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LEAP
LEPROSY
ELIMINATION
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FOCUS

Leprosy, Dermatology & Medical Responsibility

Diagnostic Excellence

Quality Assurance

Sustaining Expertise

INDEX

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Safeguarding diagnostic quality within integrated health systems

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As the chapters in this volume compellingly demonstrate, the central role of dermatologists in leprosy care has never been merely historical, it remains profoundly relevant. Leprosy has not become a rare disease; rather, health systems have progressively lost the clinical expertise required to recognize it. This loss coincides with important shifts in its clinical expression. Increasingly, patients present with pain, sensory disturbances, and loss of strength, while classical, well-demarcated skin lesions become less common. In such a scenario, misdiagnosis becomes frequent, delays accumulate, and preventable disabilities continue to emerge.

Well trained dermatologists remain essential for early recognition and for safeguarding diagnostic quality within integrated health systems. Yet no single specialty alone can respond to the complexities of contemporary leprosy. The neuroimmunological nature of the disease, its functional impact, and its social consequences require a broader, coordinated clinical response.

This understanding has guided our recent efforts in Brazil, led by the Brazilian Society of Hansen's Disease (SBH) and the School of Public Health of Mato Grosso (ESP-MT), where we reinstated structured postgraduate training in leprology after four decades. Our program prepares new leprologists not only among dermatologists, but also among neurologists, family and community physicians, infectious disease specialists, social medicine practitioners, and internal medicine physicians. This multidisciplinary model acknowledges that leprosy crosses disciplinary boundaries, and that rebuilding national expertise requires a diverse cadre of clinicians equipped to diagnose subtle presentations, manage reactions and neuropathy, address the emerging challenges of antimicrobial resistance, and guide patients through long-term care.

The reflections collected here reinforce a global lesson: **leprosy control will advance only if clinical expertise is actively cultivated and sustained**. As diagnostic challenges grow and presentations evolve, the vigilance, technical skill, and humanistic dedication of specialists, dermatologists foremost among them, yet supported by a broader clinical community, remain indispensable to our collective capacity to control this ancient disease.

Preservation of Institutional Memory for Leprosy Control

Declarations of "elimination" and the integration of leprosy services into general health systems were intended to improve access and normalise care. However, an unintended consequence has been the weakening of dedicated clinical expertise within institutions and programme outreach.

Integration has expanded reach, but in many settings it has coincided with the redeployment of trained personnel and fewer opportunities for general health providers to encounter leprosy routinely. The disease's clinical complexity, however, has not diminished or changed.

Health systems are therefore expected to manage a condition whose clinical and operational complexity persists despite declining 'national prevalence'. The continued occurrence of delayed diagnosis, transmission in endemic pockets, and preventable grade-2 disabilities confirms that leprosy remains a public-health concern, as recognised in the National Strategic Plan (NSP).

With declining clinical familiarity, leprosy increasingly presents diagnostic and management challenges. Atypical presentations, clinical mimics, subtle nerve involvement, and reactional status demand competencies explicitly prioritised under the NSP - early diagnosis, prevention of disability, effective reaction management, and functional referral systems.

When vigilance weakens, leprosy risks being deprioritised, resulting in avoidable nerve damage, disability, and long-term social consequences.

Aligned with the National Strategic Plan and Roadmap for Leprosy, Volume 8 contributes to implementation by reaffirming the role of dermatologists and clinicians with leprosy expertise. Their contribution extends beyond diagnosis to quality assurance, referral validation, and mentoring of frontline providers, supporting early diagnosis, reaction management, and disability prevention.

Within integrated health systems, they serve as clinically accredited custodians of leprosy expertise - duty bearers entrusted with preserving institutional memory, sustaining clinical acumen, and ensuring continuity and quality of care.

This institutional memory also includes - clinical judgement, experiential knowledge, and programme insight accumulated over decades - is a critical health-system asset that cannot be rapidly recreated.

Sustained progress towards a leprosy-free India therefore requires deliberate investment in capacity building and knowledge retention to ensure care that is consistent, credible, and equitable

Sion (West), Mumbai
10th January, 2026

A. Antony Samy
Chief Executive

1 LEPROSY TO BE TAKEN OUT OF ITS SPLENDID ISOLATION

R G Cochrane

Stephen Rothman Memorial Lecture delivered at the Annual Meeting of the American Academy of Dermatology on December 6, 1964

I trust that what I say will help in the better understanding of one of the most complex of all diseases. I shall endeavour to show that when clinical leprosy is related to a more detailed study of the pathology of disease, leprosy then becomes a magnificent tool for the elucidation of the many still unsolved problems in dermatological practice and particularly problems which are associated with the autoimmune diseases and the collagen disorders.

I am making a plea for leprosy to be taken out of its splendid isolation, not only in the minds of men, but also from its separateness from the overall medical programme in our universities.

I am glad to be able to present to the leading dermatologists, an approach to leprosy which, I hope, will convince them that it is a disease worth studying, not only for its own sake, but because of its impact on the whole field of medicine extending from anthropology, immunology, hypersensitivity, auto-immunization, neural physiology, neuropathology, and the broad spectrum of reaction of the tissues to noxious influences.

Therefore, it is of the utmost importance that dermatologists should be acquainted with the earliest possible signs of leprosy for, as in all medicine, early diagnosis is the first pre-requisite to proper treatment and care of the leprosy patient.

As in leprosy, so in all diseases, the most important step is to diagnose the condition early the diagnosis of leprosy is always, made too late and by the time the patient has had the disease a very long time.

This underlines the importance that all physicians, particularly dermatologists, should be alerted to the very earliest evidence of the disease.

If leprosy is diagnosed at the very earliest stage, then I am convinced it becomes a mere incident in a person's life, but if the diagnosis is delayed, then there is a danger of the disease becoming serious, crippling and deforming.

It is of extreme importance to physicians and particularly to dermatologists because diffuse lesions are very difficult to recognize, and it needs a trained eye to be certain that one does not miss this potentially dangerous subtype (Lepromatous) of leprosy because the tissue response is so ineffective that the actual lesions are not seen.

Ref:- R G Cochrane. The Diagnosis of Leprosy with special reference to Tissue Defense. Lep. Rev. 1965. 36, 4, 189-206.

2 BUDDING DERMATOLOGISTS ARE EXPECTED TO EXPLORE LEPROSY

Terrance J Ryan
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The word 'lepra' was applied to a number of diseases; later it was thought better to name these in other ways to avoid confusion with leprosy.

Dermatologists who further developed such classifications in the nineteenth century continued to include leprosy in their textbooks and to take an interest in its diagnosis and management.

Today, the management of leprosy requires a profession interested and expert not only in early recognition but also in contact tracing, disability, as well as bacteria.

Dermatology is a profession offering to play a bigger role in the management of leprosy because it can now demonstrate an interest in all of these aspects; and in some parts of the world, such as China, major eradication programmes and the management of disability, have been organized through dermatology institutes.

In recent years, budding dermatologists have been expected to explore the basic mechanisms underlying disease processes, and most training programmes have a big component of basic science and especially immunology. More recently, the consequences of disease have received more attention and disability is attracting more interest on conference programmes.

Dermatologists are now encouraged to measure aspects of disability that have economic value, such as the distance people with sore feet can walk, manual dexterity, and above all, what it means to be unwelcome because of disfigurement. The literature on stigma now is as likely to refer to psoriasis or vitiligo as it is to leprosy.

Consequently, dermatologists are familiar with the language of infectious disease control, social hygiene, contact tracing and the appropriate use of drugs, or terms such as 'prevalence', 'incidence' and 'distribution'. What has been lacking until recently, has been any programme formulated by dermatologists showing that they are interested in the global control of disease.

Great emphasis will be placed on the early detection of leprosy, its appropriate treatment and the management of disability. It is important that early recognition should include a willingness and capability to treat non-leprosy patients. Early cases of leprosy are more likely to be detected if all persons with skin lesions are encouraged to attend skin clinics, and such early recognition is easier in skin free of common infections.

Ref:- Terrance J Ryan. Editorial: Dermatology - Global Planning in Relation to Leprosy Management. Lepr Rev (1990) 61, 209-212

3

DERMATOLOGISTS SHOULD KEEP ABREAST OF DEVELOPMENTS IN THE FIELD OF LEPROSY

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The key to reach the goal of leprosy elimination in an endemic country is to diagnose and treat leprosy through the public health services. It has been increasingly argued that with the declining prevalence of leprosy and shortened treatment regimens, general health care services could and should be able to manage leprosy without a significant increase in their workload.

Although the simplification of guidelines for diagnosis is made for the benefit of nonspecialists who will be managing leprosy after integration, it is felt that applying these definitions will lead to underdiagnosis, particularly of multibacillary (MB) disease.

The WHO Expert Committee on Leprosy, for the first time in its seventh report of 1998, mentions the need for assigning a role to dermatologists for the elimination of leprosy.

It stresses the need to include leprosy as a part of the curriculum of dermatology and the need to encourage dermatologists to ensure that standard WHO MDT regimens are implemented and new cases are reported.

This is one more reason for Indian dermatologists to keep track of recent developments and changes in the leprosy control programs and schedules as integration of leprosy into general health services has already begun.

Integration is considered more cost effective and feasible within national resources, thereby ensuring sustainability of leprosy services. In India, the integration of leprosy into general health services was seriously deliberated in the last decade. In July 1997, Tamil Nadu became the first state in India where the vertical NLEP was integrated with the primary health care/centre (PHC) system. By 2001, more states were asked to rapidly integrate their programs in to the primary health care structure.

Although experiences are diverse, several countries have shown that such integration is feasible and effective. In Sri Lanka, where such integration was completed in 2001, strong links were forged between central leprosy clinics, regional health authorities and dermatologists. Complications that could not be managed by health facility are being referred to the closest dermatological clinic.

This integration has already begun in India and will make dermatologists the only qualified leprosy specialists, as the vertical program of leprosy, including its medical specialists, will then be dismantled. Hence, it is imperative that dermatologists keep abreast of developments in the field of leprosy.

Ref:- Rao P N. Recent advances in the control programs and therapy of leprosy. Indian J Dermatol Venereol Leprol 2004; 70: 269-276

4

COMMUNITY DERMATOLOGY INCLUSIVE OF LEPROSY: ITS PAST PRESENT AND FUTURE

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There is, however, an increasingly significant branch of dermatology falling into the company of those in public health. It is called community dermatology. There are many examples of the way it is currently providing leadership for the management of leprosy in the future.

It focuses on strengthening the general health services, it works on integration with other systems of medicine, and it collaborates with and forms teams as a matter of policy.

It is concerned with strengthening diagnosis, low-cost management of diseases that stigmatize and ruin life by causing the skin to fail. Improving the functions of the skin to help it to be displayed with confidence and to act as a barrier in an increasingly threatening environment is exemplified by leprosy. There is concern for leprosy as a prototype of disfiguring disease.

Dermatology has never lost its interest and most major textbooks have had, and still have, substantial chapters on leprosy. There are many dermatologists who have worked in this field who have sometimes adopted the name 'leprologist' and lost their dermatological identity.

Some countries such as India keep leprosy to the fore in their association and journal terminology, viz. The Indian Association of Dermatologists, Venereologists and Leprologists (IADVL).

Dermatologists have watched the gradual development of today's confusing scenario in the field of leprosy. They have collaborated and have been part of the era of MDT and taken part in discussions as the vertical programme was rightly disbanded. There is some disappointment in how taking leprosy into the general health services has evolved.

In 1996, ILEP called a meeting about the sustainability of a service and concluded 'the dermatology approach may be appropriate'. Leprosy Governance has not helped dermatology nor collaborated to strengthen general health services.

Rather, it has presented to these already over loaded services its rather heavy package in the expectation that they will not simply shelve it, but would possibly make the services more patient friendly.

The aim is to strengthen general health services to cope at low cost with all that requires a skin diagnosis and management in countries where poverty and HIV/AIDS cannot allow focus on leprosy alone, but where control of common skin disorders ultimately allows those with leprosy also to benefit.

Ref:- Terence J. Ryan. Community dermatology inclusive of leprosy: its past, present and future. Lepr Rev (2007) 78, 7–10.

5 INDUCEMENT GIVEN TO DERMATOLOGISTS TO TAKE ON NEW ROLE AND RESPONSIBILITIES

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In a post-leprosy elimination era, there may not be any leprologists around, and the only medical assistance available will be the specialists (dermatologists) and the medical officers in government and private health setups.

All the work of leprologists (technical) will then have to be taken over by the dermatologists in the post-elimination era.

One cannot deny the fact that once the dermatologists were the medical specialists who trained medical officers into leprologists.

Thus, under the present integrated leprosy services, the inflow of the patients whether new, relapsed, with problems such as steroid resistant lepra reactions or drug reaction to a health facility, primary health centre / dispensary / or hospital will continue.

Some of the Medical Officers may find it difficult to manage certain problems, and could refer such cases to dermatologists, whose significance will therefore increase.

After controlling the problem, the consultant dermatologist will refer these cases back to the original place of referral and advise the medical officer on follow-up.

The opinion of dermatologists in policymaking, their experience and skills in training health workers, in developing training curricula and methodology, in research, for testing new drug regimens, management of reactions and their complications, will be required, even more so in the future.

All these aspects must be considered by the health administrators and policy-makers, and a proper referral system developed and suitable training and inducement given to the dermatologists to take on their new role and additional responsibilities.

Ref:- Srinivas Prasanna Kumar Athreya. Role of dermatologist in post-leprosy elimination era. Lepr Rev (2007) 78, 40.

6 DERMATOLOGISTS HAD BEEN COMMITTED TO MANAGE CASES OF LEPROSY BEFORE THE MDT ERA

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When the NLEP was established in 1983, dermatologists were side-lined as has been rightly mentioned by Sharma (2007). The programme was wholly managed by public health people. The training programme, including clinical training, of the basic workers (non-medical assistants or NMAs) was also designed and implemented by public health doctors posted in the leprosy division. Unfortunately, people at the top too had no exposure to clinical leprosy.

This resulted in poor diagnoses and the missing of a large number of cases which today are conveniently referred to as 'hidden' cases. Only those cases were diagnosed by the NMAs who either had gross deformity, extensive sensory loss, or nodular leprosy. At the same time many non-leprosy cases were diagnosed and treated as cases of leprosy.

Medical officers, few of whom had been trained for 6 weeks in leprosy, would seldom see patients. Their role would merely be of signing the patient cards of leprosy cases. If dermatologists would have been involved, the scene would certainly have been different. How can a person who has almost no clinical experience of leprosy or of skin conditions that need to be differentiated from it himself teach the NMA trainees?

Whatever has happened, has happened. Dermatologists had been committed to teach and manage cases of leprosy before the MDT era, so called elimination period and post elimination era. Dermatologists will continue to teach medical students about leprosy. Some public health people still feel that dermatologists cannot be expected to have an eye for nerve function impairment, in the sense of testing for sensory and motor loss and actively preventing development of disability.

How far removed these public health people are from ground realities! They offer such comments and have such opinions without perhaps ever seeing a dermatologist at work. Unfortunately, they are the policy makers of various national and international health programmes.

People who have actually worked in the field feel a 'great concern that such a statement about the future role of dermatologists in leprosy control could even be considered controversial and made a topic for a special issue of Leprosy Review' (2007). This issue just shows that finally most public health epidemiologists have realised the indispensable role of dermatologists and their own limitations. We only wish they (Dermatologists) had appreciated this two decades ago so that the picture of leprosy today, at least in India, would have been different.

Ref:- Gurmohan Singh and Vineet Kaur. Letter to the Editor. Dermatologists and Leprosy in India. Lepr Rev (2007) 78, 293–294.

7

THE LEPROSY PROBLEM – BACK TO THE DERMATOLOGISTS, THE ORIGINAL STAKEHOLDERS

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More than anything else, MDT brought leprosy to the main stream of medicine. Whether it is with long course, short course or single dose of MDT, more than 14 million cases have been treated between 1985 to beginning of 2005 with very few relapses. The principles on which the leprosy problem demanded a special attention was age old stigma about leprosy and need for clearance of the large number of backlog cases.

Dermatologists are also leprologists

Though leprosy is a multi-system disease, its predominant clinical manifestations are on the skin. It is natural, therefore, that the dermatologists are treating leprosy from an earlier time than any other specialists.

Regarding their renewed role, it can better be phrased as 'return of a disease to its original stakeholders' after it has ceased to be a public health problem except in a few countries.

In the health care system of India, both district hospitals and teaching institutions have the services of dermatologists. Integration makes these the only qualified leprosy specialist. As part of this responsibility, their role would be to first revisit some of the clinical and other microbial issues about which they were critical so far.

Dermatologists enjoy the comparative advantage of having not only the clinical skills but have also access to the bests of basic science researchers to develop preventive and diagnostic tools; to test new drugs, to investigate mechanism of nerve damage and even to explore the areas of genetic and molecular biology.

While recognizing the contribution of dermatologists, further cooperation is expected in certain areas. There is an impression that in many cases some of their treatment schedules do not conform to the national guidelines.

There is of course need to deviate when treating referred complicated cases. They must help in evolving a referral system in which leprosy cases will be treated at any place from PHCs to medical college, according to need.

Responsibility of mobilizing services such as reconstructive surgery and laboratory investigations from other faculties would also be with the dermatologists.

They will have more say in the policy of integrating the disease into the centers of specialized care, so that their contribution will become part of the wider agenda of leprosy eradication.

Ref:- D. Porichha. The leprosy problem – back to the dermatologists. Lepr Rev (2007) 78, 22–25.

8 NO COMPLACENCY IN EFFORTS TO IMPROVE THE DIAGNOSTIC SKILLS OF HEALTH WORKERS IN IDENTIFYING LEPROSY PATIENTS

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It has been seen that some hypo-aesthetic lesions are occasionally seen in conditions other than leprosy such as chronic dermatitis producing thick lichenified skin lesions, which may lead to some degree of over diagnosis. Other skin lesions without sensory loss can also be confused with some common dermatoses resulting in misdiagnosis.

In field conditions, erythematous plaque lesions of leprosy may be labelled as tinea, psoriasis, lupus vulgaris etc. and hypopigmented patches are often confused with pityriasis alba, pityriasis versicolor, and vitiligo etc.

Delayed and missed diagnosis of infectious patients of leprosy and lack of readily available tests to measure asymptomatic M. leprae infection in contacts continue to be deterring factors in disease control.

The ideal diagnostic test/method should be simple, should identify all cases (100% sensitivity) and should be negative in people who do not have leprosy (100% specificity). Combining individual tests may improve the precision of a diagnostic procedure.

According to published data, any single cardinal sign is inadequate as a diagnostic test. Almost 30% of all cases, including many MB patients, may not have detectable sensory loss to fine touch. Nerve involvement is not given any weightage in classification of the disease.

Health workers are not trained to palpate and identify thickened peripheral nerve trunks in patients who may not have anaesthetic patches.

The skin-smear and histopathology are not available in many settings and are not stressed upon even when facilities exist. The biggest problem in the management of leprosy is the nerve damage which occurs along the course of the disease per se, becomes acute during reactions and this results in deformities and disabilities.

There is no parameter which can reliably predict what will be the likely nerve damage in a given patient and what dose of steroids, for what duration and instituted when, will give the best results.

More studies may provide the answers. There should be no complacency in efforts to improve the diagnostic skills of health workers in identifying leprosy patients, development of better laboratory tools for early diagnosis of disease, to evaluate response to treatment and identifying patients at high risk of manifesting lepra reactions and nerve damage.

Ref:- Kumar B, Dogra S. Leprosy: A disease with diagnostic and management challenges! Indian J Dermatol Venereol Leprol. 2009; 75:111-5.

9

MISDIAGNOSED LEPROSY: A CONCERN FOR THE PRACTICING DERMATOLOGIST

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Leprosy is associated with the occurrence of various skin lesions such as macules, papules, plaques, nodules, and even diffused infiltration, depending on the patient's immune response. Its presentation can therefore mimic many cutaneous diagnoses.

There is evidence that delay in presentation and diagnosis is an important risk factor related to nerve function impairments; therefore, early diagnosis and treatment play an important role in prevention of nerve damage in a large proportion of leprosy patients.

Many cases of misdiagnosis of leprosy are recorded in literature as leprosy may present in an atypical manner and masquerade like any of its differential diagnosis. This results in wrong diagnosis and delayed commencement of therapy. Being aware of possible misdiagnosis especially in endemic area can be the prompting of early referral of patients to appropriate centers for expert diagnosis and care.

One of the public health challenges in leprosy programme is that of access to trained health personnel for correct diagnosis before treatment. Leprosy can masquerade, mimic and exist with other co-morbidities making diagnosis difficult for the inexperienced.

Other Leprosy - like Skin Diseases that can be confused with true Hansen's disease include hypopigmented macules, Leukoderma, Vitiligo, Morphoea, naevus achromous, Pityriasis Rosea, Pityriasis Alba, granuloma annulare, Xanthomatosis, cutaneous lymphoma, ringworm and Post Kalaazar Dermal Leishmaniasis to mention a few.

All diseases of the peripheral nerves causing nerve damage or hypertrophy can mimic leprosy; including Peripheral Neuritis of Vitamin B deficiency and Vitamin B12 including diabetes; posterior column lesions of the spinal cord with loss of feeling in the lower limbs.

Dermatological services with consultant dermatologists in attendance continue to play a major role in the early and prompt diagnosis of leprosy. The possession of knowledge and skills in the early diagnosis of leprosy by doctors working in dermatological services will partly determine whether or not a prompt diagnosis can be made and the patient referred, so that chemotherapy can be initiated in time.

There should be aggressive efforts to improve the diagnostic skills of health workers in identifying leprosy patients and expediting prompt referral where indicated.

Ref:- Olasode O A. Misdiagnosed leprosy: a concern for the practicing dermatologist. Nigerian Journal of Dermatology. Aesthetic Dermatology. Vol 01; No. 02. June 2012.

10

NEED TO IMPROVE THE HEALTH SEEKING BEHAVIOUR OF LEPROSY PATIENTS ATTENDING DERMATOLOGY OPD OF A TERTIARY CARE HEALTH CENTRE

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Health-seeking behaviour is a complicated issue, if not a complex paradigm of social, cultural, historical, and economic variables defining certain mindsets. Ignorance of general health problems; the lack of awareness of leprosy; socioeconomic limitation; availability and accessibility to health services and stigmatization in the general population may prevent people from seeking help. Health service delay can also be related to low awareness and lacking skills of healthcare providers.

A cross-sectional study was conducted with 115 leprosy patients attending the Leprosy clinic, Skin & VD, OPD to estimate the pattern of health seeking behaviour and to determine the factors affecting health seeking behaviour among leprosy patients.

Study revealed that before seeking treatment from the Leprosy Clinic of Bhima Bhoi Medical College & Hospital, Balangir, 23 (20%) patients had already started treatment outside.

Among them, 11 (47.8%) received their first treatment from qualified private practitioners; however, 6 (26.1%) received treatment from unqualified private practitioners.

Others patients, 2 (8.7%) from each had received treatment from medicine shop, homeopathic and traditional treatment. We also found that, 89.6% were regularly attending the health care facility for the treatment of the disease as advised by the doctor; however, 10.4% were irregular in their treatment.

To reduce the irrational treatment from unqualified, traditional practitioners and from over-the-counter drugs; community health workers should impart adequate and proper knowledge regarding the disease in the community.

Even after so much of community efforts under NLEP, stigma regarding the disease still prevails in the community and the society.

Behaviour Change Communication (BCC) programs to be enhanced at community level to improve the knowledge and attitude regarding leprosy among the population which could be helpful to remove stigma attached to the disease.

Ref:- Meher TK, Pradhan K, Bhue PK, Panda D, Padhan S, Satapathy SP. Health seeking behaviour of leprosy patients attending dermatology OPD of a tertiary care health centre of Western Odisha: a cross-sectional study. J Contemp Clin Pract. 2025; 11(5):675-683.

11

RARE DISEASES LIKE LEPROSY ARE SELDOM TAUGHT IN GP TRAINING IN UK

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Doctors are being informed that leprosy, commonly thought by the public to have been eradicated in the UK, is still present and may be masquerading as other more common skin diseases. A team of dermatologists from Cardiff in Wales are issuing their advice to 1,300 doctors, after seeing two leprosy cases in their clinics that had originally been misdiagnosed as more common skin complaints.

Both cases, diagnosed were in men who had moved to the UK from Asia diagnosed by dermatologists as having leprosy and referred to infectious disease specialists for appropriate treatment.

The spread of leprosy is caused by close and frequent contact between a person who is genetically susceptible to develop the disease, and an untreated contagious patient. It is a relatively rare disease with approximately 129 cases were reported in England and Wales between 2001 and 2010.

Dr Ausama Atwan, one of the clinicians in Cardiff, said: “Our aim is not to alarm people unduly as leprosy is still uncommon in the UK, but it is certainly something that doctors should be mindful of if they encounter patients, especially those originally from endemic countries, with persistent or unexplained lesions, changes to skin pigmentation and sensation. Leprosy may masquerade as various other skin disorders, given its range of symptoms.”

“Due to its rarity in Europe, it may easily be misdiagnosed and consequently pose future health risks for patients if missed. A detailed medical history, including factors like travel to areas where the disease is more common, and examination of the skin and peripheral nerves, together with a high degree of suspicion in individuals at risk, are crucial towards diagnosis and the eventual treatment of leprosy. The potential prolonged incubation period must also be borne in mind.”

Nina Goad of the British Association of Dermatologists said: “When people hear the term leprosy, they generally think of leper colonies and references to the disease in the Bible or films like Monty Python's Life of Brian. They are probably not aware that it can still occur here in the UK. Diagnosis in western populations such as the UK is often delayed because doctors are unaware of the disease's presence in their country, or of its symptoms.”

“Dermatology is hugely underrepresented in GP training to start with, so rare diseases like leprosy are seldom taught. However, early diagnosis and treatment are crucial in limiting the nerve damage that causes the numbness that can in turn lead to loss of limbs or digits.”

Ref:- Nina Goad, Doctors advised to be on the look-out for leprosy. News & Notes British Association of Dermatologists, UK. Press Release, June 30, 2014. Accessed from: https://www.skinhealthinfo.org.uk/doctors-advised-to-be-on-the-look-out-for-leprosy/

12

ASSESSMENT OF NON-DERMATOLOGISTS' KNOWLEDGE REGARDING CLINICAL DIAGNOSIS OF LEPROSY AND PRACTICE IN SLIT-SKIN SMEAR AS A BASIC INVESTIGATION

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In Thailand, the number of new cases detected annually has continued to fall since 2005 (case detection rate 1.03 per 100,000 populations) due to leprosy elimination campaigns. Although it is not very common, it may progress to a variety of deformities and disfigurements associated with social stigma and many economic problems. Therefore, early accurate diagnosis and treatment is the most effective strategy for the control of leprosy.

Studies that have assessed the knowledge, attitude and practice towards leprosy among physicians and other healthcare workers in different populations showed concordantly that there were inconsistency and deficiencies in physicians' knowledge and some prejudices and misconceptions still existed in general healthcare workers. Therefore, the conclusion of those studies emphasized continuous training and education about leprosy among doctors and other healthcare workers.

This is the first study that used a clinical picture to evaluate physicians' knowledge on diagnosis, physical examinations and investigations. Responses were collected from 112 general practitioners who attended the short-course training in dermatology, conducted by the Dermatological Society of Thailand.

About the diagnosis the response was as leprosy (60.7%), fungal infection (12.1%), psoriasis (9.3%), other skin diseases (13.1%) and no answer (4.7%) respectively. From 65 participants who answered leprosy, 15 (23.1%) participants could answer the second question about physical examinations completely and 20 (30.8%) participants answered partially.

This ignorance of practice may cause the physicians to delay diagnosis and treatment leading to permanent deformities which are strongly associated with greater level of stigma.

Because general practitioners were usually the first one to screen most of the patients with either major or minor illnesses, they should be able to recognize and diagnose leprosy since in its early stage. Slit-skin smear is a basic and practical investigation for general practitioners which could help to confirm the diagnosis of leprosy due to its high specificity.

This is important to encourage both general practitioners and non-dermatological specialists themselves to attend regular dermatological training courses provide by associated organizations to update their knowledge in the guideline for management of leprosy for general healthcare workers especially in the endemic areas of our country.

Ref:- Bunyaratavej S. Assessment of Non-Dermatologists' Knowledge Regarding Clinical Diagnosis of Leprosy and Practice in Slit-Skin Smear as a Basic Investigation. Siriraj Med J 2015; 67: 2; 66-71

LEPROSY UNMASKED: A DERMATOLOGIC REVIEW

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Despite tremendous advancements in recognition and treatment, leprosy remains a significant global health concern. Annually, approximately 200,000 cases are diagnosed worldwide. The United States, while experiencing relatively low case counts, has seen a notable geographical incidence shift, particularly in the southeast.

In 2020, more than one-fifth of cases were identified in Florida, with 80% of those cases occurring in eastern Florida. The reasons behind the increase in geographic incidences are not yet identified but may be related to a shift in disease transmission.

Transmission of leprosy is historically linked to genetic susceptibility and prolonged exposure to someone with untreated disease via respiratory droplets. However, there are an increasing number of cases in the US where close contact cannot be established. In these cases, transmission is thought to occur either through prolonged travel within countries with high rates of the disease or through zoonotic exposure.

Zoonotic exposure is thought to be key to the increased prevalence of leprosy in the southeastern United States particularly via nine-banded armadillos, which are known reservoirs for *mycobacterium leprae* strains known to infect humans.

Leprosy manifests in diverse ways, largely depending on the bacteria burden and the infected person's immune response. Diagnosis is established via a skin biopsy, ideally from the leading edge of a lesion that demonstrates the bacterial within a cutaneous nerve. In tuberculoid, or paucibacillary, leprosy, this can be challenging; multiple biopsies may be needed, and diagnosis may need to be inferred from clinical or histopathologic clues.

One vital aspect of diagnosis to remember is that leprosy is a reportable condition at both the state and federal level. The National Hansen's Disease Program (NHDP), once notified, provides telemedicine visits and medications for patients and professional consultation for clinicians, all at no cost.

A key unique component to treating leprosy is screening all patients, at the time of diagnosis, regularly during treatment, and after treatment, for immunologic reactions. These reactions can result in severe nerve injury if not treated promptly.

Leprosy continues to carry societal stigma. Dermatologists play a crucial role in dispelling misconceptions, advocating against stigma, and promoting awareness at both individual and community levels.

Ref:- Charlie Dunn. Leprosy Unmasked: A Dermatologic Review for World Leprosy Day. Published January 26, 2024. Accessed from https://dermsquared.com/videos/topical-conversations/leprosy-unmasked-dermatologic-review-world-leprosy-day.

14

ON NURTURE THE RELATIONSHIP BETWEEN DERMATOLOGISTS AND NLEP: DermLep Study Extracts

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DermLep study, on behalf of the Special Interest Group (SIG) – Leprosy,
Indian Association of Dermatologists, Venereologists, and Leprologists (IADVL)

A large number of dermatologists run private dermatology clinics across the country. New leprosy patients and good number of released from treatment (RFT) patients are examined, diagnosed, and managed by dermatologists in the institutions and private practice since the dermatology specialty has been established.

Nonetheless, there is no structured involvement of dermatologists in the national leprosy program. In addition, there is no reliable data available on the types of services provided by them or the number and profile of leprosy patients managed by this large qualified group at their clinics.

To bridge this information gap, a nationwide 'DermLep study' was carried out by the Special Interest Group (SIG) - Leprosy of the Indian Association of Dermatologists, Venereologists, and Leprologists (IADVL) in the year 2017–18 involving 201 dermatologists from 20 states of India.

The survey aimed to estimate the number and profile of leprosy patients seen by dermatologists over a 3-month period, and the key leprosy services available at the dermatology clinics / hospitals / institutions to manage leprosy patients.

How often they see leprosy patients in their clinic: 78.2% dermatologists responded that they frequently saw patients in their clinic, while 16.2% mentioned they saw occasionally in their practice and 5.5% stated that they do not see leprosy patients at all in their practice.

Access to slit skin smear for diagnosis: Overall, 81% of the dermatologists had access to skin smear services of which 95% (95 / 100) were in institutions and 73% (73 / 100) were in private practice.

Access to skin biopsy for diagnosis: 98% dermatologists in institutions had access to skin biopsy, while 88.7% dermatologists in private practice had access to skin biopsy services.

Adherence to WHO recommended MDT: 79%, (158/200) dermatologists followed WHO recommended MDT in their practice, while 17.5% (35/200) stated it depend on the case and only 3.5% (7/200) stated that they do not follow the WHO-MDT in their practice.

Extending the duration of MDT beyond the standard period: 12.6% (24/199) said they never extended the duration; 75.4% (150/199) extended the duration of MDT on a case-to-case basis; and 12.1% (25/199) usually extended the duration of MDT in their patients.

Reporting the leprosy cases treated to NLEP: Overall, 44.1% (86 / 195) of dermatologists did not report in routine their cases and in private practice only 28.6% (28 / 98) dermatologists reported their cases to the NLEP.

Access to leprosy physiotherapy services: Overall, 70.3% (137 / 195) of dermatologists had access to physiotherapy services, while only 55.7% (54 / 97) has accessed in private practice.

Concerns have been raised regarding the program doing away with slit skin smears and the declining interest and ability to perform skin smears correctly among all the persons involved in leprosy work, even in the teaching/training institutions. Early diagnosis and treatment of MB leprosy will also help interrupt transmission of the disease. Dermatologists recognize this and use skin smears as a key tool while managing leprosy patients.

At present there is no systematic and organized way of involvement of medical college hospitals or of the private sector (both individual practitioners as well as private hospitals) in NLEP directed leprosy control activities. There is a scope for private for-profit health sector to play an increasing role in the provision of leprosy services in India. However, national strategies should clearly define the private sector's role, including training and quality control.

The findings of the present study show that Dermatologists, from both public and private sectors contribute significantly to the care and management of leprosy and the role of the private sector should be recognized and mainstreamed into the national program. There is a need to nurture this relationship further.

Considering the epidemiological situation and prevailing operational factors, the past approach and strategies of NLEP may not be effective in attaining the aspired zero leprosy goal. A broader integrated approach with involvement of dermatologists at all levels in the leprosy programme can help flush out undiagnosed cases; ensure that they are adequately treated with MDT and successfully interrupt further transmission of the disease.

The findings of the present study show that Dermatologists, from both public and private sectors contribute significantly to the care and management of leprosy and the role of the private sector should be recognized and mainstreamed into the national program. There is a need to nurture this relationship further.

For this, involvement of dermatologists at all levels of NLEP should be welcome to improve standards of care; ensure an effective “public-private” and a “public-for-profit” partnership in a structured manner, all of which falls within the vision of the NLEP and the WHO. The way forward is to strengthen the partnership of the NLEP with dermatologists and other partners to re-define the leprosy control strategy in order to achieve the long-term goal of a leprosy-free India.

Ref:- Rao PN, Rathod S, Suneetha S, Dogra S, Vora R, Gupta SK. The DermLep Study Part 2: Results of a nation-wide survey of dermatologists' access to quality leprosy services at their clinics and hospitals in India. Indian Dermatol Online J; 2020; 11: 895-903.

15 BUILDING AND MAINTAINING CAPACITY FOR LEPROSY WITHIN INTEGRATED PROGRAMME

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Geneva, Switzerland

Capacity building within integrated programmes

Training institutions for general healthcare workers must include leprosy in their curriculum so that the newly qualified health workers are able to diagnose and treat leprosy. Similarly, medical colleges should continue to include leprosy in undergraduate and postgraduate training programmes, especially in endemic countries.

Leprosy should be covered as part of the curriculum on public health, infectious diseases and dermatology. Coordination between government and NGOs as well as local authorities, dermatologists and general practitioners should be encouraged.

It should be made clear that continued investment in maintaining antileprosy activities is a step torards achieving a leprosy-free world. WHO should continue to work closely with national leprosy elimination programmes providing technical guidelines, supporting core antileprsoy activities and assisting in monitoring and evaluation.

Nonethless, integration does not mean that specialized components are completely abolished; in fact, they will always exist in the integrated programme at the national level, may also be available at the intermediate level or even the district level and play a vital role in the coordination, planning, technical support and monitoring the programme. Leprosy programmes have also been combined with dermatological services.

Referral services to provide technical support or hospitalization facilities are essential in an integrated programme and a referral network should therefore be established.

Such services should be available at appropriate levels. They may be provided by specialized hospitals or centres but should mostly be provided by centres at the higher level of the general health system; the basic requirements are the availability of adequetly trained staff and the necessary infrastructure. Dermatologists in particular can play a useful role in referral services.

Ref:- WHO Expert Committee on Leprosy. Seventh report. Technical Report Series; no. 874. 1998. P. 32-34

Capacity building plan to maintain national training centres at different levels

Ref:- WHO Expert Committee on Leprosy. Eighth report. Technical Report Series; no. 968. 2012. P36 & 41.

WHO'S PERSPECTIVE AND STRATEGY ON THE DEPLETION OF TRAINED LEPROSY WORKERS

World Health Organization :
Accelerating towards a leprosy-free world, 2016

When leprosy was "eliminated as a global public health problem" at the national level in many countries, dedicated leprosy infrastructure, funding, and specialized training dwindled. This led to a gap in expertise among general health workers who were expected to take over the services.

The WHO recognizes that a lack of trained staff can lead to delayed diagnosis, increased disabilities, and continued transmission, especially in endemic areas or "hot-spots".

To address this, the WHO actively supports national programs, such as India's National Leprosy Eradication Programme (NLEP), in capacity building and training general health service functionaries, including medical officers, nurses, and grassroots workers like Auxiliary Nurse Midwives (ANMs) and Accredited Social Health Activists (ASHAs).

The WHO promotes the following strategies to mitigate the impact of the loss of specialized workers:

- Training and Education: WHO has developed e-learning modules that aim to enhance knowledge and skills of health workers at all levels on topics related to diagnosis, treatment of leprosy and management of disabilities. These can be accessed through the WHO Academy.
- Early Detection & Referral: Emphasizing early case detection and a strong referral system to specialized centers when needed, to prevent disabilities.
- Sustained Political Commitment: Urging governments to prioritize leprosy elimination and ensure sustained human and financial resources are available for control efforts.
- Partnerships: Collaborating with NGOs and technical agencies (like ILEP Federation) to support training and service delivery, particularly at the community level.

The goal is to ensure that comprehensive, quality leprosy services remain accessible through the integrated general healthcare system, despite the decline in the number of dedicated, full-time leprosy specialists.

Ref:- WHO Global Leprosy Strategy 2016–2020: Accelerating towards a leprosy-free world, 2016

16

ENCOURAGE THE PARTNERSHIP BETWEEN THE LEPROSY CONTROL PROGRAMME AND DERMATOLOGISTS

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Dermatologists in Brazil have always been involved in care of leprosy patients, and have been alternating with public health physicians in the management of control policies. However, from 1930 to 1985, the public health physicians were in charge of the political guidelines that represented the period of establishing the vertical programmatic structure, with compulsory isolation of patients (1933–1962). Moreover, the federal states coordinated the control actions, based on the leprosy prophylaxis campaign.

The dermatologists resumed the conduction of the control process in 1986, when MDT was implemented in the country, and in 1991, when decentralization of public healthcare services to the municipal level took place. In 2003 again, the dermatologists were no longer in control of the national policy. However, active dermatologists have acted in Brazilian references on diagnosis and treatment of Hansen's disease, at municipal, state and national levels.

It is true that dermatologists have been getting away from leprosy control actions. And one could ask: who will replace this specialist? In the 'post-elimination' era, when the public primary healthcare technicians no longer consider leprosy of much significance, the knowledge of the expert in this disease and its differential diagnoses will be crucial.

As has been stated earlier, dermatologists in Brazil have always been involved in the management of patients with leprosy alone or alternated their care with public health physicians.

Taking into account the job market issues mentioned earlier, the group of dermatologists involved in leprosy has significantly collaborated in activities related to early diagnosis and adequate treatment, management of reactional episodes, as well as training of specialists and internal medicine physicians.

The Leprosy Control Program in the state of Sao Paulo defined the Dermatology outpatient's clinics at teaching hospitals as 'sentinel outpatient's clinics' for the endemic situation.

We understand that decentralization of healthcare services should not exclude the participation of specialists; rather, it should reallocate them to reference and counter reference systems that minimize mistakes in diagnosis and management at the primary healthcare service network; moreover, it favours permanent multidisciplinary training.

Ref:- Maria Leide Wand-Del-Rey Oliveira, Gerson O. Penna & S. Telhari. Role of dermatologists in leprosy elimination and post-elimination era: the Brazilian contribution. Lepr Rev (2007) 78, 17–21.

17

NEED TO USE THE SERVICES OF DERMATOLOGISTS JUDICIOUSLY IN A NEED BASED MANNER

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Leprosy is a great mimic and confuses many times even the experienced leprologist. Our health system has already started losing the interest and motivation required to diagnose and treat the leprosy cases. Reasons may be many. Therefore, keeping the above scenario in mind, it needs no emphasis that dermatologists will continue to play a significant role even in the post-elimination era. However, we need to use their services judiciously, in a need-based manner.

First and foremost, we require an effective referral system, which is also an important component for the WHO Global strategy to further reduce the burden of disease during 2006–2010. Of course, this referral system is to be built up within the existing GHS set up. The services of dermatologist can be made available at the first referral institution, which is a Taluka or district level hospital. Medical officers at PHC can screen and send only the needy cases requiring care of an expert dermatologist to these referral institutions.

Secondly, these Dermatologists can regularly validate a sample of leprosy cases diagnosed by the Medical Officers of each PHC under the referral institution by undertaking regular supervisory visits. During these visits, they can also impart on-the job training to Medical Officers and guide them in dealing with the problematic and difficult cases in a better way. These will not only help in maintaining the quality of diagnosis but also improve management of leprosy related complications such as the lepra reaction, drug reaction and the related sequelae such as deformities and even relapses. This will also reduce the possibility of wrong diagnosis.

Further, there is and there will be a dearth of qualified dermatologists in the country and the knowledge that majority of dermatologists are urban based and have their own private practice, it will be worthwhile to consider some kind of Public–Private Partnership initiative (PPPI) and involve them in some way for diagnosis, treatment and training related with leprosy.

However, we need to regularly update knowledge of these private practitioners by providing them the latest guidelines and strategies of the programme.

It can be concluded that historically the dermatologist has played a leading role in leprosy control. However, in the changed scenario they still have a lot to offer albeit in a modified way with orientation towards Public Health.

Ref:- Aparna Pandey. Role of dermatologist in leprosy elimination and post-elimination era. Lepr Rev (2007) 78, 26–29.

18

SENSITIZE AND INVOLVE DERMATOLOGISTS IN PUBLIC AND PRIVATE HEALTH SECTOR

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NGOs engaged in leprosy control in metropolitan cities where there are many dermatologists in medical colleges, or in private practice, have a special responsibility in implementing leprosy work in an integrated manner.

Due to the severe isolation in which the city leprosy programme was practised and the stigma prevailing among the medical profession and even the teachers in medical colleges, priority was given to start leprosy clinics in the Dermatology Departments of the Medical Colleges, though it was by no means easy.

Right from its inception in 1976, BLP has been experimenting with several strategies and methods, to sensitize and involve dermatologists of the local medical colleges as well as those who were in private practice. Slit skin smears (SSS) facility was made available to all the medical colleges and practicing dermatologists especially when it was the essential component of the WHO treatment regimens but were not uniformly available.

Changes in the medical curriculum will depend upon the degree of awareness and knowledge about the disease among medical students, doctors and dermatologists. This was achieved by arranging talks by national and international celebrities in the field of leprosy, providing training, conducting regular CMEs, publication of wall journal, assisting the residents and faculty to select leprosy related subjects for thesis, in the presentation of material at the conferences and further helping them for its publication in the scientific journals.

Leprosy NGOs with expertise should network with practicing dermatologists and medical colleges to provide technical assistance for slit skin smear facility, management of complications and prevention and care of deformities.

To further strengthen its base, BLP has been involved in various research activities including drug trials and evaluation of various new regimens.

Decline in expertise available so far from the 'vertical' specialty of leprology, the future of disease management in the post-elimination phase is likely to be more challenging.

These techniques and strategies have been largely responsible for bringing in awareness, initiating the dermatologists in the teaching institution as well as in the practicing sector and enabling them to take on the challenge in the post elimination era. We believe that this model of integration is replicable in any other comparable metropolitan city in India.

Ref:- R. Ganapati, V. V. Pai & R. Rao. Dermatologist's role in leprosy elimination / post-elimination. Lepr Rev (2007) 78, 30–33.

19 DERMATOLOGICAL SERVICES IN RESOURCE CONSTRAINED SETTINGS

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Many countries are now faced with the challenges of sustaining leprosy control services under the circumstances of diminished disease burden and in the face of ongoing health sector reforms. New strategies have to be developed for ensuring quality care for the leprosy cases that will continue to be detected. The backbone of the strategies is thought to be integration of leprosy control activities into the general health services.

Dermatological services, although considered as one option for managing integrated leprosy services, have been deemed inappropriate for taking over the responsibility for the control of leprosy because they concentrate mainly on curative treatment. That notwithstanding, dermatologists will continue to play a pivotal role in sustaining leprosy control services.

Dermatologists in the public sector are usually so occupied with administrative issues that they are left with lesser time to practice their profession. The services of the ones in the private sector are usually not affordable. Like dermatologists, leprosy cases are unevenly distributed, although the concentration of the latter follows a different pattern.

In the above context, the few dermatologists, given their relatively high profile in the health service hierarchy, would have the following opportunities to promote sustainable leprosy control services:

- Having access to decision making processes regarding the content of curricula of Medical Schools and other pre-service training institutions and being involved in the implementation of various training programmes.
- Making better use of the vertical referral system already under development in the country; this could involve, for example, the engagement of paramedical specialists to support the basic services at regional level.

Through taking advantage of those and other opportunities, the dermatologists would carry the responsibility to ensure that leprosy cases identified along the way receive good quality care. In addition, they would be made more alert to their duty to continue the search for solutions to the many unanswered problems posed by dermatology in general and leprosy in particular.

Even in countries where dermatologists are not yet in any formal relationship with the National Leprosy Control Programme, they have the potential to form an essential component of the referral system. Developing and leading the dermatological services' referral system with leprosy as an integral part.

Ref:- Herman Joseph S. Kawuma. Potential role of dermatologists and dermatological services in developing and sustaining the leprosy control referral system in resource constrained settings. Lepr Rev (2007) 78, 34–37.

20 DERMATOLOGISTS ACT AS 'SAFETY NET' FOR THOSE CASES MISSED BY OTHER HEALTH SERVICES

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Leprosy has to be seen as a systemic disease, involving not only skin and nerves, but also many other organs. The role of a dermatologist in case of leprosy cannot be restricted to the part of the skin and diagnosis only, but must include the recognition, diagnosis and treatment of reactions and other complications.

In countries with an 'English; derived system, leprosy control is under the responsibility of Communicable Disease Control Departments and the dermatologists are 'only' assigned a role in the clinical aspects of leprosy.

Not all dermatologists are interested in public health and a 'holistic' approach is required from dermatologists working with leprosy. Even now in many endemic countries, only a minority of dermatologists work with and are interested in leprosy and even fewer are involved directly in leprosy control. There are even some who actually refuse to have anything to do with leprosy.

Even now when leprosy is still a 'common' disease (at least in Brazil), 'obvious' diagnoses of leprosy are sometimes missed even by dermatologists, especially in case of the more uncommon presentations of lepromatous leprosy.

In low endemic areas, most patients with non-healing skin lesions will end up being attended by a dermatologist (if accessible to the – rural poor). Some patients because of specific symptoms mimicking other diseases or with neurological deficits and deformities will frequently be seen first by other specialists before being diagnosed with leprosy.

Most likely, in many countries' leprosy will soon be classified and grouped under 'rare diseases' and often the diagnosis of leprosy will be a surprise finding.

Dermatologists will have to play an important role to act as a 'safety-net' for those patients 'missed' by the other health services in addition to providing technical support to referral and support services in leprosy management and control programs, and providing special care to persons with reactions and other complications.

Dermatologists will continue to play an important role in teaching about leprosy and training of health service staff to identify and treat the disease adequately.

Whatever will be, it is obvious that dermatologists have a role to play in further reducing the leprosy burden and sustaining leprosy control activities.

Ref:- Jose Augusto Da Costa Nery, Linda F. Lehman & Pieter A. M. Schreuder. Role of dermatologists in leprosy elimination and post-elimination era. Lepr Rev (2007) 78, 41–42..

21

LEPROSY ELIMINATION AND ROLE OF DERMATOLOGIST IN LOW CASE SCENARIO

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After the introduction of MDT, the prevalence rate in Nepal has declined significantly. The leprosy control services were integrated into general health services in the year 1987 to provide wider coverage. Nepal has started to implement of an ad hoc plan since 1991-92 for achieving this national goal of leprosy elimination within the set stipulated time frame.

Leprosy will not remain as a public health problem in the country at nation level after set time frame of elimination. But there will be still endemic pockets in different region and districts even after reaching the goal at national level. So, the leprosy activities should be focused to the remaining high endemic cluster pocket areas.

Even after disease elimination is declared, diagnosis of new cases, relapsed reporting and complication management will remain the major challenges. This needs to be tackled by basic health service (BHS) staff, medical officers and dermatologists respectively.

In post elimination scenario and in such integrated health service system the role of dermatologists will be more responsible for diagnosis, differential diagnosis, treatment, management of complication as well as capacity building of BHS staff and medical officers.

Case diagnosis and putting them on MDT is not a very big problem in the field level, but patients suffering with recurrent leprae reactions, ulcer, neuritis and other complications are entirely different mode of the disease leprosy.

Therefore, department of dermatology should be developed in each regional hospitals and referral centers keeping view of management of complicated cases and rehabilitation part (medical surgical and physical).

In low case scenario dermatologists and leprosy field workers may have sufficient time to explore best efforts in all these essential fields. At policy level, strategies need to be focused on to sustain leprosy control activities at all level.

In the absence of any standard laboratory test for diagnosis of leprosy, validation studies are useful to assess the accuracy of diagnosis. Dermatologists, as leprosy experts, can play vital role for the conduction of several such studies in low case scenario.

A strong coordination and commitment of non-government organizations, dermatologists, supporting partners and others would fortunately the major achievement for the sufferers with Hansen's disease.

Ref:- Jain M C. Leprosy elimination and role of dermatologist in low case scenario. Journal of Nepal Medical Association. 2004; 43: 283-285

22

DERMATOLOGY RESIDENTS HAD POSITIVE ATTITUDES AND GOOD PRACTICES FOR LEPROSY

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Dermatologists have a vital role in diagnosing and treating patients affected with leprosy competently and compassionately. Thus, **dermatologists must be equipped with adequate knowledge about the clinical presentation and management of patients with leprosy.** Early recognition and treatment are prudent to control leprosy and prevent debilitating complications.

Having positive attitudes toward patients with leprosy can help decrease the stigma and increase the health-seeking behaviors of patients. There is a lack of studies regarding dermatology residents' knowledge, attitudes, and practices of leprosy in the Philippines. This is the first study in the Philippines to aim to identify the knowledge, attitudes, and practices (KAP) of dermatology residents.

Identifying gaps in knowledge, attitudes, and practices is necessary to design standard guidelines that resident dermatologists can use in training and practice. The study's findings may also be used to identify areas of development toward improved evaluation and treatment protocols and increased patient health-seeking behavior.

This cross-sectional study showed that less than half of the participants had satisfactory knowledge of leprosy. However, the majority of the participants had positive attitudes and good practices. We identified gaps in knowledge, mainly in nerve function assessment and the dose and duration of treatment for leprosy people. This is important in diagnosing and managing patients with leprosy, as knowing the affected nerves can help prevent debilitating complications.

In another study in New Delhi, doctors still hesitate to interact with people with leprosy and still consider it as a social stigma. Because of this finding, they emphasized and recommended further training, workshops, and campaigns to educate more practitioners and clinicians and eliminate the stigma associated with leprosy (Chowdhry S, et al, 2018).

This can be addressed through lectures and training workshops addressing proper assessment of patients with leprosy, emphasizing nerve function testing. This study can serve as a guide in identifying areas of improvement for training dermatology residents and improving the knowledge and skills of residents in diagnosis and managing patients with leprosy. It can be used to design **training programs tailored to address the specific areas of diagnosis and management and improve the expertise of dermatology residents.** Addressing these gaps can lead to better patient care and outcomes.

Ref:- Balgomera MNB, Venida-Tablizo AA, Chavez CP, Abad-Venida ML, Protacio FV, Santos MP. Knowledge, attitudes, and practices on leprosy among dermatology residents in the Philippines: a cross-sectional study. Hansen Int. 2024; 49:e40301

23

LEPROSY IN POST-ELIMINATION ERA IN INDIA: DIFFICULT JOURNEY AHEAD

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In the post-integration phase, leprosy is taking a back seat due to passing on the baton of managing the disease to general physicians, who have other "important" diseases to cater to. However, dermatologists, due to their more experience, awareness, and vigilance about leprosy and management of its complications would always remain engaged as an essential link in continuing leprosy control activities.

The contribution of dermatologists in the success of leprosy elimination is well-recognized, but their continuing role in sustenance of gains in the "post-elimination era" needs to be emphasized upon. Leprosy is an integral component of post-graduate dermatology training program and participation in the NLEP by all teaching institutes is mandatory for the approval of the course by Medical Council of India (MCI).

Of the many challenges facing leprosy elimination, the struggle to maintain the pool of the most skilled leprosy workers, i.e., the dermatologists are most important. Dermatologists are generally the points of first contact for a patient of leprosy with skin lesions. Opinion of the dermatologists in policymaking, training health workers, developing training curricula, and methodology, research, testing efficacy of newer drug/regimens, management of reactions, and their complications, has been considered important in the past and will continue to be so in the future.

As is the trend worldwide, a significant number of dermatologists in India are urban based, working in private sector hospitals or their own clinics. The participation of dermatologists in private sector has been significant in leprosy diagnosis and management.

Leprologists have been promoting orientation and motivation of dermatologists both from the medical colleges and private sectors for more than three decades now. Dermatologists in private sector do contribute to the qualitative care in dealing with the remaining leprosy problem, though, concerns exist about the knowledge of private dermatologists in prescribing proper, uniform, and latest drug regimens. Latter is taken care by organizing sessions for regular updates in the field of leprosy during zonal, regional, and national conferences.

In addition, they may be provided with latest guidelines and strategies of the program from district and state leprosy officers. Though, the burden of leprosy is declining globally, efforts to sustain the current decline in endemic countries like India, by national leprosy programs along with continued support from international partners, is the need of the hour and there is no scope for complacency.

Ref:- Singal, Archana; Sonthalia, Sidharth. Leprosy in Post-Elimination Era in India: Difficult Journey Ahead. Indian Journal of Dermatology. 58(6): p 443-446, Nov–Dec 2013.

24 TIME HAS COME FOR DERMATOLOGISTS TO PLAY A KEY ROLE IN LEPROSY CONTROL PROGRAMME

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Considering their strength in India, dermatologists do have to play a crucial role in leprosy elimination activities and attending to the related clinical problems. After the integration of the leprosy programme in general health services, a still greater responsibility has fallen on dermatologists.

Even though a lot has been achieved in the last 20 years, leprosy is still a lingering problem and the disease burden in the community is still high.

This can only be tackled if there is more interaction between field managers, leprologists, doctors in primary care settings and dermatologists in private practice and those in government service. The time has come for dermatologists to play a key role in leprosy control program both from clinical and public health perspectives.

Though it has been emphasized time and again by WHO that the fixed duration MDT of 12 months is practically sufficient for all multibacillary patients and 6 months therapy for all paucibacillary patients (with a single dose ROM for single lesion leprosy), this view has not been taken seriously by all dermatologists in India.

In the southern states, due to the dwindling number of leprosy patients, the specialty of leprosy has been merged with the major specialty of dermatology. Remaining tasks of dealing with leprosy will have to be borne more and more by dermatologists.

'And sadly, leprosy will be a public health problem beyond the year 2000' and this has in fact come true for India. Moreover, the rise in multibacillary cases is more in comparison with the paucibacillary cases.

These multibacillary cases especially the lepromatous leprosy cases (likely to be missed at the level of primary health centre) are epidemiologically the most important as far as the transmission of leprosy is concerned.

Does this scenario augur well for the control programme? Is it the after effect of an effective control programme?

Thus, even though leprosy is close to elimination so far as programme managers are concerned (with free MDT not available at many centres in India), dermatologists have to take the lead role to stem this problem by effectively diagnosing and managing those new cases which continue to pour and the trickle will still continue for many more years.

Ref:- Devinder Mohan Thappa, Rashmi Kumari & Gajanan A. Pise. Role of dermatologists in leprosy elimination and post-elimination era in India. Lepr Rev (2007) 78, 45–46.

25

NO ALTERNATIVE TO DERMATOLOGISTS FOR SOLVING THE REMAINING PROBLEMS IN LEPROSY.

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In public health terms, leprosy is a much smaller problem now than ever before. However, the new situation of having to deal with a smaller number of cases has thrown newer challenges as well as newer opportunities. While this integration of leprosy within general health services is both logical and cost-effective, several issues related to patient care have come up which need to be addressed.

Among the several issues the most important are (a) how do we maintain the needed skills at the peripheral or primary health care level to diagnose and treat leprosy accurately, (b) how do we deal with complications that need both the expertise as well as facilities for hospitalization and (c) how do we deal with problems of disability that need both surgical and other rehabilitative support.

With these challenges in mind one can look at the emerging opportunities that might help in addressing them. In the past leprosy was part of the dermatologist's portfolio and they did deal with leprosy patients as and when they came to them.

However, the existence of a more specialized group with the name of leprologists made many patients seek the help of such single disease super- specialists. This was further reinforced by the fact that leprosy was essentially in the domain of public sector.

It should be added that leprologists themselves contributed to certain myths and mysteries of the disease as if no one other than themselves can handle the disease. However, it must be added that a significant number of dermatologists took a strong interest in leprosy and made valuable contributions even if such contributions were confined to clinical activities.

It is clear that the remaining tasks of dealing with leprosy, particularly with regard to patient care at the specialized level, will have to be borne more and more by dermatologists.

However, such care should not be confined to tertiary care hospitals as has been hitherto but move towards secondary care centres and first level referral facilities of primary health care.

Whether or not such percolation of dermatological services will take place remains to be seen. In addition, dermatologists in private services can also contribute to qualitative care in dealing with the remaining leprosy problem.

Therefore, a holistic approach towards leprosy will still be needed. However, there is no alternative to dermatologists playing the key role and taking up the leadership for solving the remaining problems in leprosy.

Ref:- S. K. Noordeen. Role of dermatologists in leprosy. Lepr Rev (2007) 78, 52–53.

26

WHEN LEPROSY IS NOBODY'S DOMAIN OR CONCERN, IT WILL FALL IN THE LAP OF DERMATOLOGISTS

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At times, even experienced leprologists, with all their clinical acumen and investigative armamentarium at their disposal, face difficulty in diagnosing leprosy.

In the post-integration phase, the major part of detection will be passed on to general physicians, who have a number of other important and fascinating spheres to exhibit their skills. Leprosy will therefore definitely take a back seat.

On the other hand, dermatologists because of their experience, have more awareness and are already more vigilant about this disease.

Therefore, in the post-elimination era, until and unless dermatologists are involved actively in the diagnosis and management of leprosy, early diagnosis will be elusive, resulting in increased transmission.

The role played by dermatologists in leprosy control programmes has been mainly in diagnosis, especially early diagnosis, the management of reactions and recognition of relapses.

In the future, what is going to happen with this disease is anybody's guess. When the financial sources dry up, it will be nobody's domain or concern.

It will fall in the lap of dermatologists, as leprosy is primarily a neurocutaneous disease. Leprologists will be almost non-existent. Control teams will also shrink.

As a teacher in dermatology, I must admit that although the quality of teaching and training in leprosy is being maintained for the time being at postgraduate level, but there is a definite decline at the undergraduate level.

The quality is bound to go down even at the post graduate level in the near future as the disease burden declines. This is partly due to decreased availability of clinical material, and to a lesser extent to reduced emphasis on the disease.

To sum up, the role of dermatologists in the post-elimination era will be almost the same as it has been in the past, i.e. they will be instrumental in the diagnosis of difficult cases of leprosy and their management. Probably, they will not have any role in the programme itself.

Of course, the teaching and training of leprosy at undergraduate and postgraduate levels has been in the domain of dermatologists and will remain so. Dermatologists have been handling leprosy for the sake of disease and patients and not for their own interest.

Ref:- N. L. Sharma. Role of dermatologists in leprosy elimination and post elimination era. Lepr Rev (2007) 78, 54–55.

27 INTEGRATING COMMUNITY DERMATOLOGY WITH OTHER INDIAN SYSTEMS OF MEDICINE FOR THE ERADICATION OF LEPROSY

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Dermatology is considered the most suitable profession to lead management in general health services, as the profession has much to offer as a resource for diagnosis and education.

Dermatologists are concentrated in the cities and large towns, and mostly do not want to travel outside their private practice clinic. However, most of the population lives in rural areas where access to skin care is limited.

Community dermatology, piloted by Kaur and Singh in India (1995), represents a public health approach to skin diseases, and aims to promote 'Skin Care for All'. Community dermatology, represented by a minority group, has as its target the commonest skin conditions; those that affect millions of people worldwide and many of which (have the potential to) cause disability.

To build on human resources at the village level, the small but enthusiastic branch of community dermatology may be the solution to India's leprosy with traditional practitioners as partners. There is great potential for India's many systems of medicine to be utilized in an integrated approach to the management of leprosy.

Populations in India rely heavily on such Indian systems of medicine and traditional health practitioners (THPs) to meet their basic healthcare needs; engaging THPs and providing training in leprosy can support early diagnosis and treatment.

Skin care is required for neglected tropical diseases such as leprosy, leishmaniasis, lymphatic filariasis, onchocerciasis and Buruli ulcer (scabies has now been added), and this has long been an important focus in global dermatology. The expectation is high that the dermatology profession will support leprosy-related activities and community dermatology has been suggested as a potential solution.

The Community Dermatology Society of India, inaugurated in 2015, is strongly supportive and will become a resource for training of family practitioners in the management of leprosy for a number of reasons. Its self-help interventions are low-cost and appropriate to the needs of those affected, who often have very limited resources.

It focuses on the strengthening of general health services, at the primary care level, thereby improving access to appropriate advice and treatment for patients. It collaborates with other relevant health professionals and forms teams which integrate with other systems of medicine.

Ref:- David Chandler. Integrated care and leprosy in India: a role for Indian systems of medicine and traditional health practice in the eradication of leprosy. Current Science, Vol. 111, No. 2, 25 July 2016.

28 CONCERTED EFFORT OF THE POLICYMAKERS INVOLVING VARIOUS STAKEHOLDERS WILL HELP IN ELIMINATING THE DISEASE

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Since ancient times, leprosy was associated with stigma. Despite the availability of effective multi-drug therapy, this deep-rooted stigma has remained a serious challenge in the management of leprosy. Healthcare providers play a crucial role in implementing any healthcare programme, and they are the brand ambassador of the programme to the general population.

Hence, to achieve sustainable elimination of leprosy in endemic areas, it is imperative to explore the perception and experience of healthcare providers and programme managers.

In this context, this study was undertaken with the objective to explore the challenges faced by the service providers and programme managers in delivering the services to the community members under the program in West Bengal.

Even in this study, it was reported that people were hesitant to approach the health care delivery system, even to inform their disease status to their family members.

There are earlier researches corroborating this effect of perceived stigma on delayed diagnosis of leprosy. Concerted efforts from different sectors of the community might be helpful on managing this dreaded menace and improving family and social support to fight with leprosy.

Although the diagnosis and treatment under NLEP are free, the direct cost of travel to healthcare facility and the indirect costs such as missing daily wage were found to be another important challenge. This was corroborated by other researchers.

In some national programmes, the Government provides cash incentive to persons with disease for treatment completion. A similar approach might be considered in NLEP to improve the treatment compliance.

Lack of trained manpower is another challenge to deliver NLEP intervention effectively. Lack of skill in detecting and managing leprosy cases among private practitioners was added problem. Due to declining number of cases, the clinical training on leprosy is hampered during the medical course.

Continuous medical education might be helpful in this regard. Various medical associations (IMA, IPHA, IAPSM) might be roped in for this purpose.

Ref: Ray, Soumalya; Das, Nivedita; Bandyopadhyay, Kajari; Mukhopadhyay, Diptakanti. Challenges in Implementation of National Leprosy Eradication Program: Cross-Sectional, Qualitative Study in Three High Endemic Districts of West Bengal, India. Indian Journal of Dermatology 70(6):p 330-335, Nov–Dec 2025.

Leprosy in India: The Road to a Disease-Free Future

National Strategy Plan (NSP) and Road Map

5 October 2025

Government of India

NLEP Programme demonstrates a public health success rooted in political will, commitment, sustained efforts for new case detection, free of cost and uninterrupted supply of MDT drugs, partner support, transition from a vertical to integrated service delivery strategy, timely adoption of global guidance, timely introduction of revised treatment regimens, post exposure prophylaxis, innovations, and expanding community engagement.

However, elimination as a public health problem is not eradication.

New cases of leprosy will continue to occur and the aim is to detect cases so early that development of disabilities is prevented and chain of transmission is interrupted leading to no new infections and no leprosy in children.

Recognizing this, the Government has been proactively addressing residual challenges through sustained surveillance, renewed awareness initiatives, and enhanced community outreach. Efforts are underway to revitalize training programs and improve early detection, especially in rural, tribal and underserved populations, ensuring that no case goes unreported or untreated.

With ongoing efforts to strengthen surveillance systems, expand community engagement, and integrate leprosy care into general health services, India is reinforcing its commitment to a leprosy-free future.

Technological tools like **Nikusth 2.0**, combined with strong policy support, post exposure prophylaxis and increased community participation and self-reporting.

NSP and Roadmap for Leprosy provides a comprehensive framework aligned with global goals to achieve interruption of transmission by 2030 through

- accelerated case detection,
- digital surveillance,
- improved treatment,
- preventive strategies, and
- strong partnerships, aiming ultimately for elimination of leprosy in India.

As India approaches its **goal of zero transmission**, continued political will, adequate funding, and active public involvement will be key.

With these in place, the country is well-positioned to achieve not just a medical milestone but a lasting humanitarian achievement.

Ref: *Leprosy in India: The Road to a Disease-Free Future. Press Release. Press Information Bureau. Government of India. Posted on 05 October 2025*

Eradication of leprosy from India: Reflections on past, present & future

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NLEP has a vision of Leprosy free India and has a goal of accelerating the programme for interruption of transmission of leprosy by 2027, three years ahead of sustainable development goal 3.3. In a scenario of competing priorities and limited human and financial resources available for leprosy, the issue is: 'can we set some timelines?' Or these remain just aspirational goals with no predictions and a hazy distant future?

In 2006 (at the end of December 2005), India celebrated the elimination of leprosy as a public health problem at the national level. However, let us hope that with a mass screening approach we will be able to connect with all cases by the end of 2027 and treat the hidden cases plus provide chemoprophylaxis and immunoprophylaxis for all contacts. The outcome of transmission will, however, be known only in 2037 – a long incubation period. Disability prevention, management and care of persons affected by leprosy will need attention for a long time at least 20 years till 2047 or beyond.

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Ref: Indian J Med Res. 2024 Jan 1;159(1):1-5.