Abstract

No other infectious disease, since time immemorial, has inflicted on mankind the misery and suffering in all aspects of life – social, economic and health, as tuberculosis (TB). The history of TB highlights man’s struggle against a disease that dates from antiquity and is the story of failures and successes of disaster and hope. In the ancient Indian Vedas (2000 BC) tuberculosis is referred to as “rogaraj” or the king of diseases and as “rajayakshman” or the disease of the kings. The disease has been referred to as ‘consumption’, ‘phthisis’ and ‘white plague’. The modern name ‘tuberculosis’ originated from the nodules called ‘tubercles’. The etiological agent of this disease is usually Mycobacterium tuberculosis belonging to the Genus Mycobacteria. It was first isolated and shown to be the cause of tuberculosis by R. Koch in 1882. This bacteria is aerobic or microaerophilic non-motile, non-spore forming, high in lipid content; and acid and alcohol fast.

Saharanpur is the important city of western Uttar Pradesh and being a busy place, the people not only from different part of the state but also from different part of the country come over here to perform various socio-religious rituals and for pilgrimage and business almost throughout the year. The flow of people causes overcrowding, scarcity of nutrition food and water, and poor sanitation leading to unhygienic conditions. This may result in the spread of various microbial diseases. Diseases like Pulmonary tuberculosis demand great attention because of their ill-effects on the health of humans. The standard antibiotics / allopathic drugs used in the modern medicine system cause adverse side effects on human health. Thus, alternative medicines i.e., ayurvedic and homeopathic drugs, should also be tried against pulmonary tuberculosis which do not have any side-effects. A true epidemiological and pathological status is also required for planning and execution of their control operations. Today, the emphasis in the medical approach to disease is increasingly on its control with the treatment of alternative medicines and knowledge of epidemiology and pathology is essential in understanding how it is caused and in developing soundly based preventive measures. Keeping this in view, an epidemiological & pathological status of pulmonary tuberculosis at Saharanpur and in vitro control against certain allopathic, ayurvedic and homeopathic drugs will be carried out.
The present study is an attempt –

1. To carry out study and research on the epidemiological and pathological status/aspects of pulmonary tuberculosis (PTB) in the people of Saharanpur (U.P.) and its adjoining area.
2. To carry out study and research on the incidence of pulmonary tuberculosis (PTB) in different months of the years and among different group & viz. age groups, sexes, habitats, habits, socioeconomic classes and blood groups of the patients along with the biotic variables (i.e. temperature, rainfall and humidity)
3. To find out various haematological parameters.
4. To find out in Vitro efficacy of certain Allopathic, Ayurvedic and Homoeopathic drugs against Mycobacterium sp.
5. To find out whether or not Mycobacterium sp. developed resistance against these drugs.

To meet the above objectives a total number of 1430 suspected patients (SPE) were examined for PTB infection. They were subjected to Mantoux test. Those showing positive reactions to the test were considered to be having an infection of tuberculosis and rest were considered normal. The microscopic examination of the smear for Acid and Alcohol Fast Bacilli (AFB) in sputum samples of the patients was carried out for confirmation of the infection to detect the percentage or the infectious population.

The incidence of PTB was observed in different months of the years and among different groups viz. groups, sexes, habitats, habits, socioeconomic classes and blood groups of the patients. Concomitantly, the abiotic variables i.e. temperature, relative humidity and rainfall were also recorded. Various haematological (HB, TEC, DLC, ESR, PCV, MCV, MCH and MCHC) and biochemical parameters (SGOT, SGPT, Serum Bilirubin, Serum Alkaline Phosphatase and Serum total Proteins), the SPE were determined in three groups- Group I (Normal) Group II (acute infection) and Group III (Chronic infection).

The study was carried out for a period of two years, viz. Oct 2009 Sept 2010 (first year) and Oct 2010 Sept 2011 (Second Year). All the data was analysed statistically.
In vitro antimicrobial activity of Allopathic (Streptomycin, Rifampicin, Pyrazinamide, Isoniazid), Ayurvedic (Swarn Vasant Malti, Mahalakshmi Vilas Ras, Rajmrigank, Shringyadi) and Homeopathic (Arsenic iodatum 30, Stannum iodat 30, Kalium iodat 30, Silicea 30) drugs against Mycobacterium sp. was determined.

The Present study that there is a need of strict vigilence on the PTB patients of Saharanpur for the screening and monitoring of the disease. More emphasis should be given on treatment of AFB +ve cases since these are infectious population of the disease Completion of treatment is to be given more importance than diagnosis of cases. Sputum testing should be emphasised as a method of diagnosis rather than the current diagnosis on the basis of X-Rays. Supervised short-course chemotherapy should be given to all TB patients (DOTS- Directly Observed Therapy-Short Courses). Finally, education about maintaining sanitary and hygienic conditions should be imparted right from the school level and proper vaccination against the disease should be encouraged Further, more Ayurvedic and Homeopathic drugs or their combinations should be tried in order to observe the synergic effect against PTB infections. As these drugs are safer than Allopathic medicines, having no adverse side effects, can be a substitute to Allopathic treatment. Thus, a sound and healthy line of treatment other than Allopathic therapy could be established for PTB management.

Finally this thesis concludes the research work carried out and draws the final results and conclusions. Although this research is an attempt to give a secure framework but there is an always a scope of improvement so future scope of the work to be carried out for further enhancements is also given.