Dear Friends,

The year is flying by so quickly that it is already time for the third issue of the RRC Newsletter.

There are so many things to do that it seems we have to rush just to keep up with our routine work, but if we pause for a moment and spend a little thought, we could learn a lot more from our daily activities -- this is the gist of what June Nash, TLMI Director for Knowledge Management encourages us to do with her article “Are you a Researcher?”

At the end of September we regretfully bid goodbye to Dr. R.S. Jadhav, Head of Stanley Browne Labs, who will be leaving us and moving to Hyderabad. He gives us a brief overview of the research in progress, which helps us to understand the link between clinical and laboratory research and encourages us to work more closely together.

Statistics is a major bugbear for many of us but is essential in the descriptive or analytical studies that we undertake, so Dr. Rao gives us a basic explanation of some of the terms and ratios and how they are used.

Apart from this there is the usual Update on RRC events, some interesting links to follow for information on Research and Health and a case study from TLM Faizabad.

We would be happy to have your feedback -- any suggestions, questions or contribution to the newsletter at <tlmrrc@tlmindia.org>.

Hope you enjoy this edition of the RRC newsletter!

Annamma S. John
Editor

"I don't really think I am a researcher." Does that sound the sort of thing that you might say? I think at the beginning of my nursing career, it would definitely have been said by me. I thought people who did research were very clever academics, and way out of my league. Then I discovered that I had one of the most important requirements for being a researcher. I was curious. I wasn't content just to let things happen. I wanted to know why. Not only that, sometimes, I wanted to prove that some of my strange ideas were actually correct!

Probably the first bit of research I did was at a local clinic. I didn't call it research of course, but looking back, that was what it was. It was an MCH clinic and we had been sent some posters advising mothers on the best time to wean their babies. The information on them was very good, but the pastel colouring made them quite difficult to read, in my opinion. I did mention it to my bosses, but the posters were professionally made and I was only a student. What did I know? My supervisor wisely said, "Why don't you ask the mums what they think?" I'm not sure what she had in mind, but I developed a small questionnaire and gave it to all the mums who came to the clinic. Looking back I am sure there were some leading questions, but even then I had enough sense to get them to score the posters on readability, relevance, etc. I compiled the results and sent them off to the people who made the posters. I got a polite reply from them saying that what I had found out was interesting. I'm sure it did not have a dramatic effect but it may just have made them think when they tried to design other posters.
The exercise had an effect on me though. I discovered that you could find out some really interesting things simply by asking a few questions. Now I know that what I was doing was operational research. That is research that helps you to do your work better. Sometimes it can be as simple as sitting down with a group of people affected by leprosy and asking them their opinion about things. Of course, to make it as beneficial as you can. You have to ask the same question to everybody. Then you have to record the answers, and analyse the results. That's the pattern of research, find the question, ask it, record the answers and analyse the results. There really is no mystery about it and it can be so useful in helping you to do your work in a better way. Of course the bit that I've missed out in the research process is publishing. Publish or perish was once said to me, and I'm afraid I've not been very good at it. It is important though to share what you find with people around the world so that we can all learn together. 

So can I challenge you in your work, to give in to your curiosity and to become a researcher? Step back from what you do every day and think to yourself, what questions are in my mind as I do this work? Write them down, share them with your colleagues, and plan how you are going to find out the answers. I know that the research team in Delhi headed by Dr Rao would be just delighted to help you to answer those questions with a scientific touch that enables you to learn from the knowledge that you gain. They will also show you how to publish it so we can all see the discoveries you've made.

June Nash  
Director for Knowledge Management  
TLM International

### Interesting Links

Here some interesting links which give information on many health/research related topics

Medical innovations must meet local needs  
6 September 2011

How to get the best out of research collaboration  
13 May 2011

An OECD report outlines good practice for effective international research collaboration — but success can never be guaranteed.

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Research at Stanley Browne Lab...

India declared elimination of leprosy at national level in the year 2005. The global trends also show significant decline in the prevalence of leprosy. But the decline in newly diagnosed cases over the last five years is very slow (globally around 14% and in India around 9%). It is not clear how much operational factors and integration of leprosy into general healthcare system has influenced new case detection. This disease with a low mortality rate and non-alarming early signs, which lead to delay in diagnosis finally results in development of deformities. Issues like transmission of the disease, early diagnosis, efficacy of shortened durations of treatment, susceptibility to reactions, development of deformities are still not understood.

As the disease is caused by an obligate pathogen, that does not grow outside the body of the host, it was assumed that diagnosing and treating new cases will help to eliminate the disease which then, eventually will get eradicated. This assumption has been proved wrong, suggesting that there is a need to look further into the reservoir and transmission of the disease. Studies have shown that there is widespread exposure to Mycobacterium leprae in endemic areas, yet the relationship of such exposure with subclinical infection and the role of sub-clinical infection in the transmission and clinical manifestation of the disease is not clear.

Lepromatous patients shed Mycobacterium leprae in the environment and till recently it was believed that the bacteria being obligate pathogens quickly die. Now the new sensitive molecular tools have provided evidence that living organisms can be detected in the environment in endemic areas. What conditions favour survival of the organism and the environmental niche which can protect M. leprae is not yet known. Hence like many other infectious diseases, sanitation and personal as well as community hygiene can play an important role in transmission. Recent studies have provided evidence for the role of zoonotic infection in leprosy. Tools are being developed for typing M. leprae so that transmission links could be established for implementing the evidence based intervention strategy to interrupt the transmission chain. Such a strategy is even more important as the future for a leprosy vaccine is very uncertain.

**Always desire to learn something useful.**  
- Sophocles
Stigma associated with leprosy is mainly due to deformities this disease causes. The nerve function impairment and the extent of nerve damage vary from patient to patient. There are also differences in patients' response to treatment for the inflammatory immunological reactions. There is a need to identify immunological biomarkers that can help to identify patients at risk to develop nerve function impairment so that early intervention is possible.

Studies in Stanley Browne Laboratory are focused on these issues. The unique strength of the laboratory is availability of clinical material and expertise across the TLM network. This strength is yet to be optimally utilised. As the global and national health research priorities are changing, it is a challenge as well as an opportunity for TLM to lead the efforts that will help us to achieve a 'World without Leprosy'.

Dr. R. S. Jadhav

Rates, Ratios and proportions... WHICH ONE TO USE?!!

Statistics are powerful tools to communicate effectively if used properly. Wrong use results in confusion and misunderstanding. For example, just numbers or raw figures may be interesting but difficult to compare or conclude results from. Hence, percentages or probabilities are used. Thus, statistics to be meaningful, requires careful thought on the choice of what indicators are the best.

All the words listed in the above title have a numerator and a denominator, but some are further qualified to make them more useful.

Thus, a proportion is just a part of a whole, sometimes converted as a percentage, while a ratio is simply one number divided by another, such as a/b, where "a" need not be part of "b". e.g Sex ratio (F/M), or PB/MB, Odds Ratio, etc. In any proportion or percentage, the numerator has to be a part of the denominator.

The rate gives an impression of movement or a dynamism, such as the incidence rate of disability, survival rate, birth rate, etc. On the other hand, risks are also dynamic, but more related to probability of something occurring and indicate prognosis.

All these terms are used in leprosy in different contexts, and form descriptive statistics on outcomes, subject to sampling fluctuations, and expressed accordingly.

Any outcome measure must be defined carefully, and the necessary data, both the numerators, denominators collected meticulously, and the computations done correctly. Often, the numerators are relatively easy to collect, but proper denominators, either do not exist, as in the case of most hospital statistics, or are imprecise or difficult to obtain. However, every attempt must be made to get the required data to compute the most appropriate statistics.

P S S Sundar Rao

Rajpal’s Story

Rajpal, a 10 year old boy belongs to a poor family from Mausampur village, in Lakhimpur Kheri District of Uttar Pradesh. His father, Manohar Lal is a farmer, and barely earns enough to take care of his wife and children. Rajpal studies in Class 2 in a government school and helps his father with his work.

Just over a year ago, a small patch was seen on Rajpal’s right leg. After 2 months when the patch continued to grow his father took him to the private medical practitioner in the village who gave him medicine and ointment to apply and advised them to return for a checkup. The patch showed no signs of healing and at the checkup, the same treatment was repeated. When the patch continued to grow Rajpal's father stopped going to the Local Doctor as the patch was not diagnosed correctly. For over a month they did not take any treatment and then the problem worsened as Rajpal developed swelling of the patch with fever and joint pain. The father was worried and took his son to the Primary Health Centre. The doctor at the PHC also gave him ointment to apply on the patch and medicines.

Rajpal’s father met many people in village to ask for help and advice but due to delay in proper diagnosis the child started having nodules on his face and patches increased all over the body. They felt very helpless. Then one day, by chance he met a person affected by leprosy.

God sleeps in the minerals, awakens in plants, walks in animals, and thinks in man.
- Arthur Young
who was taking treatment from TLM Community Hospital, Faizabad. This patient explained to him what his son’s problem might be and advised him to go to TLM Faizabad. So, accordingly Rajpal’s father brought him to The Leprosy Mission Hospital, accompanied by the treated leprosy patient, on 7th July 2011. He was examined and diagnosed as a leprosy patient and admitted to treat his Type I reaction and start MBMDT treatment. He and his father were given counseling for proper care.

Rajpal is doing well now, but this story brings to our attention the need for awareness about leprosy both among the general population and the medical fraternity. We all need to think how to tackle this problem in different ways in our own areas.

EVER PROJECT STAFF
TLM Community hospital
FAIZABAD

RRC EVENTS

ICMR Seminar on ‘Harnessing Advances in the Knowledge into Action for Eradication of Leprosy’ - 23rd July 2011

The purpose of the workshop held at ICMR headquarters was to consider how the results of research undertaken so far implemented in the National Leprosy Eradication Programme (NLEP) for improvement of services. Overview of Leprosy Research done by TLM and ICMR in the fields of social science, clinical leprosy, laboratory research were presented. TLMTI was represented by the Director Dr. Sunil Anand, Dr. P.S.S.S. Rao, Dr. Premal Das, Dr. R. Jadhav, Dr. M.S.Raju and Dr. Annamma John. Dr. V.M. Katcho, Director ICMR, expressed his satisfaction that many of the major stakeholders in the fight against leprosy were present and it was right to take stock of the situation in the light of the research done. He stressed that consolidation of all the achievements so far was needed and that the fight was not just against leprosy but against disability. He stressed that every one – policy makers, bureaucrats, fieldworkers and researchers all have to work together, to cover the last mile of the journey in the fight against leprosy.

The Leprosy Mission India Research Committee - 9th July 2011

The TLM India Research Committee met at The ICMR Headquarters, New Delhi under the Chairmanship of Dr. V.M. Katoch who expressed his happiness at the renewed emphasis on Research in TLM and felt that there were many opportunities for partnership in seeking solutions to many problems in transmission, diagnosis, treatment and rehabilitation of leprosy affected persons. He also expressed the hope that with the resources and technology now available, many breakthroughs can be made for enhancing the quality of life of the affected persons and also promoting faster eradication of leprosy in India. New Proposals were presented and accepted.

ICMR Urban Study meeting 18th July 2011

The second joint meeting of the Urban Leprosy study (Development of a Population Based Leprosy Registry (PBLR) & New Case Detection Strategies (NCDS) to eradicate Leprosy in Urban areas) was held at TLM Hospital Kolkata. The State Leprosy Officer of West Bengal, the Nodal officer for Leprosy from the Kolkata Municipal Corporation and other officials were present along with Dr. Sundar Rao, and both the teams were present. The findings of the study which has been started from December 2010 were presented and discussions were held on the New Case detection strategies to be tried. The was good cooperation form the Government and Municipal Officials who welcomed the study because of the benefits it would bring to the leprosy affected people.

Concern for man and his fate must always form the chief interest of all technical endeavors. Never forget this in the midst of your diagrams and equations. - Albert Einstein