were 46 (28.2%) aboriginals, 3 (1.8%) incarcerated, and 3 (1.8%) living in a long term care facility. Forty-one (24.0%) were new patients and 83 (48.5%) had treatment failure or relapse. Exclude the new patients of our MDR program, 25 (19.8%) developed both isoniazid and rifampin resistance within one year of starting anti-tuberculosis treatment, and 81 (64.3%) developed resistance after more than two years of treatment. Drug resistance was highest against fluoroquinolone (49%).

**Conclusion:** Having prior treatment with poor compliance was considered the major determinant of developing MDR-TB. However, 24% of our MDR-TB patients were new patients, indicating possible transmission of MDR-TB in Taiwan. Aggressive TB control efforts are needed to prevent further development and spread of MDR-TB.

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Prevalence of Different Phylogenetic Clades of *Mycobacterium tuberculosis* in Urban and Rural Areas Bangladesh

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**Background of the study:** Tuberculosis (TB) patients are distributed in both urban and rural areas of Bangladesh. But the distribution patterns of different phylogenetic clades *Mycobacterium tuberculosis* are not known. Therefore this study was undertaken to study the prevalence of different phylogenetic clades of *M. tuberculosis* in selected rural and urban settings of Bangladesh. Method used: *M. tuberculosis* strains were isolated from the sputum samples of TB suspected patients on Lowenstein-Jensen medium. Standard spoligo typing technique was followed to genotype strains of *M tuberculosis*. Finally, spoligo patterns were matched with Spoligo database 4 to ascertain different phylogenetic clades

**Results:** TB patients of urban Dhaka and rural Sunamganj were included in this study. Of 103 urban strains, 36 (35%) spoligo patterns were new and the remaining 67 (65%) patterns were W/Beijing (19%), East African Indian (EAI) (18%), Central Asian (CAS) (12%), and Principle Genetic Group (PGG) 2 & 3 (18%). Of the 112 rural strains, 64 (57%) patterns were new and the remaining 48 patterns were grouped into W/Beijing (3%), EAI (5%), CAS (31%) and PGG 2 & 3 (4%). Of the four predominant clades, Beijing (*P* = 0.000), EAI (*P* = 0.005) and PGG 2&3 (*P* = 0.001) were predominant in urban than rural areas. On the other hand, Central Asian (CAS) (0.001) and orphan clades (0.001) were predominant more in rural than urban areas. One genotype of the EAI was rare in the SpolDB4 but has detected more in rural than urban patients. These strains are considered as the new emerging clones in East and South East Asia.

**Conclusion:** This study shows distribution of different phylogenetic clades in urban and rural areas of Bangladesh. Further studies need to be conducted to elucidate the factors associated with their distribution. Besides, endemic strains are associated causing TB in Bangladesh.

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50.017

Risk Assessment of Tuberculosis Prevalence in Sahiwal District of Punjab, Pakistan

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**Keywords:** Tuberculosis; Risk factors; Pakistan

**Background:** Tuberculosis is an important public health hazard of the people of low socioeconomic status which is easily communicable disease among the family members in Pakistan and world. Tuberculosis continues to be a threat resulting into gradually increased incidence and a cause of high morbidity but low mortality in the crowded environment of the rural areas. With the increasing trend of the tuberculosed patients in the district headquarter hospital (DHQ), an analytical epidemiological study was designed to investigate the risk factors associated with the tuberculosis in the patients admitted in the DHQ Sahiwal, Pakistan.

**Material and Methods:** The risk factors were investigated through a case control (retrospective) study for which a questionnaire was also designed. The catchment area of those patients were of 100 kilometer radius on either side of sahiwal city. For this purpose 67 cases and 134 controls (*n* = 201). The controls were the surgical cases of emergency nature the same age and sex and socioeconomic cases admitted in the same hospital. The questions regarding the demographic factors and socioeconomic status were inquired from the cases as well as the controls which were recorded in the questionnaire pertaining information about age, sex, occupation, family status, living condition, addiction, history of contact and consumption of raw milk. Data analysis was performed by using SPSS version 11.5.

**Results:** Tuberculosis was the prevalence rate of tuberculosis in the age groups of 16 to 30 years, 31—45 years and 46—60 years was 46.2% (35 cases), with 17.9% (12 cases) and with 22.3% (15 cases) respectively. Odds ratios (equivalent
to relative risk) that were estimated through a 2 X 2 contingency table for association of the disease with history of raw milk consumption, disease contact history, history of diabetes, smoking history, housing capacity (over crowded living), and poverty were 70, 56, 6.77, 2.2, 2.15 and 2 respectively.

Conclusion: A highest odd ratio for history of contact and raw milk consumption shows strong association of the disease with these risk factors, while poverty, housing capacity, smoking and history of diabetes also seem contributing to the disease prevalence.

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First Insight Into Mycobacterium tuberculosis Biodiversity in Sri Lanka: Evidence for Predominance of Beijing Genotype and Ancestral Lineages Among Clinical Isolates

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Background: Little is known about strain patterns of Mycobacterium tuberculosis in Sri Lanka. From an epidemiological point of view identification and characterization of circulating strains are important for determination of effectiveness of the control programme and monitoring the spread of the disease.

Methods: Mycobacterium tuberculosis (n=100) recovered from adults with confirmed pulmonary TB were grown on Lowenstein Jensen media. Spoligotyping was performed using a commercially available kit (Isogen Bioscience B.V., Maarssen). The results were compared to the SITVIT2 international database of Pasteur Institute of Guadeloupe.

Results: A total of 39 distinct spoligotype patterns were obtained. There were 13 clusters (containing 2—14 isolates per cluster) encompassing 74% of total isolates. The major clades observed were East-African Indian lineage(EAI) 55%, Beijing 14%, Haarlem 9%, and ill defined T family 6%. Regarding major shared types in this study, it is important to highlight the SIT 1 (Beijing lineage, 14%) predominance among the strains, followed by SIT 11 (EAI 3-IND, 12%) and SIT 355 (also EAI 3-IND, 10%). Regarding the distribution of clinical isolates among Principal Genetic Group (PGG) 1 and PGG2/3 groups, we could define 88/100 strains correctly; 71/88(80.7%) belonged to PGG1 [among these EAI were most predominant, 55/71(77.5%), followed by Beijing 14/71(19.7%)], and 17/88(19.3%) belonged to evolutionary recent or “modern” lineages.

Conclusion: The EAI and Beijing lineages were most predominant, an observation similar to other countries of South-East Asia. However, it is the first report showing a very high proportion of ancestral PGG1 strains (71% of the study sample), as well as a high proportion of Beijing strains (14% of all strains, and the largest single cluster) in Sri-Lanka. These observations along with the fact that strains belonging to Central Asian (CAS) clade frequently found in Pakistan and North India were rare, show a greater influence of countries from South and South East Asia (where EAI and Beijing lineages predominate).

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The Development of Tuberculosis and HIV Collaboration Model in Lower North of Thailand

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Background: Thailand ranked 17 th on this list of 22 “high-burden” countries, with an estimated 91,374 new TB cases occurring in 2005. In 1996, after national implementation of DOTS in 2001, but has been unable to achieve the target for treatment success. The 2007 WHO global report on TB reported that, in 2005, 7.6% of incident TB cases in persons aged 15—49 in Thailand were HIV-infected. North are highest HIV-infect of Thailand. Health system have no policy for TB-HIV collaboration, then in 2005, Researcher develop model of TB-HIV collaboration in lower of north of Thailand, consists of 5 provinces and 46 districts are divided into districts. The district hospital separated service between TB and HIV unit, so TB patients and PLWH/AIDS were not screened HIV and TB.

Methods: In 2005—2008 Model were conducted to policy in all of hospitals by TB leadership meeting, TB-HIV hospital team training include doctor, nurse, TB officer, counselor, laboratory technical. Then close up hospital monitoring and evaluation 2 times a year, meeting for result conclusion every end of year.

Results: In 2005, 2006, 2007, TB patients were registered 3,507, 2,955, 2,456 cases respectively. In the first year, there were TB patient getting HIV IEC, VCT, 73.3 and 31.3%. The prevalence of HIV in the first year was 40 percent. At the end, The prevalence of HIV in the last year was 17 percent.TB were VCT from 31.4 to 74.6%. Acess to ART increase from 17 to 35.5%. TB screening in HIV patient increase from 73.9 to 93.8.

Conclusion: TB-HIV Collaboration increase access to care of both TB and HIV patients.

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