

Improving Ways with Current Status of Leprosy Services in Bangladesh

Qazi Azad-uz-zaman¹, Quazi Zahangir Hossain², Jiptha Boiragee³,
Masuma Parvin⁴

¹Research Manager, Japan Association of Drainage and Environment, House-6, Road-2, Nirala R/A, Khulna-9100, Bangladesh;

²Professor, Environmental Science Discipline, Life Science School, Khulna University, Khulna-9208, Bangladesh;

³Project Support Coordinator, ⁴Project Manager, AEP Project, The Leprosy Mission International Bangladesh, Mohakhali DOHS, Dhaka-1206, Bangladesh;

Corresponding Author: Qazi Azad-uz-zaman

ABSTRACT

Objective: The research aims to tabulate the availability of leprosy services in selected districts of Bangladesh to consider way of improvement.

Methods: Cross sectional study was conducted in 2016 in Gaibandha, Meherpur, Gopalganj, Chuadanga and Feni districts of Bangladesh with different prevalence of Leprosy affected people (LAP) and NGO input. 103 officials from GoB health services, and NGOs providing service at different locations of the districts and 61 under treatment LAP and Resealed from Treatment (RFT) were interviewed using semi-structured questionnaire. Convenient sampling technique was applied for selecting respondents.

Results: 77% of the service providers had general education, 15% MBBS and 8% had medical assistant training. 52% were working for at least 10 years and 30% didn't support any LAP within last 6 months due to unavailability of patient. The maximum 46% were involved in suspecting and referring LAP to health institute.

92% of the LAP admitted that they were treated as normal as other patient and didn't face any difficulty or harassment to get MDT. Only 25% of the service providers used to think that proved service was enough and they suggested for training to the staffs, frequent screening at the potentially risk areas, awareness campaign, monitoring, and effective collaboration among co-workers can improve the present leprosy service situation.

Conclusion: Although leprosy is declared eliminated in Bangladesh, still there are some high endemic geographic areas. Collaborative and suggestive improved services may be the elimination pathways from high endemic areas of Bangladesh.

Key words: Leprosy, available service, elimination, high endemic areas, Bangladesh

INTRODUCTION

Leprosy is a chronic infectious and highly stigmatized disease. Because of the stigma associated with it, patients sometimes delay seeking proper care which causes disabilities. ^[1] Henry *et al.*, 2016 ^[2] showed that the affected people first visited

doctor, due to their symptoms worsening (48.4%) or persisting (20.5%).

Despite significant improvements in leprosy treatment since 3-decades after the introduction of multidrug therapy (MDT), the global incidence remains high and patients often have long-term complications.

[3] The absolute numbers of global new leprosy cases detected was 210,758 in 2015, among them India reported 127,326 (60%), Brazil 26,395 (13%), Indonesia 17,202 (8%) and Bangladesh 3,976 (2%) i.e., the prevalence rate of Bangladesh was 0.2496/10,000 population in 2015. [4] In Bangladesh, it was declared eliminated in 1998 [5] but there are some high endemic geographic areas including Bandarban, Khagrachhari, Nilphamari, Gaibandha, Rangpur, Lalmonirhat, Dinajpur, Dhaka and Chittagong cities where leprosy occurrences are more than one case per 10,000 people. [6]

WHO (2016) [4] stated that in 2015, 14,059 new G2D cases were reported globally. The number of new G2D cases showed an increasing trend from 12,392 (in 2006) to 14,059 (in 2015) while overall case detection decreased over the same period. Leprosy resulted disability is more than a mere physical dysfunction and includes activity limitations, stigma, discrimination, and social participation restrictions. [7] Research on 92 affected people of Bangladesh shows that males among the affected people were about 2 times as likely to have deformity as females in Bangladesh. Affected people living in rural areas were almost 2 times more likely to have deformity than people living in urban areas. [8] Disability prevention reduces demand on government health and welfare programs in low and middle income countries. [9]

Although significant improvement in leprosy services in Bangladesh, questions remain about case detection and maintaining the quality of patient cares. Priorities for leprosy control may vary according to the interest of different stakeholders. The research aims to tabulate the availability of leprosy services in selected districts, and identify issues to consider for further improvement.

MATERIALS AND METHODS

Cross sectional study was conducted in 2016 in 8 sub-districts of 5 districts covering 4 divisions of Bangladesh with different prevalence rate and NGO input.

Gaibandha district is a 'high case load and high NGO input' area which is referred as area 'A' here in after, Gopalganj and Meherpur district are 'low case load and low NGO input' area which is referred as area 'B' here in after and Chuadanga and Feni are 'low case load and no NGO input' area which is referred as area 'C' here in after. 60 service providers and 30 affected people from 3 sub-districts of Gaibandha; 31 service providers and 19 affected people from 2 sub-districts of Meherpur and 1 sub-district of Gopalganj; and 12 service providers and 12 affected people from 1 sub-district of Chuadanga and Feni each were surveyed.

Total 164 individuals were interviewed using semi-structured questionnaire. Of which 103 service providers (officials from Government of Bangladesh health services, and Non-Government Organizations) and 61 under treatment affected people and RFT irrespective of age, sex, disability and disease status. Questionnaire comprised of 2 separate parts to get response from service providers and affected people. Convenient sampling technique was applied. All of the target populations who were available at the time of survey and willing to participate were included and those who were not available as well as not willing to participate were excluded. Informed written consent was taken from all the respondents of the survey by the enumerators. Analysis of data was conducted following the objectives of the study using MS Excel.

RESULTS

General Information of the Service Providers

Among the service providers 64% were employed by GoB and the other 36% were from NGO; of which 77%, 15% and 8% had general education, MBBS and medical assistant training (MAT) respectively. Nearly 20% of the service providers of 'A' area were medical doctor. Nearly two-third of them (63%) were providing service to the rural areas only,

15% to the urban areas and 22% were in both urban and rural areas (Table 1).

Table 1: Information of the service provider

		'A' area	'B' area	'C' area	Total
		Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Service provider surveyed		60 (58)	31 (30)	12 (12)	103 (100)
Employer	GoB	33(55)	21(68)	12(100)	66(64)
	NGO	27(45)	10(32)	0(0)	37(36)
Education	General education	45(75)	24(77)	10(83)	79(77)
	MBBS	12(20)	2 (7)	1(8)	15(15)
	MAT	3(5)	5(16)	1(8)	9(8)
Working area	Urban	5(8)	5(16)	5(42)	15(15)
	Rural	44(73)	19(61)	2(17)	65(63)
	Both	11(18)	7(23)	5(42)	23(22)

General Information of the Leprosy Affected People

Among respondents 59% were released from treatment (RFT). Under treatment respondent was very high (74%) in 'B' area compared to the average (41%). Nearly half of the respondents (49%) participated to the survey were female. Female respondents were higher in number to the 'C' area and lower in 'A' area. 18% of the respondents were illiterate and another 38% could sign

only. Only 44% of them had at least primary education. The distribution was also observed different in different areas. The proportion of illiterate people is the highest in 'B' area. Only few of the respondents (10%) of the 'A' area had at least higher secondary education while no one were from the other two areas. Overall 92% of the respondents were from rural areas. All of them of 'A' area were from the rural areas (Table 2).

Table 2: Information of the leprosy affected people

		'A' area	'B' area	'C' area	Total
		Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Affected people surveyed		30 (49)	19 (31)	12 (20)	61(100)
Category of the patient	RFT	21(70)	5 (26)	10 (83)	36 (59)
	Under treatment	9 (30)	14 (74)	2 (17)	25 (41)
Gender of the respondents	Female	13 (43)	10 (53)	7 (58)	30 (49)
	Male	17 (57)	9 (47)	5 (42)	31 (51)
Education level of the respondent	Illiterate	4 (13)	5 (26)	2 (17)	11 (18)
	Can sign only	13 (43)	4 (21)	6 (50)	23 (38)
	Primary	5 (17)	6 (32)	2 (17)	13 (21)
	Secondary	5 (17)	4 (21)	2 (17)	11 (18)
	Above secondary	3 (10)	0 (0)	0 (0)	3 (5)
Respondent's residence	Urban	0 (0)	2 (11)	3 (25)	5 (8)
	Rural	30 (100)	17 (89)	9 (75)	56 (92)

Availability of Leprosy Services

More than half (52%) of service providers were working for at least 10 years. Nearly one-third (30%) of them didn't support any LAP within last 6 months. The proportion was much higher in 'C' area. Some of the service providers were involved in single job but many of them were supporting LAP in different ways. Service providers were requested to response based on their main job and nearly half (46%) of them were involved in suspecting and referring to the health complex or leprosy hospital for confirmation, another 30% were involved in diagnosis for confirmation and providing

MDT and 7% were involved in monitoring. The remaining 17% were providing health education and other necessary services (Table 3).

66% of the service providers faced LAP with foot ulcer; the proportion was much lower in 'B' area. They used to support by socking, scratching and oiling (SSO) to the LAP when comes with foot ulcer. They also have taught them ulcer management, refer them to the hospitals, provide shoes, dressing and suggest taking balance diet. Most of the activities were centred to the 'A' area. Nearly one third of the service provider of 'A' area and two-

third of the ‘B’ area have never faced any patient with reaction. The service provider used to refer to the expert, provide treatment and suggest keeping patients when the LAP came with reaction.

Only one-fourth (25%) of them used to think that the service was enough. Nearly

half of the service providers used to think that the service they were providing to the LAP was neither enough nor not enough. The proportion of service provider used to think ‘enough’ was the lowest in ‘C’ area and the highest in ‘B’ area (Table 4).

Table 3: Availability of services in different areas

		‘A’ area	‘B’ area	‘C’ area	Total
		Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Service providers surveyed		60 (58)	31 (30)	12 (12)	103 (100)
Duration of service	0-5 years	18 (30)	9 (29)	3 (25)	30 (29)
	6-10 years	14 (23)	6 (19)	0 (0)	20 (19)
	>10 years	28 (47)	16 (52)	9 (75)	53 (52)
Number of LAP, supported within last 6 months	0	13 (22)	12 (39)	7 (58)	32 (30)
	1-5	29 (48)	12 (39)	5 (42)	46 (45)
	6-10	8 (13)	1 (3)	0 (0)	9 (9)
	>10	10 (17)	6 (19)	0 (0)	16 (16)
What did you do for him/her mainly?	Suspect and refer	27 (45)	16 (51)	5 (42)	48 (46)
	Diagnose and confirm	15 (25)	7 (23)	2 (17)	24 (23)
	Treatment/ Provide MDT	5 (8)	0 (0)	2 (17)	7 (7)
	Provide health education	4 (7)	2 (6)	1 (8)	7 (7)
	Monitoring	4 (7)	2 (6)	1 (8)	7 (7)
	Others	5 (8)	4 (13)	1 (8)	10 (10)

Table 4: Availability of services for foot ulcer to the different areas where multiple response allowed

		‘A’ area	‘B’ area	‘C’ area	Total
		Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Service providers surveyed		60 (58)	31 (30)	12 (12)	103 (100)
Respondents faced LAP with foot ulcer		47 (78)	13 (42)	8 (66)	68 (66)
What do you normally do if patient comes with foot ulcer?	Refer to leprosy hospital	20 (33)	4 (13)	4 (33)	28 (27)
	SSO	17 (28)	5 (16)	1 (8)	23 (22)
	Teach ulcer management	20 (33)	2 (6)	1 (8)	23 (22)
	Provide shoe	8 (13)	3 (10)	1 (8)	12 (12)
	Dressing	4 (7)	2 (6)	2 (17)	8 (8)
Respondents faced LAP with reaction		40 (67)	11(35)	8 (67)	59 (57)
What do you normally do if patient comes with reaction?	Refer to the expert	26 (43)	5 (16)	6 (50)	37 (36)
	Provide treatment	11 (18)	5 (16)	2 (17)	18 (17)
	Suggest to keep patient	9 (15)	5 (16)	1 (8)	15 (15)
	Others	6 (10)	2 (6)	0 (0)	8 (8)
Service providers feeling on services	Enough	16 (27)	9 (29)	1 (8)	26 (25)
	In between	33 (55)	13 (42)	7 (59)	53 (52)
	Not enough	11 (18)	9 (29)	4 (33)	24 (23)

Table 5: Leprosy affected people’s experience on availability of services

		‘A’ area	‘B’ area	‘C’ area	Overall
		Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Affected people surveyed		30 (49)	19 (31)	12 (20)	61(100)
Treatment after hearing LAP	Treated as normal patient	28 (93)	18 (95)	10 (83)	56 (92)
	Refused to treat	1 (3)	0 (0)	1 (8)	2 (3)
	Advised to go other hospitals	1 (3)	0 (0)	1 (8)	2 (3)
Time taken to be enlisted as LAP	At once after visiting	27 (90)	9 (47)	8 (67)	44 (72)
	Less than a month	0 (0)	10 (53)	2 (17)	12 (20)
	1-3 months	1 (3)	0 (0)	1 (8)	2 (3)
	3-6 months	1 (3)	0 (0)	0 (0)	1 (2)
	More than 6 months	1 (3)	0 (0)	1 (8)	2 (3)
Difficulty to get MDT	No difficulty at all	30 (100)	17 (89)	12 (100)	59 (97)
	Distance is very high	0 (0)	2 (11)	0 (0)	2 (3)
Harassment to get MDT	Yes	1 (3)	3 (16)	0 (0)	4 (7)
	No	29 (97)	16 (84)	12 (100)	57 (93)

Affected People’s Feeling

Most of the affected people (92%) were treated as normal as other patient when they visited hospital or leprosy clinic. Few of them from both 'C' areas and 'A' area were refused to treat or advised to go other hospitals.

The distribution was found different in different areas. About 72% of the affected people got diagnosis and become enlisted as LAP at once after visiting the centre and 20% said less than one month was required to be enlisted. Few of them from both 'C' area and 'A' area claimed that it took at least one month and sometime more than 6 months. Most of the respondents didn't face neither difficulty nor harassment to get MDT. 3% of the affected people claimed that distance is high to reach the clinic from home (Table 5).

Limitation in Leprosy Services and Possible Ways to Overcome

NGO workers involved in leprosy services claimed that GoB officials especially health assistant and inspector working in field for leprosy care had insufficient knowledge on identification and management. Low monitoring of field activities by higher officials and limited staffs for leprosy care are worsening the situation.

GoB officials claimed that NGO usually don't collaborate with GO at field level activity and also don't share updated information. They also claimed that only few NGOs working in the field and the capacity of field staffs are very low. Both GO and NGO officials opined that limited campaign or awareness programs on leprosy and insufficient fund are some of constraints which limiting the success.

All of the service providers mentioned that training to the service providers with increased number of staffs, frequent screening at the potentially risk area, hold awareness campaign to the community level, ensure proper monitoring of the field activity, effective collaboration among sector workers and rehabilitation for the people with leprosy resulted disability

can improve the present leprosy service situation in Bangladesh

DISCUSSION

Service providers from area 'A' knew foot ulcer management very well compared to the other areas and usually supports by socking, scratching and oiling (SSO). Along with ulcer management, they also refer them to the hospitals, provide suitable foot wear and suggest taking balance diet which may be unavailable to the other survey areas.

Around 25% service providers think the service is enough, most of the service recipients had shown satisfied attitude on the service. The utilization of a health care system depends on socio-demographic factors, social structures, level of education, cultural beliefs and practices, gender discrimination, status of women, economic and political systems, environmental conditions, disease pattern and health care system itself.^[10] As most of them were in a very low socio-economic condition and the situation was getting worse, they don't understand the meaning of actual service. As a result most of them were becoming satisfied after receiving small support. Only few of the respondents from 'A' area claimed that at least one month was required for starting the treatment.

Concluding Remarks

Although leprosy is declared eliminated in Bangladesh, still there are some high endemic geographic areas. The government and NGOs are supporting the leprosy affected people in many ways facing the shortage of trained manpower, budget and facilities. Collaborative and improved service may be the ways of elimination of leprosy from high endemic areas of Bangladesh.

ACKNOWLEDGEMENTS

Gratefulness to The Leprosy Mission International-Bangladesh (TLMiB) for providing the research fund. Special thanks goes to Doctors and Staffs of Civil Surgeon Office of Gaibandha, Meherpur, Gopalganj, Chuadanga and Feni district and TLMiBin Gaibandha,

Church of Bangladesh for Social Development Program (CBSDP) in Meherpur and Damien Foundation, Bangladesh in Gopalganj for their profound cooperation.

REFERENCES

1. Shumet T; Demissie M; Bekele Y (2015). Prevalence of disability and associated factors among registered leprosy patients in all Africa TB and leprosy rehabilitation and training centre (ALERT), Addis Ababa, Ethiopia. *Ethiopian Journal of Health Sciences*, 25 (4):313-320.
2. Henry M; Galan N; Teasdale K; et al. (2016). Factors contributing to the delay in diagnosis and continued transmission of leprosy in Brazil – An explorative, quantitative, questionnaire based study. *Small PLC, ed. PLoS Neglected Tropical Diseases*, 10(3):e0004542. doi:10.1371/journal.pntd.0004542.
3. White C and Franco-Paredes C (2015). Leprosy in the 21st century. *Clinical Microbiology Reviews*, 28(1):80-94. doi:10.1128/CMR.00079-13.
4. WHO (World Health Organization) (2016). Global leprosy situation, 2016. *Weekly Epidemiological Record*, 91(35): 405–420.
5. MoHFW-GoB (Ministry of Health and Family Welfare-Government of Bangladesh) (2011). A situation analysis: neglected tropical diseases in Bangladesh. Dhaka: Ministry of Health and Family Welfare, Government of Bangladesh, p. 41. Available at: http://pdf.usaid.gov/pdf_docs/pnady849.pdf
6. Bulbul P (2014). Leprosy: Fight stigma, discrimination to eliminate the disease. *The Financial Express*. Available at <http://print.thefinancialexpress-bd.com/2014/09/20/57042/print>
7. Van Brakel WH; Sihombing B; Djarir H; et al. (2012). Disability in people affected by leprosy: the role of impairment, activity, social participation, stigma and discrimination. *Global Health Action*, 5. doi:10.3402/gha.v5i0.18394.
8. Azad-uz-zaman Q; Hossain QZ; Al Hadi MA; Boiragee J; Parvin M (2017). Psychosocial consequences of leprosy and the related deformity in Bangladesh. *Asian Pacific Journal of Tropical Diseases*, 7(1):25-29.
9. Banks ML; Polack S (2014). The economic costs of exclusion and gains of inclusion of people with disabilities: Evidence from low and middle income countries. CBM, International Centre for Evidence in Disability, *London School of Hygiene and Tropical Medicine*. Available at: <http://disabilitycentre.lshtm.ac.uk/files/2014/07/ Costs-of-Exclusion-and-Gains-of-Inclusion-Report.pdf>
10. Shaikh BT; Hatcher J (2005). Health seeking behaviour and health service utilization in Pakistan: challenging the policy makers. *Journal of Public health*, 27(1): 49-54. doi: 10.1093/pubmed/fdh207

How to cite this article: Azad-uz-zaman Q, Hossain QZ, Boiragee J et al. Improving ways with current status of leprosy services in Bangladesh. *Int J Health Sci Res*. 2017; 7(6):276-281.
