Leprosy Control Activities Integration Into general Health System In Endemic Area Of South Gujarat Region, India

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Citation

R Chudasama, B Solanki. *Leprosy Control Activities Integration Into general Health System In Endemic Area Of South Gujarat Region, India*. The Internet Journal of Health. 2008 Volume 9 Number 1.

Abstract

Background: In India, integration of leprosy control into general health system has been undertaken with assistance of World Bank in a phased manner.Objective: to conduct operation research in endemic district to assess the progress of integration of leprosy control activities in general health systemMethods: Total 7 PHCs were selected out of 39 PHCs in Valsad district. Two PHCs each were selected from two talukas having PR > 5/10,000 populations & one PHC each from remaining three talukas with PR > 2/10,000 populations. Block Health Officers, Medical Officers & general health staff was interviewed. Operation research done by using defined categories like, training of health personnel, validation, simplified information system, disability prevention & medical rehabilitation activities, and performance of NLEP.Results: Block Health Officers, Medical Officers, & paramedical personnel were interviewed for their knowledge regarding Leprosy. Various indicators like validation of diagnosis in the field, SIS maintenance, IEC activities implementation, DPMR activities, MDT logistics, were assessed. Year wise various indicators of NLEP were assessed including prevalence rate, new case detection rate, multibacillary proportion, child cases proportion, & deformities proportion.

INTRODUCTION

Leprosy is a disease known anciently, mentioned by Sushruta Samhita as Kusht roga. The disease comes with so many myths and carries grave social stigma and ostracism which compels the patients to hide the disease resulting in manifestation of deformities. A common belief is that leprosy is due to past sins committed by the person. There is also a belief that it is hereditary and incurable. Much of stigma associated with leprosy stems for inadequate or incorrect knowledge about disease and its current treatment [1]. Organized efforts to control leprosy in India started in 1954-55, with the introduction of the National Leprosy Control Programme (NLCP). The programme had separate staff and exclusive set up, having no connection with the general health system. In absence of effective cure, the aim of the programme was to control disease activity. With introduction of multi drug therapy (MDT) in 1983, the programme gained fresh momentum and it was renamed as National Leprosy Eradication Programme (NLEP) [2]. The goal changed from control to elimination but it retained the vertical set up. Even after nearly 2 decades of excellent multidrug therapy and remedies for reactions and ulcers, knowledge alone will not change attitudes or influence behavior, and the role of literacy and gender in enhancing the health seeking habits needs further research and action [3].

The programme received further drive in 1993-94, with introduction of the World Bank assisted first NLEP project. The project continued upto 2000 and helped to strengthen the existing structure and increase the coverage of MDT. As a result the number of leprosy patients fell from over 2.5 million to 0.5 million. In India, second World Bank assisted NLEP project started in 2001-2004 with the objective of decentralizing NLEP responsibilities and integrating anti leprosy activities with general health system (GHS) in a phased manner [4]. Leprosy diagnosis and treatment is available on working days in health facilities upto primary health centre (PHC) level in an integrated setup. The phased implementation of MDT in Valsad district has led to drop in prevalence rate (PR) from 14/10,000 population in 1991 to 2.91/10,000 population in March, 2008. In present study, objective was to conduct operation research in endemic Valsad district to assess the progress of integration of leprosy control activities in general health system using defined indicators like, validation of diagnosis by checking patients in the field, status of integration of NLEP in GHS, status of Simplified Information System (SIS), IEC activities, Disability Prevention & Medical Rehabilitation

(DPMR) activities including Micro Cellular Rubber (MCR) soles distribution & reconstructive surgeries, MDT logistics, expenditure status.

MATERIAL & METHOD

The present study was done in Valsad district in South Gujarat region. The prevalence rate of leprosy in Gujarat state as in March, 2008 was declined to 0.82/10,000 population. Currently, out of 25 districts in Gujarat state, 16 districts having prevalence rate (PR) <1/10,000, 3 districts having PR between 1-2/10,000 population and 6 districts having PR >2 to 5/10,000 population. Valsad district was one of the six endemic districts in Gujarat state having prevalence rate more than 2/10,000 population and so, it was selected for the study.

Total 39 PHCs are functioning in five talukas of Valsad district including, Kaprada (8), Umergam (8), Dharampur (7), Pardi (7) & Valsad (9) respectively. Majority population belongs to tribal community and residing in difficult terrain areas of Valsad district. Prevalence rate of more than 5 per 10,000 populations was found in 3 PHCs of Umergam taluka & 4 PHCs of Kaprada taluka. From these high prevalence rate reporting PHCs, two primary health centres were selected from each taluka for evaluation. One PHC was selected each from Dharampur, Pardi & Valsad talukas having prevalence rate between 2 to 5 per 10,000 populations. So, total 7 primary health centres were selected for evaluation of NLEP in Valsad district. The study was conducted during September, 2008. Authors have made visits to the district leprosy office & selected primary health centres and conducted operation research for leprosy control activities integration into GHS. The present study was conducted during routine monitoring of PHCs for NLEP. Interviews were made after taking informed consent of Block Health Officers (BHO), Medical Officers (MO), Female Health Workers (FHS), Female Health Supervisors (FHS), Multi Purpose Health Workers (MPHW), and other health staff available at PHCs. Various aspects of NLEP were assessed like, validation of diagnosis by checking patients in the field, status of integration of NLEP in GHS, status of SIS, IEC activities, Disability Prevention & Medical Rehabilitation (DPMR) activities including Micro Cellular Rubber (MCR) soles distribution & reconstructive surgeries, MDT logistics, expenditure status.

RESULTS

Total 7 PHCs were visited out of five talukas in Valsad district (table 1). Block Health Officers, Medical Officers, & paramedical workers were interviewed for their knowledge regarding Leprosy. Various indicators like validation of diagnosis in the field, SIS maintenance, IEC activities implementation, DPMR activities, MDT logistics, were assessed.

Figure 1

Table 1: Various indicators of NLEP evaluation in Valsad district

Indicators (category)	No.
No. of PHCs covered for evaluation	7
General Health Staff covered	
Block Health Officer	5
Medical Officer	7
Female Health Worker	19
Female Health Supervisor	1
Multipurpose Health Worker	12
Other health staff	1
Validation of diagnosis done among visited areas	
Correctly	23
Incorrectly	0
Simplified Information System well maintained at PHCs	7
IEC activities implementation in PHCs	7
Disability Prevention & Medical Rehabilitation activities	
Training of DMPR given to health staff	31
Line listing of disability workload at PHCs	7
Ulcer care kit provided at PHCs	7
Referral from PHCs for reconstructive surgery	7
Micro Cellular Rubber (MCR) shoes distribution at PHCs	7
Multi Drug Therapy logistics well maintained at PHCs	7
Multi Drug Therapy adequate availability at PHCs	7

Year wise performance of NLEP from 1999 to 2008 was shown in table 2. Various indicators were assessed for the district. Prevalence rate was 9.15 in 1999 which was reduced to 2.91 by 2008. Simultaneously, new case detection rate was also reduced from 15.06 to 4.29 during same period. Other indicators like multibacillary cases proportion, child cases proportion and deformities proportion shown similar favorable changes from 1999 to 2008.

Figure 2

Table 2: Year wise performance of National Leprosy Eradication Programme in Valsad district

NLEP Indicators	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08
Prevalence Rate	9.15	5.28	6.04	7.09	6.26	2.43	2.99	2.46	2.91
New Case Detection Rate	15.06	11.5	10.81	10.78	9.02	5.66	4.34	5.23	4.29
MB as % of new cases	19.94	21.04	20.51	18.22	22.09	31.79	26.42	33.89	34.38
Child as % of new cases	27.50	26.34	25.22	20.86	23.15	18.61	17.01	12.86	11.89
Deformities as % of from NCD	2.18	1.13	1.44	0.77	0.90	1.16	1.04	1.68	1.72
Gender distribution (Female %)	45.05	148.79	47.05	45.046	46.68	43.93	46.87	43.87	50.43

Table 3 shows taluka wise prevalence rate of leprosy in year 2008. Prevalence rate of more than 5 per 10,000 populations was found in 3 PHCs of Umergam taluka & 4 PHCs of Kaprada taluka. Prevalence rate of 3 to 5 per 10,000 populations was found in 9 PHCs, while only 3 PHCs having PR of below 1 per 10,000 populations.

Figure 3

Table 3: Taluka wise Prevalence Rate of Valsad district in year 2008

Sr. No.	Name of Talukas	Prevalence Rate	No. of PHCs	No. of PHCs having PR				
				<1	1-2	2-3	3-5	5+
1	Umergam	3.93	8	0	1	2	2	3
2	Dharampur	2.70	7	1	1	3	2	0
3	Kaprada	5.26	8	0	0	1	3	4
4	Valsad	1.56	9	2	4	3	0	0
5	Pardi	2.53	7	0	0	5	2	0
	Total	2.91	39	3	6	14	9	7

DISCUSSION

India is committed to achieve the goal of leprosy elimination (PR < 1 case per 10,000 population) by the end of year 2005 with integration as an essential element of the strategy [5]. Integration is a gradual process and requires many operational and administrative adjustments. It also requires close monitoring and evaluation. Valsad district is one of the highest leprosy prevalent districts in Gujarat state, having predominantly tribal population, geographically distributed in hilly area. Because of difficult terrain areas, two PHCs each were selected from two very highly endemic talukas with PR> 5/10,000 population and one PHC each from three moderately endemic talukas.

TRAINING OF HEALTH PERSONNEL

Government has newly recruited Ayurvedic & Homeopathic doctors as Medical Officers (MO) at Primary Health Centres. Out of 7 PHCs visited, 5 MOs (71%) were such newly recruited doctors and they don't have any kind of training regarding Leprosy or the NLEP. They have poor knowledge of the disease and the NLEP but for lower level of staff (FHW & MPHW) training was better. A good quality training regarding various components of NLEP needed at district level to reduce the prevalence rate in Valsad. Similar observations were made by Pandey A et al [4] in their study of leprosy control activities integration into general health staff. Responsibility for treatment continuation lies on sub-centre staff after full integration. In present study, involvement of sub-centres was lower than desired. Sub-centres manned by FHWs & MPHWs, the most grass root level workers of GHS. It was observed that inspite of their training; they were still not much oriented to the task of MDT delivery and maintaining patient care, although they were helping in identification of suspects and follow up of cases under treatment. Other studies have also emphasized the need of training of GHS staff in leprosy [67].

VALIDATION

The essence of a successful information system is the meticulous collection and reporting of correct data. It is, therefore, important to regularly cross check and validate the data collected and reported [8]. To achieve this, validation was done at different levels in present study. Validation first done at the sub centre level by searching patients in the field and asking patient treatment card and verifying the clinical diagnosis and treatment. Total 23 patients were visited for accuracy of diagnosis, of which 11 were found Multi Bacillary (MB) and 12 Pauci Bacillary (PB). No patient was found wrongly diagnosed as taenia instead of leprosy.

Validation of records was done at PHC level, including the diagnosis classification and treatment completion on 3 patients each from the visited PHCs. It was found as per the treatment registers but records were not maintained adequately. MDT drug records and availability of MDT drugs was assessed and found adequate. Some authors have reported poor drug records in their studies [49].

SIMPLIFIED INFORMATION SYSTEM (SIS)

The NLEP was a vertically administered programme so long, now integrated with primary health care system in the state. The changes need transfer of responsibility of running

the programme from leprosy oriented staff (vertical staff) to general health care staff. Before integration, a number of registers and patient cards were maintained at different levels of vertical structure for monitoring, analysis and interpretation of data. But after integration with general health care system, efforts have been made to simplify the present leprosy information system to the extent that it suits the new functionaries and managers of general health care system. Maintenance of three records at PHCs and sub-centres was assessed under SIS, (1) Patient card – L.F. 01, (2) treatment record – L.F. 02, (3) MDT drug stock register – L.F. 03. The SIS under NLEP has one monthly reporting form – L.F. 04 utilized by PHCs.

DISABILITY PREVENTION & MEDICAL REHABILITATION (DPMR) ACTIVITIES

Out of 33 health staff interviewed, 31 (94%) have taken training of DPMR. Line listing of disability workload was done at all the visited PHCs. Ulcer care kit and MCR shoes were provided and available at all the PHCs. Patients need reconstructive surgery were referred from PHCs to higher centre further management and followed up regularly after surgery by GHS.

PERFORMANCE OF NLEP

Prevalence of leprosy was 67.7 per 10,000 populations in year 1984 [$_{10}$], reduced to 9.15 per 10,000 populations in 1999 to 2.91 per 10,000 populations in 2008 [$_{8}$]. Compare to prevalence rate of Gujarat state (0.82) and of India (0.74) [$_{11}$], Valsad district (2.91) has still to improve the programme implementation in form of integration at PHCs and sub-centres. Still Valsad district has 7 PHCs with prevalence rate more than 5 per 10,000 populations. Again this needs efficient training of MOs & GHS regarding various components of NLEP including new case detection. Community perspective and client satisfaction were not covered in this study and that should be carried out to investigate those aspects.

ACKNOWLEDGEMENT

Authors are thankful to District Leprosy Officer, Valsad and health staff for their cooperation.

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