A look at current newspapers and magazines is sufficient to convince anyone that we live in a world of turmoil, of controversies, of scandals and uncertainties. At the same time, a discerning person could see some glimmering hopes and lights to fight the tragedies and injustices of life, especially in our dear motherland, India. It is good to recall that God is still in command, and there are a small group of committed individuals and groups working for the underdogs and marginalized societies.

The scourge of Leprosy still exists and leprosy workers and scientists have still a long way to go to solve the unsolved questions relating to transmission and management of the disease, and how to remove the age-old stigma that prevents innocent people to access and benefit from antileprosy treatment through prompt and regular treatment. From this year, TLM and ICMR will join hands to embark on a few major multicentric studies to solve some of these problems. Each of our centres has great potential to address some of the intractable questions still plaguing leprosy workers and there needs to be a sense of urgency and commitment to give priority to research into these areas...not academic but operational, and part of our duty to climb over the archaic and often outmoded methods of handling leprosy, both medically and sociologically...there is a great need to network and move into collaborative research with scientists and professionals who are like-minded in their goal to eradicate the problems of leprosy. It is nearly 3 years since we had the International Leprosy Congress at Hyderabad, when TLM India and Nepal presented over 120 scientific papers. We hope our staff will follow up and seriously implement their own recommendations and lessons learnt through these researches...we will then be the people of ‘deeds’ and not merely people of ‘words’. Research has become the password for breakthroughs in leprosy; it is high time we take up the challenge of hitting the headlines informing the world there is renewed hope for leprosy affected people globally, through our discoveries in every aspect of leprosy work.

There are hardly three more months before we draw the curtains of this year 2010; can we pause and reflect on what achievements we have made in leprosy research? Have we any reason to be glad or satisfied? Do we have a gnawing feeling that much time was wasted in trivial matters? Three-quarters of the seed sown in the parable of Jesus fell on unproductive ground...but one-quarter fell on good ground that yielded hundredfold return...Is TLM in the one-quarter ground?

You will find some interesting news in this issue and we invite you to comments and contribute to this Newsletter. May God bless and inspire us to achieve great things for Him as St Paul says in his letter to the Philippians 3:13-14: ‘...forgetting what is behind and straining towards what is ahead...’ let us go forward in faith and courage seeking God’s will for us and for the leprosy-affected.

Best wishes

P S S Sundar Rao, Head, Research

**BREAKING NEWS**

- Dr. M. S. Raju has been invited to attend International Workshop on Health related Stigma at Amsterdam, The Netherlands from 11th to 14th October 2010.
- Mr. T. Sahim, Secretary RRC married on 24th May 2010 to Ms W. Irine, M.Sc (Computer Science).
- Mr. Sahim was transferred to Finance Dept. from 1st June, 2010.
- Mr. Jaideep S. Peters, joined as a office assistant from 13th April, 2010.
- Mrs. W. Irine joined RRC as Research Assistant on 26th July, 2010.
- Ms Mumtaz, passed from VTC, Faizabad has joined RRC, Noida as Data Entry Operator in July, 2010.
voluntary reporting of Leprosy. Dr. Joydeepa Darlong from TLM Purulia is the Principal Investigator, and Dr. Neeta Maximus and Dr. Archana Kumar are the Co-Principal investigators, with the SLOs and DLOs as co-investigators. A combined meeting with District Leprosy Officers and others in all three States was held. They actively participated in the meetings and assured of continued involvement and cooperation in the research project.

1. TLM/ICMR Research Project on Post Elimination Situation in India (PELSI) Project:
   All the data needed for this project was successfully collected by August 2010. Analysis and preparation of the Final Report is in progress and will be completed by October 2010.

2. CARRELS project: Evaluation Programme Organized:
   This community based research project will have an independent evaluation for the first time by the Communities themselves. The terms of reference and the methodology has been finalized, and a pilot study done in Faizabad. Dr. M S Raju will facilitate the Project Evaluation in all the 3 centres by October, 2010.

3. Research on Impact of Self Help Groups on Women leprosy patients:
   Data Collection completed. This qualitative study, supported by TLM Sweden and Swedish Research Council, was initiated earlier this year. A representative random sample of women leprosy patients who are members of Self-Help-Groups facilitated by TLM, along with controls were selected for this study. Qualified women field investigators were recruited and trained to collect the data through indepth interviews and observational methods in Raipur, Bilaspur and Champa districts (C.G.). Data collection was completed in July 2010, under the supervision of Dr. M S Raju. Analysis and preparation of the report is in progress.

4. TLM / ICMR Research Project on Methods to Enhance Voluntary Early Reporting (EVER): Project started in June 2010 for three years. The Project areas are Faizabad in UP, Champa in Chattisgarh and Purulia in West Bengal. This is an action-research project mainly to promote early

The Meeting was held on at the International Office in Brentwood,UK with Dr. Warwick Britton as Chair. Drs. Diana Lockwood, J H Richardus, Paul Saunderson, Johan Velema, Pim Kuipers, PSS Rao were present along with Ms. June Nash representing TLMI Directorate. The meeting followed up on earlier discussion on Mouse Foot Pad laboratories, and Dr. Rao made a presentation on research in India, both ongoing and new, especially the collaborative studies with ICMR. The Committee considered the WHO enhanced strategy document, and particularly discussed the research into Chemoprophylaxis, and on the need to study both the technical and operational aspects of measuring Grade II disability, which will the main indicator for monitoring progress. Several recommendations were made for TLM centres to engage in these researches. There seems to be a need to assess the utilization and benefits of using the SALSA and P-scales developed by TLM. It was reported that the Leprosy Vaccine trials by ALM in partnership with the Infectious Disease Research Institute(IDRI)are progressing.
The India Research Committee met on July 3, 2010 at CNI Bhavan, New Delhi with Dr V M Katoch in the Chair, and the Director Dr. Sunil Anand, Prof. Mutatkar, Drs. Mannnam Ebenezer, Vanaja Shetty, Lavanya Suneetha, Deanne Hagge, Rupendra Jadhav, Shyamala Anand & PSS Rao.

After the opening devotion by Dr. Jadhav, Dr. Katoch welcomed each member, and complimented the Leprosy Mission in progressing further in relevant national research, along with the Government and particularly in partnership with ICMR. He wished that more research is needed, and also more scientific publications. He emphasized that there is a great need to use existing technology in improving health care delivery, especially to those affected by leprosy. Unless this is done and publicized appropriately, the value and impact of these researches will be lost. Dr. Sunil Anand felt that the scope of TLM research extended beyond the narrow clinical aspects, to include social aspects of leprosy as well so that the relevance of research can be seen. He also emphasized the need to evaluate the impact of research in terms of tangible and visible outcomes in the lives of persons affected by leprosy, and not just on the processes and inputs offered to patients. There is a need to show-case TLM research, and more importantly, to apply the significant research findings in actual practice.

The Committee agreed unanimously on the need to have a special joint meeting of ICMR / TLM in proclaiming the research findings and identifying gaps in our knowledge that still need to be urgently addressed. This meeting will involve all the stakeholders, including those affected by leprosy, and those working for the alleviation of suffering of such persons. Progress Reports on ongoing TLM research were presented. Two new proposals were discussed and approved in principle pending some clarifications. (a) Electromyography Biofeedback and its Appropriateness for Tendon Transfer in rehabilitation of claw hand in Leprosy : By........TLM Hospital, Naini (b) Compensation of Normal Foot To Reduce The Pressure Caused By Walking Plaster In The Ulcerated Foot : The next meeting was scheduled for Saturday, Dec.11, 2010

Though Mycobacterium leprae is considered to be primarily a parasite of humans, there is a long history of studies, evidence and arguments which have indicated possible non-human sources of the agent. Thus different authors have suggested that M. leprae may be harboured in soil, in water, on plants, or in various animal species including amoeba, insects, fish, primates, and armadillos. The question of possible extra-human sources of M. leprae is an important one for leprosy epidemiology and control. If non-human sources exist, their recognition may help to explain patterns of infection and disease in human populations. Even more importantly, they would have implications for the control of the disease, and in particular for the possibility of its 'elimination' or even ultimate eradication. We consider here the nature and implications of the evidence for such extra-human sources.

There have been two different sorts of observations motivating the search for extra-human sources of M. leprae. One is the repeated observation of clinical leprosy in individuals with no apparent history of exposure to other known cases. The second is the observation that clinical leprosy clusters in particular areas, such as near water sources, which has led some authors to suggest that M. leprae may have an extra-human source in such environments. Neither of these lines of argument provides a strong case for extrahuman sources of M. leprae. The long incubation period of the disease, the inability to recall contacts and encounters years after the event, the fact that stigma leads to hiding of cases in many societies, and the well-recognised fact that multibacillary cases can go undetected for long periods mean that there are substantial opportunities for unrecognised, unremembered or unacknowledged source contacts.

An important distinction must be made in differentiating non-human reservoirs of M. leprae from environmental transience. Leprosy cases can shed large numbers of bacilli into their environment through bodily secretions, or while sneezing, coughing or talking. The fact that some leprosy bacilli may remain viable in certain cell-free environments for periods of
hours, days or even weeks, does not mean that they persist as an infectious reservoir. The distinction here is whether the bacilli can replicate. Given what is now known of the abbreviated genome of M. leprae, it is most unlikely that leprosy bacilli can replicate in any extra-cellular environment. Though the literature contains several claims of culture of M. leprae in cell-free media, no such claim ever has been substantiated, and there is now a strong a priori argument against such a possibility. Though one must be open minded about the possibility that M. leprae in water could reflect their association with protozoa, or with aquatic invertebrate hosts, as has been suggested for M. ulcerans, the notion of free-living M. leprae persisting in the environment is implausible biologically.

Neural involvement with M. leprae, the gold standard for diagnosing leprosy, has been shown only among humans, armadillos and primates. It is not seen in rodents, guinea pigs or other laboratory animals. Individuals examining hosts with a typical pathology must adjust their techniques accordingly and incorporate different combinations of methods. Investigators seeking to elaborate new and novel findings bear a substantial burden of proof to demonstrate the validity of new paradigms. In the case of M. leprae, this requires high standards of scientific rigour.

- Using the full array of diagnostic tests available: PCR, serology, histopathology, isolation of bacilli in animals; and critically correlating those results in a biologically plausible manner. With reference to PCR, one must appreciate that our knowledge of microbial and other genomes in nature is still quite limited, and there are millions of organisms that are yet to be described. PCR studies thus should be conducted with primers that amplify multiple segments of the chromosome and the resulting amplicons should be sequenced to confirm the desired product.

- Appropriate positive and negative controls should be included for the obvious pitfalls of laboratory or skin surface contamination. Ideally these should be blind coded so that their true status is unknown to the laboratory staff involved.

- Case control studies investigating contact with armadillos should control for obvious confounders including urban rural and socio-economic factors, in addition to age, sex, BCG status etc.

- Observations should be confirmed, preferably independently. This should be doable relatively easily, by a variety of methods (including simple histopathology), given the extraordinarily high prevalences reported recently from Brazilian and Colombian armadillos.

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**How Do You Get To Heaven?**

"If I sold my house and my car, had a big garage sale, and gave all my money to the church, would that get me into heaven?" I asked the children in my Sunday school class.

"NO!" the children all answered.

"If I cleaned the church every day, mowed the yard, and kept everything neat and tidy, would that get me into heaven?"

Again the answer was, "NO"!

"Well, then, if I was kind to animals and gave candy to all the children and loved my wife, would that get me into heaven?" I asked them again.

Once more they all answered, "NO"!

"Well," I continued, thinking they were a good bit more theologically sophisticated than I had given them credit for, "then how can I get into heaven?"