governments. Accordingly, between 22nd May 1962 to 2nd June 1962, the NTI organised the first TB control seminar. It was attended by Assistant Directors of Health Services (TB) and Directors of TB Demonstration and Training Centres. Twenty two delegates from different states deliberated on the proposals of the NTI regarding the national TB control for India and made recommendations for a district TB control programme[40].

2.10. Papers published

During 1960-62, twenty three papers were published by the NTI in national and international journals. They are listed chronologically in Annexure IV**.** The first two were authored by Dr Bordia, the then Director.

As it is of historical interest, the first paper was on *Drug prophylaxis in the control of TB in India.* A brief summary is extracted: *Prophylaxis means prevention of disease and its manifestations. But this definition is not satisfactory in TB. There are two situations in which prophylaxis is applicable: (i) to prevent development of infection (chemoprevention) and (ii) to prevent development of disease and its complications among the infected, as revealed by a positive tuberculin test. In general, 4-7 mg per kg body weight of INH should be given for a period of six months. For practical reasons, chemoprophylaxis could be limited to high risk groups. It may not be possible to carry it out on a country-wide basis without acceptance of the people and an organisation to do it. A pilot study for applicability and acceptability of the drugs on a community basis can bring out knowledge on this subject.*

Many interesting observations were made by Bordia and others in the paper, *tuberculin sensitivity in young children (0-4 year old) as an index of TB in the community: Tuberculin testing with 1TU RT23 was done on a random sample of 0-4 year old children in Bangalore city (2883) and in rural areas (2589) within 100 miles. Variation of the tuberculin sensitivity status in different areas were compared against one another and further to socio-economic conditions. The relevance of the tuberculin sensitivity (> 14 mm taken as positive) as an index of tuberculous infection*

was evaluated. The results showed that whereas the prevalence varied within the city (1.6% in cantonment, 4.0% in city), no such variation was found in the rural areas (2%). It was not possible to establish any correlation between the disease and infection as the population was not investigated for disease.

In another paper, *Limitations of single picture interpretation in mass radiography*, Dr Raj Narain observed: *Surveys with MMR remains one of the most important methods available for measuring the size and extent of TB problem in developing countries. Its value in case finding programmes is well recognised. Nevertheless MMR with a single picture of the chest has fairly wide margin of error owing to the intra and inter-individual differences in X-ray reading. A study was undertaken to assess the errors involved by repeating an X-ray picture after an interval of three to four months and judging the first picture in the light of a comparative reading of the two pictures. It was postulated that two pictures taken at an interval may afford better judgment regarding the assessment of a case than a single picture only. A total of 8,000 persons were registered, 5,300 of them were X-rayed and re-read by two readers. Photofluorograms were repeated after three and a half months subsequent to the first picture. At the time of repeat X-ray, a spot sample of sputum was collected from persons with abnormal shadows. Briefly the findings of the study were:*

1) *No advantage of two pictures was observed.*
2) *About 20% of bacillary cases were among those with inactive or non-tubercular shadows on the basis of a single X-ray film.*
3) *Inter-individual agreement for X-ray active cases was in the order of 50%.*
4) *Intra-individual agreement for X-ray active cases was 52% and 69% for the two readers.*
5) *MMR with a single film, in spite of its inherent limitations is the best available method both for surveys as well as for case finding programmes due to its ability to identify cases as well as potential cases in a short time.*
6) *Even the agreement between two sputum samples collected*

within an interval was 42% for positive results.

While listing the detailed concept of the DTP in the paper, outline of a DTP, (Annexure IV, sl no.22), Dr Piot stated: *by TB control is meant the reduction, over a span of years, of the problem of TB. A reasonable target for control might be a 50% reduction in prevalence of excretors of tubercle bacilli over a period of 20 years..... One has to consider the medical aspects of the programme against the background of socio-economic development of the country. The programme is conceived in successive development of stages, each of them in harmony with other developmental activities under way in the rural areas. The important elements are thought to be: (a) the highest possible degree of integration of the TB programme in the general public health services; (b) maximum participation of the local government (panchayats) and of the community development department. This implies a changed pattern in the TB Specialists' field of action from the clinical level to essentially advisory, coordinating and supervisory functions.*