 to 30% of NTM isolates are of extrapulmonary origin. However, Studies about extrapulmonary NTM infections have been limited. Thus, we aim to describe the diversity of NTM isolates and their antimicrobial susceptibility testing, fluoroquinolone and macrolide use and for NTM treatment, and rifampicin-ethambutol-macrolide-based regimen was predominantly used for SGM treatment.

Methods. We performed a multi-center retrospective cohort study of patients with spinal TB. The clinical features, comorbidities, laboratory data, imaging findings and treatment outcomes of the patients were analyzed. The unfavorable outcome was defined according to previous studies. The prognostic factors for unfavorable outcomes as the primary outcome were determined using multivariate logistic regression analysis and a linear mixed model were used to compare four sources of information for unfavorable markers during treatment.

Results. A total of 185 patients (85 males and 100 females) were included. The median age of the patients was 57.2 years. Of them, 115 underwent surgery during treatment, with a median treatment duration of 12 months. Fifty-nine patients had unfavorable outcomes. In multivariable regression analysis, the factors associated with unfavorable outcome were old age (odds ratio [OR], 2.51; P = 0.034), acid-fast bacilli (AFB) smear positivity in specimens obtained through biopsy (OR, 3.05; P = 0.039), and elevated erythrocyte sedimentation rate (ESR) at the end of treatment (OR, 3.85; P = 0.002). Patients with unfavorable outcomes had a significant trend toward higher ESR during treatment compared with patients with favorable outcome (P = 0.009). Duration of anti-TB and surgical treatment did not affect prognosis.

Disclosures. All authors: No reported disclosures.

1366. Prognostic Factors for Unfavorable Outcomes of Patients with Spinal Tuberculosis in a Country with an Intermediate Tuberculosis Burden: a Multi-Center Cohort Study

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Background. Spinal tuberculosis (TB) remains an important concern. Although spinal TB often sequelae such as myelopathy after treatment, the predictive factors affecting such unfavorable outcomes are not yet known. Therefore, we investigated the clinical manifestations and predictors of unfavorable outcome in patients with spinal TB.

Methods. We performed a multi-center retrospective cohort study of patients with spinal TB. The clinical features, comorbidities, laboratory data, imaging findings and treatment outcomes of the patients were analyzed. The unfavorable outcome was defined according to previous studies. The prognostic factors for unfavorable outcomes as the primary outcome were determined using multivariate logistic regression analysis and a linear mixed model were used to compare the four sources of information for unfavorable markers during treatment.

Results. A total of 185 patients (85 males and 100 females) were included. The median age of the patients was 57.2 years. Of them, 115 underwent surgery during treatment, with a median treatment duration of 12 months. Fifty-nine patients had unfavorable outcomes. In multivariable regression analysis, the factors associated with unfavorable outcome were old age (odds ratio [OR], 2.51; P = 0.034), acid-fast bacilli (AFB) smear positivity in specimens obtained through biopsy (OR, 3.05; P = 0.039), and elevated erythrocyte sedimentation rate (ESR) at the end of treatment (OR, 3.85; P = 0.002). Patients with unfavorable outcomes had a significant trend toward higher ESR during treatment compared with patients with favorable outcome (P = 0.009). Duration of anti-TB and surgical treatment did not affect prognosis.