Chandrakumar L., Baraneetharan S.
DISEASES AND RISK FACTORS CORRELATED WITH TUBERCULOSIS IN SRI LANKA AND BELARUS
Tutor: PhD, associate professor Zhadan S.A.
Department of Pathological Physiology
Belarusian State Medical University, Minsk

Introduction. Despite global efforts, tuberculosis continues to be a devastating disease, ranking as the second leading infectious cause of death worldwide, surpassed only by COVID-19. The year 2022 saw an estimated 10.6 million new tuberculosis (TB) infections, and a surge in diagnoses, reaching 7.5 million–a level not seen since 1995. In 2021, TB resulted in 1.6 million fatalities. Children under 15 represented 11% of all TB cases in 2022, with the South-East Asia Region disproportionately affected, accounting for 46% of the global burden.

Aim: the main objective of the theses is to analyze the relationship between various diseases, as well as the influence of five risk factors for changes in the internal environment of the human body caused by alcohol consumption, smoking, diabetes, HIV and malnutrition on physiological and biochemical systems.

Materials and methods. An analysis of patient case findings was collected from Chest clinic of Vavuniya district of Sri Lanka to analyze the district distribution of tuberculosis with correlation to other prevailing diseases, five risk factors and relapse correlations. The nationwide data also collected to analyze the total distribution of the correlated diseases of the TB patients in Sri Lanka. The information regarding the five risk factors, relapse findings and other correlated diseases of TB patients in Belarus was collected from the Department of Pulmonology, Phthisiology, Allergology and occupational pathology with advance training and retraining course. Other supporting factors were clarified from the database submitted to the Global TB report of WHO by the respective countries.

Results and their discussion. The results of the data collected from the chest clinic department of Vavuniya district of Sri Lanka stated several other diseases and its distribution among genders. It was revealed that ehe reported diseases were HIV, Chronic Kidney Disease (CKD), Cancer, Hypertension, Heart diseases, Immunodeficiency and Liver diseases. The incidence of tuberculosis is higher among patients with type 2 diabetes mellitus in both genders, with males showing a significantly greater prevalence than females. The prominent age group which expresses more prominently is 35-75. To be more precise the age group with 35-45 is having more expression in the above incidence. The localization trait is greatly expressed with pulmonary TB (PTB) than extra-pulmonary TB (EPTB) in both genders and in all correlated diseases. When the five risk factors were assessed in both countries' data the TB cases attributable to harmful use of alcohol, smoking, diabetes, HIV and the undernutrition. The TB cases attributable to diabetes were relatively in the range of 150-1000 and 29-180 in total population with the incidence of TB in Sri Lanka and Belarus respectively. This statistic reveals the dominance of diabetes as a correlated disease in Sri Lankan TB patients but in Belarus and rest of the world being with the prevalence of TB with HIV infection as the correlated disease with 6.1% of the total TB incidence. HIV is a well-known factor to increase the risk of TB disease from latent to active by the immunosuppressive condition which can contribute to the breakdown of granuloma in PTB. But patients with TB with diabetic prevalence is still unclear with varying reasons supporting it such as the increase of risk of multidrug resistant TB with contributing factors such as body mass index (BMI), hyperglycaemia and dyslipidaemias which increase the susceptibility to TB.

Conclusion. In majority of the countries the most prominent correlated disease is HIV according to the TB report by WHO but in some third-world countries and under developing countries such as Sri Lanka the Diabetes Mellitus type-2 has seemed to be dominating. To the statistical report it is evident as Type 2 diabetes because of the low prevalence of HIV incidence but diabetes mellitus is being prominent correlated disease to the prevailing TB incidence should be studied to analyse the specific contributing factor to increase the TB incidence and relapse with unspecified influence in immune system.