Dear Readers,

Once again a year has gone by and we are wondering how it passed by so quickly! It has been an eventful year in TLM, as we started the implementation of the new country strategy and have been carrying out all our activities in the framework of the new structure. Research has been emphasized this year as one of the core components of TLM, to become a more 'learning organization' to help us become more effective in our work.

In this Christmas issue we have a message from Dr. Sujai Suneetha, Director of Nireeksha, an NGO involved in AIDS work in Hyderabad, he has close association with TLM and leprosy work for many years and is on our Scientific Advisory Committee. He challenges us to persevere in our fight against leprosy till we see an end to this epidemic.

The results of the national sample survey on leprosy show that leprosy transmission is going on in the population with no significant decline, and these figures reflect only the registered cases who figure in the NLEP statistics; from our studies such as PELSI and the urban Leprosy project we have seen that significant numbers of patients prefer to consult private practitioners, both allopathic, AYUSH as well as informal, which means the total burden is much greater than the registered numbers.

The year has seen the completion of several multicentric studies, such as CARRELS (Community Action on Sigma Reduction), PELSI (Post Elimination Leprosy and Establishment of a Population based registry), impact of SHGs and the azathioprine study (a clinical trial on the effectiveness of adding azathioprine to the normal steroid regimen in Type I reactions). New studies on early neuritis and urban leprosy have been initiated. We continue our series on statistics topics with an article on the Chi-square test by Dr. Sundar Rao. There is also a 'Journal Scan' featuring some interesting articles on leprosy, TB and Gender.

During the last part of the year we have lost two stalwarts in the field of leprosy – Dr. Ganapati, well known for his Bombay Leprosy Project, and Dr. Fritschi who dedicated his life to the leprosy affected people, working in Karigiri. This issue carries brief articles on their work, which is a shining example of perseverance and compassion.

As we come to the end of the year we praise God for his blessing and presence with us and ask for his strength to move forward to face new challenges and bring hope and healing to our leprosy affected fellowmen in more effective and relevant ways.

Wishing all our Readers a Joyful Christmas and Blessed New Year.

Annamma S. John
Editor

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MESSAGE

Dear Staff & friends of TLM,

Greetings at Christmas time and into the New Year! It's my joy to meet you through this editorial.

Research in leprosy has always fascinated me. I started working as a pathologist (and clinician!) in a relatively small TLM supported institution – The city clinic of Victoria Hospital, Dhirgali in Hyderabad. I expected it to be a short stint before I moved on; but a 'couple of years' turned into two decades of leprosy work and research! At the end of it however I looked at it as a God given privilege to 'serve' (I wish there were a better word) those affected by leprosy.

One of the challenges was and still is the early recognition and management of reactions, with the overarching goal of prevention of deformity. The use of steroids on an outpatient basis at Dhooppet proved useful, but the occasional failure of steroids and the need for alternatives are a continuing challenge. In order to better manage reactions and nerve damage we need a better understanding of its pathogenesis. The ILEP Nerve Function Impairment in Reactions (INFIR) study brought together three TLM hospitals – 2 in the North (Nairn & Faizabad) and Miraj in the South along with Lepra's research centre in Hyderabad to investigate the pathogenesis of reactions and identify key molecules. Analysis suggests that a myeloid rich microenvironment is necessary but that ultimately there's a lot that is still unknown.

MDT has proved effective without a doubt in reducing the world's case load as well as the numbers seen in many leprosy clinics worldwide. Leprosy began to be withdrawn from the many countries health agenda's. But India continues to throw up new cases consistently. We as a nation and more so as TLM need to keep the pressure on until we see an end to this epidemic. Even in a HIV/AIDS clinic in Hyderabad we see all forms of manifestation of leprosy, including MB leprosy and both Type 1 and 2 reactions! Ramu is a 14 year old boy with leprosy who was referred to us. His skin was glazed, his nose bridge was depressed and there was weakness in his hands. He had
been seen by the local doctors who took over a month to recognize that he had leprosy and send him for treatment. From a public health standpoint Ramu is just one person; but to God he represents one more precious life that needs a timely diagnosis and appropriate medical care and support. The work is still unfinished.

Ultrasonography of peripheral nerves is becoming a useful tool to assess nerve thickening in peripheral neuropathy and is even able to demonstrate increased blood flow as an evidence for early neuritis. This is a field that neurologists, dermatologists and leprologists are showing interest in, especially recognizing that a significant proportion in India present with pure neuritic form of leprosy.

Many who started in leprosy work have moved on. There are so many trained and motivated staff in movements like TLM who can tackle the scourage that was prevalent even in our Lords time. Jesus was ‘moved with compassion’, ‘reached out’ His hand and ‘touched’ the man with leprosy (Mark 1: 40-42). Today, the continuing challenge is for us to reflect that compassion and be the hands that reach out and touch, .... bring a word of hope, ....appropriate medication and ...care to a world affected by leprosy.

May the news in this bulletin continue to inspire you.

Dr. Sujai Suneetha

Dr. R. GANAPATI
Director Emeritus (Formerly President and Director),
Bombay Leprosy Project

Born in 1930 in Tirunelveli, South India, Dr. R. Ganapati had his medical education in Madras. Prompted by an innate urge to serve the cause of public health and dedicate himself to medico social research work, he was engaged for 12 years in clinical and field research in Acworth Leprosy Hospital in Wadala, Bombay.

After gaining extensive clinical, laboratory and field expertise he established a research oriented field project called Bombay Leprosy Project (BLP) in 1976. He has assisted the Government of India in his capacity as the member of National Leprosy Eradication Commission, as well as Maharashtra Government as a member of State Leprosy Council and Chairman of the State Rehabilitation Committee. He functioned as a consultant to Govt. of India / WHO for assessment of training of centres in 1986-87 and for MDT Districts from 1987 to 1998. He was a member of the WHO Expert Advisory Panel from 1991 to 2000.

He has to his credit over 300 scientific papers, some of which represent outstanding landmarks on various aspects of leprosy.

He was the President of the Indian Association of Leprologists and currently Chairman of Hind Kusht Nirvan Sangh, Maharashtra and Vice President, Society for the Eradication of Leprosy and Acworth Leprosy Hospital RRE Society.

The President of India has honoured Dr. Ganapati by conferring on him the national award of PPADMA SHRI in 1983. The highest scientific honor of the country for exemplary research work in leprosy namely, JALMA Trust Fund oration Award was conferred on him by the Indian Council of Medical Research in 1986.

DR. E.P. FRITSCHI’S
Contributions To Research In Leprosy

Dr. Fritschi was “a once in a life time” person with a total commitment to care and betterment of conditions for patients affected by leprosy.

The hallmark of his contribution to research has been its immediate applicability. Most of his research led to the establishment of the best practice methods in leprosy.

He introduced a simple test known as “Indian dance test” to diagnose early nerve damage in the field. He used foot off loading methods such as plaster of Paris casts, which proved to be very effective in management of simple plantar ulcers. He demonstrated that procedures correcting severe deformities around the ankle and subtalar joint actually reduce the recurrence rates of plantar ulcers in grossly deformed feet in Leprosy.

Together with Dr. Brand he demonstrated by research, the role of reconstructive surgery of both the foot and toes in the prevention of plantar ulcers. The secondary deformities caused by damage to the dorsal expansion in leprosy and their correction by repair were first described and published by him. He designed a positioning splint for tibialis posterior transfer for foot drop and one for RCs of hand, which are still being used.

The principles of protective footwear, namely covering, padding, moulding, rigidity and weight relieving were all incorporated into the footwear of leprosy, by him and are the present practices.

He introduced the concept of domiciliary rehabilitation, a change from the then popular institutional rehabilitation and popularized it by demonstrating its effectiveness.

Dr. Fritschi was a devout Christian an ideal role model for all want to devote their life to the healing ministry and strive for excellence in the provision of care. He will be missed by us all.

Dr. Mannnam Ebenezer
Director, Scheffelin Institute of Health Research & Leprosy Centre.

STAFF NEWS

- We welcome Dr. U. Sengupta, who as joined TLM as Consultant at the SB Laboratory. He is an immunologist and was formerly the Director of JALMA Institute of Leprosy and other Mycobacterial diseases.
- Irene our Research Assistant and Shaim who works in accounts department have been blessed with a baby daughter on 27th September. We congratulate them and pray for God’s bounteous blessings on baby Stefani.

"Each problem that I solved became a rule, which served afterwards to solve other problems."
-Rene Descartes
THE CHI-SQUARE TEST

The Chi-square Test (Chi, pronounced as Kie, is the Greek letter for K), was developed by Karl Pearson in 1889. It was originally used as a measure of deviation from a population ratio. E.g., a physician may have a hypothesis that a certain disease requiring hospitalization is equally common among men and women. In a sample of 900 inpatients, he finds 480 men and 420 women. Do these results support or contradict his hypothesis? To answer such questions two results are needed, a measure of the deviation of the sample from the hypothetical population ratio, and a means of judging whether this measure is an amount that would commonly occur in sampling, or on the contrary, is so great as to throw doubt upon the hypothesis.

The chi-square test is useful in at least 3 types of problems:

1. Testing of goodness of fit; e.g., to determine if a time trend follows a mathematical equation or a dose-response curve follows a hypothetical pattern described in pharmacokinetics.

2. Testing for independence (or association); many research questions deal with associations and causations, and this test is most popular for these data; and

3. Testing for homogeneity (or similarity), commonly used to compare responders and non-responders in any study.

Since, this is a very simple test not requiring higher grade of arithmetic, it soon became very popular, with the danger of being wrongly used. Thus, a few precautions are to be taken in the proper use of the chi-square test: (a) The calculation of $x^2$ must be for the actual number observed in each category; neither proportion nor percentage must be used in its place. (b) The $x^2$ test is only a test of significance. It is not a measure of association. Thus, a large $x^2$ is significant only in terms of a low probability of obtaining such a result by chance alone and not that there is a greater association. (c) The $x^2$ test is a large-sample approximation, based on the assumption that the distributions of the observed numbers in the classes are not far from normal. This assumption fails when some or all of the observed numbers are very small. Historically, the advice most often given was that the expected number in any class should not be less than 5, and that, if necessary, neighbouring classes should be combined to meet this requirement. For small small, it is advisable to use Yates correction.

The Chi-square is widely tabulated in any Statistics book. The body of the table shows the value of $x^2$ corresponding to specified degrees of freedom and the probability of obtaining that value of greater. The Degrees of Freedom (d.f.), is one less than the sample size, or the number of independent cells in a 2-way table (also known as correlation or contingency table). If there are rows and $c$ columns, the $d.f.$ will be $(r-1)(c-1)$.

For more information, contact RRC or refer to the book on Biostatistics by Sundar Rao & Richard.

Dr. P.S.S.S. Sundar Rao

"Every great advance in science has issued from a new audacity of imagination". - John Dewey

JOURNAL SCAN


2. Can the skin smear examination in NLEP be reconsidered? S N Patil, D Poriccha, KV Krishnamurthy Indian J Lepr. 2011;Vol.83, 1: 45–52


FEMALE GENETICISTS HAVE BEEN WORKING AROUND THE CLOCK SINCE THE DISCOVERY THAT MALE SEAHORSES GET PREGNANT

"Not everything that can be counted counts, and not everything that counts can be counted." - Albert Einstein
RRC HIGHLIGHTS

RRC has had an interesting time these last three months – here are the highlights:

- The Predem Study (Community based and patient driven methods to prevent defaulting) review meeting was held at Salur in 29th September to 1st October, with 9 field workers and the principal investigators along with Dr. Sundar Rao, Head research.

- The Azathioprine Study is nearing completion, and a meeting was held at Delhi, with the Principal investigators, RRC and Dr. Diana Lockwood to discuss the findings and finalise the report.

- EVER Study Review meeting held at Delhi on 10th. December and Interventions to increase voluntary reporting were discussed and plans for implementation developed.

- A mini Research workshop was conducted at TLM hospital Kolkata on 17th – 19th October 6 staff members participated in the workshop and were oriented in basic research methods and Proposal Writing.

- The TLM India Research Committee held its meeting at ICMR head quarters on 9th. December. The meeting was presided over by Dr. V.M. Katooch, Director, ICMR, who said in his opening remarks, that we need to now look critically at how we are progressing on the critical issues in leprosy research and contribute to policy change for improvement of patient care.

- WHO supported Workshop on Stigma was held at the National Institute of Health & Family Welfare, on 29th, & on 30th. November. Dr. Sundar Rao, Dr. M.S. Raju & Ms. Nikita Singh were Resource persons and this was the first workshop on Stigma conducted by the Government and was attended by all ILEP partners.

CONGRATULATIONS...

Mr. Sundeeep Chaitanya V & Mr. Samuel Raj K from Stanley Browne Laboratory attended the conference, Advances in Molecular Techniques & their Application in Health and Diseases held at Agra on 30th. November and 1st. December, by the Indian Academy of Science and Nature –in coordination with ICMR & JALMA. Both won 1st. prizes, Sundeeep in the oral presentations category for his paper ‘Interleukin-17F Single Nucleotide Polymorphism (7488 T>C) and its association with susceptibility to Leprosy’; and Mr. Samuel Raj for his poster ‘Seasonal Impact on the Nasal carriage of Mycobacterium Leprae in an Endemic Cohort’.

We are proud of the achievements of these young colleagues and wish them continued success in their work.

Indian Association of Leprologists

The 28th Biennial Conference of the Indian Association of Leprologists is being held at Mumbai on 27- 29 January 2012 at Nair Hospital Auditorium Near Mumbai Central Station. The last date for submission of Abstracts is 31st. December 2011. Please contact RRC if you would like to send an abstract. The Theme is Science of Leprology for the benefit of Society.

Wishing you a Merry Christmas and a very happy prosperous New Year!

“The fundamental cause of trouble in the world is that the stupid are cocksure while the intelligent are full of doubt.” – Bertrand Russell