# Report of Informal Consultation on Treatment of Reactions and Prevention of Disabilities 11-13 December 2018, Chennai, India



ii

## Contents

Abl	orevia	tions and acronyms	/	
Exe	ecutive	e Summaryvi	i	
1.	Inaugural session1			
2.	Curre	Current guidance on treatment of reactions and prevention of disabilities in leprosy2		
3.	Reversal Reaction or Type 1 Reaction			
	3.1.	Literature review2	2	
	3.2.	Clinical features of RR	3	
	3.3.	Diagnostic procedures, including laboratory tests	1	
	3.4.	Recommended treatment regimens	5	
	3.5.	Counseling of patients	5	
	3.6.	Follow-up and treatment monitoring	7	
	3.7.	Further research	7	
	3.8.	References	7	
4.	Erythema Nodosum Leprosum or Type 2 Reaction			
	4.1.	Working group for ENL	3	
	4.2.	Current status	3	
	4.3.	Detection and classification of ENL	)	
	4.4.	Treatment of ENL	)	
	4.5.	Patient counselling12	2	
	4.6.	Recommendations and further research12	2	
	4.7.	References13	3	
5.	Neur	itis14	1	
	5.1.	Working group for neuritis14	ļ	
	5.2.	Current situation15	5	
	5.3.	Clinical features and diagnosis	5	
	5.4.	Management of neuritis16	5	
	5.5.	Counselling17	7	
	5.6.	Follow up of patients and monitoring results of treatment	7	
	5.7.	Neuropathic pain17	7	
	5.8.	Further research17	7	
	5.9.	References for neuritis in leprosy18	3	

6.	Nerve function assessment		
	6.1.	Working group for NFA	.19
	6.2.	Current situation on NFA	.19
	6.3.	Rationale for NFA	.21
	6.4.	Performing NFA	.22
	6.5.	Recording of NFA findings	.22
	6.6.	Algorithms for NFA	.24
	6.7.	References	.25
7.	Field	visit	.29
8.	Disability-adjusted life years in leprosy30		
9.	Conclusions and recommendations		

#### Annexes

Annex 1: Programme	
Annex 2: List of participants	35

## Abbreviations and acronyms

BI	bacillary index
DALY	disability-adjusted life year
ENL	erythema nodosum leprosum (Type 2 Reaction)
G2D	grade-2 disability
HIV	human immunodeficiency virus
MB	multi-bacillary
MDT	multidrug therapy
MFT	monofilament testing
MRC	Medical Research Council
NFA	nerve function assessment
NFI	nerve function impairment
NLEP	National Leprosy Eradication Programme (India)
NLP	national leprosy programme
PB	pauci-bacillary
RCT	randomized controlled trial
RR	Reversal Reaction (Type 1 Reaction)
ST	sensory testing
TAG	WHO Technical Advisory Group on Leprosy
ТВ	tuberculosis
ΤΝFα	tumor necrosis factor-alpha
VMT	voluntary muscle testing
WHO	World Health Organization

vi

### **Executive Summary**

Reactions are acute exacerbations of signs and symptoms of leprosy occurring during the natural history of the disease affecting skin, nerves, eyes or limbs. Left untreated or improperly managed, reactions can lead to nerve function impairment (NFI) and subsequently to disabilities. Reactions and neuritis remain an enigma for many frontline health staff treating leprosy. The problem is more noticeable in an integrated health care setting. Data collected from national leprosy programmes (NLPs) showed that in 2017, 7332 patients were treated for Type 1 Reaction (also known as Reversal Reaction or RR) and 5370 patients have been treated for Type 2 Reaction (also known as *erythema nodosum leprosum* or ENL).

Prevention of disabilities starts with early detection of reactions, prompt recognition of NFI and effective treatment of neuritis. These are the essential steps during the management of the disease for ensuring good quality and holistic treatment to persons affected by leprosy. The most recent World Health Organization (WHO) technical guidance on treatment of reactions and prevention of disabilities dates from 2010. Since then approaches to managing reactions have further improved. This informal consultation aimed to review the evidence on treatment practices followed for managing reactions in leprosy.

Reactions in leprosy are important clinical events (occurring before, during and even after completion of treatment) that may influence treatment or affect the quality of life. All patients with reactions and neurological events should be documented and properly managed. Patients with reactions should be monitored once in two weeks. Adverse events due to anti-leprotic drugs or drugs used to managed reactions and mortality associated with reactions need to be documented and reported.

Steroids (oral prednisolone) remains the main choice for treatment of RR. Frontline health workers need to be trained in recognizing RR and referring such patients for proper management. Likewise, ENL needs to be recognized and its severity measured. Patients need to be warned that this may constitute a chronic complication. They need treatment with steroids, but second-line drugs should be made available in order to reduce the morbidity and mortality associated with steroids. National programmes should develop recommendations for second line treatment of ENL. The use of thalidomide in the treatment of ENL should be reinstated as per the WHO Technical Report Series 968 of the WHO Expert Committee on Leprosy Eighth Report 2012.

Nerve function assessment (NFA) is required for the prevention of disabilities and should be introduced at all health facilities treating leprosy. A simple algorithm needs to be developed for use by frontline health workers to screen leprosy patients and identify those patients with higher risk for NFI.

Calculation of disability-adjusted life years (DALYs) in leprosy needs further understanding for finalizing a score considering disabilities, mortality due to reactions and discrimination against persons affected by leprosy.

#### 1. Inaugural session

On behalf of WHO, Dr Isabelle Roger, Regional Adviser for Neglected Infectious Diseases and Leprosy, WHO Americas Region, extended a warm welcome to all participants. Participants included representatives of selected NLPs, local government staff, experts in the field of leprosy, members of the WHO Technical Advisory Group on leprosy (TAG) and WHO staff. She mentioned that treatment of reactions has become an important component in the management of leprosy and underscores the quality of treatment.

Dr Shaikh Noordeen, Director (retired) of the Department of Leprosy of WHO, referred to the dedicated leprosy work undertaken in Chennai and surrounding districts of India, reducing the prevalence rates from more than 100 to less than 0.5 per 10 000 over a period of five decades. He congratulated WHO for organizing this informal consultation on very important topics that are part of the management of leprosy such as treatment of reactions and prevention of disabilities. A clear guidance coming out of this consultation would benefit health workers in managing leprosy patients in the field with limited facilities available. He mentioned that it was time that more health professionals are co-opted and partnered with persons affected by leprosy to improve the reach of services and also to reduce the disease burden due to leprosy.

In her opening message, Dr Poonam Khetrapal Singh, Regional Director, WHO South-East Asia Regional Singh appreciated significant milestones reached in leprosy control, including elimination as a health problem globally and in most countries. New cases, however, continue to occur: in 2017, data from more than 150 countries showed that 210 671 new leprosy cases were reported. More than 5% showed grade-2 disabilities (G2D) at the time of diagnosis. Among them, 238 children were notified. She underscored the importance of WHO's Guidelines for the diagnosis, treatment and prevention of leprosy. She further emphasized the need for improving the quality of treatment and preventing disabilities and stigma associated with disabilities changing the way people think about and treat people suffering leprosy. The Regional Director also mentioned that reactions constitute acute conditions that trigger nerve involvement and may cause permanent physical disabilities. As NLP reviews highlighted the need for clarifications on the management of reactions by health professionals (and in particular frontline health workers), the experts were requested to deliberate on the available evidence and provide clear guidance on the subject.

**Objectives and expected outcomes** 

## 预览已结束, 完整报告链接和二维码如下:

https://www.yunbaogao.cn/report/index/report?reportId=5\_24982

